12 NR sidelink

12.1 PC5-only operation

12.1.1 PC5-only operation / Sidelink communication

12.1.1.1

12.1.1.2 PC5-only operation / Sidelink communication / Reception

12.1.1.2.1 Test Purpose (TP)

(1)

with { UE being authorized for performing NR sidelink Communication }

ensure that {

when { UE is configured by upper layer to perform NR sidelink reception }

then { UE is able to monitor NR sidelink transmission using sl-RxPool included in preconfiguration }

}

12.1.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.7. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.7]

A UE capable of NR sidelink communication that is configured by upper layers to receive NR sidelink communication shall:

- 1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:
 - 2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *RRCReconfiguration* message or *sl-FreqInfoList* included in *SIB12*:
 - 3> if the UE is configured with *sl-RxPool* included in *RRCReconfiguration* message with *reconfigurationWithSync* (i.e. handover):
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool*;
 - 3> else if the cell chosen for NR sidelink communication provides *SIB12*:
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool in SIB12*;

2> else:

3> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources that were preconfigured by *sl-RxPool* in *SL-PreconfigurationNR*, as defined in sub-clause 9.3;

12.1.1.2.3 Test description

12.1.1.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE uses GNSS as the synchronization reference source.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4] clause 4.8.3.3.3).

Table 12.1.1.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EFUST		Service n°119 (V2X) supported	
EF _{VST}		As per TS 38.508-1 [4] clause	
		4.8.3.3.3	
EF _{V2XP_PC5}		SL-PreconfigurationNR field as	
		defined in TS 38.508-1 [4], table	
		4.10.1-1	

Preamble:

- The UE is in state 0-A as defined in TS 38.508-1 [4].

12.1.1.2.3.2 Test procedure sequence

Table 12.1.1.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Power on the UE.	-	-	-	-
2	Trigger UE to reset or clear the current UTC	-	-	-	-
	time that has been calculated from GNSS.				
	NOTE: The UTC time can be reset or clear				
	on the UE using AT command (+CUTCR).				
3	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REQUEST message		ESTABLISHMENT REQUEST		
	using the pool of resources that were				
	preconfigured by sI-TxPoolSelectedNormal				
	in SL-PreconfigurationNR.				
4	Check: Does the UE transmit a DIRECT	>	PC5-S: DIRECT LINK SECURITY	1	Р
	LINK SECURITY MODE COMMAND		MODE COMMAND		
	message?				
5	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMPLETE message.		MODE COMPLETE		
6	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT ACCEPT message.		ESTABLISHMENT ACCEPT		
7	The NR-SS-UE1 transmits an	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message.		RRCReconfigurationSidelink		
8	Check: Does the UE transmit an	>	PC5-RRC:	1	P
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSidelink		
	message?				

12.1.1.2.3.3 Specific message contents

Table 12.1.1.2.3.3-1: DIRECT LINK ESTABLISHMENT REQUEST (step 3, Table 12.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.4-7 with condition Rx

Table 12.1.1.2.3.3-2: DIRECT LINK SECURITY MODE COMMAND (step 4, Table 12.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.4-18 with condition Tx

Table 12.1.1.2.3.3-3: Message DIRECT LINK SECURITY MODE COMPLETE (step 5, Table 12.1.1.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-19 with condition Rx

Table 12.1.1.2.3.3-4: Message DIRECT LINK ESTABLISHMENT ACCEPT (step 6, Table 12.1.1.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-8 with condition Tx

Table 12.1.1.2.3.3-5: RRCReconfigurationSidelink (step 7, Table 12.1.1.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3, conditions RX and SL_DRB

Table 12.1.1.2.3.3-6: RRCReconfigurationCompleteSidelink (steps 8, Table 12.1.1.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4, conditions TX

12.1.2 PC5-only operation / Sidelink synchronization related procedure

12.1.2.1 PC5-only operation / Sidelink synchronization related procedure / Synchonization reference source (re-)selection

12.1.2.1.1 Test Purpose (TP)

(1)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss in pre-configuration }

ensure that $\{$

when { GNSS signal is reliable and a SyncRef UE which directly synchronized to GNSS is detected }

then { UE selects GNSS as synchonization reference source }

}

(2)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss in pre-configuration }

ensure that {

when { two SyncRef UEs, one directly synchronized to GNSS and the other indirectly synchronized to GNSS, are detected }

then { UE selects the SyncRef UE directly synchronized to GNSS as synchonization reference
source }

}

(3)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss in pre-configuration }

ensure that $\{$

when { two SyncRef UEs, one indirectly synchronized to GNSS and the other neither directly nor indirectly synchronized to GNSS, are detected }

then { UE selects the SyncRef UE indirectly synchronized to GNSS as synchonization reference source }

}

(4)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss in pre-configuration }

ensure that $\{$

when { a SyncRef UE which neither directly nor indirectly synchronized to GNSS is detected }

then { UE selects the SyncRef UE which neither directly nor indirectly synchronized to GNSS as synchonization reference source }

}

(5)

with { UE configured by upper layer to perform sidelink transmission, and configured with sl-SyncPriority = gnss in pre-configuration }

ensure that $\{$

```
when { no SyncRef UE is detectable. }
```

then { UE uses its internal clock as synchronization reference source }

}

12.1.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.2]

The UE shall perform NR sidelink communication operation only if the conditions defined in this clause are met:

•••

1> if the UE has no serving cell (RRC_IDLE);

[TS 38.331, clause 5.8.5.1]







Figure 5.8.5.1-2: Synchronisation information transmission for NR sidelink communication, out of coverage

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The purpose of this procedure is to provide synchronisation information to a UE.

[TS 38.331, clause 5.8.5.2]

A UE capable of NR sidelink communication and SLSS/PSBCH transmission shall, when transmitting NR sidelink communication, and if the conditions for NR sidelink communication operation are met and when the following conditions are met:

•••

1> else:

- 2> for the frequency used for NR sidelink communication, if *syncTxThreshOoC* is included in *SidelinkPreconfigNR*; and the UE is not directly synchronized to GNSS, and the UE has no selected SyncRef UE or the PSBCH-RSRP measurement result of the selected SyncRef UE is below the value of *syncTxThreshOoC*; or
- 2> for the frequency used for NR sidelink communication, if the UE selects GNSS as the synchronization reference source:
 - 3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

[TS 38.331, clause 5.8.5.3]

The UE shall select the SLSSID and the slot in which to transmit SLSS as follows:

•••

1> else if triggered by NR sidelink communication and the UE has GNSS as the synchronization reference:

2> select SLSSID 0;

•••

2> else:

3> select the slot(s) indicated by *sl-SSB-TimeAllocation1*;

1> else:

- 2> select the synchronisation reference UE (i.e. SyncRef UE) as defined in 5.8.6;
- 2> if the UE has a selected SyncRef UE and *inCoverage* in the *MasterInformationBlockSidelink* message received from this UE is set to *true*; or
- 2> if the UE has a selected SyncRef UE and *inCoverage* in the *MasterInformationBlockSidelink* message received from this UE is set to *false* while the SLSS from this UE is part of the set defined for out of coverage, see TS 38.211 [16]:
 - 3> select the same SLSSID as the SLSSID of the selected SyncRef UE;
 - 3> select the slot in which to transmit the SLSS according to the *sl-SSB-TimeAllocation1* or *sl-SSB-TimeAllocation2* included in the preconfigured sidelink parameters corresponding to the concerned frequency, such that the timing is different from the SLSS of the selected SyncRef UE;

•••

^{2&}gt; else if the UE has a selected SyncRef UE:

- 3> select the SLSSID from the set defined for out of coverage having an index that is 336 more than the index of the SLSSID of the selected SyncRef UE, see TS 38.211 [16];
- 3> select the slot in which to transmit the SLSS according to *sl-SSB-TimeAllocation1* or *sl-SSB-TimeAllocation2* included in the preconfigured sidelink parameters corresponding to the concerned frequency, such that the timing is different from the SLSS of the selected SyncRef UE;
- 2> else (i.e. no SyncRef UE selected):
 - 3> if the UE has not randomly selected an SLSSID:
 - 4> randomly select, using a uniform distribution, an SLSSID from the set of sequences defined for out of coverage except SLSSID 336 and 337, see TS 38.211 [16];
 - 4> select the slot in which to transmit the SLSS according to the *sl-SSB-TimeAllocation1* or *sl-SSB-TimeAllocation2* (arbitrary selection between these) included in the preconfigured sidelink parameters in *SidelinkPreconfigNR* corresponding to the concerned frequency;

[TS 38.331, clause 5.8.6.2]

The UE shall:

•••

1> else if the frequency used for NR sidelink communication is included in *SL-PreconfigurationNR*, and *sl-SyncPriority* in *SidelinkPreconfigNR* is set to *gnss* and GNSS is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:

2> select GNSS as the synchronization reference source;

1> else:

- 2> perform a full search (i.e. covering all subframes and all possible SLSSIDs) to detect candidate SLSS, in accordance with TS 38.133 [14]
- 2> when evaluating the one or more detected SLSSIDs, apply layer 3 filtering as specified in 5.5.3.2 using the preconfigured *sl-filterCoefficient*, before using the PSBCH-RSRP measurement results;
- 2> if the UE has selected a SyncRef UE:

•••

3> if the PSBCH-RSRP of the current SyncRef UE is less than the minimum requirement defined in TS 38.133 [14]:

4> consider no SyncRef UE to be selected;

2> if the UE has selected GNSS as the synchronization reference for NR sidelink communication:

•••

3> if GNSS becomes not reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:

4> consider GNSS not to be selected;

•••

- 2> if the UE has not selected any synchronization reference:
 - 3> if the UE detects one or more SLSSIDs for which the PSBCH-RSRP exceeds the minimum requirement defined in TS 38.133 [14] by *sl-SyncRefMinHyst* and for which the UE received the corresponding

MasterInformationBlockSidelink message (candidate SyncRef UEs), or if the UE detects GNSS that is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14], or if the UE detects a cell, select a synchronization reference according to the following priority group order:

•••

- 4> if *sl-SyncPriority* corresponding to the concerned frequency is set to *gnss*, and *sl-NbAsSync* is set to *false*:
 - 5> UEs of which SLSSID is 0, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *true*, or of which SLSSID is 0 and SLSS is transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, starting with the UE with the highest PSBCH-RSRP result (priority group 1);
 - 5> UEs of which SLSSID is 0 and SLSS is not transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCHS-RSRP result (priority group 2);

•••

5> Other UEs, starting with the UE with the highest PSBCH-RSRP result (priority group 3);

[TS 38.331, clause 5.8.9.4.3]

The UE shall set the contents of the MasterInformationBlockSidelink message as follows:

•••

1> else if out of coverage on the frequency used for NR sidelink communication as defined in TS 38.304 [20]; and the UE selects GNSS as the synchronization reference and *sl-SSB-TimeAllocation3* is not configured for the frequency used in *SidelinkPreconfigNR*:

2> set *inCoverage* to *true*;

- 2> set *reservedBits* to the value of the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SidelinkPreconfigNR* defined in 9.3);
- 2> set *sl*-*TDD-Config* to the value representing the same meaning as that is included in the corresponding field included in the preconfigured sidelink parameters (i.e. *sl*-*PreconfigGeneral* in *SL*-*PreconfigurationNR* defined in 9.3) as described in TS 38.213, clause 16.1 [13];

1> else if the UE has a selected SyncRef UE (as defined in 5.8.6):

2> set *inCoverage* to *false*;

2> set sl-TDD-Config and reservedBits to the value of the corresponding field included in the received MasterInformationBlockSidelink;

1> else:

2> set inCoverage to false;

- 2> set reservedBits to the value of the corresponding field included in the preconfigured sidelink parameters (i.e. sl-PreconfigGeneral in SidelinkPreconfigNR defined in 9.3);
- 2> set *sl-TDD-Config* to the value representing the same meaning as that is included in the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SL-PreconfigurationNR* defined in 9.3) as described in TS 38.213, clause 16.1 [13];

1> set *directFrameNumber* and *slotIndex* according to the slot used to transmit the SLSS, as specified in 5.8.5.3;

1> submit the *MasterInformationBlockSidelink* to lower layers for transmission upon which the procedure ends;

[TS 38.331, clause 5.8.12]

When the UE selects GNSS as the synchronization reference source, the DFN, the subframe number within a frame and slot number within a frame used for NR sidelink communication are derived from the current UTC time, by the following formulae:

DFN= Floor (0.1*(Tcurrent –Tref–OffsetDFN)) mod 1024

SubframeNumber= Floor (Tcurrent –Tref–OffsetDFN) mod 10

SlotNumber= Floor ((*Tcurrent* –Tref–OffsetDFN)*2^µ) mod (10*2^µ)

Where:

Tcurrent is the current UTC time obtained from GNSS. This value is expressed in milliseconds;

- *Tref* is the reference UTC time 00:00:00 on Gregorian calendar date 1 January, 1900 (midnight between Thursday, December 31, 1899 and Friday, January 1, 1900). This value is expressed in milliseconds;
- *OffsetDFN* is the value *sl-OffsetDFN* if configured, otherwise it is zero. This value is expressed in milliseconds.
- μ =0/1/2/3 corresponding to the 15/30/60/120 kHz of SCS for SL, respectively.
- NOTE 1: In case of leap second change event, how UE obtains the scheduled time of leap second change to adjust *Tcurrent* correspondingly is left to UE implementation. How UE handles to avoid the sudden discontinuity of DFN is left to UE implementation.
- NOTE 2: Void.
- 12.1.2.1.3 Test description

12.1.2.1.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE

- NR-SS-UE 1, 2 and 3 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 transmits SL-SSB with SLSSID = 0, *inCoverage* = true in slots determined by *sl-SSB*-*TimeAllocation1* and GNSS timing.

- NR-SS-UE 2 transmits SL-SSB with SLSSID = 0, *inCoverage* = false in slots determined by *sl-SSB*-*TimeAllocation2* and GNSS timing.

- NR-SS-UE 3 transmits SL-SSB with SLSSID = 336, *inCoverage* = false in slots determined by *sl-SSB-TimeAllocation1* and GNSS timing.

- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.

The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1
 [4]) except for those listed in Table 12.1.2.1.3.1-1.

USIM field	Priority	Value	Access Technology Identifier
EFUST		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.1.2.1.3.3-1,	
		Table 12.1.2.1.3.3-1A and Table	
		12.1.2.1.3.3-2	

Table 12.1.2.1.3.1-1: UE/ USIM configuration

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), test mode (On) and GNSS Sync (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.1.2.1.3.2 Test procedure sequence

Table 12.1.2.1.3.2-1 illustrates the sidelink power levels to be applied for NR-SS-UE 1, 2 and 3 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1", "T2" and "T3", are applied at the point indicated in the Main behaviour description in Table 12.1.2.1.3.2-2.

Table 12.1.2.1.3.2-1: Time instances of NR-SS-UE power level and parameter changes in conducted test environment

	Parameter	Unit	NR-SS-UE	NR-SS-UE	NR-SS-UE	Remark
			1	2	3	
то	NR-SS-UE power	dBm/ SCS	-85	OFF	OFF	Priority of NR-SS-UE 1 is lower than GNSS
	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	-	-	
т1	NR-SS-UE power	dBm/ SCS	-85	-85	OFF	Priority of NR-SS-UE 2 is lower than Priority of NR-SS-UE 1
	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	0	-	
T2	NR-SS-UE power	dBm/ SCS	OFF	-85	-85	Priority of NR-SS-UE 3 is lower than Priority of NR-SS-UE 2
12	EPRE ratio of S-SSS to NR-SS-UE power	dB	-	0	0	
т2	NR-SS-UE power	dBm/ SCS	OFF	OFF	-85	Priority of UE internal clock is lower than NR-SS-UE 3
13	EPRE ratio of S-SSS to NR-SS-UE power	dB	-	-	0	

Table 12.1.2.1.3.2-2: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS triggers UE to close UE test loop mode	-	-	-	-
	E (Transmit Mode).				

	NOTE: Closing of UE test loop mode E may be				
	performed by MMI or AT command				
	(+CCUTLE)				
1 ^	The LIE starts broadcasting continuously	_	_	_	_
2	The SS waits 10 seconds	-		-	_
2	Check: Does the LIE transmit SL-SSRs which	-	_	1	- D
5	check. Does the OE transmit SE-SSBS which	-	-	- -	Г
	sausiy all following conditions?				
	- SLSSID = 0;				
	 inCoverage = true in SL-MIB; 				
	 slotIndex and directFrameNumber in SL- 				
	MIB are consistent with the slot index and				
	DFN calculated based on the UTC time				
	obtained from GNSS as specified in TS				
	38 331 [22] clause 5 8 12				
	transmitted in slots determined by sl-				
	CCD Time Allegation 1 and CNCC timing:				
	SSB-TIMEANOCANOTI AND GNSS UNING,				
	- reserveBits in SL-MIB is consistent with				
	reserveBits in pre-configuration.				
4	The SS powers off GNSS simulator.	-	-	-	-
5	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in table 12.1.2.1.3.2-1.				
6	The SS waits 10 seconds	-	-	-	-
7	Check: Does the UE transmit SL-SSBs which	-	-	2	Р
	satisfy all following conditions?				
	- SLSSID = 0;				
	- inCoverage = false in SI -MIB:				
	- slotIndex and directFrameNumber in SI -				
	MIB are consistent with the slot index and				
	DFN 0I NR-SS-OE 1,				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation2 and NR-SS-UE 1				
	timing;				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in SL-MIB of NR-SS-UE 1.				
8	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T2" in table 12.1.2.1.3.2-1.				
9	The SS waits 10 seconds	-	-	-	-
10	Check: Does the UE transmit SL-SSBs which	-	-	3	Р
	satisfy all following conditions?				
	- SLSSID = 336:				
	- inCoverage = false in SL-MIR				
	slotIndex and directEramoNumber in St				
	- Sources and unectranetwith the electroder				
	and DEN OF NR-SS-UE 2.				
	 transmitted in slots determined by sl- 				
	SSB-TimeAllocation1 and the NR-SS-UE				
	2 timing?				
	- reserveBits in SL-MIB is consistent with				
	reserveBits in SL-MIB of NR-SS-UE 2.				
11	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T3" in table 12.1.2.1.3.2-1.				
12	The SS waits 10 seconds	-	-	-	-
13	Check: Does the UE transmit SL-SSBs which	-	-	4	Р
_	satisfy all following conditions?				
	- SI SSID is consistent with SI SSID of				
	$\frac{1}{1000} = \frac{1}{1000} = 1$				
	- incoverage = laise in SL-MIB;				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 3;				
	 transmitted in slots determined by sl- 				

	SSB-TimeAllocation2 and NR-SS-UE 3				
	timing;				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in SL-MIB of NR-SS-UE 3.				
14	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T0" in table 12.1.2.1.3.2-1.				
15	The SS waits 10 seconds	-	-	-	-
16	Check: Does the UE transmit SL-SSBs which	-	-	5	Р
	satisfy all following conditions?				
	 SLSSID is larger than 335; 				
	 inCoverage = false in SL-MIB; 				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in pre-configuration.				
17	The SS triggers UE to open UE test loop mode	-	-	-	-
	E.				
	NOTE: Opening of UE test loop mode E may				
	be performed by MMI or AT command				
	(+CCUTLE).				

12.1.2.1.3.3 Specific message contents

Table 12.1.2.1.3.3-1: V2X service identifier to default mode of communication mapping rule (Preconfiguration, UE under test)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-53			
Information Element	Value/remark	Comment	Condition
DMC	'10'B	Default mode of	
		communication is	
		set to broadcast	

Table 12.1.2.1.3.3-1A: SL-SDAP-Config (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-30			
Information Element	Value/remark	Comment	Condition
SL-SDAP-Config-r16 ::= SEQUENCE {			
sl-CastType-r16	broadcast		
}			

Table 12.1.2.1.3.3-2: SL-SyncConfig (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-31			
Information Element	Value/remark	Comment	Condition
SL-SyncConfig-r16 ::= SEQUENCE (SIZE (1maxSL-	1 entry		
SyncConfig-r16)) OF SL-SyncConfig-r16 {			
SL-SyncConfig-r16[1] SEQUENCE {			
txParameters-r16 SEQUENCE {			
syncTxThreshOoC-r16	13	actual threshold is	
		+infinity	
}			
}			

Table 12.1.2.1.3.3-3: +CCUTLE (Table 12.1.2.1.3.2-2, step 1)

Derivation Path: TS 38.508-1 [4] Table 4.7B-1 with condition Close and Transmit

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1	Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1						
Information Element	Value/remark	Comment	Condition				
MasterInformationBlockSidelink ::= SEQUENCE {							
inCoverage-r16	true		NR-SS-UE 1				
	false		NR-SS-UE 2				
			NR-SS-UE 3				
directFrameNumber-r16	DFN						
	determined						
	based on the						
	formula given in						
	38.331 [22]						
	clause 5.8.12.						
slotIndex-r16	slot index						
	determined						
	based on the						
	formula given in						
	38.331 [22]						
	clause 5.8.12.						
reservedBits-r16	01		NR-SS-UE 1				
	10		NR-SS-UE 2				
	11		NR-SS-UE 3				
}							

Table 12.1.2.1.3.3-5: MasterInformationBlockSidelink (Table 12.1.2.1.3.2-2, steps 3, 7, 10, 13 and 16,UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition TX				
Information Element	Value/remark	Comment	Condition	
MasterInformationBlockSidelink ::= SEQUENCE {				
inCoverage-r16	true		Step 3	
	false		Step 7, 10, 13, 16	
directFrameNumber-r16	DFN determined		Step 3, 7, 10, 13	
	based on the			
	formula given in			
	38.331 [22]			
	clause 5.8.12			
	Not checked		Step 6	
slotIndex-r16	slot index		Step 3, 7, 10, 13	
	determined			
	based on the			
	formula given in			
	38.331 [22]			
	clause 5.8.12			
	Not checked		Step 6	
reservedBits-r16	00	Same as	Step 3, 16	
		preconfiguration		
	01	Same as NR-SS-	Step 7	
		UE 1		
	10	Same as NR-SS-	Step 10	
		UE 2		
	11	Same as NR-SS-	Step 13	
		UE 3		
}				

Table 12.1.2.1.3.3-6: +CCUTLE (Table 12.1.2.1.3.2-2, step 17)

Derivation Path: TS 38.508-1 [4] Table 4.7B-1 with condition Open

12.1.2.2 PC5-only operation / Sidelink synchronization related procedure / SL-SSB transmission Initiation and Cease

12.1.2.2.1 Test Purpose (TP)

(1)

with { UE configured by upper layer to perform sidelink transmission }

ensure that {

when { UE selects GNSS as synchonization reference source }

then { UE keeps transmitting SL-SSB }

}

(2)

with { UE configured by upper layer to perform sidelink transmission and configured with syncTxThreshOoC in pre-configuration }

ensure that {

when { UE selects SyncRef UE as synchronization reference source and PSBCH-RSRP of the SyncRef UE
is lower than syncTxThreshOoC }

```
then { UE starts transmitting SL-SSB }
```

}

(3)

with { UE configured by upper layer to perform sidelink transmission and configured with syncTxThreshOoC in pre-configuration }

ensure that {

when { UE selects SyncRef UE as synchronization reference source and PSBCH-RSRP of the SyncRef UE is above syncTxThreshOoC }

then { UE stops transmitting SL-SSB }

}

(4)

with { UE configured by upper layer to perform sidelink transmission and configured with syncTxThreshOoC in pre-configuration }

ensure that $\{$

when { UE selects SyncRef UE as synchronization reference source and PSBCH-RSRP of the SyncRef UE
is below syncTxThreshOoC }

then { UE starts transmitting SL-SSB }

}

12.1.2.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.2]

The UE shall perform NR sidelink communication operation only if the conditions defined in this clause are met:

•••

1> if the UE has no serving cell (RRC_IDLE);

[TS 38.331, clause 5.8.5.1]



Figure 5.8.5.1-1: Synchronisation information transmission for NR sidelink communication, in (partial) coverage





The purpose of this procedure is to provide synchronisation information to a UE.

[TS 38.331, clause 5.8.5.2]

A UE capable of NR sidelink communication and SLSS/PSBCH transmission shall, when transmitting NR sidelink communication, and if the conditions for NR sidelink communication operation are met and when the following conditions are met:

•••

1> else:

2> for the frequency used for NR sidelink communication, if syncTxThreshOoC is included in SidelinkPreconfigNR; and the UE is not directly synchronized to GNSS, and the UE has no selected SyncRef UE or the PSBCH-RSRP measurement result of the selected SyncRef UE is below the value of *syncTxThreshOoC*; or

- 2> for the frequency used for NR sidelink communication, if the UE selects GNSS as the synchronization reference source:
 - 3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

12.1.2.2.3 Test description

12.1.2.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE

- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 transmits SL-SSB with SLSSID = 0, *inCoverage* = true in slots determined by *sl-SSB*-*TimeAllocation1* and GNSS timing.

- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.1.2.2.3.1-1.

Table 12.1.2.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{vst}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.1.2.2.3.3-1	
		Table 12.1.2.2.3.3-1A	

Preamble:

The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), test mode (On) and GNSS Sync (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.1.2.2.3.2 Test procedure sequence

Table 12.1.2.2.3.2-1 illustrates the sidelink power levels to be applied for NR-SS-UE 1 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" and "T2", are applied at the point indicated in the Main behaviour description in Table 12.1.2.2.3.2-2.

 Table 12.1.2.2.3.2-1: Time instances of NR-SS-UE power level and parameter changes in conducted test environment

	Parameter	Unit	NR-SS-UE	Remark
			1	
то	NR-SS-UE power	dBm/ SCS	OFF	NR-SS-UE 1 is powered off.
10	EPRE ratio of S-SSS to NR-SS-UE power	dB	-	
T1	NR-SS-UE power	dBm/ SCS	-106	The power level to ensure that PSBCH-RSRP of NR-SS-UE 1 is
11	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	lower than syncTxThreshOoC
т2	NR-SS-UE power	dBm/ SCS	-94	The power level to ensure that PSBCH-RSRP of NR-SS-UE 1 is
	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	higher than syncTxThreshOoC

Table 12.1.2.2.3.2-2: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS triggers UE to close UE test loop	-	-	-	-
	mode E (Transmit Mode).				
	NOTE: Closing of UE test loop mode E may be				
	performed by MMI or AT command				
	(+CCUTLE).				
1A	The UE starts broadcasting continuously.	-	-	-	-
2	The SS waits 10 seconds	-	-	-	-
3	Check: Does the UE transmit SL-SSBs in slots	-	-	1	Р
	determined by sI-SSB-TimeAllocation1 and				
	GNSS timing?				
4	The SS powers off GNSS simulator.	-	-	-	-
5	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in table 12.1.2.2.3.2-1.				
6	The SS waits 10 seconds	-	-	-	-
7	Check: Does the UE transmit SL-SSBs in slots	-	-	2	Р
	determined by sI-SSB-TimeAllocation2 and				
	NR-SS-UE 1 timing?				
8	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T2" in table 12.1.2.2.3.2-1.				
9	The SS waits 10 seconds	-	-	-	-
10	Check: Does the UE transmit SL-SSBs in the	-	-	3	F
	next 1s?				
11	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T0" in table 12.1.2.2.3.2-1.				
12	The SS waits 10 seconds	-	-	-	-
13	Check: Does the UE transmit SL-SSBs in slots	-	-	4	Р
	determined by sI-SSB-TimeAllocation2 and				
	NR-SS-UE 1 timing?				
14	The SS triggers UE to open UE test loop mode	-	-	-	-
	E.				
	NOTE: Opening of UE test loop mode E mav				
	be performed by MMI or AT command				
	(+CCUTLE).				
4 5 6 7 8 9 10 11 12 13 14	The SS powers off GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T1" in table 12.1.2.2.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs in slots determined by sl-SSB-TimeAllocation2 and NR-SS-UE 1 timing? The SS re-adjusts the NR-SS-UE power level according to row "T2" in table 12.1.2.2.3.2-1. The SS re-adjusts the NR-SS-UE power level according to row "T2" in table 12.1.2.2.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs in the next 1s? The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.1.2.2.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs in slots determined by sl-SSB-TimeAllocation2 and NR-SS-UE power level according to row "T0" in table 12.1.2.2.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs in slots determined by sl-SSB-TimeAllocation2 and NR-SS-UE 1 timing? The SS triggers UE to open UE test loop mode E. NOTE: Opening of UE test loop mode E may be performed by MMI or AT command (+CCUTLE).	- - - - - - - - - -		- - 2 - - 3 - - 4	- - P - F - F - P

12.1.2.2.3.3 Specific message contents

Table 12.1.2.2.3.3-1: V2X service identifier to default mode of communication mapping rule (Preconfiguration, UE under test)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-53			
Information Element	Value/remark	Comment	Condition
DMC	'10'B	Default mode of	
		communication is	
		set to broadcast	

Table 12.1.2.2.3.3-1A: SL-SDAP-Config (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-30			
Information Element	Value/remark	Comment	Condition
SL-SDAP-Config-r16 ::= SEQUENCE {			
sl-CastType-r16	broadcast		
}			

Table 12.1.2.2.3.3-2: +CCUTLE (Table 12.1.2.2.3.2-2, step 1)

Derivation Path: TS 38.508-1 [4] Table 4.7B-1 with condition Close and Transmit

Table 12.1.2.2.3.3-3: MasterInformationBlockSidelink (Table 12.1.2.2.3.2-2, NR-SS-UE 1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1			
Information Element	Value/remark	Comment	Condition
MasterInformationBlockSidelink ::= SEQUENCE {			
inCoverage-r16	true		
directFrameNumber-r16	DFN		
	determined		
	based on the		
	formula given in		
	38.331 [22]		
	clause 5.8.12.		
slotIndex-r16	slot index		
	determined		
	based on the		
	formula given in		
	38.331 [22]		
	clause 5.8.12.		
}			

Table 12.1.2.2.3.3-5: MasterInformationBlockSidelink (Table 12.1.2.2.3.2-2, step 3, 7, 13, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition TX				
Information Element	Value/remark	Comment	Condition	
MasterInformationBlockSidelink ::= SEQUENCE {				
inCoverage-r16	true		Step 3	
	false		Step 7, 13	
directFrameNumber-r16	DFN determined		Step 3, 7	
	based on the			
	formula given in			

	38.331 [22]	
	clause 5.8.12	
	Not checked	Step 13
slotIndex-r16	slot index	Step 3, 7
	determined	
	based on the	
	formula given in	
	38.331 [22]	
	clause 5.8.12	
	Not checked	Step 13
}		

Table 12.1.2.2.3.3-6: +CCUTLE (Table 12.1.2.2.3.2-2, step 17)

Derivation Path: TS 38.508-1 [4] Table 4.7B-1 with condition Open

- 12.1.3 PC5-only operation / Measurement configuration and reporting via PC5 RRC
 - 12.1.3.1 PC5-only operation / Measurement configuration and reporting via PC5 RRC / PSBCH-RSRP measurement configuration
- 12.1.3.1.1 Test Purpose (TP)

(1)



ensure that $\{$

when { UE is configured by upper layer to configure periodical PSBCH-RSRP measurement}

then { UE sends a RRCReconfigurationSidelink message to peer UE }

```
}
```

12.1.3.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.1, 5.8.9.1.3, 5.8.9.1.9. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.1]

The PC5-RRC signalling, as specified in sub-clause 5.8.9, can be initiated after its corresponding PC5 unicast link establishment (TS 23.287 [55]).

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

- 1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl*-*ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:
 - 2> set the *SLRB-PC5-ConfigIndex* included in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;

- 1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:
 - 2> set the SLRB-Config included in the slrb-ConfigToAddModList, according to the received sl-RadioBearerConfig and sl-RLC-BearerConfig corresponding to the sidelink DRB;
- 1> set the *sl-MeasConfig* as follows:
 - 2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:
 - 3> if UE is in RRC_CONNECTED:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;
 - 3> if UE is in RRC_IDLE or RRC_INACTIVE:
- 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration received from *SIB12*;

2> else:

- 3> set the sl-MeasConfig according to the sl-MeasPreconfig in SidelinkPreconfigNR;
- 1> start timer T400 for the destination associated with the sidelink DRB;
- 1> set the sl-CSI-RS-Config;
- 1> set the sl-LatencyBoundCSI-Report,
- NOTE 1: How to set the parameters included in *sl-CSI-RS-Config* and *sl-LatencyBoundCSI-Report* is up to UE implementation.
- The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.
- [TS 38.331, clause 5.8.9.1.3]
- The UE shall perform the following actions upon reception of the *RRCReconfigurationSidelink*:
- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
- 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:
- 2> for each *SLRB-PC5-ConfigIndex* value included in the *slrb-ConfigToReleaseList* that is part of the current UE sidelink configuration;
- 3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:
- 2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is not part of the current UE sidelink configuration:
- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;
- 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:

3> if sl-MappedQoS-FlowsToAddList is included:

4> add the *SL-PQFI* included in *sl-MappedQoS-FlowsToAddList* to the corresponding sidelink DRB;

3> if sl-MappedQoS-FlowsToReleaseList is included:

4> remove the *SL-PQFI* included in *sl-MappedQoS-FlowsToReleaseList* from the corresponding sidelink DRB;

3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:

4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;

3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:

4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;

1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:

2> perform the sidelink measurement configuration procedure as specified in 5.8.10;

1> if the RRCReconfigurationSidelink message includes the sl-CSI-RS-Config:

2> apply the sidelink CSI-RS configuration;

1> if the RRCReconfigurationSidelink message includes the sl-LatencyBoundCSI-Report:

2> apply the configured sidelink CSI report latency bound;

1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):

2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;

2> set the content of the *RRCReconfigurationFailureSidelink* message;

3> submit the *RRCReconfigurationFailureSidelink* message to lower layers for transmission;

1> else:

2> set the content of the *RRCReconfigurationCompleteSidelink* message;

3> submit the RRCReconfigurationCompleteSidelink message to lower layers for transmission;

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

[TS 38.331, clause 5.8.9.1.9]

The UE shall perform the following actions upon reception of the *RRCReconfigurationCompleteSidelink*:

1> stop timer T400 for the destination, if running;

1> consider the configurations in the corresponding *RRCReconfigurationSidelink* message to be applied.

12.1.3.1.3 Test description

12.1.3.1.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
- NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in preconfiguration) that UE is expected to use for transmission and reception via PC5 interface.
- NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
 - The UE uses GNSS as the synchronization reference source.
 - The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4] clause 4.8.3.3.3) except for those listed in Table 12.1.3.1.3.1-1.

Table 12.1.3.1.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 is available	
EF _{vst}		Service no.2 V2X policy	
		configuration data over PC5 is	
		supported, i.e. value is '01 02'	
		HEX	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included	
		in V2X data policy over PC5 is	
		defined in Table 12.1.3.1.3.3-1	

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Cast Type (Unicast), GNSS Sync (On) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.3.1.3.2 Test procedure sequence

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	UE is configured by upper layer to initiate the				
	sidelink RRC reconfiguration procedure to				
	configure periodical PSBCH-RSRP				
	measurement				
	Note: This step is triggered by MMI or AT				
	command.				
2	Check: Does UE send a	>	PC5 RRC:	1	Р
	RRCReconfigurationSidelink message to NR-		RRCReconfigurationSidelink		
	SS-UE1?				
3	NR-SS-UE1 sends a	<	PC5 RRC:		
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message		elink		

12.1.3.1.3.3 Specific message contents

Table 12.1.3.1.3.3-1: SL-PreconfigurationNR

Derivation path: TS 38.508-1 [4], Table 4.10.1-1			
Information Element	Value/Remark	Comment	Condition
SL-PreconfigurationNR-r16 ::= SEQUENCE {			
sidelinkPreconfigNR-r16 SEQUENCE {			
sl-MeasPreConfig-r16	SL-MeasConfigCommon		
}			
}			

Table 12.1.3.1.3.3-2: SL-MeasConfigCommon (Table 12.1.3.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-13			
Information Element	Value/Remark	Comment	Condition
SL-MeasConfigCommon-r16 ::= SEQUENCE {			
sl-MeasObjectListCommon-r16 ::= SEQUENCE	1 entry		
(SIZE (1maxNrofSL-ObjectId-r16)) OF SL-			
MeasObjectInfo-r16{			
SL-MeasObjectInfo-r16[1] SEQUENCE {		entry 1	
sl-MeasObjectId-r16	1		
sl-MeasObject-r16 SEQUENCE {			
frequencyInfoSL-r16	ARFCN-ValueNR as defined		
	in TS 38.508-1 [4], Table		
	4.6.3-5 with condition SL SSB		
	of NRf1		
}			
}			
}			
}			

Table 12.1.3.1.3.3-3: RRCReconfigurationSidelink (step 2, Table 12.1.3.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with co	Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_MEASand TX					
Information Element	Value/Remark	Comment	Condition			
RRCReconfigurationSidelink ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfigurationSidelink-r16 SEQUENCE {						
sl-MeasConfig-r16 CHOICE {						
setup SEQUENCE {						
sl-ReportConfigToAddModList-r16	SL-ReportConfigList-r16 as					
	defined in TS 38.508-1 [4],					
	Table 4.6.6-24 with condition					
	PERIODICAL					
}						
}						
}						
}						
}						

Table 12.1.3.1.3.3-4: RRCReconfigurationCompleteSidelink (step 3, Table 12.1.3.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

12.1.3.2 PC5-only operation / Measurement configuration and reporting via PC5 RRC / PSBCH-RSRP measurement reporting / Event S1 and S2

12.1.3.2.1 Test Purpose (TP)

(1)

```
with { UE configured to perfv
```

```
form event S1 PSBCH-RSRP measurement on SL-SSB via PC5 RRC }
```

ensure that {

```
when { PSBCH-RSRP measurement results of SL SSB are below threshold }
```

```
then { UE does not trigger PSBCH-RSRP measurement reporting }
```

}

(2)

with { UE configured to perform event S1 PSBCH-RSRP measurement on SL-SSB via PC5 RRC }

ensure that $\{$

```
when { PSBCH-RSRP measurement results of SL SSB are above threshold }
then { UE triggers PSBCH-RSRP measurement reporting }
```

```
}
```

(3)

with { UE configured to perform event S2 PSBCH-RSRP measurement on SL-SSB via PC5 RRC }

ensure that $\{$

```
when { PSBCH-RSRP measurement results of SL SSB are above threshold }
then { UE does not trigger PSBCH-RSRP measurement reporting }
```

}

(4)

with { UE configured to perform event S2 PSBCH-RSRP measurement on SL-SSB via PC5 RRC }

ensure that $\{$

when { PSBCH-RSRP measurement results of SL SSB are below threshold }

```
then { UE triggers PSBCH-RSRP measurement reporting }
```

```
}
```

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12.1.3.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1.3, 5.8.10.2.1, 5.8.10.2.5, 5.8.10.2.7, 5.8.10.3.1, 5.8.10.4.2, 5.8.10.4.3 and 5.8.10.5.1. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the *RRCReconfigurationSidelink*:

•••

1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:

2> perform the sidelink measurement configuration procedure as specified in 5.8.10;

•••

1> else:

2> set the content of the *RRCReconfigurationCompleteSidelink* message;

3> submit the RRCReconfigurationCompleteSidelink message to lower layers for transmission;

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

[TS 38.331, subclause 5.8.10.2.1]

The UE shall:

•••

1> if the received sl-MeasConfig includes the sl-MeasObjectToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement object addition/modification procedure as specified in 5.8.10.2.5;

•••

1> if the received sl-MeasConfig includes the sl-ReportConfigToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink reporting configuration addition/modification procedure as specified in 5.8.10.2.7;

1> if the received sl-MeasConfig includes the sl-QuantityConfig in the RRCReconfigurationSidelink:

2> perform the sidelink quantity configuration procedure as specified in 5.8.10.2.8;

•••

1> if the received sl-MeasConfig includes the sl-MeasIdToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement identity addition/modification procedure as specified in 5.8.10.2.3;

[TS 38.331, subclause 5.8.10.2.5]

The UE shall:

1> for each sl-MeasObjectId included in the received sl-MeasObjectToAddModList:

2> if an entry with the matching *sl-MeasObjectId* exists in the *sl-MeasObjectList* within the *VarMeasConfigSL*, for this entry:

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3> for each *sl-MeasId* associated with this *sl-MeasObjectId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:

4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;

4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;

3> reconfigure the entry with the value received for this *sl-MeasObject*;

2> else:

3> add a new entry for the received *sl-MeasObject* to the *sl-MeasObjectList* within *VarMeasConfigSL*.

[TS 38.331, subclause 5.8.10.2.7]

The UE shall:

1> for each sl-ReportConfigId included in the received sl-ReportConfigToAddModList:

2> if an entry with the matching *sl-ReportConfigId* exists in the *sl-ReportConfigList* within the *VarMeasConfigSL*, for this entry:

3> reconfigure the entry with the value received for this *sl-ReportConfig*;

3> for each *sl-MeasId* associated with this *sl-ReportConfigId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:

4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;

4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;

2> else:

3> add a new entry for the received *sl-ReportConfig* to the *sl-ReportConfigList* within the *VarMeasConfigSL*.

```
[TS 38.331, subclause 5.8.10.3.1]
```

A UE shall derive NR sidelink measurement results by measuring one or multiple DMRS associated per PC5-RRC connection as configured by the peer UE associated, as described in 5.8.10.3.2. For all NR sidelink measurement results the UE applies the layer 3 filtering as specified in sub-clause 5.5.3.2, before using the measured results for evaluation of reporting criteria and measurement reporting. In this release, only NR sidelink RSRP can be configured as trigger quantity and reporting quantity.

The UE shall:

1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:

2> if the *sl-MeasObject* is associated to NR sidelink and the *sl-RS-Type* is set to *dmrs*:

3> derive the layer 3 filtered NR sidelink measurement result based on DMRS for the trigger quantity and each measurement quantity indicated in *sl-ReportQuantity* using parameters from the associated *sl-MeasObject*, as described in 5.8.10.3.2.

2> perform the evaluation of reporting criteria as specified in 5.8.10.4.

[TS 38.331, subclause 5.8.10.4.2]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition S1-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition S1-2, as specified below, is fulfilled;

1> for this NR sidelink measurement, consider the NR sidelink frequency corresponding to the associated *sl-MeasObject* associated with this event.

Inequality S1-1 (Entering condition)

Ms - Hys > Thresh

Inequality S1-2 (Leaving condition)

Ms + Hys < Thresh

The variables in the formula are defined as follows:

Ms is the NR sidelink measurement result of the NR sidelink frequency, not taking into account any offsets.

Hys is the hysteresis parameter for this event (i.e. *sl-Hysteresis* as defined within *sl-ReportConfig* for this event).

Thresh is the threshold parameter for this event (i.e. *s1-Threshold* as defined within *sl-ReportConfig* for this event).

Ms is expressed in dBm in case of RSRP.

Hys is expressed in dB.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, subclause 5.8.10.4.3]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition S2-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition S2-2, as specified below, is fulfilled;

1> for this NR sidelink measurement, consider the NR sidelink frequency indicated by the *sl-MeasObject* associated to this event.

Inequality S2-1 (Entering condition)

Ms + Hys < Thresh

Inequality S2-2 (Leaving condition)

Ms – Hys > Thresh

The variables in the formula are defined as follows:

Ms is the NR sidelink measurement result of the NR sidelink frequency, not taking into account any offsets.

Hys is the hysteresis parameter for this event (i.e. *sl*-*Hysteresis* as defined within *sl*-*ReportConfig* for this event).

Thresh is the threshold parameter for this event (i.e. s2-Threshold as defined within sl-ReportConfig for this event).

Ms is expressed in dBm in case of RSRP.

Hys is expressed in dB.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, subclause 5.8.10.5.1]



Figure 5.8.10.5.1-1: NR sidelink measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the peer UE associated.

For the *sl-MeasId* for which the NR sidelink measurement reporting procedure was triggered, the UE shall set the *sl-MeasResults* within the *MeasurementReportSidelink* message as follows:

1> set the *sl-MeasId* to the measurement identity that triggered the NR sidelink measurement reporting;

1> if the *sl*-*ReportConfig* associated with the *sl*-*MeasId* that triggered the NR sidelink measurement reporting is set to *sl*-*EventTriggered* or *sl*-*Periodical*:

2> set *sl-ResultDMRS* within *sl-MeasResult* to include the NR sidelink DMRS based quantity indicated in the *sl-ReportQuantity* within the concerned *sl-ReportConfig*;

1> increment the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSSL* for this *sl-MeasId* by 1;

1> stop the periodical reporting timer, if running;

1> if the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSL* for this *sl-MeasId* is less than the *sl-ReportAmount* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*:

2> start the periodical reporting timer with the value of *sl-ReportInterval* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*;

1> else:

2> if the sl-ReportType is set to sl-Periodical:

3> remove the entry within the *VarMeasReportListSL* for this *sl-MeasId*;

3> remove this sl-MeasId from the sl-MeasIdList within VarMeasConfigSL;

1> submit the MeasurementReportSidelink message to lower layers for transmission, upon which the procedure ends.

12.1.3.2.3 Test description

12.1.3.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE uses GNSS as the synchronization reference source.

- The UE is equipped with a below information in UE or in USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.

USIM field	Priority	Value	Access Technology Identifier
EFust		Service n°119 (V2X) supported	
EF _{VST}		As per TS 38.508-1 [4] clause	
		4.8.3.3.3	
EF _{V2XP_PC5}		SL-PreconfigurationNR field as	
		defined in TS 38.508-1 [4], table	
		4.10.1-1, except SL-SyncConfig-	
		r16 field as defined in table	
		12.1.3.2.3.3-0	

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using NR-SS-UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

12.1.3.2.3.2 Test procedure sequence

Table 12.1.3.2.3.2-1 illustrates the downlink power levels and other, if any, changing parameters to be applied for the NR-SS-UE at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" is to be applied subsequently. The exact instants on which these values shall be applied are described elsewhere in the present clause.

Table 12.1.3.2.3.2-1: Time instances of simulated NR-SS-UE power level and parameter changes

	Parameter	Unit	NR-SS-UE1	Comment
				Power level is such that entering condition for
то	0.0000		00	event S1 <i>Ms – Hys > Thresh</i> is not satisfied
	S-RSRP	abm/SCS	-98	and entering condition for event S2 Ms + Hys
				< Thresh is satisfied.
				Power level is such that entering condition for
T 4				event S1 <i>Ms – Hys > Thresh</i> is satisfied and
11	S-RSRP	abm/SCS	-76	entering condition for event S2 Ms + Hys <
				Thresh is not satisfied.

Table 12.1.3.2.3.2-2: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		

0	The NR-SS-UE1 transmits SLSS &	<	PC5 RRC: SLSS &	-	-
	MasterInformationBlockSidelink (Note 1).		MasterInformationBlockSidelink		
1	The NR-SS-UE1 transmits an	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message		RRCReconfigurationSidelink		
	including sl-MeasConfig to setup event S1				
	triggered PSBCH-RSRP measurement and				
	reporting.				
2	The UE transmits an	>	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message.		elink		
3	Check: Does the UE transmit a	-	-	1	F
	MeasurementReportSidelink message to				
	report event S1 within the next 10s?				
4	The NR-SS-UE1 re-adjusts the power level	-	-	-	-
	according to row "T1" in Table 12.1.3.2.3.2-1.				
-	EXCEPTION: Step 5 below is repeated until 2	-	-	-	-
	MeasurementReportSidelink messages are				
	received from the UE.				
5	Check: Does the UE transmit a	>	PC5 RRC:	2	Р
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	report event S1?				
6	The NR-SS-UE1 transmits an	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message		RRCReconfigurationSidelink		
	including sl-MeasConfig to setup event S2				
	triggered PSBCH-RSRP measurement and				
	reporting.				
7	The UE transmits an Table 12.1.3.2.3.2-2	>	PC5 RRC: Table 12.1.3.2.3.2-2	-	-
	message.				
8	Check: Does the UE transmit a	-	-	3	F
	MeasurementReportSidelink message to				
	report event S2 within the next 10s?				
9	The NR-SS-UE1 re-adjusts the power level	-	-	-	-
	according to row "T0" in Table 12.1.3.2.3.2-1.				
-	EXCEPTION: Step 10 below is repeated until	-	-	-	-
	2 MeasurementReportSidelink messages are				
	received from the UE.				
10	Check: Does the UE transmit a	>	PC5 RRC:	4	P
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	report event S2?				
Note	1: UE is using TS 38.508-1 [4] Table 4.6.6-31: SL	-SyncCol	nfig parameters to transmit SLSS.		

12.1.3.2.3.3 Specific message contents

Table 12.1.3.2.3.3-0: SL-SyncConfig (step 0, Table 12.1.3.2.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6	.6-31		
Information Element	Value/remark	Comment	Condition
SL-SyncConfig-r16 ::= SEQUENCE {			
gnss-Sync-r16	true		
}			

Table 12.1.3.2.3.3-0A: MasterInformationBlockSidelink (step 0, Table 12.1.3.2.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition RX AND GNSS_SYNC

Table 12.1.3.2.3.3-1: RRCReconfigurationSidelink (step 1, Table 12.1.3.2.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX and SL MEAS

Table 12.1.3.2.3.3-2: SL-ReportConfigList (69) (Table 12.1.3.2.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-24 with condition EVENT_S1

Table 12.1.3.2.3.3-3: MeasurementReportSidelink (step 5, 10, Table 12.1.3.2.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-2 with condition TX

Table 12.1.3.2.3.3-4: RRCReconfigurationSidelink (step 6, Table 12.1.3.2.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX and SL MEAS

Table 12.1.3.2.3.3-5: SL-ReportConfigList (69) (Table 12.1.3.2.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-24 with condition EVENT_S2

12.1.3.3 PC5-only operation / Measurement configuration and reporting via PC5 RRC / PSBCH-RSRP measurement reporting / Periodical reporting

12.1.3.3.1 Test Purpose (TP)

(1)

with { UE being configured to perform periodical PSBCH-RSRP measurement reporting on SL SSB via PC5 RRC }

ensure that $\{$

when { The first measurement result is available and thereafter every time periodical timer
expires until sl-NumberOfReportsSent is equal to sl-ReportAmount }

```
then { UE triggers PSBCH-RSRP measurement reporting }
```

}

12.1.3.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.10.2.1, 5.8.10.2.3, 5.8.10.2.5, 5.8.10.2.7, 5.8.10.3.1, 5.8.10.3.2, 5.8.10.4.1 and 5.8.10.5.1. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.10.2.1]

The UE shall:

••••

1> if the received sl-MeasConfig includes the sl-MeasObjectToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement object addition/modification procedure as specified in 5.8.10.2.5;

- •••
- 1> if the received sl-MeasConfig includes the sl-ReportConfigToAddModList in the RRCReconfigurationSidelink:
 - 2> perform the sidelink reporting configuration addition/modification procedure as specified in 5.8.10.2.7;
- 1> if the received sl-MeasConfig includes the sl-QuantityConfig in the RRCReconfigurationSidelink:
 - 2> perform the sidelink quantity configuration procedure as specified in 5.8.10.2.8;
- •••
- 1> if the received sl-MeasConfig includes the sl-MeasIdToAddModList in the RRCReconfigurationSidelink:
 - 2> perform the sidelink measurement identity addition/modification procedure as specified in 5.8.10.2.3;
- [TS 38.331, subclause 5.8.10.2.3]
- The UE shall:
 - 1> for each *sl-MeasId* included in the received *sl-MeasIdToAddModList*:
 - 2> if an entry with the matching *sl-MeasId* exists in the *sl-MeasIdList* within the *VarMeasConfigSL*:
 - 3> replace the entry with the value received for this *sl-MeasId*;
 - 2> else:
 - 3> add a new entry for this *sl-MeasId* within the *VarMeasConfigSL*;
 - 2> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 2> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;
- [TS 38.331, subclause 5.8.10.2.5]
- The UE shall:
 - 1> for each sl-MeasObjectId included in the received sl-MeasObjectToAddModList:
 - 2> if an entry with the matching *sl-MeasObjectId* exists in the *sl-MeasObjectList* within the *VarMeasConfigSL*, for this entry:
 - 3> for each *sl-MeasId* associated with this *sl-MeasObjectId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:
 - 4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;
 - 3> reconfigure the entry with the value received for this *sl-MeasObject*;
 - 2> else:

3> add a new entry for the received *sl-MeasObject* to the *sl-MeasObjectList* within *VarMeasConfigSL*.

[TS 38.331, subclause 5.8.10.2.7]

The UE shall:

- 1> for each sl-ReportConfigId included in the received sl-ReportConfigToAddModList:
 - 2> if an entry with the matching *sl-ReportConfigId* exists in the *sl-ReportConfigList* within the *VarMeasConfigSL*, for this entry:
 - 3> reconfigure the entry with the value received for this *sl-ReportConfig*;
 - 3> for each *sl-MeasId* associated with this *sl-ReportConfigId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:
 - 4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;

2> else:

3> add a new entry for the received *sl*-*ReportConfig* to the *sl*-*ReportConfigList* within the *VarMeasConfigSL*.

[TS 38.331, subclause 5.8.10.3.1]

A UE shall derive NR sidelink measurement results by measuring one or multiple DMRS associated per PC5-RRC connection as configured by the peer UE associated, as described in 5.8.10.3.2. For all NR sidelink measurement results the UE applies the layer 3 filtering as specified in sub-clause 5.5.3.2, before using the measured results for evaluation of reporting criteria and measurement reporting. In this release, only NR sidelink RSRP can be configured as trigger quantity and reporting quantity.

The UE shall:

- 1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:
 - 2> if the *sl-MeasObject* is associated to NR sidelink and the *sl-RS-Type* is set to *dmrs*:
 - 3> derive the layer 3 filtered NR sidelink measurement result based on DMRS for the trigger quantity and each measurement quantity indicated in *sl-ReportQuantity* using parameters from the associated *sl-MeasObject*, as described in 5.8.10.3.2.
 - 2> perform the evaluation of reporting criteria as specified in 5.8.10.4.

[TS 38.331, subclause 5.8.10.3.2]

The UE may be configured by the peer UE associated to derive NR sidelink RSRP measurement results per PC5-RRC connection associated to the NR sidelink measurement objects based on parameters configured in the *sl-MeasObject* and in the *sl-ReportConfig*.

The UE shall:

- 1> for each NR sidelink measurement quantity to be derived based on NR sidelink DMRS:
 - 2> derive the corresponding measurement of NR sidelink frequency indicated quantity based on DMRS as described in TS 38.215 [9] in the concerned *sl-MeasObject*;
 - 2> apply layer 3 filtering as described in 5.5.3.2;

[TS 38.331, subclause 5.8.10.4.1]

The UE shall:

1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:

•••

2> if *sl-ReportType* is set to *sl-Periodical* and if a (first) NR sidelink measurement result is available:

3> include a NR sidelink measurement reporting entry within the *VarMeasReportListSL* for this *sl-MeasId*;

- 3> set the sl-NumberOfReportsSent defined within the VarMeasReportListSL for this sl-MeasId to 0;
- 3> initiate the NR sidelink measurement reporting procedure, as specified in 5.8.10.5, immediately after the quantity to be reported becomes available for the NR sidelink frequency:
- 2> upon expiry of the periodical reporting timer for this *sl-MeasId*:
 - 3> initiate the NR sidelink measurement reporting procedure, as specified in 5.8.10.5.

[TS 38.331, subclause 5.8.10.5.1]



Figure 5.8.10.5.1-1: NR sidelink measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the peer UE associated.

For the *sl-MeasId* for which the NR sidelink measurement reporting procedure was triggered, the UE shall set the *sl-MeasResults* within the *MeasurementReportSidelink* message as follows:

- 1> set the *sl-MeasId* to the measurement identity that triggered the NR sidelink measurement reporting;
- 1> if the *sl-ReportConfig* associated with the *sl-MeasId* that triggered the NR sidelink measurement reporting is set to *sl-EventTriggered* or *sl-Periodical*:
 - 2> set *sl-ResultDMRS* within *sl-MeasResult* to include the NR sidelink DMRS based quantity indicated in the *sl-ReportQuantity* within the concerned *sl-ReportConfig*;
- 1> increment the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSSL* for this *sl-MeasId* by 1;
- 1> stop the periodical reporting timer, if running;
- 1> if the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSL* for this *sl-MeasId* is less than the *sl-ReportAmount* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*:
 - 2> start the periodical reporting timer with the value of *sl-ReportInterval* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*;
- 1> else:
 - 2> if the sl-ReportType is set to sl-Periodical:
 - 3> remove the entry within the *VarMeasReportListSL* for this *sl-MeasId*;
 - 3> remove this sl-MeasId from the sl-MeasIdList within VarMeasConfigSL;

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1> submit the *MeasurementReportSidelink* message to lower layers for transmission, upon which the procedure ends.

12.1.3.3.3 Test description

12.1.3.3.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1: operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- The UE uses GNSS as the synchronization reference source.

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4] subclause 4.4A using generic procedure defined in TS 38.508-1[4] clause 4.5.7 with parameters Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.3.3.3.2 Test procedure sequence

Table	1213	332-	1 · Main	beha	iviour
TUDIC	TC.T.0		I . IVIAIII		ivioui

St	Procedure		Message Sequence		Verdict
		U - S	Message		
0	The NR-SS-UE1 transmits SLSS &	<	PC5 RRC: SLSS &	-	-
	MasterInformationBlockSidelink (Note 1).		MasterInformationBlockSidelink		
1	The NR-SS-UE1 transmits a	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message on SL-		RRCReconfigurationSidelink		
	SRB3.				
2	The UE transmits a	>	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message on SL-SRB3.		elink		
3	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	perform periodical reporting?				
-	EXCEPTION: After the 1st	-	-	-	-
	MeasurementReportSidelink message at step				
	3 is received, step 4 below is repeated until 15				
	MeasurementReport messages are received				
	from the UE. The interval between two				
	MeasurementReportSidelink shall be as				
	specified by the IE sl-ReportInterval				
4	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	perform periodical reporting?				
Note	1: UE is using TS 38.508-1 [4] Table 4.6.6-31:	SL-Synco	Config parameters to transmit SLSS.		

12.1.3.3.3.3 Specific message contents

Table 12.1.3.3.3.3-0: SL-SyncConfig (step 0, Table 12.1.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-31			
Information Element	Value/remark	Comment	Condition
SL-SyncConfig-r16 ::= SEQUENCE {			
gnss-Sync-r16	true		
}			

Table 12.1.3.3.3.3-0A: MasterInformationBlockSidelink (step 0, Table 12.1.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition RX AND GNSS_SYNC

Table 12.1.3.3.3.3-1: RRCReconfigurationSidelink (step 1, Table 12.1.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_MEAS and RX				
Information Element	Value/remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
sl-MeasConfig-r16 CHOICE {				
setup SEQUENCE {				
sl-ReportConfigToAddModList-r16	SL-ReportConfigList-r16	Table		
		12.1.3.3.3.3-2		
}				
}				
}				
}				
}				
Table 12.1.3.3.3.3-2: SL-ReportConfigList-r16 (Table 12.1.3.3.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-24 with condition PERIODICAL				
Information Element	Value/remark	Comment	Condition	
SL-ReportConfigList-r16 ::= SEQUENCE (SIZE	1 entry			
(1maxNrofSL-ReportConfigId-r16)) OF SL-				
ReportConfigInfo-r16 {				
SL-ReportConfigInfo-r16[1] SEQUENCE {		entry 1		
sl-ReportConfig-r16 SEQUENCE {				
sl-ReportType-r16 CHOICE {				
sl-Periodical-r16 SEQUENCE {				
sl-ReportAmount-r16	r16			
}				
}				
}				
}				
}				

Table 12.1.3.3.3.3-3: RRCReconfigurationCompleteSidelink (step 2, Table 12.1.3.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition TX

Table 12.1.3.3.3.3-4: MeasurementReportSidelink (step 3, step 4, Table 12.2.5.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-2 with condition TX

12.1.4 PC5-only operation / Sidelink Reconfiguration via PC5 RRC

12.1.4.1 PC5-only operation / Sidelink Reconfiguration via PC5 RRC / SL-DRB management / initiating UE side

12.1.4.1.1 Test Purpose (TP)

(1)

```
with { UE having established PC5 RRC connection with peer UE }
```

ensure that {

when { UE is configured by higher layer to transmit a PC5 RRCReconfiguration message to establish a unicast SL-DRB }

then { UE sends a RRCReconfigurationSidelink message to peer UE }

}

(2)

with { UE having established PC5 RRC connection with peer UE }

ensure that {

when { UE is configured by higher layer to transmit a PC5 RRCReconfiguration message to modify a unicast SL-DRB }

then { UE sends a RRCReconfigurationSidelink message to peer UE }

}

(3)

with { UE having established PC5 RRC connection with peer UE }

```
ensure that \{
```

when { UE is configured by higher layer to transmit a PC5 RRCReconfiguration message to release a unicast SL-DRB }

```
then { UE sends a RRCReconfigurationSidelink message to peer UE }
```

}

12.1.4.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, subclause 5.8.9.1a.1.2, 5.8.9.1a.2.1, 5.8.9.1a.2.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.1a.1.2]

For each sidelink DRB, whose sidelink DRB release conditions are met as in sub-clause 5.8.9.1a.1.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

- 1> for groupcast and broadcast; or
- 1> for unicast, if the sidelink DRB release was triggered after the reception of the *RRCReconfigurationSidelink* message; or
- 1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB release was triggered due to the configuration received within the sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR or indicated by upper layers:
 - 2> release the PDCP entity for NR sidelink communication associated with the sidelink DRB;
 - 2> if SDAP entity for NR sidelink communication associated with this sidelink DRB is configured:
 - 3> indicate the release of the sidelink DRB to the SDAP entity associated with this sidelink DRB (TS 37.324 [24], clause 5.3.3);
 - 2> release SDAP entities for NR sidelink communication, if any, that have no associated sidelink DRB as specified in TS 37.324 [24] clause 5.1.2;
- 1> for groupcast and broadcast; or
- 1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*:
 - 2> for each *sl-RLC-BearerConfigIndex* included in the received *sl-RLC-BearerToReleaseList* that is part of the current UE sidelink configuration:
 - 3> release the RLC entity and the corresponding logical channel for NR sidelink communication, associated with the *sl-RLC-BearerConfigIndex*.
- 1> for unicast, if the sidelink DRB release was triggered due to the reception of the *RRCReconfigurationSidelink* message; or

- 1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:
 - 2> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB;
 - 2> perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if needed.
- 1> if the sidelink radio link failure is detected for a specific destination:
 - 2> release the PDCP entity, RLC entity and the logical channel of the sidelink DRB for the specific destination.

```
[TS 38.331, subclause 5.8.9.1a.2.1]
```

For NR sidelink communication, a sidelink DRB addition is initiated only in the following cases:

- 1> if any sidelink QoS flow is (re)configured by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* and is to be mapped to one sidelink DRB, which is not established; or
- 1> if any sidelink QoS flow is (re)configured by *RRCReconfigurationSidelink* and is to be mapped to a sidelink DRB, which is not established;

For NR sidelink communication, a sidelink DRB modification is initiated only in the following cases:

- 1> if any of the sidelink DRB related parameters is changed by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or *RRCReconfigurationSidelink* for one sidelink DRB, which is established;
- [TS 38.331, subclause 5.8.9.1a.2.2]

For the sidelink DRB, whose sidelink DRB addition conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

- 1> for groupcast and broadcast; or
- 1> for unicast, if the sidelink DRB addition was triggered due to the reception of the RRCReconfigurationSidelink message; or
- 1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB addition was triggered due to the configuration received within the sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR or indicated by upper layers:
 - 2> if an SDAP entity for NR sidelink communication associated with the destination and the cast type of the sidelink DRB does not exist:
 - 3> establish an SDAP entity for NR sidelink communication as specified in TS 37.324 [24] clause 5.1.1;
 - 2> (re)configure the SDAP entity in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;
 - 2> establish a PDCP entity for NR sidelink communication and configure it in accordance with the *sl-PDCP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;
 - 2> establish a RLC entity for NR sidelink communication and configure it in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with sidelink DRB;
 - 2> if this procedure was due to the reception of a *RRCReconfigurationSidelink* message:

3> configure the MAC entity with a logical channel in accordance with the *sl-MAC-LogicalChannelConfigPC5* received in the *RRCReconfigurationSidelink* associated with the sidelink DRB, and perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if need;

2> else:

- 3> configure the MAC entity with a logical channel associated with the sidelink DRB, by assigning a new logical channel identity, in accordance with the *sl-MAC-LogicalChannelConfig* received in the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*.
- NOTE 1: When a sidelink DRB addition is due to the configuration by *RRCReconfigurationSidelink*, it is up to UE implementation to select the sidelink DRB configuration as necessary transmitting parameters for the sidelink DRB, from the received *sl-ConfigDedicatedNR* (if in RRC_CONNECTED), *SIB12* (if in RRC_IDLE/INACTIVE), *SidelinkPreconfigNR* (if out of coverage) with the same RLC mode as the one configured in *RRCReconfigurationSidelink*.

For the sidelink DRB, whose sidelink DRB modification conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

- 1> for groupcast and broadcast; or
- 1> for unicast, if the sidelink DRB modification was triggered due to the reception of the *RRCReconfigurationSidelink* message; or
- 1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB modification was triggered due to the configuration received within the sl-ConfigDedicatedNR, SIB12 or SidelinkPreconfigNR:
 - 2> reconfigure the SDAP entity of the sidelink DRB, in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
 - 2> reconfigure the PDCP entity of the sidelink DRB, in accordance with the *sl-PDCP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
 - 2> reconfigure the RLC entity of the sidelink DRB, in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
 - 2> reconfigure the logical channel of the sidelink DRB, in accordance with the sl-MAC-LogicalChannelConfigPC5 received in the RRCReconfigurationSidelink or sl-MAC-LogicalChannelConfig received in sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR, if included.

12.1.4.1.3 Test description

12.1.4.1.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

- NR-SS-UE 1 is synchronised on GNSS.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 0-A as defined in TS 38.508-1 [4].

12.1.4.1.3.2 Test procedure sequence

Table 12.1.4.1.3.2-1: Main behaviour

	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Power on the UE.	-	-	-	-
2	Trigger UE to reset or clear the current UTC	-	-	-	-
	time that has been calculated from GNSS.				
	NOTE: The UTC time can be reset or clear on				
	the UE using AT command (+CUTCR).				
3	The UE is configured by upper layer to	-	-	-	-
	establish unicast mode link.				
	NOTE: This can be done by sending AT				
	COMMAND +CCUTLE to close test loop				
	function.				
4	The UE sends a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
5	The NR-SS-UE1 sends a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMMAND message.		MODE COMMAND		
6	The UE sends a DIRECT LINK SECURITY	>	PC5-S: DIRECT LINK SECURITY	-	-
	MODE COMPLETE message.		MODE COMPLETE		
7	The NR-SS-UE1 sends a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT ACCEPT message.		ESTABLISHMENT ACCEPT		
8	Check: Does the UE send an	>	PC5-RRC:	1	P
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	establish a unicast mode SL-DRB?				
9	The NR-SS-UE1 sends an	<	PC5-RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message.		nk		
10	The SS sends AT COMMAND +CCUTLE to	-	-	-	-
	open test loop function				
11	UE is configured by upper layer to modify SL-	-	-	-	-
	DRB to NR-SS-UE1.				
	NOTE: This step is triggered by MMI or AT				
	command.				
12	Check: Does the UE send an	>	PC5-RRC:	2	P
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	modify the unicast mode SL-DRB?				
13	The NR-SS-UE1 sends an	<	PC5-RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message.		nk		
14	UE is configured by upper layer to release SL-		-	-	-
	DRB to NR-SS-UE1.				
	Note: This step is triggered by MMI or AT				
	command.				
15	Check: Does the UE send an	>	PC5 RRC:	3	P
	RRCReconfigurationSidelink message to NR-		RRCReconfigurationSidelink		
	SS-UE1 to indicate SL-DRB release?				
16	The NR-SS-UE1 sends an	<	PC5-RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message to confirm SL-DRB release.		nk		

12.1.4.1.3.3 Specific message contents

Table 12.1.4.1.3.3-1: DIRECT LINK ESTABLISHMENT REQUEST (step 4, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-7 with condition Tx

Table 12.1.4.1.3.3-2: Message DIRECT LINK SECURITY MODE COMMAND (step 5, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-18 with condition Rx

Table 12.1.4.1.3.3-3: Message DIRECT LINK SECURITY MODE COMPLETE (step 6, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-19 with condition Tx

Table 12.1.4.1.3.3-4: Message DIRECT LINK ESTABLISHMENT ACCEPT (step 7, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-8 with condition Rx

Table 12.1.4.1.3.3-5: RRCReconfigurationSidelink (step 8, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.9.22.3-7

Table 12.1.4.1.3.3-6: RRCReconfigurationCompleteSidelink (steps 9, 13 & 16, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4, conditions RX

Table 12.1.4.1.3.3-7: RRCReconfigurationSidelink (step 12, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.9.22.3-7				
Information Element	Value/remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
sl-SDAP-ConfigPC5-r16	Not checked			
sl-PDCP-ConfigPC5-r16	Not checked			
sl-RLC-ConfigPC5-r16	Not checked			
sl-MAC-LogicalChannelConfigPC5-r16	Not checked			
}				
}				
}				
}				
}				

Table 12.1.4.1.3.3-8: RRCReconfigurationSidelink (step 15, Table 12.1.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3, condition TX					
Information Element	Value/Remark	Comment	Condition		
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-					
r16 {					
SLRB-PC5-ConfigIndex-r16 [1]	1	entry 1			
}					
}					
}					
}					

12.1.4.2 PC5-only operation / Sidelink Reconfiguration via PC5 RRC / SL DRB management / Peer UE side

12.1.4.2.1 Test Purpose (TP)

(1)

with { UE having established PC5 RRC connection with peer UE}

ensure that {

when { UE receives an RRCReconfigurationSidelink that can comply to add an unicast SL-DRB}

then { UE applies the parameters in RRCReconfigurationSidelink and sends a
RRCReconfigurationCompleteSidelink message to peer UE}

}

(2)

with { UE having established PC5 RRC connection with peer UE }

ensure that {

when { UE receives an RRCReconfigurationSidelink that can comply to modify an unicast SL-DRB}

then {UE applies the parameters in RRCReconfigurationSidelink and sends a
RRCReconfigurationCompleteSidelink message to peer UE }

}

(3)

with { UE having established PC5 RRC connection with peer UE }

ensure that {

when { UE receives an RRCReconfigurationSidelink that can comply to release an unicast SL-DRB}

then { UE applies the parameters in RRCReconfigurationSidelink and sends a
RRCReconfigurationCompleteSidelink message to peer UE}

}

12.1.4.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, subclause 5.8.9.1a.1.2, 5.8.9.1a.2.1, 5.8.9.1a.2.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.1a.1.2]

For each sidelink DRB, whose sidelink DRB release conditions are met as in sub-clause 5.8.9.1a.1.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

1> for groupcast and broadcast; or

- 1> for unicast, if the sidelink DRB release was triggered after the reception of the *RRCReconfigurationSidelink* message; or
- 1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB release was triggered due to the configuration received within the sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR or indicated by upper layers:
 - 2> release the PDCP entity for NR sidelink communication associated with the sidelink DRB;
 - 2> if SDAP entity for NR sidelink communication associated with this sidelink DRB is configured:
 - 3> indicate the release of the sidelink DRB to the SDAP entity associated with this sidelink DRB (TS 37.324 [24], clause 5.3.3);
 - 2> release SDAP entities for NR sidelink communication, if any, that have no associated sidelink DRB as specified in TS 37.324 [24] clause 5.1.2;
- 1> for groupcast and broadcast; or
- 1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*:
 - 2> for each *sl-RLC-BearerConfigIndex* included in the received *sl-RLC-BearerToReleaseList* that is part of the current UE sidelink configuration:
 - 3> release the RLC entity and the corresponding logical channel for NR sidelink communication, associated with the *sl-RLC-BearerConfigIndex*.
- 1> for unicast, if the sidelink DRB release was triggered due to the reception of the RRCReconfigurationSidelink message; or
- 1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:
 - 2> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB;
 - 2> perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if needed.
- 1> if the sidelink radio link failure is detected for a specific destination:
 - 2> release the PDCP entity, RLC entity and the logical channel of the sidelink DRB for the specific destination.
- [TS 38.331, subclause 5.8.9.1a.2.1]
- For NR sidelink communication, a sidelink DRB addition is initiated only in the following cases:
 - 1> if any sidelink QoS flow is (re)configured by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* and is to be mapped to one sidelink DRB, which is not established; or
 - 1> if any sidelink QoS flow is (re)configured by *RRCReconfigurationSidelink* and is to be mapped to a sidelink DRB, which is not established;
- For NR sidelink communication, a sidelink DRB modification is initiated only in the following cases:
 - 1> if any of the sidelink DRB related parameters is changed by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or *RRCReconfigurationSidelink* for one sidelink DRB, which is established;

[TS 38.331, subclause 5.8.9.1a.2.2]

For the sidelink DRB, whose sidelink DRB addition conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

- 1> for groupcast and broadcast; or
- 1> for unicast, if the sidelink DRB addition was triggered due to the reception of the *RRCReconfigurationSidelink* message; or
- 1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB addition was triggered due to the configuration received within the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:
 - 2> if an SDAP entity for NR sidelink communication associated with the destination and the cast type of the sidelink DRB does not exist:
 - 3> establish an SDAP entity for NR sidelink communication as specified in TS 37.324 [24] clause 5.1.1;
 - 2> (re)configure the SDAP entity in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;
 - 2> establish a PDCP entity for NR sidelink communication and configure it in accordance with the *sl-PDCP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;
 - 2> establish a RLC entity for NR sidelink communication and configure it in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with sidelink DRB;
 - 2> if this procedure was due to the reception of a *RRCReconfigurationSidelink* message:
 - 3> configure the MAC entity with a logical channel in accordance with the *sl-MAC-LogicalChannelConfigPC5* received in the *RRCReconfigurationSidelink* associated with the sidelink DRB, and perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if need;

2> else:

- 3> configure the MAC entity with a logical channel associated with the sidelink DRB, by assigning a new logical channel identity, in accordance with the *sl-MAC-LogicalChannelConfig* received in the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*.
- NOTE 1: When a sidelink DRB addition is due to the configuration by *RRCReconfigurationSidelink*, it is up to UE implementation to select the sidelink DRB configuration as necessary transmitting parameters for the sidelink DRB, from the received *sl-ConfigDedicatedNR* (if in RRC_CONNECTED), *SIB12* (if in RRC_IDLE/INACTIVE), *SidelinkPreconfigNR* (if out of coverage) with the same RLC mode as the one configured in *RRCReconfigurationSidelink*.

For the sidelink DRB, whose sidelink DRB modification conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

- 1> for groupcast and broadcast; or
- 1> for unicast, if the sidelink DRB modification was triggered due to the reception of the *RRCReconfigurationSidelink* message; or
- 1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB modification was triggered due to the configuration received within the sl-ConfigDedicatedNR, SIB12 or SidelinkPreconfigNR:

- 2> reconfigure the SDAP entity of the sidelink DRB, in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
- 2> reconfigure the PDCP entity of the sidelink DRB, in accordance with the *sl-PDCP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
- 2> reconfigure the RLC entity of the sidelink DRB, in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;
- 2> reconfigure the logical channel of the sidelink DRB, in accordance with the sl-MAC-LogicalChannelConfigPC5 received in the RRCReconfigurationSidelink or sl-MAC-LogicalChannelConfig received in sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR, if included.

12.1.4.2.3 Test description

12.1.4.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.
- NR-SS-UE 1 is synchronised on GNSS.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 0-A as defined in TS 38.508-1 [4].

12.1.4.2.3.2 Test procedure sequence

Table 12.1.4.2.3.2-1: Main behaviour

	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Power on the UE.	-	-	-	-
2	Trigger UE to reset or clear the current UTC	-	-	-	-
	time that has been calculated from GNSS.				
	NOTE: The UTC time can be reset or clear on				
	the UE using AT command (+CUTCR).				
3	The NR-SS-UE1 sends a DIRECT LINK	<	PC5-S: DIRECT LINK		
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
4	The UE sends a DIRECT LINK SECURITY	>	PC5-S: DIRECT LINK SECURITY	-	-
	MODE COMMAND message.		MODE COMMAND		
5	The NR-SS-UE1 sends a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMPLETE message.		MODE COMPLETE		
6	The UE sends a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT ACCEPT message.		ESTABLISHMENT ACCEPT		
7	The NR-SS-UE1 sends an	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	establish a unicast mode SL-DRB.				
8	Check: Does the UE send an	>	PC5-RRC:	1	Р
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message?		nk		
9	The NR-SS-UE1 sends an	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	indicate modification of unicast mode SL-DRB.				
10	Check: Does the UE send an	>	PC5-RRC:	2	Р
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message?		nk		
11	The NR-SS-UE sends a	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	indicate release of unicast mode SL DRB.				
12	Check: Does the UE send an	>	PC5-RRC:	3	Р
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message?		nk		

12.1.4.2.3.3 Specific message contents

Table 12.1.4.2.3.3-1: RRCReconfigurationSidelink (step 7, Table 12.1.4.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 Conditions RX and SL_DRB

Table 12.1.4.2.3.3-2: RRCReconfigurationSidelink (step 9, Table 12.1.4.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 Conditions RX and SL_DRB				
Information Element	Value/remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
sl-PDCP-ConfigPC5-r16 SEQUENCE {				
sl-PDCP-SN-Size-r16	len12bits			
sl-OutOfOrderDelivery-r16	true			
}				
}				
}				
}				
}				

Table 12.1.4.2.3.3-3: RRCReconfigurationSidelink (step 11, Table 12.1.4.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 Condition RX					
Information Element	Value/Remark	Comment	Condition		
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-					
r16 {					
SLRB-PC5-ConfigIndex-r16 [1]	1	entry 1			
}					
}					
}					
}					

12.1.5 PC5-only operation / Sidelink CSI reporting

12.1.5.1 PC5-only operation / Sidelink CSI reporting / Configuration

12.1.5.1.1 Test Purpose (TP)

(1)

```
with { UE having established PC5 RRC connection with peer UE }
```

ensure that {

when { UE is configured by upper layer to configure SL CSI-RS resource to peer UE }

then { UE sends an RRCReconfigurationSidelink message including sl-CSI-RS-Config to peer UE }

}

(2)

with { UE having established PC5 RRC connection with peer UE }

ensure that $\{$

when { UE is configured by upper layer to trigger SL CSI report and starts transmitting SL CSI-RS }

then { UE sends an SCI format 2-A to trigger SL CSI report }

}

12.1.5.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1.1, 5.8.9.1.2, 5.8.9.1.3. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]

General







Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

- the release of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.1;
- the establishment of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the modification for the parameters included in *SLRB-Config* of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.
- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl*-*ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:

- 2> set the *SLRB-PC5-ConfigIndex* included in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;
- 1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:
 - 2> set the SLRB-Config included in the slrb-ConfigToAddModList, according to the received sl-RadioBearerConfig and sl-RLC-BearerConfig corresponding to the sidelink DRB;
- 1> set the *sl-MeasConfig* as follows:
 - 2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:
 - 3> if UE is in RRC_CONNECTED:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;
 - 3> if UE is in RRC_IDLE or RRC_INACTIVE:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration received from *SIB12*;

2> else:

3> set the sl-MeasConfig according to the sl-MeasPreconfig in SidelinkPreconfigNR;

- 1> start timer T400 for the destination associated with the sidelink DRB;
- 1> set the sl-CSI-RS-Config;
- 1> set the sl-LatencyBoundCSI-Report,
- NOTE 1: How to set the parameters included in *sl-CSI-RS-Config* and *sl-LatencyBoundCSI-Report* is up to UE implementation.
- The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.1.3]

- The UE shall perform the following actions upon reception of the *RRCReconfigurationSidelink*:
- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
- 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:

2> for each *SLRB-PC5-ConfigIndex* value included in the *slrb-ConfigToReleaseList* that is part of the current UE sidelink configuration;

- 3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is not part of the current UE sidelink configuration:

- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;

- 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;
- 2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:
- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> add the *SL-PQFI* included in *sl-MappedQoS-FlowsToAddList* to the corresponding sidelink DRB;
- 3> if sl-MappedQoS-FlowsToReleaseList is included:
- 4> remove the SL-PQFI included in sl-MappedQoS-FlowsToReleaseList from the corresponding sidelink DRB;
- 3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:
- 4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;
- 3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:
- 4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;
- 1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:
- 2> perform the sidelink measurement configuration procedure as specified in 5.8.10;
- 1> if the RRCReconfigurationSidelink message includes the sl-CSI-RS-Config:
- 2> apply the sidelink CSI-RS configuration;
- 1> if the RRCReconfigurationSidelink message includes the sl-LatencyBoundCSI-Report:
- 2> apply the configured sidelink CSI report latency bound;

1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):

- 2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;
- 2> set the content of the *RRCReconfigurationFailureSidelink* message;
- 3> submit the RRCReconfigurationFailureSidelink message to lower layers for transmission;
- 1> else:
- 2> set the content of the *RRCReconfigurationCompleteSidelink* message;
- 3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;
 - NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.
- 12.1.5.1.3 Test description
- 12.1.5.1.3.1 Pre-test conditions
- System Simulator:
 - NR-SS-UE

- NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in preconfiguration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
 - The UE uses GNSS as the synchronization reference source.
 - The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4] clause 4.8.3.3.3) except for those listed in Table 12.1.5.1.3.1-1.

Table 12.1.5.1.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 is available	
EF _{vst}		Service no.2 V2X policy	
		configuration data over PC5 is	
		supported, i.e. value is '01 02'	
		HEX	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included	
		in V2X data policy over PC5 is	
		defined in Table 12.1.5.1.3.3-1	

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Cast Type (Unicast), GNSS Sync (On) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.5.1.3.2 Test procedure sequence

Table 12.1.5.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	UE is configured by upper layer to configure	-	-	-	-
	SL CSI-RS resource to NR-SS-UE1.				
	Note: This step is triggered by MMI or AT				
	command.				
2	Check: Does UE send a	>	PC5 RRC:	1	Р
	RRCReconfigurationSidelink message		RRCReconfigurationSidelink		
	including sI-CSI-RS-Config?				
3	Void	-	-	-	-
4	NR-SS-UE1 sends a	<	PC5 RRC:		
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message		elink		
5	UE is configured by upper layer to trigger SL	-	-	-	-
	CSI report and start transmitting SL CSI-RS.				
	Note: This step is triggered by MMI or AT				
	command.				
6	Check: Does the UE transmit an SCI format 2-	>	PSSCH (SCI 2-A)	2	Р
	A with CSI request = "1" to trigger SL CSI				
	report?				

12.1.5.1.3.3 Specific message contents

Table 12.1.5.1.3.3-1: SL-PreconfigurationNR

Derivation path: TS 38.508-1 [4], Table 4.10.1-1					
Information Element	Value/Remark	Comment	Condition		
SL-PreconfigurationNR-r16 ::= SEQUENCE {					
sidelinkPreconfigNR-r16 SEQUENCE {					
sI-CSI-Acquisition-r16	enabled				
}					
}					

Table 12.1.5.1.3.3-2: RRCReconfigurationSidelink (step 2, Table 12.1.5.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_CSI and TX					
Information Element	Value/remark	Comment	Condition		
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
sI-CSI-RS-Config-r16 CHOICE {					
Setup SEQUENCE {					
sl-CSI-RS-FreqAllocation-r16	Any value				
sl-CSI-RS-FirstSymbol-r16	(312)				
}					
}					
sl-LatencyBoundCSI-Report-r16	(3160)				
}					
}					
}					

Table 12.1.5.1.3.3-3: RRCReconfigurationCompleteSidelink (step 4, Table 12.1.5.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

12.1.5.2 PC5-only operation / Sidelink CSI reporting / Reporting

12.1.5.2.1 Test Purpose (TP)

(1)

with { UE having established PC5 RRC connection with peer UE and configured by peer UE to perform CSI measurement}

```
ensure that \{
```

when { UE receives a SCI format 2-A to trigger SL CSI report}

then { UE sends an CSI reporting MAC-CE to peer UE }

}

12.1.5.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1.1,5.8.9.1.2,5.8.9.1.3, TS 38.321, clause 6.1.3.35. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]

General



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

- the release of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.1;
- the establishment of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the modification for the parameters included in *SLRB-Config* of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.
- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

- 1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:
 - 2> set the *SLRB-PC5-ConfigIndex* included in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;
- 1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:
 - 2> set the SLRB-Config included in the slrb-ConfigToAddModList, according to the received sl-RadioBearerConfig and sl-RLC-BearerConfig corresponding to the sidelink DRB;
- 1> set the *sl-MeasConfig* as follows:
 - 2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:
 - 3> if UE is in RRC_CONNECTED:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;
 - 3> if UE is in RRC_IDLE or RRC_INACTIVE:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration received from *SIB12*;

2> else:

3> set the sl-MeasConfig according to the sl-MeasPreconfig in SidelinkPreconfigNR;

- 1> start timer T400 for the destination associated with the sidelink DRB;
- 1> set the sl-CSI-RS-Config;
- 1> set the sl-LatencyBoundCSI-Report,

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- NOTE 1: How to set the parameters included in *sl-CSI-RS-Config* and *sl-LatencyBoundCSI-Report* is up to UE implementation.
- The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.1.3]

- The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:
- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
- 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:

2> for each *SLRB-PC5-ConfigIndex* value included in the *slrb-ConfigToReleaseList* that is part of the current UE sidelink configuration;

- 3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is not part of the current UE sidelink configuration:

- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;
- 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:

- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> add the SL-PQFI included in sl-MappedQoS-FlowsToAddList to the corresponding sidelink DRB;
- 3> if sl-MappedQoS-FlowsToReleaseList is included:
- 4> remove the *SL-PQFI* included in *sl-MappedQoS-FlowsToReleaseList* from the corresponding sidelink DRB;
- 3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:
- 4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;
- 3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:
- 4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;
- 1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:
- 2> perform the sidelink measurement configuration procedure as specified in 5.8.10;
- 1> if the RRCReconfigurationSidelink message includes the sl-CSI-RS-Config:
- 2> apply the sidelink CSI-RS configuration;
- 1> if the RRCReconfigurationSidelink message includes the sl-LatencyBoundCSI-Report:
- 2> apply the configured sidelink CSI report latency bound;

1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):

2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;

2> set the content of the *RRCReconfigurationFailureSidelink* message;

3> submit the *RRCReconfigurationFailureSidelink* message to lower layers for transmission;

1> else:

2> set the content of the *RRCReconfigurationCompleteSidelink* message;

3> submit the RRCReconfigurationCompleteSidelink message to lower layers for transmission;

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

[TS 38.321, clause 6.1.3.35]

The Sidelink CSI Reporting MAC CE is identified by a MAC subheader with LCID as specified in Table 6.2.4-1. The priority of the Sidelink CSI Reporting MAC CE is fixed to '1'. The Sidelink CSI Reporting MAC CE is defined as follows (Figure 6.1.3.35-1):

- RI: This field indicates the derived value of the Rank Indicator for sidelink CSI reporting as specified in clause 8.5 of TS 38.214 [7]. The length of the field is 1 bit;

- CQI: This field indicates the derived value of the Channel Quality Indicator for sidelink CSI reporting as specified in clause 8.5 of TS 38.214 [7]. The length of the field is 4 bit;

- R: Reserved bit, set to 0.



Figure 6.1.3.35-1: Sidelink CSI Reporting MAC CE

12.1.5.2.3 Test description

12.1.5.2.3.1 Pre-test conditions

System Simulator:

- SS-UE
- NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in preconfiguration) that UE is expected to use for transmission and reception via PC5 interface.
- NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
 - The UE uses GNSS as the synchronization reference source.
 - The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4] clause 4.8.3.3.3) except for those listed in Table 12.1.5.2.3.1-1.

Table 12.1.5.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 is available	
EF _{vst}		Service no.2 V2X policy	
		configuration data over PC5 is	
		supported, i.e. value is '01 02'	
		HEX	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.1.5.2.3.3-1	

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Cast Type (Unicast), GNSS Sync (On) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.5.2.3.2 Test procedure sequence

Table 12.1.3.2.3.2-0 illustrates the downlink power levels and other, if any, changing parameters to be applied for the NR-SS-UE at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble. The exact instants on which these values shall be applied are described elsewhere in the present clause.

Table 12.1.5.2.3.2-0: Time instances of simulated NR-SS-UE power level

	Parameter	Unit	NR-SS-UE1	Comment
	Reference NR-SS-UE power	dBm/SCS	-85	SL CSI-RS is not transmitted
Т0	EPRE ratio of SL CSI-RS to	dB	0	until SCI format 2-A is
	Reference NR-SS-UE power		0	transmitted.

Table 12.1.5.2.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U -	Message		
		S			
1	NR-SS-UE1 sends an	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message including		RRCReconfigurationSidelink		
	sI-CSI-RS-Config.				
2	UE sends a	>	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink message		RRCReconfigurationCompleteSid		
			elink		
3	NR-SS-UE1 sends a SCI format 2-A with CSI	<	PSSCH (SCI 2-A)	-	-
	request = "1" to trigger SL CSI report and starts				
	to transmit SL CSI-RS.				
4	Check: Does UE send a CSI reporting MAC-CE	>	MAC CE (sidelink CSI)	1	Р
	to NR-SS-UE1 within the latency limit indicated				
	by sl-LatencyBoundCSI-Report-r16?				

12.1.5.2.3.3 Specific message contents

Table 12.1.5.2.3.3-1: SL-PreconfigurationNR

Derivation path: TS 38.508-1 [4], Table 4.10.1-1			
Information Element	Value/Remark	Comment	Condition
SL-PreconfigurationNR-r16 ::= SEQUENCE {			
sidelinkPreconfigNR-r16 SEQUENCE {			
sI-CSI-Acquisition-r16	enabled		
}			
}			

Table 12.1.5.2.3.3-2: RRCReconfigurationSidelink (step 1, Table 12.1.5.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX and SL_CSI

Table 12.1.5.2.3.3-3: RRCReconfigurationCompleteSidelink (step 2, Table 12.1.5.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition TX

12.1.6 PC5-only operation / Sidelink failure

12.1.6.1 PC5-only operation / Sidelink failure / PC5 RRC reconfiguration failure / Initiating UE side

12.1.6.1.1 Test Purpose (TP)

(1)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink }

ensure that $\{$

when { UE receives a RRCReconfigurationFailureSidelink from peer UE}

then { UE continues using the configuration used prior to corresponding RRCReconfigurationSidelink message}

•••

}

12.1.6.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1.1, 5.8.9.1.8. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.1.1]

UE UE RRCReconfigurationSidelink

Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

- [TS 38.331, subclause 5.8.9.1.8]
- The UE shall perform the following actions upon reception of the RRCReconfigurationFailureSidelink:
 - 1> stop timer T400 for the destination, if running;
 - 1> continue using the configuration used prior to corresponding *RRCReconfigurationSidelink* message;
 - 1> if UE is in RRC_CONNECTED:
 - 2> perform the sidelink UE information for NR sidelink communication procedure, as specified in 5.8.3.3 or sub-clause 5.10.15 in TS 36.331 [10];
- 12.1.6.1.3 Test description

12.1.6.1.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE 1 is as defined in TS 38.508-1 [4], configured for and operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.6.1.3.2 Test procedure sequence

Table 12.1.6.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	UE is configured by upper layer to release SL-	-	-	-	-
	DRB to NR-SS-UE1.				
	Note: This step is triggered by MMI or AT				
	command.				
2	UE sends an RRCReconfigurationSidelink	>	PC5 RRC:	-	-
	message to NR-SS-UE1 to indicate SL-DRB		RRCReconfigurationSidelink		
	release?				
3	The NR-SS-UE1 sends a	<	PC5 RRC:	-	-
	RRCReconfigurationFailureSidelink message.		RRCReconfigurationFailureSidelin		
			k		
4	Check: Does the test result of generic test	-	-	1	-
	procedure in TS 38.508-1 subclause 4.9.31				
	indicate the UE still has SL-DRB configured in				
	preamble?				

12.1.6.1.3.3 Specific message contents

Table 12.1.6.1.3.3-1: RRCReconfigurationSidelink (step 2, Table 12.1.6.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX							
Information Element	Value/Remark	Comment	Condition				
RRCReconfigurationSidelink ::= SEQUENCE {							
criticalExtensions CHOICE {							
rrcReconfigurationSidelink-r16 SEQUENCE {							
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry						
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-							
r16 {							
SLRB-PC5-ConfigIndex-r16 [1]	1	Index value					
		to refer to a					
		different					
		value than					
		TS 38.508-					
		1[4] Table					
		4 6 6-37					
}		4.0.0 01					
}							
}							
}							

Table 12.1.6.1.3.3-2: RRCReconfigurationFailureSidelink (step 3, Table 12.1.6.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-5 with condition RX

12.1.6.2 PC5-only operation / Sidelink failure / PC5 RRC reconfiguration failure / Peer UE side

12.1.6.2.1 Test Purpose (TP)

(1)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink}

ensure that {

when { UE receives an RRCReconfigurationSidelink that UE cannot comply from peer UE }

then { UE continues using the configuration used prior to corresponding
RRCReconfigurationSidelink message and sends a RRCReconfigurationFailureSidelink message }

}

12.1.6.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1.1, 5.8.9.1.3. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.1.1]

•••



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

[TS 38.331, subclause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the *RRCReconfigurationSidelink*:

- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
 - 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:
 - 2> for each SLRB-PC5-ConfigIndex value included in the slrb-ConfigToReleaseList that is part of the current UE sidelink configuration;

3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;

- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:
 - 2> for each slrb-PC5-ConfigIndex value included in the slrb-ConfigToAddModList that is not part of the current UE sidelink configuration:
 - 3> if sl-MappedQoS-FlowsToAddList is included:
 - 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;
 - 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;
 - 2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:
 - 3> if sl-MappedQoS-FlowsToAddList is included:
 - 4> add the *SL-PQFI* included in *sl-MappedQoS-FlowsToAddList* to the corresponding sidelink DRB;
 - 3> if sl-MappedQoS-FlowsToReleaseList is included:
 - 4> remove the SL-PQFI included in sl-MappedQoS-FlowsToReleaseList from the corresponding sidelink DRB;
 - 3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:
 - 4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;
 - 3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:
 - 4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;
- 1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:
 - 2> perform the sidelink measurement configuration procedure as specified in 5.8.10;
- 1> if the RRCReconfigurationSidelink message includes the sl-CSI-RS-Config:
 - 2> apply the sidelink CSI-RS configuration;
- 1> if the RRCReconfigurationSidelink message includes the sl-LatencyBoundCSI-Report:
 - 2> apply the configured sidelink CSI report latency bound;
- 1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):
 - 2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;
 - 2> set the content of the *RRCReconfigurationFailureSidelink* message;
 - 3> submit the *RRCReconfigurationFailureSidelink* message to lower layers for transmission;
- 1> else:
 - 2> set the content of the *RRCReconfigurationCompleteSidelink* message;
 - 3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;
- NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.
- 12.1.6.2.3 Test description

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12.1.6.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE 1 is as defined in TS 38.508-1 [4], configured for and operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- UE is synchronised on GNSS.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using NR-SS-UE1 initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.
- 12.1.6.2.3.2 Test procedure sequence

Table 12.1.6.2.3.2-1: Main behaviour

St	Procedure		Message Sequence		Verdict
		U - S	Message		
1	The NR-SS-UE1 sends a	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message to UE		RRCReconfigurationSidelink		
	to indicate SL-DRB release with SLRB-PC5-				
	ConfigIndex-r16 pointing to SL-DRB which has				
	not been configured yet?				
2	Check: Does the UE sends an	>	PC5 RRC:	1	Р
	RRCReconfigurationFailureSidelink message.		RRCReconfigurationFailureSidelin		
			k		
3	Check: Does the test result of generic test	-	-	1	-
	procedure in TS 38.508-1 subclause 4.9.31				
	indicate the UE still has SL-DRB configured in				
	preamble?				

12.1.6.2.3.3 Specific message contents

Table 12.1.6.2.3.3-1: RRCReconfigurationSidelink (step 1, Table 12.1.6.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX						
Information Element	Value/Remark	Comment	Condition			
RRCReconfigurationSidelink ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfigurationSidelink-r16 SEQUENCE {						
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-						
r16 {						
SLRB-PC5-ConfigIndex-r16 [1]	2	Index value to refer to a different				
		value than				
		TS 38.508-				
		1[4] Table				
		4.6.6-37				
}						
}						
}						
}						

Table 12.1.6.2.3.3-2: RRCReconfigurationFailureSidelink (step 2, Table 12.1.6.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-5 with condition TX

12.1.6.3 PC5-only operation / Sidelink failure / Sidelink radio link failure / Transmission side

12.1.6.3.1 Test Purpose (TP)

(1)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink and has sent an
RRCReconfigurationSidelink message to peer UE }

ensure that {

when { UE does not receive RRCReconfigurationCompleteSidelink or RRCReconfigurationFailure before T400 expires}

then { UE releases PC5-RRC connection and indicates the release to upper layer}

}

(2)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink and has established a AM SL-DRB}

ensure that {

when { Retransmission number of the AM SL-DRB reaches the maximum number of retransmissions}

then { UE releases PC5-RRC connection and indicates the release to upper layer.}

}

(3)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink }

ensure that {

- when { MAC detects that maximum number of consecutive HARQ DTX has been reached }
 - then { UE releases PC5-RRC connection and indicates the release to upper layer }
 - }

12.1.6.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.3. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.3]

The UE shall:

- 1> upon indication from sidelink RLC entity that the maximum number of retransmissions for a specific destination has been reached; or
- 1> upon T400 expiry for a specific destination; or
- 1> upon indication from MAC entity that the maximum number of consecutive HARQ DTX for a specific destination has been reached; or
- 1> upon integrity check failure indication from sidelink PDCP entity concerning SL-SRB2 or SL-SRB3 for a specific destination:
 - 2> consider sidelink radio link failure to be detected for this destination;
 - 2> release the DRBs of this destination, in according to sub-clause 5.8.9.1a.1;
 - 2> release the SRBs of this destination, in according to sub-clause 5.8.9.1a.3;
 - 2> discard the NR sidelink communication related configuration of this destination;
 - 2> reset the sidelink specific MAC of this destination;
 - 2> consider the PC5-RRC connection is released for the destination;
 - 2> indicate the release of the PC5-RRC connection to the upper layers for this destination (i.e. PC5 is unavailable);
 - 2> if UE is in RRC_CONNECTED:
 - 3> perform the sidelink UE information for NR sidelink communication procedure, as specified in 5.8.3.3;
- NOTE: It is up to UE implementation on whether and how to indicate to upper layers to maintain the keep-alive procedure [55].
- 12.1.6.3.3 Test description
- 12.1.6.3.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE 1 is as defined in TS 38.508-1 [4], configured for and operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

12.1.6.3.3.2 Test procedure sequence

Table 12.1.6.3.3.2-1: Specific Parameters

Parameter	Value	Comment
sl-MaxRetxThreshold-r16	1	
sl-MaxNumConsecutiveDTX-	1	
r16		

Table 12.1.6.3.3.2-2: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	UE is configured by upper layer to release SL-	-	-	-	-
	DRB to NR-SS-UE1.				
	Note: This step is triggered by MMI or AT				
	command.				
2	UE sends an RRCReconfigurationSidelink	>	PC5 RRC:	-	-
	message to NR-SS-UE1 to indicate SL-DRB		RRCReconfigurationSidelink		
	release				
3	NR-SS-UE1 does not respond and waits for	-	-	-	-
	the expiration of t_400 (1 second).				
3A	1 second after step 3, the NR-SS-UE1 sends a	<	PC5-S: DIRECT LINK RELEASE	-	-
	DIRECT LINK RELEASE REQUEST		REQUEST		
	message.				
4	Check: Does the UE send a DIRECT LINK	>	PC5-S: DIRECT LINK RELEASE	1	F
1	RELEASE ACCEPT message within the next 5		ACCEPT		
	seconds.				
5	The UE is brought to state 4-A as defined in	-	-	-	-
	TS 38.508-1 [4], subclause 4.4A using generic				
	procedure parameter Sidelink (<i>On</i>). Cast Type				
	(Unicast), GNSS Sync (On), Test Mode = On				
	using procedure in subclause 4.9.23.				
6	The SS triggers UE to close UE test loop	-	-	-	-
	mode F (Transmission Mode)				
	NOTE: Closing of LIE test loop mode E may be				
	nerformed by MMI or AT command				
7	The LIE transmits and AMD DDLI#1 to ND SS				
1	LIE1 on SL DDP			-	-
	EVCEDTION: Stops 0.10 are repeated at				
-	maxDatyThrashold times	-	-	-	-
	EXCEPTION: In parallel to stops 0.10 any			-	
_	additional AMD DDL i's reasized are ignored by	-	-	1	
	the CC				
Q	The NP-SS-LIE1 transmits an PLC STATUS	6		-	
	PDU ACK SN =1 and NACK SN =0				_
9	The LIE transmits one AMD PDI I#1 to NR-SS-	>		-	
					_
10	The NR-SS-LIF1 transmits an RLC STATUS	6		<u> </u>	_
	PDU ACK SN =1 and NACK SN =0				_
11	1 second after step 10 the NR-SS-LIF1 sends	<	PC5-S' DIRECT LINK RELEASE	<u> </u>	
<u>+</u> +					_
			REQUEST		
11	Check: Does the UE cond a DIDECT LINK	\vdash			
	DELEASE ACCEPT message within the part 5	>	ACCEDT	~	
	soconde?				
10	The LIE is brought to state 4.4 as defined in		_	+	
<u> </u>	TS 28 508-1 [4] subclause 4 4A using generic	-	-	-	-
	propoduro poromotor Sidolink (Op) Cost Trans				
	(Uniceed) CNCC Cure (Cr.) Test Made				
	(Unicast), GNSS Sync (Un) , Lest Mode = On				
10	Using procedure in subclause 4.9.23.				
13	The SS triggers UE to close UE test loop	-	-	-	-
	mode \vdash (Transmission Mode).				
	NOTE: Closing of UE test loop mode E may be				
	performed by MMI or AT command				
	(+CCUTLE).			 	
14	The NR-SS-UE1 MAC is configured to not	-	-	-	-
	send HARQ feedback			ļ	
-	EXCEPTION: Step 14 is repeated sl-	-	-	-	-
	MaxNumConsecutiveDTX-r16 times				
-	EXCEPTION: In parallel to step 14 any	-	-	-	-

	additional MAC PDU's received are ignored by				
	the SS.				
15	The UE transmits one MAC PDU to NR-SS-	>	MAC PDU	-	-
	UE1				
15	1 second after step 15, the NR-SS-UE1 sends	<	PC5-S: DIRECT LINK RELEASE		
A	a DIRECT LINK RELEASE REQUEST		REQUEST		
	message.				
16	Check: Does the UE send a DIRECT LINK	>	PC5-S: DIRECT LINK RELEASE	3	F
	RELEASE ACCEPT message within the next 5		ACCEPT		
	seconds?				

12.1.6.3.3.3 Specific message contents

Table 12.1.6.3.3.3-1: RRCReconfigurationSidelink (step 2, Table 12.1.6.3.3.2-2)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX						
Information Element	Value/Remark	Comment	Condition			
RRCReconfigurationSidelink ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfigurationSidelink-r16 SEQUENCE {						
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-						
r16 {						
SLRB-PC5-ConfigIndex-r16 [1]	1	entry 1				
}						
}						
}						
}						

Table 12.1.6.3.3.3-2: DIRECT LINK RELEASE REQUEST (Steps 3A, 11 and 15A, Table 12.1.6.3.3.2-2)

Derivation Path: Table 4.7.4-11 with condition Rx

12.1.7 PC5-only operation / Sidelink UE capability transfer via PC5 RRC

```
12.1.7.1 PC5-only operation / Sidelink UE capability transfer via PC5
RRC / One-way and two-way transfer
```

12.1.7.1.1 Test Purpose (TP)

(1)

```
with { UE having established PC5 RRC connection with peer UE on unicast sidelink }
```

ensure that {

```
when { UE receives a UECapabilityEnquirySidelink message from peer UE }
```

```
then { UE sends a UECapabilityInformationSidelink message to peer UE }
```

}

(2)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink }

```
ensure that \{
```

when { UE is configured by upper layer to initiate capability transfer procedure }

```
then { UE sends a UECapabilityEnquirySidelink message to peer UE }
```

```
}
```

(3)

with { UE having established PC5 RRC connection with peer UE on unicast sidelink }

ensure that $\{$

when { UE is configured by upper layer to initiate capability transfer procedure and to provide UE radio access capabilities }

then { UE sends a UECapabilityEnquirySidelink message with ue-CapabilityInformationSidelink to peer UE }

}

12.1.7.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.2.1, 5.8.9.2.2, 5.8.9.2.3 and 5.8.9.2.4. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.8.9.2.1]

This clause describes how the UE compiles and transfers its sidelink UE capability information for unicast to the initiating UE.



Figure 5.8.9.2.1-1: Sidelink UE capability transfer

[TS 38.331, subclause 5.8.9.2.2]

The UE may initiate the sidelink UE capability transfer procedure upon indication from upper layer when it needs (additional) UE radio access capability information.

[TS 38.331, subclause 5.8.9.2.3]

The initiating UE shall set the contents of UECapabilityEnquirySidelink message as follows:

1> include in UE radio access capabilities for sidelink within *ue-CapabilityInformationSidelink*, if needed;

NOTE 1: It is up to initiating UE to decide whether ue-CapabilityInformationSidelink should be included.
- 1> set *frequencyBandListFilterSidelink* to include frequency bands for which the peer UE is requested to provide supported bands and band combinations;
- NOTE 2: The initiating UE is not allowed to send the *UECapabilityEnquirySidelink* message without including the field *frequencyBandListFilterSidelink*.
- 1> submit the UECapabilityEnquirySidelink message to lower layers for transmission.

[TS 38.331, subclause 5.8.9.2.4]

The peer UE shall set the contents of UECapabilityInformationSidelink message as follows:

- 1> include UE radio access capabilities for sidelink within *ue-CapabilityInformationSidelink*;
- 1> compile a list of "candidate band combinations" only consisting of bands included in *frequencyBandListFilterSidelink*, and prioritized in the order of *frequencyBandListFilterSidelink* (i.e. first include band combinations containing the first-listed band, then include remaining band combinations containing the second-listed band, and so on).
- 1> include into *supportedBandCombinationListSidelinkNR* as many band combinations as possible from the list of "candidate band combinations", starting from the first entry;
- 1> include the received *frequencyBandListFilterSidelink* in the field *appliedFreqBandListFilter* of the requested UE capability;
- 1> submit the UECapabilityInformationSidelink message to lower layers for transmission.
- NOTE: If the UE cannot include all band combinations due to message size or list size constraints, it is up to UE implementation which band combinations it prioritizes.

12.1.7.1.3 Test description

12.1.7.1.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - Operating as NR sidelink communication device on the resources (i.e. the frequency included in preconfiguration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS UE uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- UE is equipped with USIM containing default value (as per TS 38.508-1[4] clause 4.8.3.3.3).
- UE is synchronised on GNSS

Preamble:

- The UE is in state 4-A as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.1.7.1.3.2 Test procedure sequence

Table 12.1.7.1.3.2-1: Main behaviour

St	Procedure	Message Sequence			Verdict
		U - S	Message		
1	The NR-SS-UE sends a	<	PC5 RRC:	-	-
	UECapabilityEnquirySidelink message from		UECapabilityEnquirySidelink		
	NR-SS-UE on SL-SRB3.				
2	Check: Does the UE send a	>	PC5 RRC:	1	Р
	UECapabilityInformationSidelink message?		UECapabilityInformationSidelink		
3	The UE is configured by upper layers to initiate	-	-	-	-
	capability transfer procedure and to include				
	only NR Sidelink operating band which is				
	currently used in this TC for communication				
	over PC5 interface.				
	Note: This step is triggered by MMI or AT				
	command.				
4	Check: Does the UE send on SL-SRB3 a	>	PC5 RRC:	2	Р
	UECapabilityEnquirySidelink message?		UECapabilityEnquirySidelink		
5	The NR-SS-UE sends a	<	PC5 RRC:	-	-
	UECapbilityInformationSidelink message.		UECapabilityInformationSidelink		
6	The UE is configured by upper layers to initiate	-			
	capability transfer procedure, to include only				
	the NR Sidelink operating band which is				
	currently used in this TC for communication				
	over PC5 interface and to provide UE radio				
	access capabilities.				
	Note: This step is triggered by MMI or AT				
	command.				
7	Check: Does the UE send on SL-SRB3 a	>	PC5 RRC:	3	Р
	UECapabilityEnquirySidelink message with		UECapabilityEnquirySidelink		
	ue-CapabilityInformationSidelink-r16 IE?				
8	The NR-SS-UE sends a	<	PC5 RRC:	-	-
	UECapabilityInformationSidelink message.		UECapabilityInformationSidelink		

12.1.7.1.3.3 Specific message contents

Editor's Note: The specific message contents in some of the tables are still to be fully completed.

Table 12.1.7.1.3.3-1: UECapabilityEnquirySidelink (step 1, Table 12.1.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-6 with co	vith condition RX			
Information Element	Value/remark	Comment	Condition	
UECapabilityEnquirySidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
ueCapabilityEnquirySidelink-r16 SEQUENCE {				
frequencyBandListFilterSidelink-r16 SEQUENCE		Includes only the		
(SIZE (1maxBandsMRDC)) OF		single frequency		
FregBandInformation {		band and band		
		combination NR		
		Sidelink operating		
		band which is		
		currently used in		
		this TC for		
		over the PC5		
		Interface		
FreqBandInformation[1] CHOICE {				
bandinformationNR SEQUENCE {			an a sur Dia sa ali s	
DandinR	FreqBandindicatorNR of		pc_nrBandx	
	the PC5 operating band		('x' being the	
			band	
			number/type	
			related PICS	
			listed in TS	
			38.508-2,	
			Table	
			A.4.3.1-9)	
}				
}				
}				
}				
}				
}				

Table 12.1.7.2.3.3-2: UECapabilityInformationSidelink (step 2, Table 12.1.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-7 with condition TX					
Information Element	Value/remark	Comment	Condition		
UECapabilityInformationSidelink ::= SEQUENCE {					
rrc-TransactionIdentifier-r16	Set to the same value as				
	the rrc-				
	TransactionIdentifier-r16				
	field in				
	DECapabilityEnquirySide				
	link message in step 1				
CriticalExtensions CHOICE {					
uecapabilityInformationSidelink-F16 SEQUENCE {					
pucp-ParametersSidellink-f16 SEQUENCE {	Observed				
outoforderDeliverySidelink-r16	Спескеа		pc_outoror		
			derDelivery		
			Sidelink_r16		
}					
rlc-ParametersSidelink-r16 SEQUENCE {					
am-WithLongSN-Sidelink-r16	Checked		pc_amWithL		
			ongSN Side		
			link r16		
um-WithLongSN-Sidelink-r16	Checked		pc_umWithL		
			ongSN Side		
			link r16		
3					
supportedBandCombinationListSidelinkNIP_r16	At least 1 entry	Includes all band	FES		
Supported BandeombinationElsteidelmix(4)(110	/ Teast I entry	acmbinations			
SEQUENCE (SIZE (1maxBanucomb)) OF		combinations			
BandCombinationParametersSidelinkNR-r16 {		which the UE (=			
		UE Under Test)			
		supports for NR			
		Sidelink acc. to			
		the declared UE			
		canabilities			
BandCombinationParametersSidelinkNP-r16 [v]	At least 1 entry	ontry y			
SEOLIENCE (SIZE (1. maySimultaneousBande)) OF	7 thetast i entry				
SEQUENCE (SIZE (1InaxSilliultarieousballus)) OF					
BandParametersSidelink-r10 {		a natura a sec			
freqBandSidelink r16	FragBandIndiastorND of				
Ilequaliusiueiiiik-i 10	Frequation indicator in the				
	band combination which				
	the UE supports for NR				
	Sidelink acc. to the				
	declared UE capabilities				
}					
}					
supportedBandListSidelink-r16 SEQUENCE	At least 1 entry	Includes all	[FFS]		
(SIZE (1maxBands)) OF BandSidelinkPC5-r16 {		frequency bands			
		which the UF (=			
		LIE Linder Test)			
		supports for NR			
		Sidelink acc. to			
		the declared UE			
		capabilities			
BandSidelinkPC5-r16[x] SEQUENCE {					
freqBandSidelink-r16	FreqBandIndicatorNR of				
	frequency band which				
	the UE supports for NR				
	Sidelink acc. to the				
	doclared UE conshilities				
SI-Pecention r16 SECHENICE (
barg-RyDrocossSidelink-r16	Checked		nc hard Dy		
11a14-LYL 1006222010611118-170	Checkeu				
			FIDUESSOILE		
			(X=16, 24,		

			32, 48, 64)
pscch-RxSidelink-r16	[FFS]		
scs-CP-PatternRxSidelink-r16	[FFS]		
extendedCP-RxSidelink-r16	[FFS]		
}			
sl-Tx-256QAM-r16	[FFS]		
lowSE-64QAM-MCS-TableSidelink-r16	[FFS]		
csi-ReportSidelink-r16	[FFS]		
rankTwoReception-r16	[FFS]		
sl-openLoopPC-RSRP-ReportSidelink-r16	[FFS]		
sl-Rx-256QAM-r16	[FFS]		
}			
}			
appliedFreqBandListFilter-r16 SEQUENCE (SIZE	At least one entry		
(1maxBandsMRDC)) OF FregBandInformation {			
FregBandInformation [x] CHOICE {		entry x	
bandInformationNR SEQUENCE {			
bandNR	FregBandIndicatorNR of		
	the single frequency		
	band and band		
	combination which the		
	SS LIE requested to		
	33-OE requested to		
	frequencyBandListFilterS		
	idelink-r16 of		
	UECapabilityEnquirySide		
	link message acc. to		
	Table 12.1.7.2.3.3-1.		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
}			
}			
}			
}			
}			

Table 12.1.7.1.3.3-3: UECapabilityEnquirySidelink (step 4, Table 12.1.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-6 with co	Notice Comment Condition Value/remark Comment Condition Includes only the Includes only the Includes only the NR Sidelink operating band which is currently used in this TC entry 1		
Information Element	Value/remark	Comment	Condition
UECapabilityEnquirySidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
ueCapabilityEnquirySidelink-r16 SEQUENCE {			
frequencyBandListFilterSidelink-r16 SEQUENCE		Includes only the	
(SIZE (1maxBandsMRDC)) OF	1 entry	NR Sidelink	
FreqBandInformation {		operating band	
		which is currently	
		used in this TC	
FreqBandInformation[1] CHOICE {		entry 1	
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR of		
	the PC5 operating band		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
}			
}			
}			
}			
}			

Table 12.1.7.1.3.3-4: UECapabilityInformationSidelink (steps 5 and 8, Table 12.1.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-7 with condition RX

Table 12.1.7.1.3.3-5: UECapabilityEnquirySidelink (step 7, Table 12.1.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-6 with co	ondition TX and TWO_WAY_	ENQUIRY	
Information Element	Value/remark	Comment	Condition
UECapabilityEnquirySidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
ueCapabilityEnquirySidelink-r16 SEQUENCE {			
frequencyBandListFilterSidelink-r16 SEQUENCE		Includes only the	
(SIZE (1maxBandsMRDC)) OF	1 entry	NR Sidelink	
FregBandInformation {		operating band	
		which is currently	
		used in this TC	
FregBandInformation[1] CHOICE {		entry 1	
bandInformationNR SEQUENCE {		, , , , , , , , , , , , , , , , , , ,	
bandNR	FreqBandIndicatorNR of		
	the PC5 operating band		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
}			
}			
ue-CapabilityInformationSidelink-r16	Checked, same content		
	as in Table 12.1.7.2.3.3-2		
}			
}			
}			

12.2 Inter-carrier concurrent operation

12.2.1 Inter-carrier concurrent operation / Sidelink communication

12.2.1.1

12.2.1.2 Inter-carrier concurrent operation / Sidelink communication / RRC IDLE / Reception

12.2.1.2.1 Test Purpose (TP)

(1)

with { UE being in RRC_IDLE state and the cell on which UE camps broadcasting SIB12 including no sl-FreqInfoList but anchor carrier configuration }

ensure that {

when { A neighbour cell on anchor carrier starts broadcasting SIB12 which includes sl-RxPool and UE is configured by upper layer to perform NR sidelink reception }

then { UE considers the anchor carrier to be the highest priority, reselects to neighbour cell on anchor carrier and is able to monitor NR sidelink transmission using the resource pool indicated by sl-RxPool in SIB12 }

}

(2)

with { UE being in RRC_IDLE state and the cell on which UE camps not broadcasting SIB12 }

ensure that $\{$

when { UE is configured by upper layer to perform NR sidelink reception }

then { UE is able to monitor NR sidelink transmission using the resource pool indicated by sl-RxPool in pre-configuration }

}

12.2.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.304, subclause 5.2.4.1 and 5.8.2, TS 38.331 [22], subclause 5.8.7. Unless otherwise stated these are Rel-16 requirements.

[TS 38.304, clause 5.2.4.1]

Absolute priorities of different NR frequencies or inter-RAT frequencies may be provided to the UE in the system information, in the *RRCRelease* message, or by inheriting from another RAT at inter-RAT cell (re)selection. In the case of system information, an NR frequency or inter-RAT frequency may be listed without providing a priority (i.e. the field *cellReselectionPriority* is absent for that frequency). If priorities are provided in dedicated signalling, the UE shall ignore all the priorities provided in system information. If UE is in *camped on any cell* state, UE shall only apply the priorities provided by system information from current cell, and the UE preserves priorities provided by dedicated signalling and *deprioritisationReq* received in *RRCRelease* unless specified otherwise. When the UE in camped

normally state, has only dedicated priorities other than for the current frequency, the UE shall consider the current frequency to be the lowest priority frequency (i.e. lower than any of the network configured values). If the UE is configured to perform both NR sidelink communication and V2X sidelink communication, the UE may consider the frequency providing both NR sidelink communication configuration and V2X sidelink communication configuration to be the highest priority. If the UE is configured to perform NR sidelink communication and not perform V2X communication, the UE may consider the frequency providing NR sidelink communication configuration to be the highest priority. If the UE is configured to perform V2X sidelink communication and not perform NR sidelink communication, the UE may consider the frequency providing V2X sidelink communication configuration to be the highest priority.

- NOTE 1: The frequency only providing the anchor frequency configuration should not be prioritized for V2X service during cell reselection, as specified in TS 38.331[3].
- NOTE 2: When UE is configured to perform NR sidelink communication or V2X sidelink communication performs cell reselection, it may consider the frequencies providing the intra-carrier and inter-carrier configuration have equal priority in cell reselection.
- NOTE 3: The prioritization among the frequencies which UE considers to be the highest priority frequency is left to UE implementation.
- NOTE 4: The UE is configured to perform V2X sidelink communication or NR sidelink communication, if it has the capability and is authorized for the corresponding sidelink operation.
- NOTE 5: When UE is configured to perform both NR sidelink communication and V2X sidelink communication, but cannot find a frequency which can provide both NR sidelink communication configuration and V2X sidelink communication configuration, UE may consider the frequency providing either NR sidelink communication configuration or V2X sidelink communication configuration to be the highest priority.

The UE shall only perform cell reselection evaluation for NR frequencies and inter-RAT frequencies that are given in system information and for which the UE has a priority provided.

•••

[TS 38.304, clause 8.2]

The requirements defined in this clause for sidelink operation apply for UEs in RRC_IDLE, RRC_INACTIVE and in RRC_CONNECTED.

When UE is interested to perform NR sidelink communication on non-serving frequency, it may perform measurements on that frequency or the frequencies which can provide inter carrier NR sidelink configuration for that frequency for cell selection and reselection purpose in accordance with TS 38.133[8]. When UE is interested to perform V2X sidelink communication on non-serving frequency, it may perform measurements on that frequency or the frequencies which can provide inter carrier V2X sidelink configuration for that frequency for cell selection and intra-frequency reselection purpose in accordance with TS 38.133[8].

If the UE detects at least one cell on the frequency which UE is configured to perform NR sidelink communication on fulfilling the S criterion in accordance with clause 8.2.1, it shall consider itself to be in-coverage for NR sidelink communication on that frequency. If the UE cannot detect any cell on that frequency meeting the S criterion, it shall consider itself to be out-of-coverage for NR sidelink communication on that frequency.

If the UE detects at least one cell on the frequency which UE is configured to perform V2X sidelink communication on fulfilling the S criterion in accordance with clause 8.2.1, it shall consider itself to be in-coverage for V2X sidelink communication on that frequency. If the UE cannot detect any cell on that frequency meeting the S criterion, it shall consider itself to be out-of-coverage for V2X sidelink communication on that frequency.

If the UE has selected a cell on a non-serving frequency for V2X sidelink communication, it shall perform additional intra-frequency reselection process to select a better cell for sidelink operation on that frequency in accordance with clause 8.2.1.

If the UE has selected a cell on a non-serving frequency for NR sidelink communication, it shall perform additional reselection process to select a better cell for sidelink operation in accordance with clause 8.2.1.

[TS 38.331, clause 5.8.7]

A UE capable of NR sidelink communication that is configured by upper layers to receive NR sidelink communication shall:

- 1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:
 - 2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *RRCReconfiguration* message or *sl-FreqInfoList* included in *SIB12*:
 - 3> if the UE is configured with *sl-RxPool* included in *RRCReconfiguration* message with *reconfigurationWithSync* (i.e. handover):
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool*;
 - 3> else if the cell chosen for NR sidelink communication provides *SIB12*:
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool in SIB12*;

2> else:

3> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources that were preconfigured by *sl-RxPool* in *SL-PreconfigurationNR*, as defined in sub-clause 9.3;

12.2.1.2.3 Test description

12.2.1.2.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1, NR Cell 12.
 - System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1 and NR Cell 12.
- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication transmitting device on the resources that UE is expected to use for transmission.
 - NR-SS-UE1 is synchronised on GNSS.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3 except for those listed in Table 12.2.1.2.3.1-1.

- UE is synchronised on GNSS.

Table 12.2.1.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 is available	
EF _{vst}		Service no.2 V2X policy	
		configuration data over PC5 is	
		supported, i.e. value is '01 02'	
		HEX	
EF _{V2XP_PC5}		SL-PreconfigurationNR field as	
		defined in TS 38.508-1 [4], table	
		4.10.1-1, except SL-BWP-	
		PoolConfigCommon field as	
		defined in Table 12.2.1.2.3.3-1	

Preamble:

- The UE is in state 1N-A as defined in TS 38.508-1 [4], subclause 4.4A on NR Cell 1.

12.2.1.2.3.2 Test procedure sequence

Table 12.2.1.2.3.2-1 and 12.2.1.2.3.2-2 illustrate the downlink power levels to be applied for NR Cell 1 and NR Cell 12 at various time instants of the test execution for FR1 and FR2 respectively. Row marked "T0" denotes the conditions after the preamble, while rows marked "T1" is to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 12.2.1.2.3.2-1: Time instances of cell power level and parameter changes in FR1

	Parameter	Unit	NR Cell 1	NR Cell 12	Remark
Т0	SS/PBCH	dBm/SCS	-88	Off	
	SSS EPRE				
T1	SS/PBCH	dBm/SCS	-88	-80	
	SSS EPRE				

Table 12.2.1.2.3.2-2: Time instances of cell power level and parameter changes in FR2

	Parameter	Unit	NR Cell 1	NR Cell 12	Remark
Т0	SS/PBCH	dBm/SCS	-82	Off	
	SSS EPRE				
T1	SS/PBCH	dBm/SCS	-82	-72	
	SSS EPRE				

Table 12.2.1.2.3.2-3: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		

1	Check: Does the test result of generic test	-	-	2	Р
	procedure in TS 38.508-1 [4] Table 4.9.23.2.2-				
	1 indicate that the UE has established sidelink				
	communication using the pool of resources				
	indicated by sI-RxPool in pre-configuration?				
2	The UE is switched off by executing generic	-	-	-	-
	procedure in Table 4.9.6.1-1 in TS 38.508-1				
	[4].				
3	The SS-NW adds SIB12 on NR Cell 1 and NR	-	-	-	-
	Cell 12. system information combination NR-				
	14 as defined in TS 38,508-1 [4] clause 4,4,3,1				
	is used				
4	The UE is Switched ON.	-	-	-	-
5-	Steps 1 to 20a1 of the generic test procedure	-	-	-	-
24a	described in TS 38.508-1 [4] table 4.5.2.2-2				
1	are performed on NR Cell 1.				
25	The SS adjusts cell levels according to row T1	-	-	-	-
	of table 12.2.1.2.3.2-1/2.				
26	Upper layers of the UE configure the UE to	-	-	-	-
	perform sidelink transmission.				
	Note: This step is triggered by MMI or AT				
	command				
-	EXCEPTION: In parallel with step 27, parallel	-	-	-	-
	behaviour defined in table 12.2.1.2.3.2-4 is				
	executed.				
27	Check: Does the test result of generic test	-	-	1	Р
	procedure in TS 38.508-1 [4] Table 4.9.5.2.2-1				
	indicate that the UE is camped on NR Cell 12.				
	NOTE: The UE performs a registration for				
	mobility procedure and the RRC connection is				
	not released.				
28	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REOUEST message using		ESTABLISHMENT REOUEST		
	the pool of resources indicated by <i>sl-RxPool</i> in				
	SIB12 of NR Cell 12.				
29	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK SECURITY	1	Р
	SECURITY MODE COMMAND message.		MODE COMMAND		
30	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMPLETE message.		MODE COMPLETE		
31	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT ACCEPT message.		ESTABLISHMENT ACCEPT		
32	The NR-SS-UE1 transmits an	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message.		RRCReconfigurationSidelink		
33	Check: Does the UE transmit an	>	PC5-RRC:	1	Р
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message?		elink		

Table 12.2.1.2.3.2-4: Parallel behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The UE sends a SidelinkUEInformationNR	>	NR RRC:	-	-
	message.		SidelinkUEInformationNR		

12.2.1.2.3.3 Specific message contents

Table 12.2.1.2.3.3-1: SL-BWP-PoolConfigCommon (Preamble)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-4 with condition RXPOOL and SELECTED

Table 12.2.1.2.3.3-2: SIB12 for NR Cell 12 (Step 3, Table 12.2.1.2.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-14						
Information Element	Value/remark	Comment	Condition			
SIB12-r16 ::= SEQUENCE {						
segmentContainer-r16	OCTET STRING					
	(CONTAINING SIB12-					
	IEs-r16 or segment of					
	SIB12-IEs-r16)					
}						

Table 12.2.1.2.3.3-3: SIB12-IEs-r16 (Table 12.2.1.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-14A						
Information Element	Value/remark	Comment	Condition			
SIB12-IEs-r16 ::= SEQUENCE {						
sI-ConfigCommonNR-r16 SEQUENCE {						
sl-FreqInfoList-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofFreqSL-r16)) OF SL-FreqConfigCommon-						
r16{						
SL-FreqConfigCommon-r16[1]	SL-FreqConfigCommon					
}						
}						
}						

Table 12.2.1.2.3.3-4: SL-FreqConfigCommon (Table 12.2.1.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-11						
Information Element	Value/remark	Comment	Condition			
SL-FreqConfigCommon-r16 ::= SEQUENCE {						
sI-ConfigCommonNR-r16 SEQUENCE {						
sI-BWP-List-r16 SEQUENCE (SIZE (1maxNrofSL-	1 entry					
BWPs-r16)) OF SL-BWP-ConfigCommon-r16 {						
SL-BWP-ConfigCommon-r16[1]	SL-BWP-ConfigCommon					
}						
}						
}						

Table 12.2.1.2.3.3-5: SL-BWP-ConfigCommon (Table 12.2.1.2.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-2			
Information Element	Value/remark	Comment	Condition
SL-BWP-ConfigCommon-r16 ::= SEQUENCE {			
sl-BWP-PoolConfigCommon-r16	SL-BWP-		
	PoolConfigCommon		
}			

Table 12.2.1.2.3.3-6: SL-BWP-PoolConfigCommon (Table 12.2.1.2.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-4 with condition RXPOOL and SELECTED

Table 12.2.1.2.3.3-7: SL-ResourcePool (Table 12.2.1.2.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-25			
Information Element	Value/remark	Comment	Condition
SL-ResourcePool-r16 ::= SEQUENCE {			
sl-TimeResource-r16	000000011		
}			

Table 12.2.1.2.3.3-8: SIB12 for NR Cell 1 (Step 3, Table 12.2.1.2.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-14

Table 12.2.1.2.3.3-9: SIB12-IEs-r16 (Table 12.2.1.2.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-14A						
Information Element	Value/remark	Comment	Condition			
SIB12-IEs-r16 ::= SEQUENCE {						
sI-ConfigCommonNR-r16 SEQUENCE {						
sl-FreqInfoList-r16	Not present					
sl-NR-AnchorCarrierFreqList-r16 SEQUENCE	1 entry					
(SIZE (1 maxFreqSL-NR-r16)) OF ARFCN-ValueNR						
{						
ARFCN-ValueNR[1]	ARFCN-ValueNR of NR					
	Cell 12					
}						
}						
}						

Table 12.2.1.2.3.3-10: SidelinkUEInformationNR (Step 1, Table 12.2.1.2.3.2-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-28A with condition SIDELINK_TX

12.2.1.3 Inter-carrier concurrent operation / Sidelink communication / RRC_CONNECTED / Transmission / Network scheduling

12.2.1.3.1 Test Purpose (TP)

(1)

with { UE is in RRC_CONNECTED state and its serving cell broadcasts SIB12 including sl-ConfigCommonNR }

ensure that {

when { UE is configured by upper layers to perform sidelink transmission on the frequency included in sl-FreqInfoList }

then { UE sends a SidelinkUEInfomationNR message to indicate it requires sidelink transmission resources }

}

(2)

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with { UE is in RRC_CONNECTED state and is configured by upper layers to perform sidelink transmission }

ensure that {

when { UE receives an RRCReconfiguration message which includes sl-ScheduledConfig and no sl-ConfiguredGrantConfigList }

then { UE performs sidelink transmission based on dynamic scheduling }

}

(3)

with { UE is in RRC_CONNECTED state }

ensure that {

when { UE is configured by upper layers to provide configured grant assistance information for NR sidelink communication }

then { UE sends a UEAssistanceInformation message including sl-UE-AssistanceInformationNR }

}

(4)

with { UE is in RRC_CONNECTED state and is configured by upper layers to perform sidelink transmission }

ensure that {

when { UE receives an RRCReconfiguration message which includes sl-ConfiguredGrantConfigList }

then { UE performs sidelink transmission using the configured grant included in sl-ConfiguredGrantConfigList }

}

(5)

with { UE is in RRC_CONNECTED state and is configured by upper layer to perform sidelink transmission }

ensure that {

when { UE is no longer configured by upper layers to perform sidelink transmission }

then { UE sends a SidelinkUEInfomationNR message to indicate it no longer requires sidelink
transmission resources }

}

12.2.1.3.2 Conformance requirements

References: The conformance requirements covered in the current TC are specified in: TS 38.331, clause 5.3.5.3, 5.5.2, 5.5.4.1, 5.5.4.2, 5.5.4.3 and 5.5.5. Unless otherwise stated these are Rel-16 requirements.

...

...

•••

[TS 38.331, clause 5.3.5.3]

The UE shall perform the following actions upon reception of the *RRCReconfiguration*, or upon execution of the conditional reconfiguration (CHO or CPC):

- 1> if the *RRCReconfiguration* message includes the *otherConfig*:
 - 2> perform the other configuration procedure as specified in 5.3.5.9;
- 1> if the RRCReconfiguration message includes the sl-ConfigDedicatedNR:
 - 2> perform the sidelink dedicated configuration procedure as specified in 5.3.5.14;

1> else (*RRCReconfiguration* was received via SRB1):

2> submit the *RRCReconfigurationComplete* message via SRB1 to lower layers for transmission using the new configuration;

[TS 38.331, clause 5.3.5.14]

Upon initiating the procedure, the UE shall:

1> if sl-FreqInfoToAddModList is included in sl-ConfigDedicatedNR within RRCReconfiguration:

•••

...

•••

- 2> if configured to transmit NR sidelink communication:
 - 3> use the resource pool(s) indicated by *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.8.8;
- 2> perform CBR measurement on the transmission resource pools indicated by *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.5.3;
- 2> use the synchronization configuration parameters for NR sidelink communication on frequencies included in *sl-FreqInfoToAddModList*, as specified in 5.8.5;
- •••

•••

- 1> if sl-RadioBearerToAddModList or sl-RLC-BearerToAddModList is included in sl-ConfigDedicatedNR within RRCReconfiguration:
 - 2> perform sidelink DRB addition/modification as specified in 5.8.9.1a.2;
- 1> if sl-ScheduledConfig is included in sl-ConfigDedicatedNR within RRCReconfiguration:
 - 2> configure the MAC entity parameters, which are to be used for NR sidelink communication, in accordance with the received *sl-ScheduledConfig*;

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[TS 38.331, clause 5.7.4.2]

•••

A UE capable of providing configured grant assistance information for NR sidelink communication in RRC_CONNECTED may initiate the procedure in several cases, including upon being configured to provide traffic pattern information and upon change of traffic patterns.

••••

Upon initiating the procedure, the UE shall:

•••

1> if configured to provide configured grant assistance information for NR sidelink communication:

2> initiate transmission of the UEAssistanceInformation message in accordance with 5.7.4.3 to provide configured grant assistance information for NR sidelink communication;

[TS 38.331, clause 5.7.4.3]

•••

...

The UE shall set the contents of the *UEAssistanceInformation* message for configured grant assistance information for NR sidelink communication:

- 1> if configured to provide configured grant assistance information for NR sidelink communication:
 - 2> include the sl-UE-AssistanceInformationNR;

•••

1> else:

2> submit the UEAssistanceInformation message to lower layers for transmission.

[TS 38.331, clause 5.8.3.2]

Upon initiating this procedure, the UE shall:

- 1> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:
 - 2> ensure having a valid version of *SIB12* for the PCell;

2> if configured by upper layers to transmit NR sidelink communication on the frequency included in *sl*-*FreqInfoList* in *SIB12* of the PCell:

...

- 3> if the UE did not transmit a *SidelinkUEInformationNR* message since last entering RRC_CONNECTED state; or
- 3> if since the last time the UE transmitted a *SidelinkUEInformationNR* message the UE connected to a PCell not providing *SIB12* including *sl-ConfigCommonNR*; or
- 3> if the last transmission of the *SidelinkUEInformationNR* message did not include *sl-TxResourceReqList*; or if the information carried by the *sl-TxResourceReqList* has changed since the last transmission of the *SidelinkUEInformationNR* message:

4> initiate transmission of the *SidelinkUEInformationNR* message to indicate the NR sidelink communication transmission resources required by the UE in accordance with 5.8.3.3;

2> else:

- 3> if the last transmission of the *SidelinkUEInformationNR* message included *sl-TxResourceReqList*:
 - 4> initiate transmission of the *SidelinkUEInformationNR* message to indicate it no longer requires NR sidelink communication transmission resources in accordance with 5.8.3.3.
- [TS 38.331, clause 5.8.3.3]

The UE shall set the contents of the *SidelinkUEInformationNR* message as follows:

- 1> if the UE initiates the procedure to indicate it is (no more) interested to receive NR sidelink communication or to request (configuration/ release) of NR sidelink communication transmission resources or to report to the network that a sidelink radio link failure or sidelink RRC reconfiguration failure has been declared (i.e. UE includes all concerned information, irrespective of what triggered the procedure):
 - 2> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:
 - ...
 - 3> if configured by upper layers to transmit NR sidelink communication:
 - 4> include *sl-TxResourceReqList* and set its fields (if needed) as follows for each destination for which it requests network to assign NR sidelink communication resource:
 - 5> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink communication transmission;
 - 5> set *sl-CastType* to the cast type of the associated destination identity configured by the upper layer for the NR sidelink communication transmission;

•••

- 5> set *sl-QoS-InfoList* to include QoS profile(s) of the sidelink QoS flow(s) of the associated destination configured by the upper layer for the NR sidelink communication transmission;
- 5> set *sl-InterestedFreqList* to indicate the frequency of the associated destination for NR sidelink communication transmission;
- 5> set *sl-TypeTxSyncList* to the current synchronization reference type used on the associated *sl-InterestedFreqList* for NR sidelink communication transmission.
- ...

1> else:

2> submit the *SidelinkUEInformationNR* message to lower layers for transmission;

[TS 38.331, clause 5.8.8]

A UE capable of NR sidelink communication that is configured by upper layers to transmit NR sidelink communication and has related data to be transmitted shall:

1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:

- 2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within *SIB12*:
 - 3> if the UE is in RRC_CONNECTED and uses the frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message:
 - 4> if the UE is configured with *sl-ScheduledConfig*:

•••

5> else:

6> configure lower layers to perform the sidelink resource allocation mode 1 for NR sidelink communication;

[TS 38.321, clause 5.22.1.1]

•••

•••

If the MAC entity has been configured with Sidelink resource allocation mode 1 as indicated in TS 38.331 [5], the MAC entity shall for each PDCCH occasion and for each grant received for this PDCCH occasion:

- 1> if a sidelink grant has been received on the PDCCH for the MAC entity's SL-RNTI:
 - •••

2> else:

3> use the received sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) for initial transmission and, if available, retransmission(s) of a single MAC PDU according to clause 8.1.2 of TS 38.214 [7].

•••

- 1> else if a sidelink grant has been received on the PDCCH for the MAC entity's SLCS-RNTI:
 - 2> if PDCCH contents indicate retransmission(s) for the identified HARQ process ID that has been set for an activated configured sidelink grant identified by *sl-ConfigIndexCG*:
 - 3> use the received sidelink grant to determine PSCCH duration(s) and PSSCH duration(s) for one or more retransmissions of a single MAC PDU according to clause 8.1.2 of TS 38.214 [7].

•••

The MAC entity shall for each PSSCH duration:

- 1> for each sidelink grant occurring in this PSSCH duration:
 - 2> if the MAC entity has been configured with Sidelink resource allocation mode 1:
 - 3> select a MCS which is, if configured, within the range that is configured by RRC between *sl-MinMCS-PSSCH* and *sl-MaxMCS-PSSCH* included in *sl-ConfigDedicatedNR*;
 - 3> set the resource reservation interval to 0ms.

•••

2> if the configured sidelink grant has been activated and this PSSCH duration corresponds to the first PSSCH transmission opportunity within this *sl-PeriodCG* of the configured sidelink grant:

- 3> set the HARQ Process ID to the HARQ Process ID associated with this PSSCH duration and, if available, all subsequent PSSCH duration(s) occurring in this *sl-PeriodCG* for the configured sidelink grant;
- 3> determine that this PSSCH duration is used for initial transmission;
- 3> if a dynamic sidelink grant associated to the HARQ Process ID has been received on the PDCCH for the MAC entity's SLCS-RNTI:

4> clear the dynamic sidelink grant.

2> deliver the sidelink grant, the selected MCS, and the associated HARQ information to the Sidelink HARQ Entity for this PSSCH duration.

...

[TS 38.321, clause 5.22.1.1]

•••

A SL-BSR shall be triggered if any of the following events occur:

- 1> if the MAC entity has been configured with Sidelink resource allocation mode 1:
 - 2> SL data, for a logical channel of a Destination, becomes available to the MAC entity; and either
 - 3> this SL data belongs to a logical channel with higher priority than the priorities of the logical channels containing available SL data which belong to any LCG belonging to the same Destination; or
 - 3> none of the logical channels which belong to an LCG belonging to the same Destination contains any available SL data.
 - in which case the SL-BSR is referred below to as 'Regular SL-BSR';

...

1> else:

2> Sidelink resource allocation mode 1 is configured by RRC and SL data is available for transmission in the RLC entity or in the PDCP entity, in which case the Sidelink BSR is referred below to as "Regular SL-BSR".

For Regular SL-BSR, the MAC entity shall:

1> if the SL-BSR is triggered for a logical channel for which *sl-logicalChannelSR-DelayTimerApplied* with value *true* is configured by RRC:

2> start or restart the sl-logicalChannelSR-DelayTimer.

1> else:

2> if running, stop the sl-logicalChannelSR-DelayTimer.

For Regular and Periodic SL-BSR, the MAC entity shall:

- 1> if *sl-PrioritizationThres* is configured and the value of the highest priority of the logical channels that belong to any LCG and contain SL data for any Destination is lower than *sl-PrioritizationThres*; and
- 1> if either *ul-PrioritizationThres* is not configured or *ul-PrioritizationThres* is configured and the value of the highest priority of the logical channels that belong to any LCG and contain UL data is equal to or higher than *ul-PrioritizationThres* according to clause 5.4.5:

2> prioritize the LCG(s) for the Destination(s).

- 1> if the Buffer Status reporting procedure determines that at least one BSR has been triggered and not cancelled according to clause 5.4.5 and the UL grant cannot accommodate a SL-BSR MAC CE containing buffer status only for all prioritized LCGs having data available for transmission plus the subheader of the SL-BSR according to clause 5.4.3.1.3, in case the SL-BSR is considered as not prioritized:
 - 2> prioritize the SL-BSR for logical channel prioritization specified in clause 5.4.3.1;
 - 2> report Truncated SL-BSR containing buffer status for as many prioritized LCGs having data available for transmission as possible, taking the number of bits in the UL grant into consideration.
- 1> else if the number of bits in the UL grant is expected to be equal to or larger than the size of a SL-BSR containing buffer status for all LCGs having data available for transmission plus the subheader of the SL-BSR according to clause 5.4.3.1.3:
 - 2> report SL-BSR containing buffer status for all LCGs having data available for transmission.

1> else:

2> report Truncated SL-BSR containing buffer status for as many LCGs having data available for transmission as possible, taking the number of bits in the UL grant into consideration.

...

The MAC entity shall:

- 1> if the sidelink Buffer Status reporting procedure determines that at least one SL-BSR has been triggered and not cancelled:
 - 2> if UL-SCH resources are available for a new transmission and the UL-SCH resources can accommodate the SL-BSR MAC CE plus its subheader as a result of logical channel prioritization according to clause 5.4.3.1:
 - 3> instruct the Multiplexing and Assembly procedure in clause 5.4.3 to generate the SL-BSR MAC CE(s);
 - 3> start or restart *sl-periodicBSR-Timer* except when all the generated SL-BSRs are Truncated SL-BSRs;
 - 3> start or restart *sl-retxBSR-Timer*.

...

12.2.1.3.3 Test description

12.2.1.3.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination FFS as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- SS-UE
 - Operating as NR sidelink communication receiving device on the resources that UE is expected to use for transmission.

UE:

UE is authorised to perform NR sidelink communication.

Preamble:

- The UE is in state 3N-A as defined in TS 38.508-1 [4], subclause 4.4A on NR Cell 1 and Test Loop Function (*On*) with UE test loop mode FFS defined in 38.509 [6], subclause FFS.

12.2.1.3.3.2 Test procedure sequence

FFS

Table 12.2.1.3.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	Upper layers of the UE configures the UE to	-	-	-	-
	perform sidelink transmission.				
	Note: This step is triggered by MMI or AT				
	command				
2	Check: Does the UE send a	>	NR RRC:	1	Р
	SidelinkUEInformationNR message to request		SidelinkUEInformationNR		
	sidelink transmission resource?				
3	SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with sl-ConfigDedicatedNR to				
	configure transmission resources and to				
	configure the UE to perform network				
	scheduling-based sidelink transmission				
4	The UE transmits an	>	NR RRC:		
	RRCReconfigurationComplete message.		RRCReconfigurationComplete		
5	Check: Does the UE send a Sidelink BSR	>	MAC CE (sidelink BSR)	2	Р
	MAC-CE?				
5	SS-NW sends a DCI format 3_0 to configure	<	DCI format 3_0	-	-
	sidelink grant for the UE				
6	Check: Does the UE transmit one STCH	>	STCH PDCP SDU	2	Р
	PDCP SDU over the PC5 interface using the				
	resources scheduled by SS-NW?				
7	Upper layers of the UE configures the UE to	-	-	-	-
	send a UEAssistanceInformation message.				
	Note: This step is triggered by MMI or AT				
	command				
8	Check: Does the UE send a	>	NR RRC:	3	Р
	UEAssistanceInformation message to provide		UEAssistanceInformation		
	configured grant assistance information?				
9	SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with sl-ConfiguredGrantConfigList to				
	provide a Type 2 configure grant for the UE.				
10	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message.		RRCReconfigurationComplete		
11	SS-NW transmits an DCI format 3_0 to	<	DCI format 3_0	-	-
	activate the configured grant.				
12	The UE sends a Sidelink Configured Grant	>	MAC CE (Sidelink Configured	-	-
	Confirmation MAC CE		Grant Confirmation)		
13	Check: Does the UE transmit one STCH	>	STCH PDCP SDU	4	Р
	PDCP SDU over the PC5 interface using the				
	resources indicated by the configured grant?				
14	Upper layer of the UE configures the UE to	-	-	-	-
	stop sidelink transmission.				
15	Check: Does the UE send a	>	NR RRC:	1	Р
	SidelinkUEInformationNR message to indicate		SidelinkUEInformationNR		
	that sidelink transmission resource is not				
	needed?				

12.2.1.3.3.3 Specific message contents

FFS

12.2.1.4

12.2.1.5 Inter-carrier concurrent operation / Sidelink communication / RRC CONNECTED / Transmission / Exceptional pool

12.2.1.5.1 Test Purpose (TP)

(1)

with { UE being RRC_CONNECTED state and performing NR sidelink transmission based on network
scheduling with sl-ScheduledConfig, and sl-TxPoolExceptional is included in sl-ConfigDedicatedNR }

ensure that {

when { UE receives an RRCReconfiguration message including reconfigurationWithSync }

then { UE performs NR sidelink transmission using *sl-TxPoolExceptional* included in *sl-ConfigDedicatedNR* during handover procedure }

}

(2)

with { UE being RRC_CONNECTED state and performing NR sidelink transmission based on network
scheduling with sl-ScheduledConfig, and sl-TxPoolExceptional is included in sl-ConfigDedicatedNR }

ensure that $\{$

when { UE detects physical layer problems by receiving N310 consecutive out-of-sync indications from lower layers }

then { UE performs NR sidelink transmission using sl-TxPoolExceptional included in sl-ConfigDedicatedNR until receiving RRCReestablishment message }

}

12.2.1.5.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.3.5.14 and 5.8.8. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, subclause 5.3.5.14]

Upon initiating the procedure, the UE shall:

••••

1> if *sl*-*FreqInfoToAddModList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:

2> if configured to receive NR sidelink communication:

3> use the resource pool(s) indicated by *sl-RxPool* for NR sidelink communication reception, as specified in 5.8.7;

- 2> if configured to transmit NR sidelink communication:
 - 3> use the resource pool(s) indicated by *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.8.8;

[TS 38.331, subclause 5.8.8]

A UE capable of NR sidelink communication that is configured by upper layers to transmit NR sidelink communication and has related data to be transmitted shall:

- 1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:
 - 2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within *SIB12*:
 - 3> if the UE is in RRC_CONNECTED and uses the frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message:
 - 4> if the UE is configured with *sl-ScheduledConfig*:
 - 5> if T310 for MCG or T311 is running; and if *sl-TxPoolExceptional* is included in *sl-FreqInfoList* for the concerned frequency in *SIB12* or included in *sl-ConfigDedicatedNR* in *RRCReconfiguration*; or
 - 5> if T301 is running and the cell on which the UE initiated RRC connection re-establishment provides *SIB12* including *sl-TxPoolExceptional* for the concerned frequency; or
 - 5> if T304 for MCG is running and the UE is configured with *sl-TxPoolExceptional* included in *sl-ConfigDedicatedNR* for the concerned frequency in *RRCReconfiguration*:
 - 6> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];

5> else:

- 6> configure lower layers to perform the sidelink resource allocation mode 1 for NR sidelink communication;
- 5> if T311 is running, configure the lower layers to release the resources indicated by *rrc-ConfiguredSidelinkGrant* (if any);

4> if the UE is configured with *sl-UE-SelectedConfig*:

- 5> if a result of sensing on the resources configured in *sl-TxPoolSelectedNormal* for the concerned frequency included in *sl-ConfigDedicatedNR* within *RRCReconfiguration* is not available in accordance with TS 38.214 [19];
 - 6> if *sl-TxPoolExceptional* for the concerned frequency is included in *RRCReconfiguration*; or
 - 6> if the PCell provides *SIB12* including *sl-TxPoolExceptional* in *sl-FreqInfoList* for the concerned frequency:
 - 7> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection using the pool of resources indicated by *sl-TxPoolExceptional* as defined in TS 38.321 [3];
- 5> else, if the *sl-TxPoolSelectedNormal* for the concerned frequency is included in the *sl-ConfigDedicatedNR* within *RRCReconfiguration*:

6> configure lower layers to perform the sidelink resource allocation mode 2 based on resource selection operation according to *sl-AllowedResourceSelectionConfig* (as defined in TS 38.321
[3] and TS 38.214 [19]) using the pools of resources indicated by *sl-TxPoolSelectedNormal* for the concerned frequency;

3> else:

- 4> if the cell chosen for NR sidelink communication transmission provides *SIB12*:
 - 5> if *SIB12* includes *sl-TxPoolSelectedNormal* for the concerned frequency, and a result of sensing on the resources configured in the *sl-TxPoolSelectedNormal* is available in accordance with TS 38.214 [19]:
 - 6> configure lower layers to perform the sidelink resource allocation mode 2 based on resource selection operation according to *sl-AllowedResourceSelectionConfig* using the pools of resources indicated by *sl-TxPoolSe lectedNormal* for the concerned frequency as defined in TS 38.321 [3];
 - 5> else if *SIB12* includes *sl-TxPoolExceptional* for the concerned frequency:
 - 6> from the moment the UE initiates RRC connection establishment or RRC connection resume, until receiving an *RRCReconfiguration* including *sl-ConfigDedicatedNR*, or receiving an *RRCRelease* or an *RRCReject*; or
 - 6> if a result of sensing on the resources configured in *sl-TxPoolSelectedNormal* for the concerned frequency in *SIB12* is not available in accordance with TS 38.214 [19]:
 - 7> configure lower layers to perform the sidelink resource allocation mode 2 based on random selection (as defined in TS 38.321 [3]) using one of the pools of resources indicated by *sl*-*TxPoolExceptional* for the concerned frequency;

2> else:

3> configure lower layers to perform the sidelink resource allocation mode 2 based on sensing (as defined in TS 38.321 [3] and TS 38.213 [13]) using the pools of resources indicated by *sl-TxPoolSelectedNormal* in *SidelinkPreconfigNR* for the concerned frequency.

12.2.1.5.3 Test description

12.2.1.5.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1, NR Cell 2.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cells.
- NR-SS-UE
 - NR-SS-UE1: operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3 except for those listed in Table 12.2.1.5.3.1-1.
- The UE uses GNSS as the synchronization reference source.

Table 12.2.1.5.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 V2X is available	
EF _{vst}		Service no.2 V2X policy configuration data over PC5 is supported, i.e. value is '01 02' HEX	
EF _{v2XP_PC5}		SL-PreconfigurationNR field as defined in TS 38.508-1 [4] Table 4.10.1-1	

Preamble:

- The UE is in state 3N-B RRC_CONNECTED_with_SL and Test Mode (On) with UE test loop mode E as defined in TS 38.508-1 [4] subclause 4.4A on NR Cell 1 using generic procedure defined in TS 38.508-1[4] clause 4.5.4 with parameters Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.2.1.5.3.2 Test procedure sequence

Table 12.2.1.5.3.2-1 illustrates the downlink power levels and other changing parameters to be applied for the NR cells at various time instants of the test execution. The exact instants on which these values shall be applied are described in the texts in this clause. The configuration "T0" indicates the initial conditions. Subsequent configurations marked "T1" and "T2" are applied at the points indicated in the Main behaviour description in Table 12.2.1.5.3.2-2.

Table 12.2.1.5.3.2-1: Time instances of cell power level and parameter changes for FR1

	Parameter	Unit	NR	NR	Remark
			Cell 1	Cell 2	
Т0	SS/PBCH	dBm/SCS	-85	-91	
	SSS EPRE				
T1	SS/PBCH	dBm/SCS	-85	-79	
	SSS EPRE				
T2	SS/PBCH	dBm/SCS	-85	off	
	SSS EPRE				

Table 12.2.1.5.3.2-2: Main behaviour

St	Procedure		Message Seguence TP		Verdict
		U - S	Message	1	
1	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with sl-ConfigDedicatedNR including		_		
	sI-ScheduledConfig and sI-TxPoolExceptional.				
2	UE sends an RRCReconfigurationComplete	>	NR RRC:	-	-
	message		RRCReconfigurationComplete		
3	The SS transmits a CLOSE UE TEST LOOP	<	TC: CLOSE UE TEST LOOP	-	-
	message				
4	The UE transmits a CLOSE UE TEST LOOP	>	TC: CLOSE UE TEST LOOP	-	-
	COMPLETE message		COMPLETE		
5	Check: Does UE send SDAP SDUs on SI	-	-	1	F
	DRB#n in slots included in exceptional			-	
	resource nool within 20s?				
6	SS-NW adjusts the cell-specific reference	-	-	-	_
Ŭ	signal level according to row "T1"				
7	The SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	<u> </u>	_
'	message including reconfiguration With Sync to				
	order the LIE to perform intro frequency				
	bandover to ND Coll 2				
	EXCEPTION: In parallel with stop 9, parallel				
-	EXCEPTION. III parallel with step 8, parallel	-	-	-	-
	benaviour defined in table 12.2.1.5.3.2-3 is				
	executed repeatedly.				
8	Check: Does UE send SDAP SDUs on SL	>	-	1	
	DRB#n in slots included in exceptional				
	resource pool?				
9	The SS-NW transmits Random Access	<	Random Access Response		
	Response to respond to the received preamble				
	on NR Cell 2.				
10	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 2.				
11	The SS transmits an OPEN UE TEST LOOP	<	TC: OPEN UE TEST LOOP	-	-
	message				
12	The UE transmits an OPEN UE TEST LOOP	>	TC: OPEN UE TEST LOOP	-	-
	COMPLETE message		COMPLETE		
13	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with <i>sI-ConfigDedicatedNR</i> including				
	sI-ScheduledConfig and sI-TxPoolExceptional.				
14	UE sends an RRCReconfigurationComplete	>	NR RRC:	-	-
	message		RRCReconfigurationComplete		
15	The SS transmits a CLOSE UE TEST LOOP	<	TC: CLOSE UE TEST LOOP	-	-
	message				
16	The UE transmits a CLOSE UE TEST LOOP	>	TC: CLOSE UE TEST LOOP	-	-
	COMPLETE message		COMPLETE		
17	Check: Does UE send SDAP SDUs on SL	-	-	2	F
	DRB#n in slots included in exceptional				
	resource pool within 20s?				
18	SS-NW adjusts the cell-specific reference	-	-	-	-
	signal level according to row "T2".				
-	EXCEPTION: In parallel with step 19. parallel	-	-	- 1	-
	behaviour defined in table $1221532-4$ is				
10	Check: Does LIE send SDAP SDUs on SU	>	-	2	P
1.5	DR#n in slots included in executional			-	
20	The SS NW transmite DDCDasatabliahment		ND DDC: DDCDaastabliahmast		
20		<	NK KKU. KKUKEESIADIISNMENT	-	-
01	The LIE transmite	<u> </u>			
21		>		-	-
	RCReestabilsnmentComplete message on		RRCReestablishmentComplete		
	NR Cell 1.	1		1	

22	The SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to resume existing radio bearer on				
	NR Cell 1.				
23	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message on		RRCReconfigurationtComplete		
	NR Cell 1.				
24	The SS transmits an OPEN UE TEST LOOP	<	TC: OPEN UE TEST LOOP	-	-
	message				
25	The UE transmits an OPEN UE TEST LOOP	>	TC: OPEN UE TEST LOOP	-	-
	COMPLETE message		COMPLETE		

Table 12.2.1.5.3.2-3: Parallel behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
-	EXCEPTION: The steps 1 and 2 below are	-	-	-	-
	repeated 2 times.				
1	The UE transmits preamble to NR Cell 2.	>	(PRACH Preamble)	-	-
2	The SS does not respond.	-	-	-	-
3	The UE transmits preamble to NR Cell 2.	>	(PRACH Preamble)	-	-

Table 12.2.1.5.3.2-4: Parallel behaviour

St	Procedure		Message Sequence		Verdict
		U - S	Message		
-	EXCEPTION: The steps 1 and 2 below are	-	-	-	-
	repeated 2 times.				
1	The UE transmits preamble to NR Cell 1.	>	(PRACH Preamble)	-	-
2	The SS does not respond.	-	-	-	-
3	The UE transmits preamble to NR Cell 1.	>	(PRACH Preamble)	-	-
4	The SS-NW transmits Random Access	<	Random Access Response	-	-
	Response to respond to the latest preamble on				
	NR Cell 1.				
5	The UE sends RRCReestablishmentRequest	>	NR RRC:	-	-
	message on NR Cell 1.		RRCReestablishmentRequest		

12.2.1.5.3.3 Specific message contents

Table 12.2.1.5.3.3-1: SL-BWP-ConfigCommon in SIB12 for Cell 1 and Cell 2 (Preamble and all steps)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-2			
Information Element	Value/remark	Comment	Condition
SL-BWP-ConfigCommon-r16 ::= SEQUENCE {			
sl-BWP-PoolConfigCommon-r16	SL-BWP-PoolConfigCommon		
	with RXPOOL, SELECTED		
	and EXCEPTIONAL		
}			

Table 12.2.1.5.3.3-2: SIB1 for Cell 1 and Cell 2 (Preamble and all steps)

Derivation Path: TS 38.508-1 [4] table 4.6.1-28			
Information Element	Value/Remark	Comment	Condition
SIB1 ::= SEQUENCE {			
ue-TimersAndConstants SEQUENCE {			
t301	ms2000		
t310	ms2000		
t311	ms30000		
}			
}			

Table 12.2.1.5.3.3-3: RLF-TimersAndConstants (Preamble and all steps)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-150			
Information Element	Value/remark	Comment	Condition
RLF-TimersAndConstants ::= SEQUENCE {			
t310	ms2000		
t311	ms30000		
}			

Table 12.2.1.5.3.3-4: RRCReconfiguration (step 1 and step 13, Table 12.2.1.5.3.2-2)

Derivation path: TS 38.508-1 [4], Table 4.6.1-13			_
Information Element	Value/Remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
sl-ConfigDedicatedNR-r16	SL-ConfigDedicatedNR		
	with condition		
	SCHEDULING		
}			
}			
}			
}			
}			
}			
}			

Table 12.2.1.5.3.3-4A: SL-ConfigDedicatedNR (Table 12.2.1.5.3.3-4)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7			
Information Element	Value/Remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {			
sI-FreqInfoToAddModList-r16 SEQUENCE (SIZE			
(1maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 {			
SL-FreqConfig-r16[1]	SL-FreqConfig		
}			
}			
}			

Table 12.2.1.5.3.3-4B: SL-FreqConfig (Table 12.2.1.5.3.3-4A)

Derivation path: TS 38.508-1 [4], Table 4.6.6-1					
Information Element	Value/Remark	Comment	Condition		
SL-FreqConfig-r16 ::= SEQUENCE {					
sl-BWP-ToAddModList-r16 SEQUENCE (SIZE					
(1maxNrofSL-BWPs-r16)) OF SL-BWP-Config-r16 {					
SL-BWP-Config-r16[1]	SL-BWP-Config	entry 1			
}					
}					

Table 12.2.1.5.3.3-5: SL-BWP-Config (Table 12.2.1.5.3.3-4B)

Derivation path: TS 38.508-1 [4], Table 4.6.6-1		_	
Information Element	Value/Remark	Comment	Condition
SL-BWP-Config-r16 ::= SEQUENCE {			
sl-BWP-PoolConfig-r16	SL-BWP-PoolConfig with		
	condition SCHEDULING and		
	EXCEPTIONAL		
}			

Table 12.2.1.5.3.3-6: RRCReconfiguration (step 7, Table 12.2.1.5.3.2-2)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration SEQUENCE {					
nonCriticalExtension SEQUENCE {					
masterCellGroup	OCTET STRING	Table			
	(CONTAINING	12.2.1.5.3.3-7			
	CellGroupConfig)				
masterKeyUpdate SEQUENCE {					
keySetChangeIndicator	True				
nextHopChainingCount	0				
nas-Container	NASContainer	Intra N1 mode			
		NAS transparent			
		container, Table			
		12.2.1.5.3.3-9			
}					
}					
}					
}					
}					

Table 12.2.1.5.3.3-7: CellGroupConfig (Table 12.2.1.5.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change and CFRA				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
spCellConfig SEQUENCE {				
reconfigurationWithSync SEQUENCE {				
spCellConfigCommon SEQUENCE {	Same as default			
	ServingCellConfigComm			
	on			
physCellId	Physical cell Id of NR			
	Cell 2			
}				
t304	ms2000			
rach-ConfigDedicated CHOICE {				
Uplink SEQUENCE {	Same as default RACH-			
	ConfigDedicated			
cfra SEQUENCE {	-			
occasions SEQUENCE {				
rach-ConfigGeneric	RACH-ConfigGeneric	Table		
		12.2.1.5.3.3-8		
}				
}				
}				
}				
}				
rlf-TimersAndConstants CHOICE {				
setup	RLF-	Table		
	TimersAndConstants	12.2.1.5.3.3-3		
}				
spCellConfigDedicated	ServingCellConfig			
}				
}				

Table 12.2.1.5.3.3-8: RACH-ConfigGeneric (Table 12.2.1.5.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-130			
Information Element	Value/remark	Comment	Condition
RACH-ConfigGeneric ::= SEQUENCE {			
ra-ResponseWindow	sl80		
}			

Table 12.2.1.5.3.3-8A: ServingCellConfig (Table 12.2.1.5.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkDedicated		
	with condition SIDELINK		
}			

Table 12.2.1.5.3.3-9: NASContainer (Table 12.2.1.5.3.3-6)

Derivation Path: TS 24.501, table 9.11.2.6				
Information Element	Value/Remark	Comment	Condition	
Message authentication code	The calculated value of	The value of		
	MAC-I for this message.	MAC-I is		
		calculated by SS		
		using COUNT =		
		0xFFFFFFF(as		
		per TS		
		33.501[20],		
		6.9.2.3.3)		
Type of ciphering algorithm	Set according to PIXIT			
	px_NAS_5GC_Ciphering			
	Algorithm for default			
	ciphering algorithm			
Type of integrity protection algorithm	Set according to PIXIT	This value should		
	px_NAS_5GC_IntegrityAl	not be equal to		
	gorithm for default	the null integrity		
	integrity protection	algorithm.		
	algorithm			
KACF	'1'B	a new K _{AMF} has		
		been calculated		
		by the network		
TSC	'0'B	native security		
		context (for		
		KSI _{AMF})		
Key set identifier in 5G	KSI _{AMF} that was created			
	when the UE last			
	registered to 5GCN			
Sequence number	The internal counter of	eight least		
	the SS	significant bits of		
		the downlink NAS		
		COUNT		

Table 12.2.1.5.3.3-10: CLOSE UE TEST LOOP (step 3 and step 15, Table 12.2.1.5.3.2-2)

Derivation Path: TS 38.508-1 [4] Table 4.9.22.3-2

Table 12.2.1.5.3.3-11: RRCReestablishmentRequest (step 3, Table 12.2.1.5.3.2-4)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-12			
Information Element	Value/remark	Comment	Condition
RRCReestablishmentRequest ::= SEQUENCE {			
ue-Identity SEQUENCE {			
c-RNTI	the value of the C-RNTI		
	of the UE		
physCellId	PhysicalCellIdentity of		
	NR Cell 2		
shortMAC-I	The same value as the		
	16 least significant bits of		
	the XMAC-I value		
	calculated by SS-NW		
}			
reestablishmentCause	otherFailure		
}			

12.2.1.6 Inter-carrier concurrent operation / Sidelink communication / RRC_CONNECTED / Reception

12.2.1.6.1 Test Purpose (TP)

(1)

with { UE being in RRC_CONNECTED state and its serving cell not broadcasting SIB12 }

ensure that {

when { UE is configured by upper layer to perform NR sidelink reception}

then { UE is able to monitor NR sidelink reception using sl-RxPool included in preconfiguration}

}

(2)

with { UE being in RRC_CONNECTED state and its serving cell broadcasting SIB12 }

ensure that {

when { UE is configured by upper layer to perform NR sidelink reception}

then { UE is able to monitor NR sidelink reception using sl-RxPool included in SIB12}

}

(3)

Void

(4)

with { UE being in RRC_CONNECTED state and being configured by upper layer to perform NR sidelink reception }

ensure that $\{$

when { UE receives a RRCReconfiguration including reconfigurationWithSync and sl-RxPool}

then { UE is able to monitor NR sidelink reception using sl-RxPool included in the received RRCReconfiguration message after handover procedure}

}

12.2.1.6.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clause 5.2.2.4.13, clause 5.3.5.14, clause 5.8.1, clause 5.8.7. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.2.2.4.13]

Upon receiving *SIB12*, the UE shall:

- 1> if the UE has stored at least one segment of *SIB12* and the value tag of *SIB12* has changed since a previous segment was stored:
 - 2> discard all stored segments;
- 1> store the segment;
- 1> if all segments have been received:
 - 2> assemble *SIB12-IEs* from the received segments;
 - 2> if *sl*-*FreqInfoList* is included in *sl*-*ConfigCommonNR*:
 - 3> if configured to receive NR sidelink communication:
 - 4> use the resource pool(s) indicated by *sl-RxPool* for NR sidelink communication reception, as specified in 5.8.7;
 - 3> if configured to transmit NR sidelink communication:
 - 4> use the resource pool(s) indicated by *sl-TxPoolSelectedNormal*, or *sl-TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.8.8;
 - 4> perform CBR measurement on the transmission resource pool(s) indicated by *sl*-*TxPoolSelectedNormal* or *sl*-*TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.5.3.1;
 - 4> use the synchronization configuration parameters for NR sidelink communication on frequencies included in *sl-FreqInfoList*, as specified in 5.8.5;
 - 3> if configured to receive NR sidelink discovery:
 - 4> use the resource pool(s) indicated by *sl-DiscRxPool* or *sl-RxPool* for NR sidelink discovery reception, as specified in 5.8.13.2;
 - 3> if configured to transmit NR sidelink discovery:
 - 4> use the resource pool(s) indicated by *sl-DiscTxPoolSelected*, *sl-TxPoolExceptional* or *sl-TxPoolSelectedNormal* for NR sidelink discovery transmission, as specified in 5.8.13.3;
 - 4> perform CBR measurement on the transmission resource pool(s) indicated by *sl*-*TxPoolSelectedNormal*, *sl*-*DiscTxPoolSelected* or *sl*-*TxPoolExceptional* for NR sidelink discovery transmission, as specified in 5.5.3.1;
 - 4> use the synchronization configuration parameters for NR sidelink discovery on frequencies included in *sl-FreqInfoList*, as specified in 5.8.5;
 - 2> if *sl*-RadioBearerConfigList or *sl*-RLC-BearerConfigList is included in *sl*-ConfigCommonNR:
 - 3> perform sidelink DRB addition/modification/release as specified in 5.8.9.1a.1/5.8.9.1a.2;
 - 2> if *sl-MeasConfigCommon* is included in *sl-ConfigCommonNR*:
 - 3> store the NR sidelink measurement configuration.
 - 2> if *sl-DRX-ConfigCommonGC-BC* is included in *SIB12-IEs*:
 - 3> store the NR sidelink DRX configuration and configure lower layers to perform sidelink DRX operation for groupcast and broadcast as specified in TS 38.321 [3].

1> if the UE is acting as L2 U2N Remote UE:

2> if the *ue-TimersAndConstantsRemoteUE* is included in *SIB12*:

3> use values for timers T300, T301 and T319 as included in the *ue-TimersAndConstantsRemoteUE* received in *SIB12*;

2> else:

3> use values for timers T300, T301 and T319 as included in the *ue-TimersAndConstants* received in *SIB1*;

The UE should discard any stored segments for *SIB12* if the complete *SIB12* has not been assembled within a period of 3 hours. The UE shall discard any stored segments for *SIB12* upon cell (re-)selection.

[TS 38.331, clause 5.3.5.14]

Upon initiating the procedure, the UE shall:

- 1> if *sl*-FreqInfoToReleaseList is included in *sl*-ConfigDedicatedNR within RRCReconfiguration:
 - 2> for each entry included in the received *sl-FreqInfoToReleaseList* that is part of the current UE configuration:

3> release the related configurations from the stored NR sidelink communication/discovery configurations;

- 1> if *sl*-*FreqInfoToAddModList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> if configured to receive NR sidelink communication:
 - 3> use the resource pool(s) indicated by *sl-RxPool* for NR sidelink communication reception, as specified in 5.8.7;
 - 2> if configured to transmit NR sidelink communication:
 - 3> use the resource pool(s) indicated by *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink communication transmission, as specified in 5.8.8;
 - 2> if configured to receive NR sidelink discovery:
 - 3> use the resource pool(s) indicated by *sl-DiscRxPool* or *sl-RxPool* for NR sidelink discovery reception, as specified in 5.8.13.2;
 - 2> if configured to transmit NR sidelink discovery:
 - 3> use the resource pool(s) indicated by *sl-DiscTxPoolSelected*, *sl-DiscTxPoolScheduling*, *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink discovery transmission, as specified in 5.8.13.3;
 - 2> perform CBR measurement on the transmission resource pool(s) indicated by *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling*, *sl-DiscTxPoolSelected*, *sl-DiscTxPoolScheduling* or *sl-TxPoolExceptional* for NR sidelink communication/discovery transmission, as specified in 5.5.3;
 - 2> use the synchronization configuration parameters for NR sidelink communication/discovery on frequencies included in *sl-FreqInfoToAddModList*, as specified in 5.8.5;
- 1> if *sl*-*RadioBearerToReleaseList* or *sl*-*RLC*-*BearerToReleaseList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> perform sidelink DRB release as specified in 5.8.9.1a.1;
- 1> if *sl*-*RadioBearerToAddModList* or *sl*-*RLC*-*BearerToAddModList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:
- 2> perform sidelink DRB addition/modification as specified in 5.8.9.1a.2;
- 1> if *sl-ScheduledConfig* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> configure the MAC entity parameters, which are to be used for NR sidelink communication/discovery, in accordance with the received *sl-ScheduledConfig*;
- 1> if *sl-UE-SelectedConfig* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> configure the parameters, which are to be used for NR sidelink communication/discovery, in accordance with the received *sl-UE-SelectedConfig*;
- 1> if *sl-MeasConfigInfoToReleaseList* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> for each SL-DestinationIndex included in the received sl-MeasConfigInfoToReleaseList that is part of the current UE configuration:
 - 3> remove the entry with the matching *SL-DestinationIndex* from the stored NR sidelink measurement configuration information;
- 1> if sl-MeasConfigInfoToAddModList is included in sl-ConfigDedicatedNR within RRCReconfiguration:
 - 2> for each *sl-DestinationIndex* included in the received *sl-MeasConfigInfoToAddModList* that is part of the current stored NR sidelink measurement configuration:
 - 3> reconfigure the entry according to the value received for this *sl-DestinationIndex* from the stored NR sidelink measurement configuration information;
 - 2> for each *sl-DestinationIndex* included in the received *sl-MeasConfigInfoToAddModList* that is not part of the current stored NR sidelink measurement configuration:
 - 3> add a new entry for this *sl-DestinationIndex* to the stored NR sidelink measurement configuration.
- 1> if *sl-DRX-ConfigUC-ToReleaseList* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> for each *SL-DestinationIndex* included in the received *sl-DRX-ConfigUC-ToReleaseList* that is part of the current UE configuration:
 - 3> remove the entry with the matching *SL-DestinationIndex* from the stored NR sidelink DRX configuration information;
- 1> if *sl-DRX-ConfigUC-ToAddModList* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> for each *sl-DestinationIndex* included in the received *sl-DRX-ConfigUC-ToAddModList* that is part of the current stored NR sidelink DRX configuration:
 - 3> reconfigure the entry according to the value received for this *sl-DestinationIndex* from the stored NR sidelink DRX configuration information;
 - 2> for each *sl-DestinationIndex* included in the received *sl-DRX-ConfigUC-ToAddModList* that is not part of the current stored NR sidelink DRX configuration:
 - 3> add a new entry for this *sl-DestinationIndex* to the stored NR sidelink DRX configuration.
- 1> if *sl*-*RLC*-*ChannelToReleaseList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> perform PC5 Relay RLC channel release as specified in 5.8.9.7.1;
- 1> if *sl*-*RLC*-*ChannelToAddModList* is included in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> perform PC5 Relay RLC channel addition/modification as specified in 5.8.9.7.2;

[TS 38.331, clause 5.8.1]

The PC5-RRC signalling, as specified in sub-clause 5.8.9, can be initiated after its corresponding PC5 unicast link establishment (TS 23.287 [55]).

[TS 38.331, clause 5.8.7]

A UE capable of NR sidelink communication that is configured by upper layers to receive NR sidelink communication shall:

- 1> if the conditions for NR sidelink communication operation as defined in 5.8.2 are met:
 - 2> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *RRCReconfiguration* message or *sl-FreqInfoList* included in *SIB12*:
 - 3> if the UE is configured with *sl-RxPool* included in *RRCReconfiguration* message with *reconfigurationWithSync* (i.e. handover):
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool*;
 - 3> else if the cell chosen for NR sidelink communication provides *SIB12*:
 - 4> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources indicated by *sl-RxPool in SIB12*;

2> else:

3> configure lower layers to monitor sidelink control information and the corresponding data using the pool of resources that were preconfigured by *sl-RxPool* in *SL-PreconfigurationNR*, as defined in sub-clause 9.3;

12.2.1.6.3 Test description

12.2.1.6.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1 is the serving cell and NR Cell 3 is the inter-frequency neighbour cell of NR Cell 1.
 - System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1.
- NR-SS-UE
- NR-SS-UE1 operating as NR sidelink communication receiving and transmitting device on the resources that UE is expected to use for transmission and reception via PC5 interface.
- NR-SS-UE1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.

- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4] clause 4.8.3.3.3) except for those listed in Table 12.2.1.6.3.1-1.
- UE is synchronised on GNSS.

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		service no. 119 is available	
EF _{vst}		Service no.2 V2X policy	
		configuration data over PC5 is	
		supported, i.e. value is '01 02'	
		HEX	
EF _{V2XP_PC5}		SL-PreconfigurationNR field as	
		defined in TS 38.508-1 [4], table	
		4.10.1-1, except SL-BWP-	
		PoolConfigCommon field as	
		defined in Table 12.2.1.6.3.3-1	
		with condition SL-PRECONFIG	

Preamble:

- The UE is in state 3N-B RRC_CONNECTED_with_SL and Test Mode (On) with UE test loop mode E as defined in TS 38.508-1 [4] subclause 4.4A on NR Cell 1, using generic parameters Sidelink (On), Cast Type (Unicast) using NR-SS-UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

12.2.1.6.3.2 Test procedure sequence

Table 12.2.1.6.3.2-1 illustrate the downlink power levels to be applied for NR Cell 1 and NR Cell 3 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" is applied at the point indicated in the Main behaviour description in Table 12.2.1.6.3.2-3.

	Parameter	Unit	NR	NR	Remark
			Cell 1	Cell 3	
т0	SS/PBCH SSS EPRE	dBm/ SCS	-88	Off	Power levels are such that entry condition for event A3 is not satisfied for NR Cell 3
T1	SS/PBCH SSS EPRE	dBm/ SCS	-85	-79	Power levels are such that entry condition for event A3 is satisfied for NR Cell 3

Table 12.2.1.6.3.2-1: Power levels in FR1

Table 12.2.1.6.3.2-2: Void

Table 12.2.1.6.3.2-3: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Check: Does the test result of generic test	>		1	-
	procedure in TS 38.508-1[4] subclause				
	4.9.31 indicate that the UE monitors NR				
	sidelink reception using sI-RxPool included				
	in pre-configuration?				
2	SS starts broadcasting SIB12 in NR Cell 1	-		-	-
	using system information combination NR-				
	14				
3	NR Cell 1 transmits a Short message on	-	PDCCH (DCI 1_0): Short Message		-
	PDCCH using P-RNTI indicating a				
	systemInfoModification.				
4	Void	-	-	-	-
5	The UE transmits a	>	NR RRC: SidelinkUEInformationNR	-	-
	SidelinkUEInformationNR message to				
	indicate it is (interested in) receiving NR				
	sidelink communication.				
6	Check: Does the test result of generic test	-	-	2	-
	procedure in TS 38.508-1[4] subclause				
	4.9.31 indicate that the UE monitors NR				
	sidelink reception using sl-RxPool included				
	in SIB12?				
7-9	Void	-		-	-
10	The SS changes NR Cell 3 parameters	-	-	-	-
	according to the row "T1" in Table				
	12.2.1.6.3.2-1.				
11	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message including				
	reconfigurationWithSync and sl-RxPool on				
	NR Cell 1 to order the UE to perform intra				
	handover to NR Cell 3.				
12	UE sends an	>	NR RRC:	-	-
	RRCReconfigurationComplete message on		RRCReconfigurationtComplete		
	NR Cell 3 to confirm the successful				
	handover.				
13	Check: Does the test result of generic test	-	-	-	-
	procedure in TS 38.508-1[4] subclause				
	4.9.31 indicate that the UE monitors NR				
	sidelink reception using sI-RxPool included				
	in the received RRCReconfiguration?				

12.2.1.6.3.3 Specific message contents

Table 12.2.1.6.3.3-1: SL-BWP-PoolConfigCommon (Preamble, Table 12.2.1.6.3.1-1 and Table
12.2.1.6.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-4			
Information Element	Value/remark	Comment	Condition
SL-BWP-PoolConfigCommon-r16 ::= SEQUENCE {			
sl-RxPool-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofRXPool-r16)) OF SL-ResourcePool-r16 {			
SL-ResourcePool-r16[1]	SL-ResourcePool with	entry 1	SL-
	condition SL-		PRECONFI
	PRECONFIG as defined		G
	in Table 12.2.1.6.3.3-13		
SL-ResourcePool-r16[1]	SL-ResourcePool with		SIB-12
	condition SIB-12 as		
	defined in Table		
	12.2.1.6.3.3-13		
}			
sI-TxPoolSelectedNormal-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofTXPool-r16)) OF SL-ResourcePoolConfig-			
r16 {			
SL-ResourcePoolConfig-r16[1] SEQUENCE {		entry 1	
sl-ResourcePoolID-r16	1	Index of the	
		resource pool for	
		normal case	
sl-ResourcePool-r16	SL-ResourcePool with		SL-
	condition SL-		PRECONFI
	PRECONFIG as defined		G
	in Table 12.2.1.6.3.3-13		
sl-ResourcePool-r16	SL-ResourcePool with		SIB-12
	condition SIB-12 as		
	defined in Table		
	12.2.1.6.3.3-13		
}			
}			
}			

Table 12.2.1.6.3.3-2: SIB12 (step 2, Table 12.2.1.6.3.2-3)

Derivation path: TS 38.508-1 [4], Table 4.6.2-14			
Information Element	Value/Remark	Comment	Condition
SIB12-r16 ::= SEQUENCE {			
segmentContainer-r16	OCTET STRING		
	(CONTAINING SIB12-		
	RESOURCEPOOL)		
}			

Table 12.2.1.6.3.3-3: SIB12-RESOURCEPOOL (Table 12.2.1.6.3.3-2)

Derivation path: TS 38.508-1 [4], Table 4.6.2-14A			
Information Element	Value/Remark	Comment	Condition
SIB12-IEs-r16 ::= SEQUENCE {			
sI-ConfigCommonNR-r16 SEQUENCE {			
sl-FreqInfoList-r16 SEQUENCE (SIZE			
(1maxNrofFreqSL-r16)) OF SL-FreqConfigCommon-			
r16{			
SL-FreqConfigCommon-r16[1]	SL-FreqConfigCommon		
}			
}			
}			

Table 12.2.1.6.3.3-4: SL-FreqConfigCommon (Table 12.2.1.6.3.3-3)

Derivation path: TS 38.508-1 [4], Table 4.6.6-11			
Information Element	Value/Remark	Comment	Condition
SL-FreqConfigCommon-r16 ::= SEQUENCE {			
sI-BWP-List-r16 SEQUENCE (SIZE (1maxNrofSL-			
BWPs-r16)) OF SL-BWP-ConfigCommon-r16 {			
SL-BWP-ConfigCommon-r16[1]	SL-BWP-ConfigCommon		
}			
}			

Table 12.2.1.6.3.3-5: SL-BWP-ConfigCommon (Table 12.2.1.6.3.3-4)

Derivation path: TS 38.508-1 [4], Table 4.6.6-2			
Information Element	Value/Remark	Comment	Condition
SL-BWP-ConfigCommon-r16 ::= SEQUENCE {			
sl-BWP-PoolConfigCommon-r16	SL-BWP-		
	PoolConfigCommon with		
	condition SIB-12 as		
	defined in Table		
	12.2.1.6.3.3-1		
}			

Table 12.2.1.6.3.3-6: Void

Table 12.2.1.6.3.3-7: SL-ConfigDedicatedNR (Table 12.2.1.6.3.3-11)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7 with condition SCHEDULING				
Information Element	Value/Remark	Comment	Condition	
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {				
sl-FreqInfoToAddModList-r16 SEQUENCE (SIZE	one entry			
(1maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 {				
SL-FreqConfig-r16[1]	SL-FreqConfig as defined in			
	Tabe 12.2.1.6.3.3-8			
}				
}				

Table 12.2.1.6.3.3-8: SL-FreqConfig (Table 12.2.1.6.3.3-7)

Derivation path: TS 38.508-1 [4], Table 4.6.6-10			
Information Element	Value/Remark	Comment	Condition
SL-FreqConfig-r16 ::= SEQUENCE {			
sl-BWP-ToAddModList-r16 SEQUENCE (SIZE	one entry		
(1maxNrofSL-BWPs-r16)) OF SL-BWP-Config-r16 {			
SL-BWP-Config-r16[1]	SL-BWP-Config as defined in		
	Table 12.2.1.6.3.3-9		
}			
}			

Table 12.2.1.6.3.3-9: SL-BWP-Config (Table 12.2.1.6.3.3-8)
--

Derivation path: TS 38.508-1 [4], Table 4.6.6-1						
Information Element	Value/Remark	Comment	Condition			
SL-BWP-Config-r16 ::= SEQUENCE {						
sl-BWP-PoolConfig-r16 SEQUENCE {						
sl-RxPool-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofRXPool-r16)) OF SL-ResourcePool-r16 {						
SL-ResourcePool-r16[1]	SL-ResourcePool with	entry 1				
	condition RRCReconfig as					
	defined in Table 12.2.1.6.3.3-					
	13					
}						
sl-TxPoolScheduling-r16	Not Present					
sI-TxPoolScheduling-r16 SEQUENCE {						
sl-PoolToAddModList-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofTXPool-r16)) OF SL-						
ResourcePoolConfig-r16 {						
SL-ResourcePoolConfig-r16[1] SEQUENCE {		entry 1				
sl-ResourcePoolID-r16	1					
sl-ResourcePool-r16	SL-ResourcePool with					
	condition RRCReconfig as					
	defined in Table 12.2.1.6.3.3-					
	13					
}						
}						
}						
sl-TxPoolExceptional-r16	Not Present					
}						
}						

Table 12.2.1.6.3.3-10: RRCReconfigurationComplete (step 12, Table 12.2.1.6.3.2-3)

Derivation path: TS 38.508-1 [4], Table 4.6.1-14

Table 12.2.1.6.3.3-11: RRCReconfiguration-HO (step 11, Table 12.2.1.6.3.2-3)

Derivation path: TS 38.508-1 [4], Table 4.8.1-1A with condition RBConfig_KeyChange							
Information Element	Value/Remark	Comment	Condition				
RRCReconfiguration ::= SEQUENCE {							
criticalExtensions CHOICE {							
rrcReconfiguration SEQUENCE {							
nonCriticalExtension SEQUENCE {							
masterCellGroup	CellGroupConfig						
nonCriticalExtension SEQUENCE {							
nonCriticalExtension SEQUENCE {							
nonCriticalExtension SEQUENCE {							
sl-ConfigDedicatedNR-r16	SL-ConfigDedicatedNR as						
	defined in Table						
	12.2.1.6.3.3-7						
}							
}							
}							
}							
}							
}							
}							

Table 12.2.1.6.3.3-11A: CellGroupConfig (Table 12.2.1.6.3.3-11)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-19 with conditions PCell_change.								
Information Element Value/remark Comment Condition								
CellGroupConfig ::= SEQUENCE {								
spCellConfig SEQUENCE {								
spCellConfigDedicated	ServingCellConfig							
}								
}								

Table 12.2.1.6.3.3-11B: ServingCellConfig (Table 12.2.1.6.3.3-11A)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkDedicated		
	with condition SIDELINK		
}			

Table 12.2.1.6.3.3-12: SidelinkUEInformationNR (step 5, Table 12.2.1.6.3.2-3)

Derivation path: TS 38.508-1 [4], Table 4.6.1-28A with condition SIDELINK_RX

Table 12.2.1.6.3.3-13: sl-ResourcePool (Table 12.2.1.6.3.3-7)

Derivation path: TS 38.508-1 [4], Table 4.6.6-25			
Information Element	Value/Remark	Comment	Condition
SL-ResourcePool-r16 ::= SEQUENCE {			
sl-TimeResource-r16	110000000		SL-
			PRECONF
			IG
sl-TimeResource-r16	0011000000		SIB-12
sl-TimeResource-r16	0000110000		RRCRecon
			fig
}			

12.2.2 Inter-carrier concurrent operation / Sidelink synchronization related procedure

12.2.2.1 Inter-carrier concurrent operation / Sidelink synchronization related procedure / Synchonization reference source (re-)selection

12.2.2.1.1 Test Purpose (TP)

(1)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss }

ensure that $\{$

when { GNSS signal is reliable and a SyncRef UE directly synchronized to GNSS is detected }

then { UE selects GNSS as synchonization reference source }

}

(2)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss }

ensure that {

when { two SyncRef UEs, one directly synchronized to GNSS and the other indirectly synchronized to GNSS, are detected }

then { UE selects the SyncRef UE directly synchronized to GNSS as synchonization reference source }

}

(3)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnss }

ensure that {

when { one SyncRef UE indirectly synchronized to GNSS is detected }

then { UE selects the SyncRef UE indirectly synchronized to GNSS as synchonization reference source }

}

(4)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb }

ensure that {

when { a SyncRef UE directly synchronized to gNB is detected }

then { UE selects serving cell as synchonization reference source }

}

(5)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb in pre-configuration. }

ensure that $\{$

when { two SyncRef UEs, one directly synchronized to gNB and the other indirectly synchronized to gNB, are detected }

then { UE selects the SyncRef UE directly synchrinized to gNB as synchonization reference source
}

}

4807

(6)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb in pre-configuration }

ensure that {

when { GNSS is reliable and one SyncRef UE indirectly synchronized to gNB is detected }

then { UE selects the SyncRef UE indirectly synchrinized to gNB as synchonization reference source }

}

(7)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb in pre-configuration }

ensure that {

when { GNSS is reliable and one SyncRef UE directly synchronized to GNSS is detected }

```
then { UE selects GNSS as synchonization reference source }
```

}

(8)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb in pre-configuration }

ensure that {

when { two SyncRef UEs, one directly synchronized to GNSS and the other indirectly synchronized to GNSS, are detected }

then { UE selects the SyncRef UE directly synchronized to GNSS as synchonization reference source }

}

(9)

with { UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb in pre-configuration. }

ensure that $\{$

when { two SyncRef UEs, one indirectly synchronized to GNSS and the other one neither directly nor indirectly synchronized to GNSS or gNB, are detected }

then { UE select the SyncRef UE indirectly synchronized to GNSS as synchonization reference source }

}

(10)

4808

with { UE configured by upper layer to perform sidelink transmission and is configured with sl-SyncPriority = gnbEnb in pre-configuration }

ensure that {

when { a SyncRef UE which neither directly nor indirectly synchronized to GNSS or gNB is detected }

then { UE selects the SyncRef UE which neither directly nor indirectly synchronized to GNSS or gNB as synchonization reference source }

}

12.2.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.2]

The UE shall perform NR sidelink communication operation only if the conditions defined in this clause are met:

1> if the UE's serving cell is suitable (RRC_IDLE or RRC_INACTIVE or RRC_CONNECTED); and if either the selected cell on the frequency used for NR sidelink communication operation belongs to the registered or equivalent PLMN as specified in TS 24.587 [57] or the UE is out of coverage on the frequency used for NR sidelink communication operation as defined in TS 38.304 [20] and TS 36.304 [27]; or

•••

1> if the UE has no serving cell (RRC_IDLE);

[TS 38.331, clause 5.8.5.1]







Figure 5.8.5.1-2: Synchronisation information transmission for NR sidelink communication, out of coverage

The purpose of this procedure is to provide synchronisation information to a UE.

[TS 38.331, clause 5.8.5.2]

A UE capable of NR sidelink communication and SLSS/PSBCH transmission shall, when transmitting NR sidelink communication, and if the conditions for NR sidelink communication operation are met and when the following conditions are met:

•••

- 1> if out of coverage on the frequency used for NR sidelink communication, and the frequency used to transmit NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-FreqInfoList* within *SIB12*; and has selected GNSS or the cell as synchronization reference as defined in 5.8.6.3:
 - 2> if in RRC_CONNECTED; and if *networkControlledSyncTx* is configured and set to *on*; or

• • •

3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with 5.8.5.3 and TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

1> else:

- 2> for the frequency used for NR sidelink communication, if *syncTxThreshOoC* is included in *SidelinkPreconfigNR*; and the UE is not directly synchronized to GNSS, and the UE has no selected SyncRef UE or the PSBCH-RSRP measurement result of the selected SyncRef UE is below the value of *syncTxThreshOoC*; or
- 2> for the frequency used for NR sidelink communication, if the UE selects GNSS as the synchronization reference source:
 - 3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

[TS 38.331, clause 5.8.5.3]

The UE shall select the SLSSID and the slot in which to transmit SLSS as follows:

•••

- 1> if triggered by NR sidelink communication, and out of coverage on the frequency used for NR sidelink communication, and the concerned frequency is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-FreqInfoList* within *SIB12*:
 - 2> if the UE has selected GNSS as synchronization reference in accordance with 5.8.6.2:

3> select SLSSID 0;

- 3> use *sl-SSB-TimeAllocation1* included in the entry of configured *sl-SyncConfigList* corresponding to the concerned frequency, that includes *txParameters* and *gnss-Sync*;
- 3> select the slot(s) indicated by *sl-SSB-TimeAllocation1*;
- 2> if the UE has selected a cell as synchronization reference in accordance with 5.8.6.2:

- 3> select the SLSSID included in the entry of configured *sl-SyncConfigList* corresponding to the concerned frequency, that includes *txParameters* and does not include *gnss-Sync*;
- 3> select the slot(s) indicated by *sl-SSB-TimeAllocation1*;
- 1> else if triggered by NR sidelink communication and the UE has GNSS as the synchronization reference:
 - 2> select SLSSID 0;
 - •••

2> else:

3> select the slot(s) indicated by *sl-SSB-TimeAllocation1*;

1> else:

- 2> select the synchronisation reference UE (i.e. SyncRef UE) as defined in 5.8.6;
- 2> if the UE has a selected SyncRef UE and *inCoverage* in the *MasterInformationBlockSidelink* message received from this UE is set to *true*; or
- 2> if the UE has a selected SyncRef UE and *inCoverage* in the *MasterInformationBlockSidelink* message received from this UE is set to *false* while the SLSS from this UE is part of the set defined for out of coverage, see TS 38.211 [16]:
 - 3> select the same SLSSID as the SLSSID of the selected SyncRef UE;
 - 3> select the slot in which to transmit the SLSS according to the *sl-SSB-TimeAllocation1* or *sl-SSB-TimeAllocation2* included in the preconfigured sidelink parameters corresponding to the concerned frequency, such that the timing is different from the SLSS of the selected SyncRef UE;

•••

2> else if the UE has a selected SyncRef UE:

- 3> select the SLSSID from the set defined for out of coverage having an index that is 336 more than the index of the SLSSID of the selected SyncRef UE, see TS 38.211 [16];
- 3> select the slot in which to transmit the SLSS according to *sl-SSB-TimeAllocation1* or *sl-SSB-TimeAllocation2* included in the preconfigured sidelink parameters corresponding to the concerned frequency, such that the timing is different from the SLSS of the selected SyncRef UE;

...

[TS 38.331, clause 5.8.6.2]

The UE shall:

1> if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within *SIB12*, and *sl-SyncPriority* is configured for the concerned frequency and set to *gnbEnb*:

2> select a cell as the synchronization reference source as defined in 5.8.6.3:

1> else if the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within *SIB12*, and *sl-SyncPriority* for the concerned frequency is not configured or is set to *gnss*, and GNSS is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14]:

2> select GNSS as the synchronization reference source;

•••

1> else:

- 2> perform a full search (i.e. covering all subframes and all possible SLSSIDs) to detect candidate SLSS, in accordance with TS 38.133 [14]
- 2> when evaluating the one or more detected SLSSIDs, apply layer 3 filtering as specified in 5.5.3.2 using the preconfigured *sl-filterCoefficient*, before using the PSBCH-RSRP measurement results;
- 2> if the UE has selected a SyncRef UE:

•••

3> if the PSBCH-RSRP of the current SyncRef UE is less than the minimum requirement defined in TS 38.133 [14]:

4> consider no SyncRef UE to be selected;

•••

2> if the UE has selected cell as the synchronization reference for NR sidelink communication:

- 3> if the PSBCH-RSRP of the candidate SyncRef UE exceeds the minimum requirement defined in TS 38.133 [14] by *sl-SyncRefMinHyst* and the candidate SyncRef UE belongs to a higher priority group than gNB/eNB; or
- 3> if the selected cell is not detected:

4> consider the cell not to be selected;

- 2> if the UE has not selected any synchronization reference:
 - 3> if the UE detects one or more SLSSIDs for which the PSBCH-RSRP exceeds the minimum requirement defined in TS 38.133 [14] by *sl-SyncRefMinHyst* and for which the UE received the corresponding *MasterInformationBlockSidelink* message (candidate SyncRef UEs), or if the UE detects GNSS that is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14], or if the UE detects a cell, select a synchronization reference according to the following priority group order:
 - 4> if *sl-SyncPriority* corresponding to the concerned frequency is set to *gnbEnb*:
 - 5> UEs of which SLSSID is part of the set defined for in coverage, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *true*, starting with the UE with the highest PSBCH-RSRP result (priority group 1);
 - 5> UE of which SLSSID is part of the set defined for in coverage, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCH-RSRP result (priority group 2);
 - 5> GNSS that is reliable in accordance with TS 38.101-1 [15] and TS 38.133 [14] (priority group 3);
 - 5> UEs of which SLSSID is 0, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *true*, or of which SLSSID is 0 and SLSS is transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, starting with the UE with the highest PSBCH-RSRP result (priority group 4);
 - 5> UEs of which SLSSID is 0 and SLSS is not transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCH-RSRP result (priority group 5);

- 5> UEs of which SLSSID is 337 and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCH-RSRP result (priority group 5);
- 5> Other UEs, starting with the UE with the highest PSBCH-RSRP result (priority group 6);
- 4> if *sl-SyncPriority* corresponding to the concerned frequency is set to *gnss*, and *sl-NbAsSync* is set to *true*:
 - 5> UEs of which SLSSID is 0, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *true*, or of which SLSSID is 0 and SLSS is transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, starting with the UE with the highest PSBCH-RSRP result (priority group 1);
 - 5> UEs of which SLSSID is 0 and SLSS is not transmitted on slot(s) indicated by *sl-SSB-TimeAllocation3*, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCHS-RSRP result (priority group 2);
 - 5> UEs of which SLSSID is 337 and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCH-RSRP result (priority group 2);
 - 5> the cell detected by the UE as defined in 5.8.6.3 (priority group 3);
 - 5> UEs of which SLSSID is part of the set defined for in coverage, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *true*, starting with the UE with the highest PSBCH-RSRP result (priority group 4);
 - 5> UE of which SLSSID is part of the set defined for in coverage, and *inCoverage*, included in the *MasterInformationBlockSidelink* message received from this UE, is set to *false*, starting with the UE with the highest PSBCH-RSRP result (priority group 5);
 - 5> Other UEs, starting with the UE with the highest S-RSRP result (priority group 6);

•••

[TS 38.331, clause 5.8.9.4.3]

The UE shall set the contents of the *MasterInformationBlockSidelink* message as follows:

...

- 1> else if out of coverage on the frequency used for NR sidelink communication as defined in TS 38.304 [20]; and the concerned frequency is included in *sl-FreqInfoToAddModList* in *RRCReconfiguration* or in *sl-FreqInfoList* within *SIB12*:
 - 2> set *inCoverage* to *true*;
 - 2> set *reservedBits* to the value of the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SidelinkPreconfigNR* defined in 9.3);
 - 2> set *sl-TDD-Config* to the value representing the same meaning as that is included in the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SL-PreconfigurationNR* defined in 9.3) as described in TS 38.213, clause 16.1 [13];
- 1> else if out of coverage on the frequency used for NR sidelink communication as defined in TS 38.304 [20]; and the UE selects GNSS as the synchronization reference and *sl-SSB-TimeAllocation3* is not configured for the frequency used in *SidelinkPreconfigNR*:

2> set *inCoverage* to *true*;

- 2> set *reservedBits* to the value of the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SidelinkPreconfigNR* defined in 9.3);
- 2> set *sl*-*TDD-Config* to the value representing the same meaning as that is included in the corresponding field included in the preconfigured sidelink parameters (i.e. *sl*-*PreconfigGeneral* in *SL*-*PreconfigurationNR* defined in 9.3) as described in TS 38.213, clause 16.1 [13];

1> else if the UE has a selected SyncRef UE (as defined in 5.8.6):

2> set *inCoverage* to *false*;

2> set sl-TDD-Config and reservedBits to the value of the corresponding field included in the received MasterInformationBlockSidelink;

1> else:

2> set inCoverage to false;

- 2> set *reservedBits* to the value of the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SidelinkPreconfigNR* defined in 9.3);
- 2> set *sl-TDD-Config* to the value representing the same meaning as that is included in the corresponding field included in the preconfigured sidelink parameters (i.e. *sl-PreconfigGeneral* in *SL-PreconfigurationNR* defined in 9.3) as described in TS 38.213, clause 16.1 [13];

1> set *directFrameNumber* and *slotIndex* according to the slot used to transmit the SLSS, as specified in 5.8.5.3;

1> submit the *MasterInformationBlockSidelink* to lower layers for transmission upon which the procedure ends;

[TS 38.331, clause 5.8.12]

When the UE selects GNSS as the synchronization reference source, the DFN, the subframe number within a frame and slot number within a frame used for NR sidelink communication are derived from the current UTC time, by the following formulae:

DFN= Floor (0.1*(Tcurrent –Tref–OffsetDFN)) mod 1024

SubframeNumber= Floor (Tcurrent –Tref–OffsetDFN) mod 10

SlotNumber= Floor ((*Tcurrent* –Tref–*OffsetDFN*)*2^µ) mod (10*2^µ)

Where:

Tcurrent is the current UTC time obtained from GNSS. This value is expressed in milliseconds;

Tref is the reference UTC time 00:00:00 on Gregorian calendar date 1 January, 1900 (midnight between Thursday, December 31, 1899 and Friday, January 1, 1900). This value is expressed in milliseconds;

OffsetDFN is the value sl-OffsetDFN if configured, otherwise it is zero. This value is expressed in milliseconds.

 μ =0/1/2/3 corresponding to the 15/30/60/120 kHz of SCS for SL, respectively.

NOTE 1: In case of leap second change event, how UE obtains the scheduled time of leap second change to adjust *Tcurrent* correspondingly is left to UE implementation. How UE handles to avoid the sudden discontinuity of DFN is left to UE implementation.

NOTE 2: Void.

12.2.2.1.3 Test description

12.2.2.1.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE 1, 2, 3, 4 and 5 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 transmits SL-SSB with SLSSID = 3, *inCoverage* = true in slots determined by *sl-SSB*-*TimeAllocation1* and NR Cell 1 timing.

- NR-SS-UE 2 transmits SL-SSB with SLSSID = 4, *inCoverage* = false in slots determined by *sl-SSB-TimeAllocation2* and NR Cell 1 timing.

- NR-SS-UE 3 transmits SL-SSB with SLSSID = 0, *inCoverage* = true in slots determined by *sl-SSB*-*TimeAllocation1* and GNSS timing.

- NR-SS-UE 4 transmits SL-SSB with SLSSID = 0, *inCoverage* = false in slots determined by *sl-SSB-TimeAllocation2* and GNSS timing.

- NR-SS-UE 5 transmits SL-SSB with SLSSID = 338, *inCoverage* = false in slots determined by *sl-SSB-TimeAllocation1* and arbitrary timing.

- GNSS simulator

- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.2.1.3.1-1.

Table 12.2.2.1.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{vst}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.2.2.1.3.3-1,	
		Table 12.2.2.1.3.3-1A and Table	
		12.2.2.1.3.3-2	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), GNSS Sync (On) and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.2.2.1.3.2 Test procedure sequence

Table 12.2.2.1.3.2-1 illustrates the sidelink power levels to be applied for NR-SS-UE 1, 2, 3, 4 and 5 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" to "T7", are applied at the point indicated in the Main behaviour description in Table 12.2.2.1.3.2-2.

Table 12.2.2.1.3.2-1: Time instances of NR-SS-UE power level and parameter changes in conducted test environment

	Parameter	Unit	NR-SS-UE	NR-SS-UE	NR-SS-UE	NR-SS-UE	NR-SS-UE	Remark
			1	2	3	4	5	
	NR-SS-UE power	dBm/ SCS	OFF	OFF	-85	OFF	OFF	Priority of NR-SS- UE 3 is lower than
то	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	-	0	-	-	GNSS
	NR-SS-UE	dBm/ SCS	OFF	OFF	-85	-85	OFF	Priority of NR-SS- UF 4 is lower than
T1	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	-	0	0	-	priority of NR-SS-UE 3
	NR-SS-UE power	dBm/ SCS	OFF	OFF	OFF	-85	OFF	Priority of NR Cell is lower than priority of
Т2	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	-	-	0	-	NR-SS-UE 3 when GNSS has the highest priority
	NR-SS-UE power	dBm/ SCS	-85	OFF	OFF	OFF	OFF	Priority of NR-SS- UE 1 is lower than
Т3	EPRE ratio of S-SSS to NR-SS-	dB	0	-	-	-	-	NR Cell.
	NR-SS-UE	dBm/	-85	-85	OFF	OFF	OFF	Priority of NR-SS-
Т4	EPRE ratio of S-SSS to NR-SS- UE power	dB	0	0	-	-	-	priority of NR-SS-UE 1
	NR-SS-UE power	dBm/ SCS	OFF	-85	OFF	OFF	OFF	Priority of GNSS is lower than priority of
Т5	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	0	-	-	-	NR-SS-UE 2 when gNB has the highest priority
	NR-SS-UE power	dBm/ SCS	OFF	OFF	OFF	-85	-85	Priority of NR-SS- UE 5 is lower than
Т6	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	-	-	0	0	priority of NR-SS-UE 4
	NR-SS-UE power	dBm/ SCS	OFF	OFF	OFF	OFF	-85	Priority of UE internal clock is
Т7	EPRE ratio of S-SSS to NR-SS- UE power	dB	-	-	-	-	0	lower than NR-SS- UE 5

Table 12.2.2.1.3.2-2: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to configure sI-SyncPriority = gnss				
2	The UE transmits an	>	NR RRC:	-	-

	RRCReconfigurationComplete message		RRCReconfigurationComplete		
3	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode).				
4	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: UI InformationTransfer	-	-
			COMPLETE		
10	The LIE starts breadeasting continuously		COMPLETE		
4A 5	The SE waits 10 seconds	-	-	-	-
6	Check: Does the LIE transmit SL-SSRs which	-	-	- 1	- D
	catisfy all following conditions?	_	-	<u> </u>	I.
	- SLSSID = 0;				
	- InCoverage = true in SL-MIB;				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index and				
	DFN calculated based on the UTC time				
	obtained from GNSS as specified in TS				
	38.331 [22] clause 5.8.12;				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation1 and GNSS timing;				
	- reserveBits in SL-MIB is consistent with				
	reserveBits in pre-configuration.				
7	The SS powers off GNSS simulator.	-	-	-	-
8	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
_	according to row "T1" in table 12.2.2.1.3.2-1.				
9	The SS waits 10 seconds	-	-	- 1	-
10	Check: Does the UE transmit SL-SSBs which	-	-	2	Р
	satisfy all following conditions?				
	- SI SSID = 0 :				
	$=$ inCoverage = false in SL-MIR ^{\cdot}				
	slotindex and directErameNumber in SL				
	- Solindex and direct raine Number in SL-				
	MIB are consistent with the slot index				
	and DEN OF NR-SS-UE 3;				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation2 and the NR-SS-UE				
	3 timing;				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in SL-MIB of NR-SS-UE 3.				
11	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T2" in table 12.2.2.1.3.2-1.				
12	The SS waits 10 seconds	-	-	-	-
13	Check: Does the UE transmit SL-SSBs which	-	-	3	Р
	satisfy all following conditions?				
	- SLSSID = 336;				
	 inCoverage = false in SL-MIB; 				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 4.				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation1 and the NR-SS-LIF				
	4 timing?				
	- reserveRits in SL-MIR is consistent with				
11	The SS transmits an DDC Deconfiguration	1	NR RRC: RRCPeconfiguration	_	_
14	moscono to configure el Suno Priority - anh			-	-
15	The LIE transmits an				
13	DDCDoconfigurationComplete message	>	DDCDoconfigurationComplete	-	-
16	The SS re-adjusts the ND SS UE newer level				
	according to row "T2" in table 12.2.2.1.2.2.1	-		-	-
17	The SS waits 10 seconds				
12	Check: Does the LIE transmit SL_SSRs which	-		-	- D
1 TO		ı -	1	1 4	Г

	satisfy all following conditions?				
	- SLSSID is consistent with SLSSID in sl-				
	ConfigDedicatedNR;				
	 inCoverage = true in SL-MIB; 				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and SFN of NR Cell 1.				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation1 and the NR Cell 1				
	timing?				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in pre-configuration.				
19	The SS sends an RRCRelease message and	<	NR RRC: RRCRelease	-	-
	powers off NR Cell 1.				
20	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T4" in table 12.2.2.1.3.2-1.				
21	The SS waits 10 seconds	-	-	-	-
22	Check: Does the UE transmit SL-SSBs which	-	-	5	Р
	satisfy all following conditions?				
	- SLSSID is consistent with SLSSID of				
	NR-SS-UE 1;				
	- inCoverage = false in SL-MIB;				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 1;				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation2 and NR-SS-UE 1				
	timing;				
	- reserveBits in SL-MIB is consistent with				
	reserveBits in SL-MIB of NR-SS-UE 1.				
00					
23	The SS powers on GNSS simulator.	-	-	-	-
23 24	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level	-	-	-	-
23 24 25	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds	-	-	-	-
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which		- - -	- - - 6	- - - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions?	- - -	- - -	- - - 6	- - - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SI SSID equals to SI SSID of NR-SS-UE	- - -	- - - -	- - - 6	- - - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336:	- - -	- - -	- - - 6	- - - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB:	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL-	-	- - -	- - - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2:	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl-	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing;	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2.	-	- - -	- - 6	- - P
23 24 25 26	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL-MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl-SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2.	- - - -	- - -	- 6	- - P
23 24 25 26 26 27	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL-MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl-SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1.	- - - -	- - - - -	- 6	- - P
23 24 25 26 26 27 27 28	The SS powers on GNSS simulator.The SS re-adjusts the NR-SS-UE power levelaccording to row "T5" in table 12.2.2.1.3.2-1.The SS waits 10 secondsCheck: Does the UE transmit SL-SSBs whichsatisfy all following conditions?SLSSID equals to SLSSID of NR-SS-UE2 plus 336;inCoverage = false in SL-MIB;slotIndex and directFrameNumber in SL-MIB are consistent with the slot indexand DFN of NR-SS-UE 2;transmitted in slots determined by sl-SSB-TimeAllocation1 and NR-SS-UE 2timing;reserveBits in SL-MIB is consistent withreserveBits in SL-MIB of NR-SS-UE 2.The SS re-adjusts the NR-SS-UE power levelaccording to row "T0" in table 12.2.2.1.3.2-1.The SS waits 10 seconds	- - - - - -	- - - - -	- - 6 - -	- - P -
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which	- - - - - - - - - -	- - - - - - - - - - -	- - 6 - - 7	- - P - - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL-MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl-SSB-TimeAllocation1 and NR-SS-UE 2 timing; reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions?	- - - - - - -	- - - - - - - -	- - 6 - - 7	- - P - - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0;	- - - - - - - -	- - - - - - - - -	- - 6 - - 7	- - P - - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB;	- - - - - - -	- - - - - - - - -	- - 6 - - 7	- - P - - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB; - slotIndex and directFrameNumber in SL-	- - - - - - -	- - - - - - - - -	- - 6 - - 7	- - P - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index	- - - - - -	- - - - - - - - - - -	- - 6 - - 7	- P P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN calculated based on the UTC	- - - - - - - -	- - - - - - - - - - - -	- - 6 - - 7	- P P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN calculated based on the UTC time obtained from GNSS as specified in	- - - - - - -		- - 6 - - 7	- - P - - P
23 24 25 26 26 27 27 28 29	The SS powers on GNSS simulator. The SS re-adjusts the NR-SS-UE power level according to row "T5" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID equals to SLSSID of NR-SS-UE 2 plus 336; - inCoverage = false in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN of NR-SS-UE 2; - transmitted in slots determined by sl- SSB-TimeAllocation1 and NR-SS-UE 2 timing; - reserveBits in SL-MIB is consistent with reserveBits in SL-MIB of NR-SS-UE 2. The SS re-adjusts the NR-SS-UE power level according to row "T0" in table 12.2.2.1.3.2-1. The SS waits 10 seconds Check: Does the UE transmit SL-SSBs which satisfy all following conditions? - SLSSID = 0; - inCoverage = true in SL-MIB; - slotIndex and directFrameNumber in SL- MIB are consistent with the slot index and DFN calculated based on the UTC time obtained from GNSS as specified in TS 38.331 [22] clause 5.8.12;	- - - - - - -		- - 6 - - 7	- - P - - - P

	SSB-TimeAllocation1 and GNSS timing;				
	- reserveBits in SL-MIB is consistent with				
	reserveBits in pre-configuration.				
30	The SS powers off GNSS simulator.	-	-	-	-
31	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in table 12.2.2.1.3.2-1.				
32	The SS waits 10 seconds	-	-	-	-
33	Check: Does the UE transmit SL-SSBs which	-	-	8	Р
	satisfy all following conditions?				
	- SLSSID = 0;				
	 inCoverage = false in SL-MIB; 				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 3:				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation2 and NR-SS-UE 3				
	timina:				
	- reserveBits in SI -MIB is consistent with				
	reserveBits in SL-MIB of NR-SS-UE 3				
34	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T6" in table 12.2.2.1.3.2-1.				
35	The SS waits 10 seconds	-	-	-	-
36	Check: Does the UE transmit SL-SSBs which	-	-	9	Р
	satisfy all following conditions?				
	- SLSSID = 336;				
	 inCoverage = false in SL-MIB; 				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 4;				
	- transmitted in slots determined by sl-				
	SSB-TimeAllocation1 and NR-SS-UE 4				
	timing;				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in SL-MIB of NR-SS-UE 4.				
37	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T7" in table 12.2.2.1.3.2-1.				
38	The SS waits 10 seconds	-	-	-	-
39	Check: Does the UE transmit SL-SSBs which	-	-	10	Р
	satisfy all following conditions?				
	 SLSSID is consistent with SLSSID of 				
	NR-SS-UE 5;				
	 inCoverage = false in SL-MIB; 				
	- slotIndex and directFrameNumber in SL-				
	MIB are consistent with the slot index				
	and DFN of NR-SS-UE 5;				
	 transmitted in slots determined by sl- 				
	SSB-TimeAllocation2 and NR-SS-UE 5				
	timing;				
	 reserveBits in SL-MIB is consistent with 				
	reserveBits in SL-MIB of NR-SS-UE 5.				
40	The SS triggers UE to open UE test loop mode	-	-	-	-
	E.				
	NOTE: Opening of UE test loop mode E may				
	be performed by MMI or AT command				
	(+CCUTLE).				
41	Void	-	-	- 1	-

12.2.2.1.3.3 Specific message contents

Table 12.2.2.1.3.3-1: V2X service identifier to default mode of communication mapping rule (Preconfiguration, UE under test)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-53			
Information Element	Value/remark	Comment	Condition
DMC	'10'B	Default mode of	
		communication is	
		set to broadcast	

Table 12.2.2.1.3.3-1A: SL-SDAP-Config (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-30						
Information Element	Value/remark	Comment	Condition			
SL-SDAP-Config-r16 ::= SEQUENCE {						
sl-CastType-r16	broadcast					
}						

Table 12.2.2.1.3.3-2: SL-SyncConfig (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-31			
Information Element	Value/remark	Comment	Condition
SL-SyncConfig-r16 ::= SEQUENCE {			
sl-SSID-r16	Not present		
txParameters-r16 SEQUENCE {			
syncTxThreshOoC-r16	13	actual threshold is	
		+infinity	
}			
}			

Table 12.2.2.1.3.3-3: RRCReconfiguration (Table 12.2.2.1.3.2-2, Step 1 and 14)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
sl-ConfigDedicatedNR-r16 CHOICE {					
setup	SL-ConfigDedicatedNR-	Table			
	r16	12.2.2.1.3.3-4			
}					
}					
}					
}					
}					
}					
}					
}					

Table 12.2.2.1.3.3-4: SL-ConfigDedicatedNR (Table 12.2.2.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-7 with condition SELECTED					
Information Element	Value/remark	Comment	Condition		
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {					
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {					
sl-FreqInfoToAddModList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 {					
SL-FreqConfig-r16[1] SEQUENCE {	SL-FreqConfig-r16	entry 1			
sl-SyncConfigList-r16 SEQUENCE (SIZE	1 entry				
(1maxSL-SyncConfig-r16)) OF SL-SyncConfig-r16 {					
SL-SyncConfig-r16[1] SEQUENCE {		entry 1			
sl-SSID-r16	2				
}					
}					
sl-SyncPriority-r16	gnss		Step 1		
	gnbEnb		Step 14		
}					
}					
networkControlledSyncTx-r16	on				
}					
}					

Table 12.2.2.1.3.3-5: CLOSE UE TEST LOOP (Table 12.2.2.1.3.2-2, Step 3)

Derivation Path: 36.508 [7] Table 4.7A-3 with condition UE TEST LOOP MODE E(V2X Transmission)						
Information Element Value/remark Comment						
UE test loop mode E LB setup						
Communication Transmit or Receive	00000001	'01' indicates V2X UE				
		triggered to transmit NR				
sidelink communication						
		with single spatial layer.				

Table 12.2.2.1.3.3-6: MasterInformationBlockSidelink (NR-SS-UE 1, 2, 3, 4 and 5)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1						
Information Element	Value/remark	Comment	Condition			
MasterInformationBlockSidelink ::= SEQUENCE {						
inCoverage-r16	true		NR-SS-UE 1, 3			
	false		NR-SS-UE 2, 4,			
			5			
directFrameNumber-r16	DFN		NR-SS-UE 3, 4			
	determined					
	based on the					
	formula given in					
	38.331 [22]					
	clause 5.8.12.					
	SFN of NR Cell		NR-SS-UE 1, 2,			
	1		5			
slotIndex-r16	slot index		NR-SS-UE 3, 4			
	determined					
	based on the					
	formula given in					
	38.331 [22]					
	clause 5.8.12.					
	slot index of NR		NR-SS-UE 1, 2,			
	Cell 1		5			
reservedBits-r16	01		NR-SS-UE 1, 3			
	10		NR-SS-UE 2, 4			

	11	NR-SS-UE 5
}		

Table 12.2.2.1.3.3-7: MasterInformationBlockSidelink (Table 12.2.2.1.3.2-2, step 6, 10, 13, 18, 22, 26, 29, 33, 36 and 39 UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition TX					
Information Element	Value/remark	Comment	Condition		
MasterInformationBlockSidelink ::= SEQUENCE {					
inCoverage-r16	true		Step 6, 18, 29		
	false		Step 10, 13, 22, 26,		
			33, 36, 39		
directFrameNumber-r16	DFN determined		Step 6, 10, 13, 29,		
	based on the		33, 36,		
	formula given in				
	38.331 [22]				
	clause 5.8.12				
	SFN of NR Cell		Step 18, 22, 26, 39		
	1				
slotIndex-r16	slot index		Step 6, 10, 13, 29,		
	determined		33, 36,		
	based on the				
	formula given in				
	38.331 [22]				
	clause 5.8.12				
	Slot index of NR		Step 18, 22, 26, 39		
	Cell 1				
reservedBits-r16	00	Same as pre-	Step 6, 18, 29		
		configuration			
	01	Same as NR-SS-	Step 10, 22, 33		
		UE 1			
	10	Same as NR-SS-	Step 13, 26, 36		
		UE 2			
	11	Same as NR-SS-	Step 39		
		UE 3			
}					

12.2.2.2 Inter-carrier concurrent operation / Sidelink synchronization related procedure / SL-SSB transmission Initiation and Cease

12.2.2.1 Test Purpose (TP)

(1)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb, syncTxThreshIC but no networkControlledSyncTx }

ensure that $\{$

when { SS-RSRP of serving cell is higher than syncTxThreshIC }

then { UE does not transmit SL-SSB }

}

(2)

4823

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb, syncTxThreshIC but no networkControlledSyncTx }

ensure that {

```
when { SS-RSRP of serving cell is lower than syncTxThreshIC }
then { UE starts transmitting SL-SSB }
```

```
}
```

(3)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb. }

ensure that $\{$

```
when { UE receives an RRCReconfiguration message with networkControlledSyncTx = off }
```

```
then { UE does not transmit SL-SSB }
```

}

(4)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnbEnb }

```
ensure that {
```

```
when { UE receives an RRCReconfiguration message with networkControlledSyncTx = on }
```

```
then { UE starts transmitting SL-SSB }
```

}

(5)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnssand with syncTxThreshOoC configured in pre-configuration }

ensure that $\{$

when { UE selects a SyncRef UE as synchronization reference sourceand PSBCH-RSRP of the SyncRef
UE is higher than syncTxThreshOoC }

```
then { UE does not transmit SL-SSB }
```

}

(6)

with { UE in connected state. UE configured by upper layer to perform sidelink transmission and configured with sl-SyncPriority = gnssand with syncTxThreshOoC configured in pre-configuration }

ensure that {

when { UE selects a SyncRef UE as synchronization reference source and PSBCH-RSRP of the SyncRef
UE is lower than syncTxThreshOoC }

```
then { UE starts transmitting SL-SSB }
}
```

12.2.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.2]

The UE shall perform NR sidelink communication operation only if the conditions defined in this clause are met:

1> if the UE's serving cell is suitable (RRC_IDLE or RRC_INACTIVE or RRC_CONNECTED); and if either the selected cell on the frequency used for NR sidelink communication operation belongs to the registered or equivalent PLMN as specified in TS 24.587 [57] or the UE is out of coverage on the frequency used for NR sidelink communication operation as defined in TS 38.304 [20] and TS 36.304 [27]; or

•••

1> if the UE has no serving cell (RRC_IDLE);

[TS 38.331, clause 5.8.5.1]









The purpose of this procedure is to provide synchronisation information to a UE.

[TS 38.331, clause 5.8.5.2]

A UE capable of NR sidelink communication and SLSS/PSBCH transmission shall, when transmitting NR sidelink communication, and if the conditions for NR sidelink communication operation are met and when the following conditions are met:

...

- 1> if out of coverage on the frequency used for NR sidelink communication, and the frequency used to transmit NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-FreqInfoList* within *SIB12*; and has selected GNSS or the cell as synchronization reference as defined in 5.8.6.3:
 - 2> if in RRC_CONNECTED; and if networkControlledSyncTx is configured and set to on; or
 - 2> if *networkControlledSyncTx* is not configured; and for the concerned frequency *syncTxThreshIC* is configured; and the RSRP measurement of the reference cell, selected as defined in 5.8.6.3, for NR sidelink communication transmission is below the value of *syncTxThreshIC*:
 - 3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with 5.8.5.3 and TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

1> else:

2> for the frequency used for NR sidelink communication, if syncTxThreshOoC is included in SidelinkPreconfigNR; and the UE is not directly synchronized to GNSS, and the UE has no selected SyncRef UE or the PSBCH-RSRP measurement result of the selected SyncRef UE is below the value of syncTxThreshOoC; or

•••

3> transmit sidelink SSB on the frequency used for NR sidelink communication in accordance with TS 38.211 [16], including the transmission of SLSS as specified in 5.8.5.3 and transmission of *MasterInformationBlockSidelink* as specified in 5.8.9.4.3;

12.2.2.3 Test description

12.2.2.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 transmits SL-SSB with SLSSID = 0, *inCoverage* = true in slots determined by *sl-SSB*-*TimeAllocation1* and NR Cell 1 timing.

UE:

- UE is authorised to perform NR sidelink communication.

The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1
[4]) except for those listed in Table 12.2.2.3.1-1.

USIM field	Priority	Value	Access Technology Identifier
EFust		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.2.2.3.3-1	
		and Table 12.2.2.3.3-1A	

Table 12.2.2.3.1-1: UE/ USIM configuration

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On) and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.2.2.3.2 Test procedure sequence

Table 12.2.2.3.2-1 illustrates the sidelink power levels to be applied for NR Cell 1 and NR-SS-UE 1 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1", is applied at the point indicated in the Main behaviour description in Table 12.2.2.3.2-2.

Table 12.2.2.3.2-1: Time instances of NR-SS-UE and NR Cell power level and parameter changes in conducted test environment

	Parameter	Unit	NR Cell 1	NR-SS-UE 1	Remark
	SS/PBCH	dBm/	04		The power level to ensure
	SSS EPRE	SCS	-04	-	SS-RSRP of NR Cell 1 is
Т		dBm/	Bm/		higher than syncTxThreshIC
0	NR-33-0E power	SCS -		-94	and PSBCH-RSRP of NR-
	EPRE ratio of S-SSS	dD		0	SS-UE 1 is higher than
	to NR-SS-UE power	uВ	-	0	syncTxThreshOoC
	SS/PBCH	dBm/	00		The power level to ensure
	SSS EPRE	SCS	-90	-	SS-RSRP of NR Cell 1 is
Т	ND CC LIE nouver dBm			106	lower than syncTxThreshIC
1	NR-33-0E power	SCS	-	-100	and PSBCH-RSRP of NR-
	EPRE ratio of S-SSS	dD		0	SS-UE 1 is lower than
	to NR-SS-UE power	uБ	-	0	syncTxThreshOoC

Table 12.2.2.3.2-2: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to configure sI-SyncPriority = gnbEnb				
	and syncTxThreshIC				
2	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
3	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode).				
4	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-

	COMPLETE message		TC: CLOSE UE TEST LOOP		
	.		COMPLETE		
4A	The UE starts broadcasting continuously.	-	-	-	-
5	The SS waits 1 seconds.	-	-	-	-
6	Check: Does the UE transmit any SL-SSBs?	-	-	1	F
7	The SS re-adjusts the NR Cell 1 and NR-SS-	-	-	-	-
	UE power levels according to row "T1" in table				
	12.2.2.3.2-1.				
8	The SS waits 1 seconds	-	-	-	_
9	Check: Does the UE transmit SL-SSBs in slots	-	-	2	Р
	determined by sI-SSB-TimeAllocation1 and NR				
	Cell 1 timing?				
10	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
10	message to configure				
	networkControlledSynaTy = off				
11	The LIE transmits an				
11	DDCDaganfigurationComplete magaza		NR RRC.	-	-
10	The SS weite 1 accorde		RRCReconiigurationComplete		
12	Checky Deep the UE transmit any SL SSRe2	-	-	-	-
13	The SS transmite on DBCDapanfiguration	-		3	F
14	The SS transmits an RRCReconniguration	<	NR RRC. RRCReconinguration	-	-
	message to configure				
	networkControlledSyncTx = on				
15	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
16	The SS waits 1 seconds.	-	-	-	-
17	Check: Does the UE transmit SL-SSBs in slots	-	-	4	P
	determined by sI-SSB-TimeAllocation1 and NR				
	Cell 1 timing?				
18	The SS re-adjusts the NR Cell 1 and NR-SS-	-	-	-	-
	UE 1 power level according to row "T0" in				
	table 12.2.2.3.2-1.				
19	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to configure sI-SyncPriority = gnss				
20	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
21	The SS waits 10 seconds	-	-	-	-
22	Check: Does the UE transmit any SL-SSBs?	-	-	5	F
23	The SS re-adjusts the NR Cell 1 and NR-SS-	-	-	-	-
	UE 1 power level according to row "T1" in table				
	12.2.2.3.2-1.				
24	The SS waits 2 seconds	-	-	-	-
25	Check: Does the UE transmit SLSSBs in slots	-	-	6	Р
	determined by sI-SSB-TimeAllocation2 and				
	NR-SS-UE 1 timing?				
26	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	- 1	-
	message to open UE test loon mode F.		TC: OPEN UE TEST LOOP		
27	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	- 1	-
	COMPLETE message				
1		1		1	1

12.2.2.3.3 Specific message contents

Table 12.2.2.3.3-1: V2X service identifier to default mode of communication mapping rule (Preconfiguration, UE under test)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-53			
Information Element	Value/remark	Comment	Condition
DMC	'10'B	Default mode of	
		communication is	
		set to broadcast	

Table 12.2.2.3.3-1A: SL-SDAP-Config (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-30			
Information Element	Value/remark	Comment	Condition
SL-SDAP-Config-r16 ::= SEQUENCE {			
sl-CastType-r16	broadcast		
}			

Table 12.2.2.3.3-2: RRCReconfiguraion (Table 12.2.2.3.2-2, Step 1, 10, 14 and 19)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration SEQUENCE {				
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
sl-ConfigDedicatedNR-r16 CHOICE {				
setup	SL-ConfigDedicatedNR-	Table		
	r16	12.2.2.3.3-3		
}				
}				
}				
}				
}				
}				
}				
}				

Table 12.2.2.3.3-3: SL-ConfigDedicatedNR (Table 12.2.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-7 with condition SELECTED				
Information Element	Value/remark	Comment	Condition	
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {				
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {				
sl-FreqInfoToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofFreqSL-r16)) OF SL-FreqConfig-r16 {				
SL-FreqConfig-r16[1] SEQUENCE {		entry 1		
sl-SyncConfigList-r16 SEQUENCE (SIZE	1 entry			
(1maxSL-SyncConfig-r16)) OF SL-SyncConfig-r16 {				
SL-SyncConfig-r16[1] SEQUENCE {		entry 1		
txParameters-r16 SEQUENCE {				
syncTxThreshIC-r16	6	Actual value is -	Step 1	
		120+6*5 = -90 dBm		
	Not present		Step 10, 14, 19	
}				
}				
}				
sl-SyncPriority-r16	gnbEnb		Step 1, 10, 14	
	gnss		Step 19	
}				
}				
networkControlledSyncTx-r16	Not present		Step 1, 19	
	off		Step 10	
	on		Step 14	
}				
}				

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Derivation Path: 36.508 [7] Table 4.7A-3 with condition UE TEST LOOP MODE E(V2X Transmission)				
Information Element	Value/remark	Comment	Condition	
UE test loop mode E LB setup				
Communication Transmit or Receive	00000001	'01' indicates V2X UE		
		triggered to transmit NR		
		sidelink communication		
		with single spatial layer.		

Table 12.2.2.3.3-5: MasterInformationBlockSidelink (NR-SS-UE 1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1			
Information Element	Value/remark	Comment	Condition
MasterInformationBlockSidelink ::= SEQUENCE {			
inCoverage-r16	true		
directFrameNumber-r16	SFN of NR Cell		
	1		
slotIndex-r16	slot index of NR		
	Cell 1		
}			

Table 12.2.2.3.3-6: MasterInformationBlockSidelink (Table 12.2.2.3.2-2, step 9, 17 and 25, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-1 with condition TX				
Information Element	Value/remark	Comment	Condition	
MasterInformationBlockSidelink ::= SEQUENCE {				
inCoverage-r16	true		Step 9, 17	
	false		Step 25	
directFrameNumber-r16	SFN of NR Cell 1			
slotIndex-r16	slot index of NR Cell 1			
}				

- 12.2.3 Inter-carrier concurrent operation / Measurement configuration and reporting via Uu RRC
 - 12.2.3.1 Inter-carrier concurrent operation / Measurement configuration and reporting via Uu RRC / CBR measurement reporting / Event C1 and C2

12.2.3.1.1 Test Purpose (TP)

(1)

with { UE is in NR RRC_CONNECTED state and is configured to perform event C1 triggered CBR measurement reporting on resource pool }

ensure that $\{$

when { CBR measurement result of indicated resource pool satisfies entering condition for event C1
}

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then { UE sends MeasurementReport message to report CBR measurement results of indicated resource pool }

}

(2)

with { UE is in NR RRC_CONNECTED state and the periodical measurement reporting triggered by event C1 is ongoing }

ensure that $\{$

when { CBR measurement result of indicated resource pool satisfies leaving condition for event C1 }

then { UE stops sending MeasurementReport message }

}

(3)

with { UE is in NR RRC_CONNECTED state and is configured to perform event C2 triggered CBR
measurement reporting on resource pool }

ensure that {

when { CBR measurement result of indicated resource pool satisfies entering condition for event C1 $\}$

then { UE sends MeasurementReport message to report CBR measurement results of indicated resource pool }

}

(4)

with { UE is in NR RRC_CONNECTED state and the periodical measurement reporting triggered by event C2 is ongoing }

ensure that {

when { CBR measurement result of indicated resource pool satisfies leaving condition for event C2 }

```
then { UE stops sending MeasurementReport message }
```

}

12.2.3.1.2 Conformance requirements

References: The conformance requirements covered in the current TC are specified in: TS 38.331, clause 5.3.5.3, 5.5.2, 5.5.4.1, 5.5.4.2, 5.5.4.3 and 5.5.5. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.3.5.3]

The UE shall perform the following actions upon reception of the *RRCReconfiguration*, or upon execution of the conditional reconfiguration (CHO or CPC):

...
1> if the RRCReconfiguration message includes the measConfig:
2> perform the measurement configuration procedure as specified in 5.5.2;
...
1> else (RRCReconfiguration was received via SRB1):
2> submit the RRCReconfigurationComplete message via SRB1 to lower layers for transmission using the new configuration;
...
[TS 38.331, clause 5.5.2.1]
...
The UE shall:
...
1> if the received measConfig includes the measObjectToAddModList:
2> perform the measurement object addition/modification procedure as specified in 5.5.2.5;

•••

- 1> if the received *measConfig* includes the *reportConfigToAddModList*:
 - 2> perform the reporting configuration addition/modification procedure as specified in 5.5.2.7;
- 1> if the received *measConfig* includes the *quantityConfig*:
 - 2> perform the quantity configuration procedure as specified in 5.5.2.8;
- •••
- 1> if the received *measConfig* includes the *measIdToAddModList*:

2> perform the measurement identity addition/modification procedure as specified in 5.5.2.3;

••

[TS 38.331, clause 5.5.3.1]

The UE shall:

- 1> whenever the UE has a *measConfig*, perform RSRP and RSRQ measurements for each serving cell for which *servingCellMO* is configured as follows:
 - 2> if the reportConfig associated with at least one measId included in the measIdList within VarMeasConfig contains an rsType set to ssb and ssb-ConfigMobility is configured in the measObject indicated by the servingCellMO:
 - 3> if the *reportConfig* associated with at least one *measId* included in the *measIdList* within *VarMeasConfig* contains a *reportQuantityRS-Indexes* and *maxNrofRS-IndexesToReport* and contains an *rsType* set to ssb:
 - 4> derive layer 3 filtered RSRP and RSRQ per beam for the serving cell based on SS/PBCH block, as described in 5.5.3.3a;

3> derive serving cell measurement results based on SS/PBCH block, as described in 5.5.3.3;

•••

The UE capable of CBR measurement when configured to transmit NR sidelink communication shall:

1> If the frequency used for NR sidelink communication is included in *sl*-*FreqInfoToAddModList* in *sl*-*ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl*-*ConfigCommonNR* within *SIB12*:

•••

- 2> if the UE is in RRC_CONNECTED:
 - 3> if tx-PoolMeasToAddModList is included in VarMeasConfig:
 - 4> perform CBR measurements on each transmission resource pool indicated in the *tx*-*PoolMeasToAddModList*;
 - 3> if *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* is included in sl-ConfigDedicatedNR for the concerned frequency within RRCReconfiguration:
 - 4> perform CBR measurement on pools in *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* if included in *sl-ConfigDedicatedNR* for the concerned frequency within RRCReconfiguration;
 - 3> else if the cell chosen for NR sidelink communication provides SIB12 which includes sl-TxPoolSelectedNormal or sl-TxPoolExceptional for the concerned frequency:
 - 4> perform CBR measurement on pools in *sl-TxPoolSelectedNormal* and *sl-TxPoolExceptional* for the concerned frequency in *SIB12*;

1> else:

2> perform CBR measurement on pools in *sl-TxPoolSelectedNormal* and *sl-TxPoolExceptional* in *SidelinkPreconfigNR* for the concerned frequency.

...

```
[TS 38.331, clause 5.5.4.1]
```

- If AS security has been activated successfully, the UE shall:
 - 1> for each *measId* included in the *measIdList* within *VarMeasConfig*:

•••

- 2> if the corresponding *reportConfig* concerns the reporting for NR sidelink communication (i.e. *reportConfigNR-SL*):
 - 3> consider the transmission resource pools indicated by the *tx-PoolMeasToAddModList* defined within the *VarMeasConfig* for this *measId* to be applicable;

...

- 2> else if the *reportType* is set to *eventTriggered* and if the entry condition applicable for this event, i.e. the event corresponding with the *eventId* of the corresponding *reportConfig* within *VarMeasConfig*, is fulfilled for one or more applicable transmission resource pools for all measurements taken during *timeToTrigger* defined for this event within the *VarMeasConfig*, while the *VarMeasReportList* does not include an measurement reporting entry for this *measId* (a first transmission resource pool triggers the event):
 - 3> include a measurement reporting entry within the VarMeasReportList for this measId;
 - 3> set the numberOfReportsSent defined within the VarMeasReportList for this measId to 0;

- 3> include the concerned transmission resource pool(s) in the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId*;
- 3> initiate the measurement reporting procedure, as specified in 5.5.5;
- 2> else if the *reportType* is set to *eventTriggered* and if the entry condition applicable for this event, i.e. the event corresponding with the *eventId* of the corresponding *reportConfig* within *VarMeasConfig*, is fulfilled for one or more applicable transmission resource pools not included in the *poolsTriggeredList* for all measurements taken during *timeToTrigger* defined for this event within the *VarMeasConfig* (a subsequent transmission resource pool triggers the event):
 - 3> set the numberOfReportsSent defined within the VarMeasReportList for this measId to 0;
 - 3> include the concerned transmission resource pool(s) in the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId*;
 - 3> initiate the measurement reporting procedure, as specified in 5.5.5;
- 2> else if the *reportType* is set to *eventTriggered* and if the leaving condition applicable for this event is fulfilled for one or more applicable transmission resource pools included in the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId* for all measurements taken during *timeToTrigger* defined within the *VarMeasConfig* for this event:
 - 3> remove the concerned transmission resource pool(s) in the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId*;
 - 3> if the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId* is empty:
 - 4> remove the measurement reporting entry within the *VarMeasReportList* for this *measId*;
 - 4> stop the periodical reporting timer for this *measId*, if running

•••

- 2> upon expiry of the periodical reporting timer for this *measId*:
 - 3> initiate the measurement reporting procedure, as specified in 5.5.5.

•••

[TS 38.331, clause 5.5.4.11]

The UE shall:

- 1> consider the entering condition for this event to be satisfied when condition C1-1, as specified below, is fulfilled;
- 1> consider the leaving condition for this event to be satisfied when condition C1-2, as specified below, is fulfilled;

Inequality C1-1 (Entering condition)

Ms-*Hys*>*Thresh*

Inequality C1-2 (Leaving condition)

Ms+*Hys*<*Thresh*

The variables in the formula are defined as follows:

- *Ms* is the measurement result of channel busy ratio of the transmission resource pool, not taking into account any offsets.
- *Hys* is the hysteresis parameter for this event (i.e. *hysteresis* as defined within *reportConfigNR-SL* for this event).
Thresh is the threshold parameter for this event (i.e. *c1-Threshold* as defined within *reportConfigNR-SL* for this event).

Ms is expressed in decimal from 0 to 1 in steps of 0.01.

Hys is expressed is in the same unit as *Ms*.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, clause 5.5.4.12]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition C2-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition C2-2, as specified below, is fulfilled;

Inequality C2-1 (Entering condition)

Ms+*Hys*<*Thresh*

Inequality C2-2 (Leaving condition)

Ms-*Hys*>*Thresh*

The variables in the formula are defined as follows:

Ms is the measurement result of channel busy ratio of the transmission resource pool, not taking into account any offsets.

Hys is the hysteresis parameter for this event (i.e. hysteresis as defined within reportConfigNR-SL for this event).

Thresh is the threshold parameter for this event (i.e. *c2-Threshold* as defined within *reportConfigNR-SL* for this event).

Ms is expressed in decimal from 0 to 1 in steps of 0.01.

Hys is expressed is in the same unit as *Ms*.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, clause 5.5.5.1]



Figure 5.5.5.1-1: Measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the network. The UE shall initiate this procedure only after successful AS security activation.

For the *measId* for which the measurement reporting procedure was triggered, the UE shall set the *measResults* within the *MeasurementReport* message as follows:

1> set the *measId* to the measurement identity that triggered the measurement reporting;

1> for each serving cell configured with *servingCellMO*:

•••

- 2> else:
 - 3> if SSB based serving cell measurements are available:
 - 4> set the *measResultServingCell* within *measResultServingMOList* to include RSRP, RSRQ and the available SINR of the serving cell, derived based on SSB;

•••

1> set the *servCellId* within *measResultServingMOList* to include each NR serving cell that is configured with *servingCellMO*, if any;

•••

- 1> if there is at least one applicable transmission resource pool for NR sidelink communication (for *measResultsSL*):
 - 2> set the *measResultsListSL* to include the CBR measurement results in accordance with the following:
 - 3> if the reportType is set to eventTriggered:
 - 4> include the transmission resource pools included in the *poolsTriggeredList* as defined within the *VarMeasReportList* for this *measId*;

3> else:

- 4> include the applicable transmission resource pools for which the new measurement results became available since the last periodical reporting or since the measurement was initiated or reset;
- 3> if the corresponding *measObject* concerns NR sidelink communication, then for each transmission resource pool to be reported:
 - 4> set the *sl-poolReportIdentity* to the identity of this transmission resource pool;
 - 4> set the *sl-CBR-ResultsNR* to the CBR measurement results on PSSCH and PSCCH of this transmission resource pool provided by lower layers, if available;

•••

- 1> stop the periodical reporting timer, if running;
- 1> if the *numberOfReportsSent* as defined within the *VarMeasReportList* for this *measId* is less than the *reportAmount* as defined within the corresponding *reportConfig* for this *measId*:
 - 2> start the periodical reporting timer with the value of *reportInterval* as defined within the corresponding *reportConfig* for this *measId*;

•••

1> else:

2> submit the *MeasurementReport* message to lower layers for transmission, upon which the procedure ends.

12.2.3.1.3 Test description

12.2.3.1.3.1 Pre-test conditions

^{1&}gt; increment the *numberOfReportsSent* as defined within the *VarMeasReportList* for this *measId* by 1;

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System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE 1 and 2 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 and 2 transmit PSCCH/PSSCH continuously according to NR Cell 1 timing and the transmission pattern shown in figure 12.2.3.1.3.2-1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.3.1.3.2-1.

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.2.5.2.3.3-1	
		and Table 12.2.3.1.3.3-1A	

Table 12.2.3.1.3.2-1: UE/ USIM configuration

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On) and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.2.3.1.3.2 Test procedure sequence

During the test, NR-SS-UE 1 uses all subchannels in every slot with even slot index to transmit PSCCH/PSSCH and NR-SS-UE 2 uses all subchannels in every slot with odd slot index to transmit PSCCH/PSSCH. The PSCCH/PSSCH transmission pattern for NR-SS-UE 1 and 2 are illustrated in Figure 12.2.3.1.3.2-1.

Table 12.2.3.1.3.2-2 illustrates the sidelink power levels to be applied for NR-SS-UE 1 and 2 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" is applied at the point indicated in the Main behaviour description in Table 12.2.3.1.3.2-3.

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Figure 12.2.3.1.3.2-1: PSCCH/PSSCH transmission pattern for NR-SS-UE 1 and 2

Table 12.2.3.1.3.2-2: Time instances of NR-SS-UE power level and parameter changes in conducted
test environment

	Parameter	Unit	NR-SS-UE 1	NR-SS-UE 2	Remark
то	NR-SS-UE power	dBm/ SCS	-85	-85	The power level that both SL- RSSI of NR-SS-UE 1 and NR- SS-UE 2 are above sI-ThreshS-
10	SL-RSSI	dBm/ subchannel	-74.2	-74.2	RSSI-CBR (SL CBR = 100%)
	NR-SS-UE power	dBm/ SCS	-85	-101	The power level that SL-RSSI of NR-SS-UE 1 is above sl- ThreshS-RSSI-CBR and SL-
T1	SL-RSSI	dBm/ subchannel	-74.2	-90.2	RSSI of NR-SS-UE 2 is below sI-ThreshS-RSSI-CBR (SL CBR = 50%)

Table 12.2.3.1.3.2-3: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message	1	
1	The UE transmits a SidelinkUEInformationNR	>	NR RRC:	-	-
	message to request resources for transmission		SidelinkUEInformationNR		
	of NR sidelink communication.				
2	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in Table 12.2.3.1.3.2-2				
	to achieve 50% congestion.				
3	SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with sl-ConfigDedicatedNR to				
	configure transmission resources.				
4	UE transmits an RRCReconfigurationComplete	>	NR RRC:		
	message.		RRCReconfigurationComplete		
5	SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with measConfig to setup event C1				
	triggered CBR measurement and reporting.				
6	UE transmits an RRCReconfigurationComplete	>	NR RRC:		
	message.		RRCReconfigurationComplete		
7	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	1	F
	MeasurementReport message in the following				
	5s?				
8	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T0" in Table 12.2.3.1.3.2-2				
	to achieve 100% congestion.				
9	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	1	Р
	MeasurementReport message with the				
	measured CBR value for indicated resource				
	pool?				
10	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in Table 12.2.3.1.3.2-2				
	to achieve 50% congestion.				
11	SS-NW waits for 2s	-	-	-	-
12	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	2	F
	MeasurementReport message in the following				
	5s?				
13	SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message with measConfig to release event C1				
	and setup event C2 triggered CBR				
	measurement and reporting.				
14	UE transmits an RRCReconfigurationComplete	>	NR RRC:		
	message.		RRCReconfigurationComplete		
15	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	3	Р
	MeasurementReport message with the				
	measured CBR value for indicated resource				
	pool?				
16	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T0" in Table 12.2.3.1.3.2-2				
	to achieve 100% congestion.				
17	SS-NW waits for 2s	-	-	-	-
18	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	4	F
	MeasurementReport message in the following				
	5s?				

12.2.3.1.3.3 Specific message contents

Table 12.2.3.1.3.3-1: V2X service identifier to default mode of communication mapping rule (Preconfiguration, UE under test)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-53			
Information Element	Value/remark	Comment	Condition
DMC	'10'B	Default mode of	
		communication is	
		set to broadcast	

Table 12.2.3.1.3.3-1A: SL-SDAP-Config (Pre-configuration, UE under test)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-30			
Information Element	Value/remark	Comment	Condition
SL-SDAP-Config-r16 ::= SEQUENCE {			
sl-CastType-r16	broadcast		
}			

Table 12.2.3.1.3.3-2: Physical layer parameters for SCI format 1-A (NR-SS-UE 1 and 2)

Derivation Path: TS 38.508-1 [4] Table 4.3.6.2.1.1-1				
Parameter	Value	Value in binary	Condition	
Frequency resource assignment	(N-1)*(N+2)/2 where N is the number of subchannels in resource pool indicated by sl-NumSubchannel. FRIV is calculated according to the formula given in 38.214 clause	-		
	0.1.3			

Table 12.2.3.1.3.3-3: SidelinkUEInformationNR (Table 12.2.3.1.3.2-3, Step 1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-28A with condition SIDELINK_TX				
Information Element	Value/remark	Comment	Condition	
SidelinkUEInformationNR-r16 ::= SEQUENCE {				
criticalExtensions CHOICE {				
sidelinkUEInformationNR-r16 SEQUENCE {				
sI-TxResourceReqList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSL-Dest-r16)) OF SL-TxResourceReq-r16				
{				
SL-TxResourceReq-r16[1] SEQUENCE {		entry 1		
sl-DestinationIdentity-r16	Not checked			
sl-CastType-r16	broadcast			
sl-QoS-InfoList-r16	Not checked			
sl-TypeTxSyncList-r16	Not checked			
}				
}				
}				
}				
}				

Table 12.2.3.1.3.3-4: RRCReconfiguraion (Table 12.2.3.1.3.2-3, Step 3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
sl-ConfigDedicatedNR-r16 CHOICE {			
setup	SL-ConfigDedicatedNR		
	specified in 38.508-1		
	Table 4.6.6-7 with		
	condition SELECTED		
}			
}			
}			
}			
}			
}			
}			
}			

Table 12.2.3.1.3.3-5: SL-ResourcePool (Table 12.2.3.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-25			
Information Element	Value/remark	Comment	Condition
SL-ResourcePool-r16 ::= SEQUENCE {			
sl-ThreshS-RSSI-CBR-r16	15	actual threshold =	
		-112+15*2 = -82	
		dBm	
}			

Table 12.2.3.1.3.3-6: RRCReconfiguraion (Table 12.2.3.1.3.2-3, Step 5 and 13)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition NR_MEAS				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration SEQUENCE {				
measConfig	MeasConfig-1	Table	Step 5	
		12.2.3.1.3.3-7		
	MeasConfig-2	Table	Step 13	
		12.2.3.1.3.3-9		
}				
}				
}				

Table 12.2.3.1.3.3-7: MeasConfig-1 (Table 12.2.3.1.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-69			
Information Element	Value/remark	Comment	Condition
MeasConfig ::= SEQUENCE {			
measObjectToAddModList SEQUENCE (SIZE	2 entries		
(1maxNrofObjectId)) OF MeasObjectToAddMod {			
MeasObjectToAddMod[1] SEQUENCE {		Entry 1	
measObjectId	1		
measObject CHOICE {			
measObjectNR	MeasObjectNR	Table	
	-	12.2.3.1.3.3-8	
}			
}			
MeasObjectToAddMod[2] SEQUENCE {		Entry 2	
measObjectId	2		
measObject CHOICE {			
measObjectNR-SL-r16	MeasObjectNR-SL		
}			
}			
}			
reportConfigToAddModList SEOUENCE (SIZE	2 entries		
(1 maxReportConfigId)) OF ReportConfigToAddMod			
ReportConfigToAddMod[1] SEOUENICE /		Entry 1	
reportConfigId	1		
reportConfig CHOICE /	-		
reportConfigNIP_SL_r16	PeportConfigNIP-		
reporteoring MC-SE-110	SL (0.7E) with condition		
	EVENT_CI		
}			
}		Entry 2	
ReportConfigT0AddMod[2] SEQUENCE {	2	Entry 2	
	2		
reportConfigNR-SL-r16	ReportConfigNR-		
	SL(0.75) with condition		
	EVENT_C2		
}			
}			
}			
measIdToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofMeasId)) OF MeasIdToAddMod {			
MeasIdToAddMod[1] SEQUENCE {			
measId	1		
measObjectId	2		
reportConfigId	1		
}			
}			
}			

Table 12.2.3.1.3.3-8: MeasObjectNR (Table 12.2.3.1.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-76			
Information Element	Value/remark	Comment	Condition
MeasObjectNR ::= SEQUENCE {			
ssbFrequency	ARFCN-ValueNR of NR		
	Cell 1		
absThreshSS-BlocksConsolidation	Not present		
}			

Table 12.2.3.1.3.3-9: MeasConfig-2 (Table 12.2.3.1.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-69			
Information Element	Value/remark	Comment	Condition
MeasConfig ::= SEQUENCE {			
measObjectToAddModList	Not present		
reportConfigToAddModList	Not present		
measIdToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofMeasId)) OF MeasIdToAddMod {			
MeasIdToAddMod[1] SEQUENCE {			
measId	1		
measObjectId	2		
reportConfigId	2		
}			
}			
}			

Table 12.2.3.1.3.3-10: MeasurementReport (Table 12.2.3.1.3.2-3, Step 9 and 15)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5A			
Information Element	Value/remark	Comment	Condition
MeasurementReport ::= SEQUENCE {			
criticalExtensions CHOICE {			
measurementReport SEQUENCE {			
measResults SEQUENCE {			
measld	1		
measResultServingMOList	Not checked		
measResultNeighCells	Not present		
measResultsSL-r16 SEQUENCE {			
measResultsListSL-r16 CHOICE {			
measResultNR-SL-r16 SEQUENCE {			
measResultListCBR-NR-r16 SEQUENCE	1 entry		
(SIZE (1 maxNrofSL-PoolToMeasureNR-r16)) OF			
MeasResultCBR-NR-r16 {			
MeasResultCBR-NR[1] SEQUENCE {		Entry 1	
sl-poolReportIdentity-r16	1		
sl-CBR-ResultsNR-r16	(0100)		
}			
}			
}			
}			
}			
}			
}			
}			
}			

12.2.3.2 Inter-carrier concurrent operation / Measurement configuration and reporting via Uu RRC / CBR measurement reporting / Periodical reporting

12.2.3.2.1 Test Purpose (TP)

(1)

with { UE being configured to perform periodical CBR measurement reporting on resource pools }

ensure that {

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when { The first measurement result is available and thereafter every time periodical timer expires }

then { UE triggers CBR measurement reporting }

}

12.2.3.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.5.2.1, 5.5.3.1, 5.5.4.11 and 5.5.5.1. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.5.2.1]

•••

The UE shall:

•••

1> if the received *measConfig* includes the *measObjectToAddModList*:

2> perform the measurement object addition/modification procedure as specified in 5.5.2.5;

•••

1> if the received *measConfig* includes the *reportConfigToAddModList*:

2> perform the reporting configuration addition/modification procedure as specified in 5.5.2.7;

1> if the received *measConfig* includes the *quantityConfig*:

2> perform the quantity configuration procedure as specified in 5.5.2.8;

•••

...

1> if the received *measConfig* includes the *measIdToAddModList*:

2> perform the measurement identity addition/modification procedure as specified in 5.5.2.3;

[TS 38.331, clause 5.5.3.1]

•••

The UE capable of CBR measurement when configured to transmit NR sidelink communication shall:

1> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within *SIB12*:

•••

2> if the UE is in RRC_CONNECTED:

3> if tx-PoolMeasToAddModList is included in VarMeasConfig:

4> perform CBR measurements on each transmission resource pool indicated in the *tx*-*PoolMeasToAddModList*;

- 3> if *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* is included in sl-ConfigDedicatedNR for the concerned frequency within RRCReconfiguration:
 - 4> perform CBR measurement on pools in *sl-TxPoolSelectedNormal*, *sl-TxPoolScheduling* or *sl-TxPoolExceptional* if included in *sl-ConfigDedicatedNR* for the concerned frequency within RRCReconfiguration;
- 3> else if the cell chosen for NR sidelink communication provides *SIB12* which includes *sl*-*TxPoolSelectedNormal* or *sl*-*TxPoolExceptional* for the concerned frequency:
 - 4> perform CBR measurement on pools in *sl-TxPoolSelectedNormal* and *sl-TxPoolExceptional* for the concerned frequency in *SIB12*;

1> else:

2> perform CBR measurement on pools in *sl-TxPoolSelectedNormal* and *sl-TxPoolExceptional* in *SidelinkPreconfigNR* for the concerned frequency.

•••

[TS 38.331, clause 5.5.4.11]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition C1-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition C1-2, as specified below, is fulfilled;

Inequality C1-1 (Entering condition)

Ms-*Hys*>*Thresh*

Inequality C1-2 (Leaving condition)

Ms+*Hys*<*Thresh*

The variables in the formula are defined as follows:

Ms is the measurement result of channel busy ratio of the transmission resource pool, not taking into account any offsets.

Hys is the hysteresis parameter for this event (i.e. hysteresis as defined within reportConfigNR-SL for this event).

Thresh is the threshold parameter for this event (i.e. *c1-Threshold* as defined within *reportConfigNR-SL* for this event).

Ms is expressed in decimal from 0 to 1 in steps of 0.01.

Hys is expressed is in the same unit as *Ms*.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, clause 5.5.5.1]



Figure 5.5.5.1-1: Measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the network. The UE shall initiate this procedure only after successful AS security activation.

For the *measId* for which the measurement reporting procedure was triggered, the UE shall set the *measResults* within the *MeasurementReport* message as follows:

- 1> set the *measId* to the measurement identity that triggered the measurement reporting;
- 1> for each serving cell configured with *servingCellMO*:

•••

2> else:

- 3> if SSB based serving cell measurements are available:
 - 4> set the *measResultServingCell* within *measResultServingMOList* to include RSRP, RSRQ and the available SINR of the serving cell, derived based on SSB;
- •••

1> set the *servCellId* within *measResultServingMOList* to include each NR serving cell that is configured with *servingCellMO*, if any;

•••

- 1> if there is at least one applicable transmission resource pool for NR sidelink communication (for *measResultsSL*):
 - 2> set the *measResultsListSL* to include the CBR measurement results in accordance with the following:
 - 3> if the reportType is set to eventTriggered:
 - 4> include the transmission resource pools included in the *poolsTriggeredList* as defined within the *VarMeasReportList* for this *measId*;

3> else:

- 4> include the applicable transmission resource pools for which the new measurement results became available since the last periodical reporting or since the measurement was initiated or reset;
- 3> if the corresponding *measObject* concerns NR sidelink communication, then for each transmission resource pool to be reported:
 - 4> set the *sl-poolReportIdentity* to the identity of this transmission resource pool;
 - 4> set the *sl-CBR-ResultsNR* to the CBR measurement results on PSSCH and PSCCH of this transmission resource pool provided by lower layers, if available;

•••

1> increment the *numberOfReportsSent* as defined within the *VarMeasReportList* for this *measId* by 1;

- 1> stop the periodical reporting timer, if running;
- 1> if the *numberOfReportsSent* as defined within the *VarMeasReportList* for this *measId* is less than the *reportAmount* as defined within the corresponding *reportConfig* for this *measId*:
 - 2> start the periodical reporting timer with the value of *reportInterval* as defined within the corresponding *reportConfig* for this *measId*;

•••

1> else:

2> submit the *MeasurementReport* message to lower layers for transmission, upon which the procedure ends.

12.2.3.2.3 Test description

12.2.3.2.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A on NR Cell 1, using generic procedure parameters Sidelink (On) and Test Mode (On), Cast Type (Unicast) using NR-SS-UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

12.2.3.2.3.2 Test procedure sequence

Table 12.2.3.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		

0A	The SS transmits a CLOSE UE TEST LOOP message to close UE test loop mode E (Transmit Mode).	<	TC: CLOSE UE TEST LOOP	-	-
0B	The UE transmits a CLOSE UE TEST LOOP	>	TC: CLOSE UE TEST LOOP	-	-
	COMPLETE message.		COMPLETE		
1	Void	-	-	-	-
2	The UE transmits a SidelinkUEInformationNR	>	NR RRC:	-	-
	message to request resources for transmission		SidelinkUEInformationNR		
	of NR sidelink communication within 30s.				
	Note: This step may not happen.				
3	The SS-NW transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration		
	message with sI-ConfigDedicatedNR and				
	MeasConfig to configure resource pool				
	configuration and periodical CBR				
	measurement.				
4	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message.		RRCReconfigurationComplete		
5	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	1	Р
	MeasurementReport message with the				
	measured CBR value for indicated resource				
	pool?				
-	EXCEPTION: Step 6 below is repeated until 3	-	-	-	-
	MeasurementReport messages are received				
	from the UE and Interval between two				
	MeasurementReport is same as the IE				
	reportInterval configured in measConfig.				
6	Check: Does the UE transmit a	>	NR RRC: MeasurementReport	1	Р
	MeasurementReport message with the				
	measured CBR value for indicated resource				
	pool?				
7	The SS transmits an OPEN UE TEST LOOP	<	TC: OPEN UE TEST LOOP	-	-
	message to open UE test loop mode E.				
8	The UE transmits an OPEN UE TEST LOOP	>	TC: OPEN UE TEST LOOP	-	-
	COMPLETE message.		COMPLETE		

12.2.3.2.3.3 Specific message contents

Table 12.2.3.2.3.3-1: RRCReconfiguration (step 3, Table 12.2.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK and NR_MEAS.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
measConfig	MeasConfig		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig		
}			
}			
}			
}			

Table 12.2.3.2.3.3-2: CellGroupConfig

Derivation Path: TS 38.508-1 [4], Table 4.6.1-19.			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig		
}			
}			

Table 12.2.3.2.3.3-3: ServingCellConfig

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkDedicated		
	with condition SIDELINK		
}			

Table 12.2.3.2.3.3-4: Void

Table 12.2.3.2.3.3-5: Void

Table 12.2.3.2.3.3-6: MeasConfig (Table 12.2.3.2.3.3-1)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-69			
Information Element	Value/Remark	Comment	Condition
measConfig ::= SEQUENCE {			
measObjectToAddModList SEQUENCE (SIZE (1	2 entries		
maxNrofObjectId)) OF MeasObjectToAddMod {			
MeasObjectToAddMod[1] SEQUENCE {		entry 1	
measObjectId	1	-	
measObject CHOICE {			
measObjectNR	MeasObjectNR		
}			
}			
MeasObjectToAddMod[2] SEQUENCE {		entry 2	
measObjectId	2		
measObject CHOICE {			
measObjectNR-SL-r16	MeasObjectNR-SL		
}			
}			
}			
reportConfigToAddModList SEQUENCE (SIZE	1 entry		
(1maxReportConfigId)) OF ReportConfigToAddMod			
{			
ReportConfigToAddMod[1] SEQUENCE {		entry 1	
reportConfigId	1		
reportConfigNR-SL-r16	ReportConfigNR-SL-		
	PERIODICAL		
}			
}			
measIdToAddModList SEQUENCE (SIZE (1	1 entry		
maxNrofMeasId)) OF MeasIdToAddMod {			
MeasIdToAddMod[1] SEQUENCE {		entry 1	
measId	1		
measObjectId	2		
reportConfigId	1		
}			
}			
}			
}			

Table 12.2.3.2.3.3-7: MeasObjectNR (Table 12.2.3.2.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-76			
Information Element	Value/remark	Comment	Condition
MeasObjectNR ::= SEQUENCE {			
ssbFrequency	ARFCN-ValueNR of NR		
	Cell 1		
absThreshSS-BlocksConsolidation	Not present		
}			

Table 12.2.3.2.3.3-8: Void

Table 12.2.3.2.3.3-9: ReportConfigNR-SL-PERIODICAL (Table 12.2.3.2.3.3-6)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-142A with condition PERIODICAL			
Information Element	Value/remark	Comment	Condition
ReportConfigNR-SL-r16 ::= SEQUENCE {			
reportType-r16 CHOICE {			
periodical-r16 SEQUENCE {			
reportInterval-r16	ms640		
reportAmount-r16	r4		
}			
}			
}			

Table 12.2.3.2.3.3-10: MeasurementReport (step 5, 6, Table 12.2.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5A			
Information Element	Value/remark	Comment	Condition
MeasurementReport ::= SEQUENCE {			
criticalExtensions CHOICE {			
measurementReport SEQUENCE {			
measResults SEQUENCE {			
measId	1		
measResultServingMOList	Not checked		
measResultNeighCells	Not present		
measResultsSL-r16 SEQUENCE {			
measResultsListSL-r16 CHOICE {			
measResultNR-SL-r16 SEQUENCE {			
measResultListCBR-NR-r16 SEQUENCE	1 entry		
(SIZE (1 maxNrofSL-PoolToMeasureNR-r16)) OF			
MeasResultCBR-NR-r16 {			
MeasResultCBR-NR-r16[1] SEQUENCE {		entry 1	
sl-poolReportIdentity-r16	1		
sl-CBR-ResultsNR-r16	(0100)		
}			
}			
}			
}			
}			
}			
}			
}			
}			

12.2.4 Inter-carrier concurrent operation / Sidelink Reconfiguration via Uu RRC

12.2.4.1 Inter-carrier concurrent operation / Sidelink Reconfiguration via Uu RRC / SL DRB management / transmission side

12.2.4.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and UE having established PC5-RRC connection with peer UE }

ensure that $\{$

when { UE receives an RRCReconfiguration message to establish a groupcast SL DRB}

then { UE establishes a SL DRB and sends an RRCReconfigurationComplete message}

}

(2)

with { UE in NR RRC_CONNECTED state and UE having established PC5-RRC connection with peer UE }

ensure that {

when { UE receives an RRCReconfiguration message to establish a unicast SL DRB}

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB addition. After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE establishes the SL DRB}

}

(3)

with { UE in NR RRC_CONNECTED state and UE having established PC5-RRC connection with peer UE }

ensure that {

when { UE receives an RRCReconfiguration message to establish a unicast SL DRB}

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB addition.
After receiving RRCReconfigurationFailureSidelink message from peer UE, UE does not establish the SL
DRB and sends a SidelinkUEInformationNR message to inform about sidelink reconfiguration failure}

}

(4)

with { UE in NR RRC_CONNECTED state, UE having established PC5-RRC connection with peer UE and having established a unicast SL DRB }

ensure that $\{$

when { UE receives an RRCReconfiguration message to modify the unicast SL DRB}

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB modification.
After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE modifies the SL DRB}

}

(5)

with { UE in NR RRC_CONNECTED state, UE having established PC5-RRC connection with peer UE and having established a unicast SL DRB }

ensure that $\{$

when { UE receives an RRCReconfiguration message to reconfigure QoS-flow to SL DRB mapping and after reconfiguration no QoS flow is mapped to the unicast SL DRB}

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate the release of the QoS flows mapped to the SL-DRB. After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE releases the SL DRB} }

(6)

with { UE in NR RRC_CONNECTED state, UE having established PC5-RRC connection with peer UE and having established a unicast SL DRB }

ensure that {

when { UE receives an RRCReconfiguration message to release the unicast SL DRB}

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB release.
After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE releases the SL DRB}

}

12.2.4.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clause 5.8.9.1.2, 5.8.9.1.3, 5.8.9.1.8, 5.8.9.1.9, 5.8.9.1a1, 5.8.9.1a2.Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

- 1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:
 - 2> set the *SLRB-PC5-ConfigIndex* included in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;
- 1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:
 - 2> set the SLRB-Config included in the slrb-ConfigToAddModList, according to the received sl-RadioBearerConfig and sl-RLC-BearerConfig corresponding to the sidelink DRB;

•••

```
[TS 38.331, clause 5.8.9.1.3]
```

The UE shall perform the following actions upon reception of the *RRCReconfigurationSidelink*:

- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
 - 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:
 - 2> for each SLRB-PC5-ConfigIndex value included in the slrb-ConfigToReleaseList that is part of the current UE sidelink configuration;
 - 3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:
 - 2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is not part of the current UE sidelink configuration:
 - 3> if sl-MappedQoS-FlowsToAddList is included:

- 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;
- 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;
- 2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:
 - 3> if sl-MappedQoS-FlowsToAddList is included:
 - 4> add the *SL-PQFI* included in *sl-MappedQoS-FlowsToAddList* to the corresponding sidelink DRB;
 - 3> if sl-MappedQoS-FlowsToReleaseList is included:
 - 4> remove the SL-PQFI included in sl-MappedQoS-FlowsToReleaseList from the corresponding sidelink DRB;
 - 3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:
 - 4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;
 - 3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:
 - 4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;

```
•••
```

[TS 38.331, clause 5.8.9.1.8]

The UE shall perform the following actions upon reception of the RRCReconfigurationFailureSidelink:

1> stop timer T400 for the destination, if running;

- 1> continue using the configuration used prior to corresponding *RRCReconfigurationSidelink* message;
- 1> if UE is in RRC_CONNECTED:
 - 2> perform the sidelink UE information for NR sidelink communication procedure, as specified in 5.8.3.3 or sub-clause 5.10.15 in TS 36.331 [10];

[TS 38.331, clause 5.8.9.1.9]

The UE shall perform the following actions upon reception of the *RRCReconfigurationCompleteSidelink*:

1> stop timer T400 for the destination, if running;

1> consider the configurations in the corresponding *RRCReconfigurationSidelink* message to be applied.

[TS 38.331, clause 5.8.9.1a.1]

For NR sidelink communication, a sidelink DRB release is initiated in the following cases:

1> for groupcast, broadcast and unicast, if *slrb-Uu-ConfigIndex* (if any) of the sidelink DRB is included in *sl-RadioBearerToReleaseList* in *sl-ConfigDedicatedNR*; or

1> for groupcast and broadcast, if no sidelink QoS flow with data indicated by upper layers is mapped to the sidelink DRB for transmission, which is (re)configured by receiving *SIB12* or *SidelinkPreconfigNR*; or

1> for groupcast, broadcast and unicast, if *SL-RLC-BearerConfigIndex* (if any) of the sidelink DRB is included in *sl-RLC-BearerToReleaseList* in *sl-ConfigDedicatedNR*; or

1> for unicast, if no sidelink QoS flow with data indicated by upper layers is mapped to the sidelink DRB for transmission, which is (re)configured by receiving *SIB12* or *SidelinkPreconfigNR*, and if no sidelink QoS flow mapped to the sidelink DRB, which is (re)configured by receiving *RRCReconfigurationSidelink*, has data; or

1> for unicast, if SLRB-PC5-ConfigIndex (if any) of the sidelink DRB is included in slrb-ConfigToReleaseList in RRCReconfigurationSidelink or if sl-ResetConfig is included in RRCReconfigurationSidelink; or

1> for unicast, when the corresponding PC5-RRC connection is released due to sidelink RLF being detected, according to clause 5.8.9.3; or

1> for unicast, when the corresponding PC5-RRC connection is released due to upper layer request according to clause 5.8.9.5.

For each sidelink DRB, whose sidelink DRB release conditions are met as in sub-clause 5.8.9.1a.1.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

1> for groupcast and broadcast; or

1> for unicast, if the sidelink DRB release was triggered after the reception of the *RRCReconfigurationSidelink* message; or

1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:

2> release the PDCP entity for NR sidelink communication associated with the sidelink DRB;

2> if SDAP entity for NR sidelink communication associated with this sidelink DRB is configured:

3> indicate the release of the sidelink DRB to the SDAP entity associated with this sidelink DRB (TS 37.324 [24], clause 5.3.3);

2> release SDAP entities for NR sidelink communication, if any, that have no associated sidelink DRB as specified in TS 37.324 [24] clause 5.1.2;

1> for groupcast and broadcast; or

1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*:

2> for each *sl-RLC-BearerConfigIndex* included in the received *sl-RLC-BearerToReleaseList* that is part of the current UE sidelink configuration:

3> release the RLC entity and the corresponding logical channel for NR sidelink communication, associated with the *sl-RLC-BearerConfigIndex*.

1> for unicast, if the sidelink DRB release was triggered due to the reception of the *RRCReconfigurationSidelink* message; or

1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:

2> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB;

2> perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if needed.

1> if the sidelink radio link failure is detected for a specific destination:

2> release the PDCP entity, RLC entity and the logical channel of the sidelink DRB for the specific destination.

[TS 38.331, clause 5.8.9.1a.2]

For NR sidelink communication, a sidelink DRB addition is initiated only in the following cases:

1> if any sidelink QoS flow is (re)configured by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* and is to be mapped to one sidelink DRB, which is not established; or

1> if any sidelink QoS flow is (re)configured by *RRCReconfigurationSidelink* and is to be mapped to a sidelink DRB, which is not established;

For NR sidelink communication, a sidelink DRB modification is initiated only in the following cases:

1> if any of the sidelink DRB related parameters is changed by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or *RRCReconfigurationSidelink* for one sidelink DRB, which is established;

For the sidelink DRB, whose sidelink DRB addition conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

1> for groupcast and broadcast; or

1> for unicast, if the sidelink DRB addition was triggered due to the reception of the *RRCReconfigurationSidelink* message; or

1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB addition was triggered due to the configuration received within the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:

2> if an SDAP entity for NR sidelink communication associated with the destination and the cast type of the sidelink DRB does not exist:

3> establish an SDAP entity for NR sidelink communication as specified in TS 37.324 [24] clause 5.1.1;

2> (re)configure the SDAP entity in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;

2> establish a PDCP entity for NR sidelink communication and configure it in accordance with the *sl-PDCP*-*ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with the sidelink DRB;

2> establish a RLC entity for NR sidelink communication and configure it in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, associated with sidelink DRB;

2> if this procedure was due to the reception of a *RRCReconfigurationSidelink* message:

3> configure the MAC entity with a logical channel in accordance with the *sl-MAC-LogicalChannelConfigPC5* received in the *RRCReconfigurationSidelink* associated with the sidelink DRB, and perform the sidelink UE information procedure in sub-clause 5.8.3 for unicast if need;

2> else:

3> configure the MAC entity with a logical channel associated with the sidelink DRB, by assigning a new logical channel identity, in accordance with the *sl-MAC-LogicalChannelConfig* received in the *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*.

NOTE 1: When a sidelink DRB addition is due to the configuration by *RRCReconfigurationSidelink*, it is up to UE implementation to select the sidelink DRB configuration as necessary transmitting parameters for the sidelink DRB, from the received *sl-ConfigDedicatedNR* (if in RRC_CONNECTED), *SIB12* (if in RRC_IDLE/INACTIVE),

Release 17

SidelinkPreconfigNR (if out of coverage) with the same RLC mode as the one configured in *RRCReconfigurationSidelink*.

For the sidelink DRB, whose sidelink DRB modification conditions are met as in sub-clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:

1> for groupcast and broadcast; or

1> for unicast, if the sidelink DRB modification was triggered due to the reception of the *RRCReconfigurationSidelink* message; or

1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB modification was triggered due to the configuration received within the *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:

2> reconfigure the SDAP entity of the sidelink DRB, in accordance with the *sl-SDAP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-SDAP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;

2> reconfigure the PDCP entity of the sidelink DRB, in accordance with the *sl-PDCP-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-PDCP-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;

2> reconfigure the RLC entity of the sidelink DRB, in accordance with the *sl-RLC-ConfigPC5* received in the *RRCReconfigurationSidelink* or *sl-RLC-Config* received in *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR*, if included;

2> reconfigure the logical channel of the sidelink DRB, in accordance with the sl-MAC-LogicalChannelConfigPC5 received in the RRCReconfigurationSidelink or sl-MAC-LogicalChannelConfig received in sl-ConfigDedicatedNR, SIB12, SidelinkPreconfigNR, if included.

The UE shall:

- 1> if a PC5-RRC connection release for a specific destination is requested by upper layers; or
- 1> if the sidelink radio link failure is detected for a specific destination:
 - 2> release the PDCP entity, RLC entity and the logical channel of the sidelink SRB for PC5-RRC message of the specific destination;
 - 2> consider the PC5-RRC connection is released for the destination.
- 1> if PC5-S transmission for a specific destination is terminated in upper layers:
 - 2> release the PDCP entity, RLC entity and the logical channel of the sidelink SRB(s) for PC5-S message of the specific destination;

The UE shall:

- 1> if transmission of PC5-S message for a specific destination is requested by upper layers for sidelink SRB:
 - 2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-S message, as specified in sub-clause 9.1.1.4;
- 1> if a PC5-RRC connection establishment for a specific destination is indicated by upper layers:
 - 2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-RRC message of the specific destination, as specified in sub-clause 9.1.1.4;
 - 2> consider the PC5-RRC connection is established for the destination.

12.2.4.1.3 Test description

12.2.4.1.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1

- System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.

- NR-SS-UE
- NR-SS-UE1: Operating as NR sidelink communication receiving and transmitting device on the resources that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- The UE uses GNSS as the synchronization reference source.

Preamble:

- The UE is in state 3N-B and Test Mode (On) with UE test loop mode E as defined in TS 38.508-1 [4], subclause 4.4A on NR Cell 1 using generic procedure parameter Sidelink (On), Cast Type (Unicast) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.2.4.1.3.2 Test procedure sequence

Table 12.2.4.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
0A	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	MODIFICATION REQUEST to add a QoS		MODIFICATION REQUEST		
	flow				
0B	UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	MODIFICATION ACCEPT message.		MODIFICATION ACCEPT		
1	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to establish a groupcast SL DRB.				
2	Check: Does UE send an	>	NR RRC:	1	Р
	RRCReconfigurationComplete message to		RRCReconfigurationComplete		
	confirm the establishment of the groupcast				
	SL DRB?				
2A	Check: Does the test result of generic test	-	-	1	-
	procedure in TS 38.508-1 [4] subclause				
	4.9.31 indicate that the UE is capable of				
	exchanging IP data on SL DRB established				
	in Step 2?				
3	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to establish a unicast SL DRB				
4	Check: Does UE send an	>	PC5 RRC:	3	Р
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	NR-SS-UE1 to indicate SL DRB addition?		5		
5	NR-SS-UE1 sends an	<	PC5 RRC:	-	-
	RRCReconfigurationFailureSidelink		RRCReconfigurationFailureSidelink		
	message.		3 .		
6	Check: Does UE send a	>	NR RRC: SidelinkUEInformationNR	3	Р
-	SidelinkUEInformationNR message to				
	inform about sidelink reconfiguration				
	failure?				
6A	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	MODIFICATION REQUEST to add a QoS		MODIFICATION REQUEST		
	flow				
6B	UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	MODIFICATION ACCEPT message.		MODIFICATION ACCEPT		
7	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to establish a unicast SL DRB				
8	Check: Does UE send an	>	PC5 RRC:	2	Р
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	NR-SS-UE1 to indicate SL DRB addition?				
9	NR-SS-UE1 sends an	<	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSidelin		
	message.		k .		
10	Check: Does UE send an	>	NR RRC:	2	Р
	RRCReconfigurationComplete message to		RRCReconfigurationComplete		
	confirm the establishment of the unicast SL				
	DRB?				
10	Check: Does the test result of generic test	-	-	2	-
A	procedure in TS 38.508-1 [4] subclause				
	4.9.31 indicate that the UE is capable of				
	exchanging IP data on SL DRB established				
	in Step 10?				
10	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	- 1	-
В	MODIFICATION REOUEST to add a OoS		MODIFICATION REQUEST		
	flow				
10	UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	1-	-
c	MODIFICATION ACCEPT message		MODIFICATION ACCEPT		
11	SS-NW sends an <i>RRCReconfiguration</i>	<	NR RRC: RRCReconfiguration	1-	-
	message to modify the unicast SL DRB		Ĭ		
12	Check: Does UE send an	>	PC5 RRC:	4	Р
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		

	NR-SS-UE1 to indicate SL DRB				
	modification?				
13	NR-SS-UE1 sends an	<	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSidelin		
	message.		k		
14	Check: Does UE send an	>	NR RRC:	4	Р
	RRCReconfigurationComplete message to		RRCReconfigurationComplete		
	confirm the modification of the unicast SL				
	DRB?				
14	Check: Does the test result of generic test	-	-	4	-
A	procedure in TS 38.508-1 [4] subclause				
	4.9.31 indicate that the UE is capable of				
	exchanging IP data on SL DRB modified in				
	Step 14?				
15	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to reconfigure QoS-flow to SL				
	DRB mapping.				
16	Check: Does UE send an	>	PC5 RRC:	5	P
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	NR-SS-UE1 to indicate the release of the				
	QoS flows mapped to the SL-DRB?				
17	NR-SS-UE1 sends an	<	PC5 RRC:		
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSidelin		
	message.		k		
18	Check: Does UE send an	>	NR RRC:	5	P
	RRCReconfigurationComplete message to		RRCReconfigurationComplete		
	confirm the release of the unicast SL DRB?				
19	void	-	-	-	-
20-	Void	-	-	-	-
22					
23	SS-NW sends an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to release the unicast SL DRB				
	established in step 14.				
24	Check: Does UE send an	>	PC5 RRC:	6	P
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
05	NR-SS-UE1 to indicate SL DRB release?				
25	NR-SS-UE1 sends an	<		-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSidelin		
20	message.	\vdash	K ND DDC:		
26	Check: Does UE send an	>		6	2
	RRCRecontigurationComplete message to		RRCReconfigurationComplete		
	confirm the release of the unicast SL DRB?				

12.2.4.1.3.3 Specific message contents

Table 12.2.4.1.3.3-1: RRCReconfiguration (step 1, step 3, step 7, step 11, step 15, step 23, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/Remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
sl-ConfigDedicatedNR-r16 CHOICE {			
setup	sl-ConfigDedicatedNR		step 1
	sl-ConfigDedicatedNR-Add		step 3,
			step 7
	sl-ConfigDedicatedNR-		step11
	Mod		
	sl-ConfigDedicatedNR-		step 15
	QOS Rel		
	sl-ConfigDedicatedNR-Rel		step 23
}			
}			
}			
}			
}			
}			
}			
}			

Table 12.2.4.1.3.3-2: sl-ConfigDedicatedNR (Table 12.2.4.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7 with condition SL-DRB			
Information Element	Value/Remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {			
sl-RLC-BearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxSL-LCID-r16)) OF SL-RLC-			
BearerConfig-r16 {			
SL-RLC-BearerConfig-r16 [1] SEQUENCE {		entry 1	
sl-RLC-BearerConfigIndex-r16	2		
sl-ServedRadioBearer-r16	2		
}			
}			
}			
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxNrofSLRB-r16)) OF SL-			
RadioBearerConfig-r16 {			
SL-RadioBearerConfig-r16 [1] SEQUENCE {		entry 1	
slrb-Uu-ConfigIndex-r16	2		
sl-SDAP-Config-r16 SEQUENCE {			
sl-DefaultRB-r16	false		
sl-MappedQoS-Flows-r16 CHOICE {			
sl-MappedQoS-FlowsListDedicated-r16			
SEQUENCE {			
sl-MappedQoS-FlowsToAddList-r16	1 entry		
SEQUENCE (SIZE (1maxNrofSL-QFIs-r16)) OF SL-			
QoS-FlowIdentity-r16{			
SL-QoS-FlowIdentity-r16 [1]	2	entry 1	
}			
}			
}			
sl-CastType-r16	groupcast		
}			
}			
}			
}			

Table 12.2.4.1.3.3-3: RRCReconfigurationComplete (step 2, step 10, step 14, step 18, step 26, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1-14

Table 12.2.4.1.3.3-4: sl-ConfigDedicatedNR-Add (Table 12.2.4.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7 with condition SL-DRB			
Information Element	Value/Remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {			
sl-RLC-BearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxSL-LCID-r16)) OF SL-RLC-			
BearerConfig-r16 {			
SL-RLC-BearerConfig-r16 [1] SEQUENCE {		entry 1	
sl-RLC-BearerConfigIndex-r16	3		
sl-ServedRadioBearer-r16	3		
}			
}			
}			
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxNrofSLRB-r16)) OF SL-			
RadioBearerConfig-r16 {			
SL-RadioBearerConfig-r16[1] SEQUENCE {		entry 1	
slrb-Uu-ConfigIndex-r16	3		
sl-SDAP-Config-r16 SEQUENCE {			
sl-DefaultRB-r16	false		
sl-MappedQoS-Flows-r16 CHOICE {			
sl-MappedQoS-FlowsListDedicated-r16			
SEQUENCE {			
sl-MappedQoS-FlowsToAddList-r16	1 entry		
SEQUENCE (SIZE (1maxNrofSL-QFIs-r16)) OF SL-			
QoS-FlowIdentity-r16{			
SL-QoS-FlowIdentity-r16 [1]	3	entry 1	
}		-	
}			
}			
}			
}			
}			

Table 12.2.4.1.3.3-5: RRCReconfigurationSidelink (step 4, step 8, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_DRB and TX				
Information Element	Value/Remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
slrb-PC5-ConfigIndex-r16	3			
}				
}				
}				
}				
}				

Table 12.2.4.1.3.3-6: RRCReconfigurationFailureSidelink (step 5, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-5 with condition RX

Table 12.2.5.3.3.3-7: SidelinkUEInformationNR (step 6, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1-28A				
Information Element	Value/Remark	Comment	Condition	
SidelinkUEInformationNR-r16 ::= SEQUENCE {				
criticalExtensions CHOICE {				
sidelinkUEInformationNR-r16 SEQUENCE {				
sl-FailureList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSL-Dest-r16)) OF SL-Failure-r16{				
SL-Failure-r16 [1] SEQUENCE {		entry 1		
sl-DestinationIdentity-r16	Not checked			
sl-Failure-r16	configFailure			
}				
}				
}				
}				
}				

Table 12.2.5.3.3.3-8: RRCReconfigurationCompleteSidelink (step 9, step 13, step 17, step 25, 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

Table 12.2.4.1.3.3-9: sl-ConfigDedicatedNR-Mod (Table 12.2.4.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7			
Information Element	Value/Remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {			
sl-RLC-BearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxSL-LCID-r16)) OF SL-RLC-			
BearerConfig-r16 {			
SL-RLC-BearerConfig-r16 [1] SEQUENCE {		entry 1	
sl-RLC-BearerConfigIndex-r16	3		
sl-ServedRadioBearer-r16	3		
}			
}			
}			
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry		
(SIZE (1maxNrofSLRB-r16)) OF SL-			
RadioBearerConfig-r16 {			
SL-RadioBearerConfig-r16 [1] SEQUENCE {		entry 1	
slrb-Uu-ConfigIndex-r16	3		
sl-SDAP-Config-r16 SEQUENCE {			
sl-DefaultRB-r16	false		
sl-MappedQoS-Flows-r16 CHOICE {			
sl-MappedQoS-FlowsListDedicated-r16			
SEQUENCE {			
sl-MappedQoS-FlowsToAddList-r16	1 entry		
SEQUENCE (SIZE (1maxNrofSL-QFIs-r16)) OF SL-			
QoS-FlowIdentity-r16{			
SL-QoS-FlowIdentity-r16 [1]	4	entry 1	
}			
}			
}			
}			
}			
}			
}			

Table 12.2.4.1.3.3-10: RRCReconfigurationSidelink (step 12, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_DRB and TX			
Information Element	Value/Remark	Comment	Condition
RRCReconfigurationSidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfigurationSidelink-r16 SEQUENCE {			
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {			
SLRB-Config-r16[1] SEQUENCE {		entry 1	
slrb-PC5-ConfigIndex-r16	3		
sl-SDAP-ConfigPC5-r16 SEQUENCE {			
sl-MappedQoS-FlowsToAddList-r16	1 entry		
SEQUENCE (SIZE (1 maxNrofSL-QFIsPerDest-			
r16)) OF SL-PQFI-r16 {			
SL-PQFI-r16 [1]	4	entry 1	
}			
}			
}			
}			
}			
}			
}			

Table 12.2.4.1.3.3-11: sl-ConfigDedicatedNR-QOS_Rel (Table 12.2.4.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7 with condition SL_DRB				
Information Element	Value/Remark	Comment	Condition	
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {				
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {				
sl-RLC-BearerToAddModList-r16	Not present			
}				
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry			
(SIZE (1maxNrofSLRB-r16)) OF SL-				
RadioBearerConfig-r16 {				
SL-RadioBearerConfig-r16[1] SEQUENCE {		entry 1		
slrb-Uu-ConfigIndex-r16	3			
sl-SDAP-Config-r16 SEQUENCE {				
sl-DefaultRB-r16	false			
sl-MappedQoS-Flows-r16 CHOICE {				
sl-MappedQoS-FlowsListDedicated-r16				
SEQUENCE {				
sl-MappedQoS-FlowsToAddList-r16	Not present			
sl-MappedQoS-FlowsToReleaseList-r16	1 entry			
SEQUENCE (SIZE (1maxNrofSL-QFIs-r16)) OF SL-				
QoS-FlowIdentity-r16{				
SL-QoS-FlowIdentity-r16 [1]	4	entry 1		
}				
}				
}				
}				
}				
}				
}				

Table 12.2.4.1.3.3-12: RRCReconfigurationSidelink (step 16, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_DRB and TX				
Information Element	Value/Remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
slrb-PC5-ConfigIndex-r16	3			
sl-SDAP-ConfigPC5-r16 SEQUENCE {				
sl-MappedQoS-FlowsToReleaseList -r16	1 entry			
SEQUENCE (SIZE (1 maxNrofSL-QFIsPerDest-				
r16)) OF SL-PQFI-r16 {				
SL-PQFI-r16 [1]	4	entry 1		
}				
}				
}				
}				
}				
}				
}				

Table 12.2.4.1.3.3-13: sl-ConfigDedicatedNR-Rel (Table 12.2.4.1.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-7			
Information Element	Value/Remark	Comment	Condition
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {			
sI-PHY-MAC-RLC-Config-r16 SEQUENCE {			
sl-RLC-BearerToReleaseList-r16 SEQUENCE	1 entry		
(SIZE (1maxSL-LCID-r16)) OF SL-RLC-			
BearerConfigIndex-r16 {			
SI-RLC-BearerConfigIndex-r16 [1]	3	entry 1	
}			
}			
sl-RadioBearerToReleaseList-r16 SEQUENCE	1 entry		
(SIZE (1maxNrofSLRB-r16)) OF SLRB-Uu-			
ConfigIndex-r16 {			
SLRB-Uu-ConfigIndex-r16 [1]	3	entry 1	
}			
}			

Table 12.2.4.1.3.3-14: RRCReconfigurationSidelink (step 24, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX				
Information Element	Value/Remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-				
r16 {				
SLRB-PC5-ConfigIndex-r16 [1]	3	entry 1		
}				
}				
}				
}				

Table 12.2.4.1.3.3-15: Message DIRECT LINK MODIFICATION REQUEST (step 0A, step 6A, step 10B, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-9 with condition Rx			
Information Element	Value/remark	Comment	Condition
QoS flow descriptions			
PC5 QoS flow description 1			
PQFI	'00 0010'B		step 1A
	'00 0011'B		step 6B
	'00 0100'B		step 10B

Table 12.2.4.1.3.3-16: Message DIRECT LINK MODIFICATION ACCEPT (step 0B, step 6B, step 10C, Table 12.2.4.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-10		
QoS flow descriptions		
PC5 QoS flow description 1		
PQFI	'00 0010'B	step 1B
	'00 0011'B	step 6C
	'00 0100'B	step 10C

12.2.5 Inter-carrier concurrent operation / Measurement configuration and reporting via PC5 RRC

12.2.5.1 Inter-carrier concurrent operation / Measurement configuration and reporting via PC5 RRC / SL-RSRP measurement configuration

12.2.5.1.1 Test Purpose (TP)

(1)

with { UE is on connected state. UE has established PC5 RRC connection with peer UE on unicast sidelink }

ensure that {

when { UE receives an RRCReconfiguration message which provides SL-RSRP measurement configuration. }

then { UE sends a RRCReconfigurationSidelink message to peer UE. }

```
}
```

12.2.5.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.2. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.3.5.3]

The UE shall perform the following actions upon reception of the *RRCReconfiguration*, or upon execution of the conditional reconfiguration (CHO or CPC):

•••

1> if the *RRCReconfiguration* message includes the *sl-ConfigDedicatedNR*:

```
2> perform the sidelink dedicated configuration procedure as specified in 5.3.5.14;
```

- •••
- 1> else (*RRCReconfiguration* was received via SRB1):
 - 2> submit the *RRCReconfigurationComplete* message via SRB1 to lower layers for transmission using the new configuration;
 - •••

[TS 38.331, clause 5.3.5.14]

Upon initiating the procedure, the UE shall:

- •••
- 1> if *sl-MeasConfigInfoToAddModList* is included in *sl-ConfigDedicatedNR* within *RRCReconfiguration*:
 - 2> for each *sl-DestinationIndex* included in the received *sl-MeasConfigInfoToAddModList* that is part of the current stored NR sidelink measurement configuration:
 - 3> reconfigure the entry according to the value received for this *sl-DestinationIndex* from the stored NR sidelink measurement configuration information;
 - 2> for each *sl-DestinationIndex* included in the received *sl-MeasConfigInfoToAddModList* that is not part of the current stored NR sidelink measurement configuration:

3> add a new entry for this *sl-DestinationIndex* to the stored NR sidelink measurement configuration.

[TS 38.331, clause 5.8.9.1.1]



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

Release	17
---------	----

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

•••

- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.

•••

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of RRCReconfigurationSidelink message as follows:

•••

1> set the *sl-MeasConfig* as follows:

- 2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:
 - 3> if UE is in RRC_CONNECTED:
 - 4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;
- •••

The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

••

1> if the *RRCReconfigurationSidelink* message includes the *sl-MeasConfig*:

2> perform the sidelink measurement configuration procedure as specified in 5.8.10;

- 1> else:
 - 2> set the content of the *RRCReconfigurationCompleteSidelink* message;

^{•••}

^{3&}gt; submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;
12.2.5.1.3 Test description

12.2.5.1.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.5.1.3.1-1.

Table 12.2.5.1.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EFUST		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included	
		in V2X data policy over PC5 is	
		defined in Table 12.2.5.1.3.3-1	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Unicast (On), and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.2.5.1.3.2 Test procedure sequence

Table 12.2.5.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to provide sidelink measurement				
	configuration.				
2	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
3	Check: Does the UE transmit an	>	NR PC5 RRC:	1	Р
	RRCReconfigurationSidelink message to NR-		RRCReconfigurationSidelink		
	SS-UE 1 to provide sidelink measurement				
	configuration?				
4	The NR-SS-UE 1 transmits an	<	NR PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		

message to UE. elink

12.2.5.1.3.3 Specific message contents

Table 12.2.5.1.3.3-1: RRCReconfiguraion (Table 12.2.5.1.3.2-1, Step 1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK						
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
sl-ConfigDedicatedNR-r16 CHOICE {						
setup	SL-ConfigDedicatedNR					
	specified in TS 38.508-1					
	[4] Table 4.6.6-7 with					
	condition SL MEAS					
}						
}						
}						
}						
}						
}						
}						
}						

Table 12.2.5.1.3.3-2: RRCReconfigurationSidelink (Table 12.2.5.1.3.2-1, Step 3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX and SL_MEAS						
Information Element	Value/remark	Comment	Condition			
RRCReconfigurationSidelink ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfigurationSidelink-r16 SEQUENCE {						
sl-MeasConfig-r16 CHOICE {						
setup SEQUENCE {						
sl-MeasObjectToRemoveList-r16	Not present					
sl-MeasObjectToAddModList-r16	SL-MeasObjectList					
sl-ReportConfigToRemoveList-r16	Not present					
sl-ReportConfigToAddModList-r16	SL-ReportConfigList with					
	condition PERIODICAL					
sl-MeasIdToRemoveList-r16	Not present					
sl-MeasIdToAddModList-r16	SL-MeasIdList					
sl-QuantityConfig-r16	SL-QuantityConfig					
}						
}						
}						
}						
}						

Table 12.2.5.1.3.3-3: RRCReconfigurationCompleteSidelink(Table 12.2.5.1.3.2-1, Step 4)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

12.2.5.2 Inter-carrier concurrent operation / Measurement configuration and reporting via PC5 RRC / SL-RSRP measurement reporting / Event S1 and S2

12.2.5.2.1 Test Purpose (TP)

(1)

with { UE is on connected state. UE received an RRCReconfigurationSidelink message from peer UE to configure event S1 triggered SL-RSRP measurement reporting. }

ensure that {

```
when { SL-RSRP measurement on peer UE is below event S1 threshold. }
```

```
then { UE doesn't transmit MeasurementReportSidelink message. }
```



(2)

with { UE is on connected state. UE received an RRCReconfigurationSidelink message from peer UE to configure event S1 triggered SL-RSRP measurement reporting. }

ensure that {

```
when { SL-RSRP measurement on peer UE is above event S1 threshold. }
```

```
then { UE transmits an MeasurementReportSidelink message to peer UE. }
```

```
}
```

(3)

with { UE is on connected state. UE received an RRCReconfigurationSidelink message from peer UE to configure event S2 triggered SL-RSRP measurement reporting. }

ensure that {

```
when { SL-RSRP measurement on peer UE is above event S2 threshold. }
```

```
then { UE doesn't transmit MeasurementReportSidelink message. }
```

```
}
```

(4)

with { UE is on connected state. UE received an RRCReconfigurationSidelink message from peer UE to configure event S2 triggered SL-RSRP measurement reporting. }

ensure that $\{$

```
when { SL-RSRP measurement on peer UE is below event S2 threshold. }
```

```
then { UE transmits an MeasurementReportSidelink message to peer UE. }
```

```
}
```

12.2.5.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1, 5.8.10.2, 5.8.10.3, 5.8.10.4 and 5.8.10.5. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

•••

the (re-)configuration of the peer UE to perform NR sidelink measurement and report.

•••

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

•••

1> if the *RRCReconfigurationSidelink* message includes the *sl-MeasConfig*:

2> perform the sidelink measurement configuration procedure as specified in 5.8.10;

•••

1> else:

2> set the content of the RRCReconfigurationCompleteSidelink message;

3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

•••

1> if the *RRCReconfigurationSidelink* message includes the *sl-MeasConfig*:

2> perform the sidelink measurement configuration procedure as specified in 5.8.10;

•••

1> else:

2> set the content of the *RRCReconfigurationCompleteSidelink* message;

3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;

[TS 38.331, clause 5.8.10.2.1]

The UE shall:

•••

1> if the received *sl-MeasConfig* includes the *sl-MeasObjectToAddModList* in the *RRCReconfigurationSidelink*:

2> perform the sidelink measurement object addition/modification procedure as specified in 5.8.10.2.5;

•••

1> if the received *sl-MeasConfig* includes the *sl-ReportConfigToAddModList* in the *RRCReconfigurationSidelink*:

2> perform the sidelink reporting configuration addition/modification procedure as specified in 5.8.10.2.7;

1> if the received *sl-MeasConfig* includes the *sl-QuantityConfig* in the *RRCReconfigurationSidelink*:

2> perform the sidelink quantity configuration procedure as specified in 5.8.10.2.8;

•••

1> if the received *sl-MeasConfig* includes the *sl-MeasIdToAddModList* in the *RRCReconfigurationSidelink*:

2> perform the sidelink measurement identity addition/modification procedure as specified in 5.8.10.2.3;

[TS 38.331, clause 5.8.10.2.3]

The UE shall:

- 1> for each *sl-MeasId* included in the received *sl-MeasIdToAddModList*:
 - 2> if an entry with the matching *sl-MeasId* exists in the *sl-MeasIdList* within the *VarMeasConfigSL*:
 - 3> replace the entry with the value received for this *sl-MeasId*;
 - 2> else:
 - 3> add a new entry for this *sl-MeasId* within the *VarMeasConfigSL*;
 - 2> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 2> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;

[TS 38.331, clause 5.8.10.2.5]

The UE shall:

- 1> for each *sl-MeasObjectId* included in the received *sl-MeasObjectToAddModList*:
 - 2> if an entry with the matching *sl-MeasObjectId* exists in the *sl-MeasObjectList* within the *VarMeasConfigSL*, for this entry:
 - 3> for each *sl-MeasId* associated with this *sl-MeasObjectId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:
 - 4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;
 - 3> reconfigure the entry with the value received for this *sl-MeasObject*;

2> else:

3> add a new entry for the received *sl-MeasObject* to the *sl-MeasObjectList* within *VarMeasConfigSL*.

[TS 38.331, clause 5.8.10.2.7]

The UE shall:

- 1> for each sl-ReportConfigId included in the received sl-ReportConfigToAddModList:
 - 2> if an entry with the matching *sl-ReportConfigId* exists in the *sl-ReportConfigList* within the *VarMeasConfigSL*, for this entry:
 - 3> reconfigure the entry with the value received for this *sl-ReportConfig*;
 - 3> for each *sl-MeasId* associated with this *sl-ReportConfigId* included in the *sl-MeasIdList* within the *VarMeasConfigSL*, if any:
 - 4> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 4> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*;

```
2> else:
```

3> add a new entry for the received *sl-ReportConfig* to the *sl-ReportConfigList* within the *VarMeasConfigSL*.

[TS 38.331, clause 5.8.10.2.8]

The UE shall:

- 1> for each received *sl-QuantityConfig*:
 - 2> set the corresponding parameter(s) in *sl-QuantityConfig* within *VarMeasConfigSL* to the value of the received *sl-QuantityConfig* parameter(s);
- 1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:
 - 2> remove the measurement reporting entry for this *sl-MeasId* from the *VarMeasReportListSL*, if included;
 - 2> stop the periodical reporting timer and reset the associated information (e.g. *sl-TimeToTrigger*) for this *sl-MeasId*.

[TS 38.331, clause 5.8.10.3.1]

The UE shall:

- 1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:
 - 2> if the *sl-MeasObject* is associated to NR sidelink and the *sl-RS-Type* is set to *dmrs*:
 - 3> derive the layer 3 filtered NR sidelink measurement result based on DMRS for the trigger quantity and each measurement quantity indicated in *sl-ReportQuantity* using parameters from the associated *sl-MeasObject*, as described in 5.8.10.3.2.
 - 2> perform the evaluation of reporting criteria as specified in 5.8.10.4.

[TS 38.331, clause 5.8.10.3.3]

The UE shall:

- 1> for each NR sidelink measurement quantity to be derived based on NR sidelink DMRS:
 - 2> derive the corresponding measurement of NR sidelink frequency indicated quantity based on DMRS as described in TS 38.215 [9] in the concerned *sl-MeasObject*;
 - 2> apply layer 3 filtering as described in 5.5.3.2;

[TS 38.331, clause 5.8.10.4.1]

The UE shall:

- 1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:
 - 2> if the *sl-ReportType* is set to *sl-EventTriggered* and if the entry condition applicable for this event, i.e. the event corresponding with the *sl-EventId* of the corresponding *sl-ReportConfig* within *VarMeasConfigSL*, is fulfilled for NR sidelink frequency for all NR sidelink measurements after layer 3 filtering taken during *sl-TimeToTrigger* defined for this event within the *VarMeasConfigSL*, while the *VarMeasReportListSL* does not include a NR sidelink measurement reporting entry for this *sl-MeasId* (a first NR sidelink frequency triggers the event):
 - 3> include a NR sidelink measurement reporting entry within the VarMeasReportListSL for this sl-MeasId;
 - 3> set the *sl-NumberOfReportsSent* defined within the *VarMeasReportListSL* for this *sl-MeasId* to 0;
 - 3> include the concerned NR sidelink frequency in the *sl-FrequencyTriggeredList* defined within the *VarMeasReportListSL* for this *sl-MeasId*;

3> initiate the NR sidelink measurement reporting procedure, as specified in 5.8.10.5;

•••

2> upon expiry of the periodical reporting timer for this *sl-MeasId*:

3> initiate the NR sidelink measurement reporting procedure, as specified in 5.8.10.5.

[TS 38.331, clause 5.8.10.4.2]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition S1-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition S1-2, as specified below, is fulfilled;

1> for this NR sidelink measurement, consider the NR sidelink frequency corresponding to the associated *sl-MeasObject* associated with this event.

Inequality S1-1 (Entering condition)

Ms - Hys > Thresh

Inequality S1-2 (Leaving condition)

Ms + *Hys* < *Thresh*

The variables in the formula are defined as follows:

Ms is the NR sidelink measurement result of the NR sidelink frequency, not taking into account any offsets.

Hys is the hysteresis parameter for this event (i.e. *sl*-*Hysteresis* as defined within *sl*-*ReportConfiq* for this event).

Thresh is the threshold parameter for this event (i.e. *s*1-*Threshold* as defined within *s*1-*ReportConfig* for this event).

Ms is expressed in dBm in case of RSRP.

Hys is expressed in dB.

Thresh is expressed in the same unit as Ms.

[TS 38.331, clause 5.8.10.4.3]

The UE shall:

1> consider the entering condition for this event to be satisfied when condition S2-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition S2-2, as specified below, is fulfilled;

1> for this NR sidelink measurement, consider the NR sidelink frequency indicated by the *sl-MeasObject* associated to this event.

Inequality S2-1 (Entering condition)

Ms + Hys < Thresh

Inequality S2-2 (Leaving condition)

Ms - Hys > Thresh

The variables in the formula are defined as follows:

Ms is the NR sidelink measurement result of the NR sidelink frequency, not taking into account any offsets.

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Hys is the hysteresis parameter for this event (i.e. *sl-Hysteresis* as defined within *sl-ReportConfig* for this event).

Thresh is the threshold parameter for this event (i.e. *s2-Threshold* as defined within *sl-ReportConfig* for this event).

Ms is expressed in dBm in case of RSRP.

Hys is expressed in dB.

Thresh is expressed in the same unit as *Ms*.

[TS 38.331, clause 5.8.10.5.1]



Figure 5.8.10.5.1-1: NR sidelink measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the peer UE associated.

For the *sl-MeasId* for which the NR sidelink measurement reporting procedure was triggered, the UE shall set the *sl-MeasResults* within the *MeasurementReportSidelink* message as follows:

- 1> set the *sl-MeasId* to the measurement identity that triggered the NR sidelink measurement reporting;
- 1> if the *sl-ReportConfig* associated with the *sl-MeasId* that triggered the NR sidelink measurement reporting is set to *sl-EventTriggered* or *sl-Periodical*:
 - 2> set *sl-ResultDMRS* within *sl-MeasResult* to include the NR sidelink DMRS based quantity indicated in the *sl-ReportQuantity* within the concerned *sl-ReportConfig*;
- 1> increment the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSSL* for this *sl-MeasId* by 1;
- 1> stop the periodical reporting timer, if running;
- 1> if the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSL* for this *sl-MeasId* is less than the *sl-ReportAmount* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*:
 - 2> start the periodical reporting timer with the value of *sl-ReportInterval* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*;

1> else:

- 2> if the *sl-ReportType* is set to *sl-Periodical*:
 - 3> remove the entry within the *VarMeasReportListSL* for this *sl-MeasId*;
 - 3> remove this *sl-MeasId* from the *sl-MeasIdList* within *VarMeasConfigSL*;
- 1> submit the *MeasurementReportSidelink* message to lower layers for transmission, upon which the procedure ends.
- 12.2.5.2.3 Test description
- 12.2.5.2.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 keeps transmitting PSCCH/PSSCH in resource pool during the test.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.5.2.3.1-1.

Table 12.2.5.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EFUST		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{v2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included	
		in V2X data policy over PC5 is	
		defined in Table 12.2.5.2.3.3-1	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Unicast (On), and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1.

12.2.5.2.3.2 Test procedure sequence

Table 12.2.5.2.3.2-1 illustrates the sidelink power levels to be applied for NR-SS-UE 1 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" is applied at the point indicated in the Main behaviour description in Table Table 12.2.5.2.3.2-2.

Table 12.2.5.2.3.2-1: Time instances of NR-SS-UE power level and parameter changes in conducted test environment

	Parameter	Unit	NR-SS-UE 1	Remark
	NR-SS-UE power	dBm/ SCS	-85	The power level that entering condition of event S1 and leaving condition of
то	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	event S2 are satisfied: Inequality S1-1 (Entering condition) Ms – Hys > Thresh Inequality S2-2 (Leaving condition) Ms – Hys > Thresh

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	NR-SS-UE power	dBm/ SCS	-101	The power level that entering condition of event S2 and leaving condition of
T1	EPRE ratio of S-SSS to NR-SS-UE power	dB	0	event S1 are satisfied: Inequality S2-1 (Entering condition) Ms + Hys < Thresh Inequality S1-2 (Leaving condition) Ms + Hys < Thresh

Table 12.2.5.2.3.2-2: Main behaviour

St	Procedure		Message Sequence		Verdict
		U - S	Message		
1	The NR-SS-UE 1 transmits an	<	NR PC5 RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	configure event S1 triggered measurement				
	reporting.				
2	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationComplete		
	message				
3	The SS waits for 1 seconds	-	-	-	-
4	Check: Does the UE transmit a	-	-	1	F
	MeasurementReportSidelink message to NR-				
	SS-UE 1 in the following 5 seconds?				
5	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T1" in Table 12.2.5.2.3.2-1.				
6	The SS waits for 1 seconds				
7	Check: Does the UE transmit a	>	NR PC5 RRC:	2	Р
	MeasurementReportSidelink message to NR-		MeasurementReportSidelink		
	SS-UE 1?				
8	The NR-SS-UE 1 transmits an	<	NR PC5 RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	configure event S2 triggered measurement				
	reporting.				
9	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationComplete		
	message				
10	The SS waits for 1 seconds	-	-	-	-
11	Check: Does the UE transmit a	-	-	3	F
	MeasurementReportSidelink message to NR-				
	SS-UE 1 in the following 5 seconds?				
12	The SS re-adjusts the NR-SS-UE power level	-	-	-	-
	according to row "T0" in Table 12.2.5.2.3.2-1.				
13	The SS waits for 1 seconds				
14	Check: Does the UE transmit a	>	NR PC5 RRC:	4	Р
	MeasurementReportSidelink message to NR-		MeasurementReportSidelink		
	SS-UE 1?				

12.2.5.2.3.3 Specific message contents

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with	condition RX and SL_MEAS		
Information Element	Value/remark	Comment	Condition
RRCReconfigurationSidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfigurationSidelink-r16 SEQUENCE {			
sl-MeasConfig-r16 CHOICE {			
setup SEQUENCE {			
sl-MeasObjectToAddModList-r16	SL-MeasObjectList		Step 1
	specified in TS 38.508-1		
	[4] Table 4.6.6-16		
	Not present		Step 8
sl-ReportConfigToAddModList-r16	SL-ReportConfigList (-93)		Step 1
	specified in TS 38.508-1		
	[4] Table 4.6.6-24 with		
	condition EVENT S1		
	SL-ReportConfigList (-93)		Step 8
	specified in TS 38.508-1		
	[4] Table 4.6.6-24 with		
	condition EVENT S2		
sl-MeasIdToAddModList-r16	SL-MeasIdList specified		Step 1
	in TS 38.508-1 [4] Table		
	4.6.6-15		
	Not present		Step 8
sl-QuantityConfig-r16	SL-QuantityConfig		Step 1
	Not present		Step 8
}			
}			
}			
}			
}			

Table 12.2.5.2.3.3-2: RRCReconfigurationCompleteSidelink (Table 12.2.5.2.3.2-2, Step 2 and 9)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-4 with condition TX

Table 12.2.5.2.3.3-3: MeasurementReportSidelink (Table 12.2.5.2.3.2-2, Step 7 and 14)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-2 with condition TX

12.2.5.3 Inter-carrier concurrent operation / Measurement configuration and reporting via PC5 RRC / PSBCH-RSRP measurement reporting / Periodical reporting

12.2.5.3.1 Test Purpose (TP)

(1)

with { UE configured to perform periodical PSBCH-RSRP measurement reporting on SL SSB via PC5 RRC }

ensure that $\{$

when { The first measurement result is available and thereafter $% \left\{ {\left[{{{\rm{s}}_{{\rm{s}}}} \right]} \right\}$ expires}

then { UE triggers PSBCH-RSRP measurement reporting until the total number of measurement reports is 16}

}

12.2.5.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clauses 5.8.1, 5.8.9.1.2, 5.8.9.1.3, 5.8.9.1.9, 5.8.10.2. 1, 5.8.10.3.1, 5.8.10.3.2 and 5.8.10.5.1.Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.1]

The PC5-RRC signalling, as specified in sub-clause 5.8.9, can be initiated after its corresponding PC5 unicast link establishment (TS 23.287 [55]).

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of RRCReconfigurationSidelink message as follows:

1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl*-*ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:

2> set the SLRB-PC5-ConfigIndex included in the slrb-ConfigToReleaseList corresponding to the sidelink DRB;

1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl*-*ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:

2> set the *SLRB-Config* included in the *slrb-ConfigToAddModList*, according to the received *sl-RadioBearerConfig* and *sl-RLC-BearerConfig* corresponding to the sidelink DRB;

1> set the *sl-MeasConfig* as follows:

2> If the frequency used for NR sidelink communication is included in *sl-FreqInfoToAddModList* in *sl-ConfigDedicatedNR* within *RRCReconfiguration* message or included in *sl-ConfigCommonNR* within SIB12:

3> if UE is in RRC_CONNECTED:

4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration information for this destination;

3> if UE is in RRC_IDLE or RRC_INACTIVE:

4> set the *sl-MeasConfig* according to stored NR sidelink measurement configuration received from *SIB12*;

2> else:

3> set the sl-MeasConfig according to the sl-MeasPreconfig in SidelinkPreconfigNR;

1> start timer T400 for the destination associated with the sidelink DRB;

1> set the sl-CSI-RS-Config;

1> set the sl-LatencyBoundCSI-Report,

NOTE 1: How to set the parameters included in *sl-CSI-RS-Config* and *sl-LatencyBoundCSI-Report* is up to UE implementation.

The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

- 1> if the RRCReconfigurationSidelink includes the sl-ResetConfig:
- 2> perform the sidelink reset configuration procedure as specified in 5.8.9.1.10;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToReleaseList:

2> for each *SLRB-PC5-ConfigIndex* value included in the *slrb-ConfigToReleaseList* that is part of the current UE sidelink configuration;

- 3> perform the sidelink DRB release procedure, according to sub-clause 5.8.9.1a.1;
- 1> if the RRCReconfigurationSidelink includes the slrb-ConfigToAddModList:

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is not part of the current UE sidelink configuration:

- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> apply the SL-PQFI included in sl-MappedQoS-FlowsToAddList;
- 3> perform the sidelink DRB addition procedure, according to sub-clause 5.8.9.1a.2;

2> for each *slrb-PC5-ConfigIndex* value included in the *slrb-ConfigToAddModList* that is part of the current UE sidelink configuration:

- 3> if sl-MappedQoS-FlowsToAddList is included:
- 4> add the *SL-PQFI* included in *sl-MappedQoS-FlowsToAddList* to the corresponding sidelink DRB;
- 3> if sl-MappedQoS-FlowsToReleaseList is included:
- 4> remove the *SL-PQFI* included in *sl-MappedQoS-FlowsToReleaseList* from the corresponding sidelink DRB;
- 3> if the sidelink DRB release conditions as described in sub-clause 5.8.9.1a.1.1 are met:
- 4> perform the sidelink DRB release procedure according to sub-clause 5.8.9.1a.1.2;
- 3> else if the sidelink DRB modification conditions as described in sub-clause 5.8.9.1a.2.1 are met:
- 4> perform the sidelink DRB modification procedure according to sub-clause 5.8.9.1a.2.2;
- 1> if the RRCReconfigurationSidelink message includes the sl-MeasConfig:
- 2> perform the sidelink measurement configuration procedure as specified in 5.8.10;
- 1> if the RRCReconfigurationSidelink message includes the sl-CSI-RS-Config:
- 2> apply the sidelink CSI-RS configuration;
- 1> if the RRCReconfigurationSidelink message includes the sl-LatencyBoundCSI-Report:
- 2> apply the configured sidelink CSI report latency bound;

1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):

- 2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;
- 2> set the content of the *RRCReconfigurationFailureSidelink* message;
- 3> submit the RRCReconfigurationFailureSidelink message to lower layers for transmission;

1> else:

2> set the content of the *RRCReconfigurationCompleteSidelink* message;

3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

[TS 38.331, clause 5.8.9.1.9]

The UE shall perform the following actions upon reception of the RRCReconfigurationCompleteSidelink:

1> stop timer T400 for the destination, if running;

1> consider the configurations in the corresponding *RRCReconfigurationSidelink* message to be applied.

[TS 38.331, clause 5.8.10.2]

The UE shall:

1> if the received sl-MeasConfig includes the sl-MeasObjectToRemoveList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement object removal procedure as specified in 5.8.10.2.4;

1> if the received sl-MeasConfig includes the sl-MeasObjectToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement object addition/modification procedure as specified in 5.8.10.2.5;

1> if the received sl-MeasConfig includes the sl-ReportConfigToRemoveList in the RRCReconfigurationSidelink:

2> perform the sidelink reporting configuration removal procedure as specified in 5.8.10.2.6;

1> if the received sl-MeasConfig includes the sl-ReportConfigToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink reporting configuration addition/modification procedure as specified in 5.8.10.2.7;

1> if the received sl-MeasConfig includes the sl-QuantityConfig in the RRCReconfigurationSidelink:

2> perform the sidelink quantity configuration procedure as specified in 5.8.10.2.8;

1> if the received sl-MeasConfig includes the sl-MeasIdToRemoveList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement identity removal procedure as specified in 5.8.10.2.2;

1> if the received sl-MeasConfig includes the sl-MeasIdToAddModList in the RRCReconfigurationSidelink:

2> perform the sidelink measurement identity addition/modification procedure as specified in 5.8.10.2.3;

[TS 38.331, clause 5.8.10.3.1]

A UE shall derive NR sidelink measurement results by measuring one or multiple DMRS associated per PC5-RRC connection as configured by the peer UE associated, as described in 5.8.10.3.2. For all NR sidelink measurement results the UE applies the layer 3 filtering as specified in sub-clause 5.5.3.2, before using the measured results for evaluation of reporting criteria and measurement reporting. In this release, only NR sidelink RSRP can be configured as trigger quantity and reporting quantity.

The UE shall:

1> for each *sl-MeasId* included in the *sl-MeasIdList* within *VarMeasConfigSL*:

2> if the *sl-MeasObject* is associated to NR sidelink and the *sl-RS-Type* is set to *dmrs*:

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3> derive the layer 3 filtered NR sidelink measurement result based on DMRS for the trigger quantity and each measurement quantity indicated in *sl-ReportQuantity* using parameters from the associated *sl-MeasObject*, as described in 5.8.10.3.2.

2> perform the evaluation of reporting criteria as specified in 5.8.10.4.

[TS 38.331, clause 5.8.10.3.2]

The UE may be configured by the peer UE associated to derive NR sidelink RSRP measurement results per PC5-RRC connection associated to the NR sidelink measurement objects based on parameters configured in the *sl-MeasObject* and in the *sl-ReportConfig*.

The UE shall:

1> for each NR sidelink measurement quantity to be derived based on NR sidelink DMRS:

2> derive the corresponding measurement of NR sidelink frequency indicated quantity based on DMRS as described in TS 38.215 [9] in the concerned *sl-MeasObject*;

2> apply layer 3 filtering as described in 5.5.3.2;

[TS 38.331, clause 5.8.10.5.1]



Figure 5.8.10.5.1-1: NR sidelink measurement reporting

The purpose of this procedure is to transfer measurement results from the UE to the peer UE associated.

For the *sl-MeasId* for which the NR sidelink measurement reporting procedure was triggered, the UE shall set the *sl-MeasResults* within the *MeasurementReportSidelink* message as follows:

1> set the *sl-MeasId* to the measurement identity that triggered the NR sidelink measurement reporting;

1> if the *sl*-*ReportConfig* associated with the *sl*-*MeasId* that triggered the NR sidelink measurement reporting is set to *sl*-*EventTriggered* or *sl*-*Periodical*:

2> set *sl-ResultDMRS* within *sl-MeasResult* to include the NR sidelink DMRS based quantity indicated in the *sl-ReportQuantity* within the concerned *sl-ReportConfig*;

1> increment the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSSL* for this *sl-MeasId* by 1;

1> stop the periodical reporting timer, if running;

1> if the *sl-NumberOfReportsSent* as defined within the *VarMeasReportListSL* for this *sl-MeasId* is less than the *sl-ReportAmount* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*:

2> start the periodical reporting timer with the value of *sl-ReportInterval* as defined within the corresponding *sl-ReportConfig* for this *sl-MeasId*;

1> else:

2> if the sl-ReportType is set to sl-Periodical:

3> remove the entry within the *VarMeasReportListSL* for this *sl-MeasId*;

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3> remove this sl-MeasId from the sl-MeasIdList within VarMeasConfigSL;

1> submit the *MeasurementReportSidelink* message to lower layers for transmission, upon which the procedure ends.

- 12.2.5.3.3 Test description
- 12.2.5.3.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE1: Operating as NR sidelink communication transmitting and receiving device on the resources that UE is expected to use for reception and transmission via PC5 interface.
 - NR-SS-UE1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 3N-A as defined in TS 38.508-1 [4], subclause 4.4A on NR Cell 1, using generic procedure parameters Sidelink (On), Cast Type (Unicast) using UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.2.5.3.3.2 Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
0	NR-SS-UE1 transmits SLSS and	<	PC5 RRC: SLSS &	-	-
	MasterInformationBlockSidelink(Note 1).		MasterInformationBlockSidelink		
1	NR-SS-UE1 sends an	<	PC5 RRC:		
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	configure the UE to perform periodical				
	PSBCH-RSRP measurement reporting				
2	UE sends an	>	PC5 RRC:		
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message		elink		
3	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	perform periodical reporting?				
-	EXCEPTION: After the 1st				
	MeasurementReportSidelink message at				
	step 3 is received, step 4 below is repeated				
	until 15 MeasurementReport messages are				
	received from the UE.The interval between				
	two MeasurementReportSidelink shall be				
	as specified by the IE sl-ReportInterval				
4	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	MeasurementReportSidelink message to		MeasurementReportSidelink		
	perform periodical reporting?				
Note	1: UE is using TS 38.508-1 [4] Table 4.6.6-3	31: SL-S	ncConfig parameters to transmit SLS	SS.	

Table 12.2.5.3.3.2-1: Main behaviour

12.2.5.3.3.3 Specific message contents

Table 12.2.5.3.3.3-0: MasterInformationBlockSidelink (step 0, Table 12.2.5.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-1 with condition RX AND NB_SYNC

Table 12.2.5.3.3.3-1: RRCReconfigurationSidelink (step 1, Table 12.2.5.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_MEAS and RX							
Information Element	Value/remark	Comment	Condition				
RRCReconfigurationSidelink ::= SEQUENCE {							
criticalExtensions CHOICE {							
rrcReconfigurationSidelink-r16 SEQUENCE {							
sl-MeasConfig-r16 CHOICE {							
setup SEQUENCE {							
sl-ReportConfigToAddModList-r16	SL-ReportConfigList	Table					
		12.2.5.3.3.3-2					
}							
}							
}							
}							
}							

Table 12.2.5.3.3.3-2: SL-ReportConfigList (Table 12.2.5.3.3.3-1)

Derivation path: TS 38.508-1 [4], Table 4.6.6-24 with condition PERIODICAL			
Information Element	Value/Remark	Comment	Condition
SL-ReportConfigList-r16 ::= SEQUENCE (SIZE	1 entry		
(1maxNrofSL-ReportConfigId-r16)) OF SL-			
ReportConfigInfo-r16 {			
SL-ReportConfigInfo-r16[1] SEQUENCE {		entry 1	
sl-ReportConfig-r16 SEQUENCE {			
sl-ReportType-r16 CHOICE {			
sl-Periodical-r16 SEQUENCE {			
sl-ReportAmount-r16	16		
}			
}			
}			
}			
}			

Table 12.2.5.3.3.3-3: RRCReconfigurationCompleteSidelink (step 2, Table 12.2.5.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition TX

Table 12.2.5.3.3.3-4: MeasurementReportSidelink (step 3, step 4, Table 12.2.5.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-2 with condition TX

12.2.6 Inter-carrier concurrent operation / Sidelink Reconfiguration via PC5 RRC

12.2.6.1 Inter-carrier concurrent operation / Sidelink Reconfiguration via PC5 RRC / SL DRB management / Initiating UE side

12.2.6.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and having established PC5-RRC connection with peer UE }

ensure that {

when { UE is indicated by upper layer to establish a unicast SL DRB }

then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB addition.
After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE establishes the SL DRB }

}

(2)

with { UE in NR RRC_CONNECTED state and having established PC5-RRC connection with peer UE and having established a unicast SL DRB }

ensure that {

when { UE is indicated by upper layer to release the unicast SL DRB }

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then { UE sends a RRCReconfigurationSidelink message to peer UE to indicate SL DRB release.
After receiving RRCReconfigurationCompleteSidelink message from peer UE, UE releases the SL DRB }

}

12.2.6.1.2 Conformance requirements

References: The conformance requirements covered in the current TC are specified in: TS 38.331, clause 5.8.9.1.1, 5.8.9.1.2, 5.8.9.1a.2.1 and 5.8.9.1a.1.1. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]

•••

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

- the release of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.1;
- the establishment of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the modification for the parameters included in *SLRB-Config* of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.
- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

1> for each sidelink DRB that is to be released, according to sub-clause 5.8.9.1a.1.1, due to configuration by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* or by upper layers:

2> set the *SLRB-PC5-ConfigIndex* included in the *slrb-ConfigToReleaseList* corresponding to the sidelink DRB;

- 1> for each sidelink DRB that is to be established or modified, according to sub-clause 5.8.9.1a.2.1, due to receiving *sl-ConfigDedicatedNR*, *SIB12* or *SidelinkPreconfigNR*:
 - 2> set the SLRB-Config included in the slrb-ConfigToAddModList, according to the received sl-RadioBearerConfig and sl-RLC-BearerConfig corresponding to the sidelink DRB;

1> start timer T400 for the destination associated with the sidelink DRB;

•••

••

The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.1a.2.1]

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For NR sidelink communication, a sidelink DRB addition is initiated only in the following cases:

- 1> if any sidelink QoS flow is (re)configured by *sl-ConfigDedicatedNR*, *SIB12*, *SidelinkPreconfigNR* and is to be mapped to one sidelink DRB, which is not established; or
- 1> if any sidelink QoS flow is (re)configured by *RRCReconfigurationSidelink* and is to be mapped to a sidelink DRB, which is not established;

•••

```
[TS 38.331, clause 5.8.9.1a.1.1]
```

For NR sidelink communication, a sidelink DRB release is initiated in the following cases:

1> for groupcast, broadcast and unicast, if *slrb-Uu-ConfigIndex* (if any) of the sidelink DRB is included in *sl-RadioBearerToReleaseList* in *sl-ConfigDedicatedNR*; or

•••

- 1> for groupcast, broadcast and unicast, if *SL-RLC-BearerConfigIndex* (if any) of the sidelink DRB is included in *sl-RLC-BearerToReleaseList* in *sl-ConfigDedicatedNR*; or
- 1> for unicast, if no sidelink QoS flow with data indicated by upper layers is mapped to the sidelink DRB for transmission, which is (re)configured by receiving *SIB12* or *SidelinkPreconfigNR*, and if no sidelink QoS flow mapped to the sidelink DRB, which is (re)configured by receiving *RRCReconfigurationSidelink*, has data; or
- 1> for unicast, if SLRB-PC5-ConfigIndex (if any) of the sidelink DRB is included in slrb-ConfigToReleaseList in RRCReconfigurationSidelink or if sl-ResetConfig is included in RRCReconfigurationSidelink; or
- 1> for unicast, when the corresponding PC5-RRC connection is released due to sidelink RLF being detected, according to clause 5.8.9.3; or
- 1> for unicast, when the corresponding PC5-RRC connection is released due to upper layer request according to clause 5.8.9.5.

12.2.6.1.3 Test description

12.2.6.1.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination 14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE1: Operating as NR sidelink communication device on the resources that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- The UE uses GNSS as the synchronization reference source.

Preamble:

- The UE is in state 3N-B RRC_CONNECTED_with_SL and Test Mode (*On*) with UE test loop mode E as defined in TS 38.508-1 [4] subclause 4.4A on NR Cell 1, using generic parameters Sidelink (*On*), Cast Type (Unicast), GNSS Sync (*On*) and UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.2.6.1.3.2 Test procedure sequence

Table 12.2.6.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The UE is configured by upper layer to	-	-	-	-
	establish a new unicast SL DRB.				
	Note: This step is triggered by MMI or AT				
	command				
2	The UE sends a RRCReconfigurationSidelink	>	PC5-RRC:	1	Р
	message to establish a unicast mode SL DRB.		RRCReconfigurationSidelink		
3	The NR-SS-UE1 sends a	<	PC5-RRC:	-	-
	RRCReconfigurationSidelinkComplete		RRCReconfigurationCompleteSid		
	message.		elink		
3A	The SS transmits a CLOSE UE TEST LOOP	<	TC: CLOSE UE TEST LOOP		
	message to close UE test loop mode E				
	(Receive Mode).				
3B	The UE transmits a CLOSE UE TEST LOOP	>	TC: CLOSE UE TEST LOOP		
	COMPLETE message.		COMPLETE		
4	The NR-SS-UE1 transmits the data on SL	-	-	-	-
	DRB to the UE.				
	NOTE: it is expected that the UE shall receive				
	the data - if they were received is checked in				
	step 6.				
5	The NR-NW transmits an UE TEST LOOP NR	<	TC: UE TEST LOOP NR	-	-
	SIDELINK PACKET COUNTER REQUEST		SIDELINK PACKET COUNTER		
	message.		REQUEST		
6	Check: Does the UE respond with UE TEST		TC: UE TEST LOOP NR	-	-
	LOOP NR SIDELINK PACKET COUNTER	>	SIDELINK PACKET COUNTER		
	RESPONSE?		RESPONSE		
6A	The SS transmits an OPEN UE TEST LOOP	/	TC: OPEN UE TEST LOOP		
	message to open UE test loop mode E.	<			
6B	The UE transmits an OPEN UE TEST LOOP	>	TC: OPEN UE TEST LOOP		
	COMPLETE message.	>	COMPLETE		
7	The UE is configured by upper layer to release	-	-	-	-
	the unicast SL DRB added by step 2.				
	Note: This step is triggered by MMI or AT				
	command				
8	The UE sends a RRCReconfigurationSidelink	>	PC5-RRC:	2	Р
	message to release the unicast mode SL DRB		RRCReconfigurationSidelink		
	added by step 2.				
9	The NR-SS-UE1 sends a	<	PC5-RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message.		elink		

12.2.6.1.3.3 Specific message contents

Table 12.2.6.1.3.3-1: RRCReconfigurationSidelink (Step 2, Table 12.2.6.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_DRB and TX				
Information Element	Value/Remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
slrb-PC5-ConfigIndex-r16	(1512)			
}				
}				
}				
}				
}				

Table 12.2.6.1.3.3-2: RRCReconfigurationCompleteSidelink (Step 3 and step 9, Table 12.2.6.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

Table 12.2.6.1.3.3-3: CLOSE UE TEST LOOP (Step 3A, Table 12.2.6.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.9.31.3-2

Table 12.2.6.1.3.3-4: UE TEST LOOP NR SIDELINK PACKET COUNTER REQUEST (Step 5, Table 12.2.6.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.9.31.3-4

Table 12.2.6.1.3.3-5: UE TEST LOOP NR SIDELINK PACKET COUNTER RESPONSE (Step 6, Table 12.2.6.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.9.31.3-5

Table 12.2.6.1.3.3-6: RRCReconfigurationSidelink (Step 8, Table 12.2.6.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX			
Information Element	Value/Remark	Comment	Condition
RRCReconfigurationSidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfigurationSidelink-r16 SEQUENCE {			
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-			
r16 {			
SLRB-PC5-ConfigIndex-r16 [1]	Same value as slrb-PC5-	entry 1	
	ConfigIndex-r16 in		
	RRCReconfigurationSidelink		
	in step 2		
}			
}			
}			
}			
}			

12.2.7 Inter-carrier concurrent operation / Sidelink CSI reporting

12.2.7.1 Inter-carrier concurrent operation / Sidelink CSI reporting / Configuration

12.2.7.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and having established PC5 RRC connection with peer UE }

ensure that {

when { UE is configured by upper layer to configure SL CSI-RS resource to peer UE }

then { UE sends an RRCReconfigurationSidelink message including sl-CSI-RS-Config and sl-LatencyBoundCSI-Report to peer UE and starts to transmit SL CSI-RS }

}

(2)

with { UE in NR RRC_CONNECTED and having established PC5 RRC connection with peer UE }

ensure that {

when { UE is configured by upper layer to trigger SL CSI report }

then { UE sends an SCI format 2-A to trigger SL CSI report and the 'CSI request' field in the corresponding SCI format 2-A is set to 1 }

}

12.2.7.1.2 Conformance requirements

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References: The conformance requirements covered in the current TC are specified in: TS 38.331 clause 5.8.9.1.1, 5.8.9.1.2, TS 38.214 clause 8.5.2.2, 8.2.1, TS 38.212 clause 8.3.1.1 and 8.4.1.1. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

•••

- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

••

1> set the sl-CSI-RS-Config;

1> set the sl-LatencyBoundCSI-Report,

NOTE 1: How to set the parameters included in *sl-CSI-RS-Config* and *sl-LatencyBoundCSI-Report* is up to UE implementation.

The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.214, clause 8.5.2.2]

The UE can be configured with one CSI-RS pattern as indicated by the higher layer parameters *sl-CSI-RS-FreqAllocation*, *sl-OneAntennaPort*, *sl-CSI-RS-FirstSymbol* in *SL-CSI-RS-Config*.

Parameters for which the UE shall assume non-zero transmission power for CSI-RS are configured according to clause 8.2.1.

A UE is not expected to be configured such that a CSI-RS and the corresponding PSCCH can be mapped to the same resource element. A UE is not expected to receive sidelink CSI-RS and PSSCH DM-RS, nor CSI-RS and 2nd-stage SCI, on the same symbol.

Sidelink CSI-RS shall be transmitted according to [4, TS 38.211] in the resource blocks used for the PSSCH associated with the SCI format 2-A triggering a report.

[TS 38.214, clause 8.2.1]

A UE transmits sidelink CSI-RS within a unicast PSSCH transmission if the following conditions hold:

- CSI reporting is enabled by higher layer parameter sl-CSI-Acquisition; and

when the

- the 'CSI request' field in the corresponding SCI format 2-A is set to 1.

The following parameters for CSI-RS transmission are configured for each CSI-RS configuration:

- sl-CSI-RS-FirstSymbol indicates the first OFDM symbol in a PRB used for SL CSI-RS
- *sl-CSI-RS-FreqAllocation* indicates the number of antenna ports and the frequency domain allocation for SL CSI-RS.

When the UE is configured with $Q_p = \{1,2\}$ CSI-RS port(s) in sidelink and the number of scheduled layers is n_{layer}^{PSSCH} ,

- The CSI-RS scaling factor *β***CSIRS** specified in clause 8.4.1.5.3 of [4, TS 38.211] is given by

$$\beta_{\text{CSIRS}} = \beta_{\text{DMRS}}^{\text{PSSCH}} \cdot \sqrt{\frac{n_{layer}^{\text{PSSCH}}}{q_p}} \beta_{\text{CSIRS}} = \beta_{\text{DMRS}}^{\text{PSSCH}} \cdot \sqrt{\frac{n_{layer}^{\text{PSSCH}}}{q_p}} \text{ where } \beta_{\text{DMRS}}^{\text{PSSCH}} \beta_{\text{DMRS}}^{\text{PSSCH}} \text{ is the scaling factor for the corresponding PSSCH specified in clause 8.3.1.5 of [4, TS 38.211].}$$

[TS 38.212, clause 8.3.1.1]

SCI format 1-A is used for the scheduling of PSSCH and 2nd-stage-SCI on PSSCH

The following information is transmitted by means of the SCI format 1-A:

- Priority – 3 bits as specified in clause 5.4.3.3 of [12, TS 23.287] and clause 5.22.1.3.1 of [8, TS 38.321].

$$Frequency resource assignment - \left[log_{2} \left(\frac{N \frac{SL}{subChannel} \left(N \frac{SL}{subChannel} + 1 \right)}{2} \right) \right] \left[log_{2} \left(\frac{N \frac{SL}{subChannel} \left(N \frac{SL}{subChannel} + 1 \right)}{2} \right) \right] bits when the value of the higher layer parameter sl-MaxNumPerReserve is configured to 2; otherwise$$

$$\left[\log_{2}\left(\frac{N_{subChannel}^{SL}(N_{subChannel}^{SL}+1)(2N_{subChannel}^{SL}+1)}{6}\right)\right]\left[\log_{2}\left(\frac{N_{subChannel}^{SL}(N_{subChannel}^{SL}+1)(2N_{subChannel}^{SL}+1)}{6}\right)\right]_{bits}$$

value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 3, as defined in clause 8.1.5 of [6, TS 38.214].

- Time resource assignment 5 bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 2; otherwise 9 bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 3, as defined in clause 8.1.5 of [6, TS 38.214].
- Resource reservation period [log₂ N_{rsv period}] [log₂ N_{rsv period}] bits as defined in clause 16.4 of [5, TS 38.213], where <sup>N_{rsv period} N_{rsv period} is the number of entries in the higher layer parameter *sl*-*ResourceReservePeriodList*, if higher layer parameter *sl*-MultiReserveResource is configured; 0 bit otherwise.
 </sup>
- DMRS pattern [log₂ N_{pattern}] [log₂ N_{pattern}] bits as defined in clause 8.4.1.1.2 of [4, TS 38.211], where N_{pattern}N_{pattern} is the number of DMRS patterns configured by higher layer parameter *sl-PSSCH-DMRS-TimePatternList*.
- 2nd-stage SCI format 2 bits as defined in Table 8.3.1.1-1.
- Beta_offset indicator 2 bits as provided by higher layer parameter *sl-BetaOffsets2ndSCI* and Table 8.3.1.1-2.
- Number of DMRS port 1 bit as defined in Table 8.3.1.1-3.
- Modulation and coding scheme 5 bits as defined in clause 8.1.3 of [6, TS 38.214].

- Additional MCS table indicator as defined in clause 8.1.3.1 of [6, TS 38.214]: 1 bit if one MCS table is configured by higher layer parameter *sl-Additional-MCS-Table*; 2 bits if two MCS tables are configured by higher layer parameter *sl-Additional-MCS-Table*; 0 bit otherwise.
- PSFCH overhead indication 1 bit as defined clause 8.1.3.2 of [6, TS 38.214] if higher layer parameter *sl*-*PSFCH-Period* = 2 or 4; 0 bit otherwise.
- Reserved a number of bits as determined by higher layer parameter *sl-NumReservedBits*, with value set to zero.

Table 8.3.1.1-1: 2nd-stage SCI formats

Value of 2nd-stage SCI format field	2nd-stage SCI format	
00	SCI format 2-A	
01	SCI format 2-B	
10	Reserved	
11	Reserved	

Table 8.3.1.1-2: Mapping of Beta_offset indicator values to indexes in Table 9.3-2 of [5, TS38.213]

Value of Beta_offset indicator	Beta_offset index in Table 9.3-2 of [5, TS38.213]
00	1st index provided by higher layer parameter sl- BetaOffsets2ndSCI
01	2nd index provided by higher layer parameter sl- BetaOffsets2ndSCI
10	3rd index provided by higher layer parameter sl- BetaOffsets2ndSCI
11	4th index provided by higher layer parameter sl- BetaOffsets2ndSCI

Table 8.3.1.1-3: Number of DMRS port(s)

Value of the Number of DMRS port field	Antenna ports
0	1000
1	1000 and 1001

[TS 38.212, clause 8.4.1.1]

SCI format 2-A is used for the decoding of PSSCH, with HARQ operation when HARQ-ACK information includes ACK or NACK, when HARQ-ACK information includes only NACK, or when there is no feedback of HARQ-ACK information.

The following information is transmitted by means of the SCI format 2-A:

- HARQ process number ⁴⁴ bits.
- New data indicator 1 bit.
- Redundancy version 2 bits as defined in Table 7.3.1.1.1-2.
- Source ID 8 bits as defined in clause 8.1 of [6, TS 38.214].
- Destination ID 16 bits as defined in clause 8.1 of [6, TS 38.214].

- HARQ feedback enabled/disabled indicator 1 bit as defined in clause 16.3 of [5, TS 38.213].
- Cast type indicator 2 bits as defined in Table 8.4.1.1-1 and in clause 8.1 of [6, TS 38.214].
- CSI request 1 bit as defined in clause 8.2.1 of [6, TS 38.214] and in clause 8.1 of [6, TS 38.214].

Table 8.4.1.1-1: Cast type indicator

Value of Cast type indicator	Cast type	
00	Broadcast	
	Groupcast	
01	when HARQ-ACK information includes ACK or	
	NACK	
10	Unicast	
11	Groupcast	
	when HARQ-ACK information includes only NACK	

12.2.7.1.3 Test description

12.2.7.1.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination 14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE1: Operating as NR sidelink communication transmitting and receiving device on the resources that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
- The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- The UE uses GNSS as the synchronization reference source.

Preamble:

- The UE is in state 3N-B RRC_CONNECTED_with_SL as defined in TS 38.508-1 [4] subclause 4.4A on NR Cell 1 with parameters Sidelink (On), Cast Type (*Unicast*), GNSS Sync (*On*) and UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.
- 12.2.7.1.3.2 Test procedure sequence

Table 12.2.7.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Cause the UE to configure SL CSI-RS	-	-	-	-
	resource.				
	Note: This step is triggered by MMI or AT				
	command				
2	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	RRCReconfigurationSidelink message		RRCReconfigurationSidelink		
	including IEs sI-CSI-RS-Config and sl-				
	LatencyBoundCSI-Report on SL-SRB3?				
3	The NR-SS-UE1 transmits a	<	PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message on SL-SRB3.		elink		
3A	UE is configured by upper layer to trigger SL	-	-	-	-
	CSI report.				
	Note: This step is triggered by MMI or AT				
	command.				
4	Check: Does the UE transmit an SCI format 2-	>	PSSCH (SCI format 2-A)	2	Р
	A to trigger SL CSI report and the 'CSI request'				
	field in the corresponding SCI format 2-A is set				
	to 1.				
5	.Void	-	-	-	-

12.2.7.1.3.3 Specific message contents

Table 12.2.7.1.3.3-1: SIB12-IEs-r16 (preamble)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-14A			
Information Element	Value/remark	Comment	Condition
SIB12-IEs-r16 ::= SEQUENCE {			
sI-ConfigCommonNR-r16 SEQUENCE {			
sI-CSI-Acquisition-r16	enabled		
}			
}			

Table 12.2.7.1.3.3-2: RRCReconfigurationSidelink (step 2, Table 12.2.7.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition SL_CSI and TX				
Information Element	Value/remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
sI-CSI-RS-Config-r16 CHOICE {				
Setup SEQUENCE {				
sl-CSI-RS-FreqAllocation-r16	Any value			
sl-CSI-RS-FirstSymbol-r16	(312)			
}				
}				
sl-LatencyBoundCSI-Report-r16	(3160)			
}				
}				
}				

Table 12.2.7.1.3.3-3: RRCReconfigurationCompleteSidelink (step 3, Table 12.2.7.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

12.2.7.2 Inter-carrier concurrent operation / Sidelink CSI reporting / Reporting

12.2.7.2.1 Test Purpose (TP)

(1)

with { UE has established PC5 RRC connection with peer UE and is configured by peer UE to perform CSI measurement. }

ensure that {

when { UE receives a SCI format 2-A to trigger SL CSI report. }

then { UE sends an CSI reporting MAC-CE to peer UE within SL CSI report latency requirement. }

}

12.2.7.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1, 5.8.10.2, 5.8.10.3, 5.8.10.4 and 5.8.10.5. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

•••

the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

•••

1> if the *RRCReconfigurationSidelink* message includes the *sl-CSI-RS-Config*:

2> apply the sidelink CSI-RS configuration;

1> if the *RRCReconfigurationSidelink* message includes the *sl-LatencyBoundCSI-Report*:

2> apply the configured sidelink CSI report latency bound;

•••

1> else:

2> set the content of the RRCReconfigurationCompleteSidelink message;

3> submit the *RRCReconfigurationCompleteSidelink* message to lower layers for transmission;

```
[TS 38.214, clause 8.2.1]
```

A UE transmits sidelink CSI-RS within a unicast PSSCH transmission if the following conditions hold:

- CSI reporting is enabled by higher layer parameter *sl-CSI-Acquisition*; and
- the 'CSI request' field in the corresponding SCI format 2-A is set to 1.

•••

```
[TS 38.214, clause 8.5.1.1]
```

The UE shall calculate CSI parameters (if reported) assuming the following dependencies between CSI parameters (if reported)

- CQI shall be calculated conditioned on the reported RI

The CSI reporting can be aperiodic (using [10, TS 38.321]). Table 8.5.1.1-1 shows the supported combinations of CSI reporting configurations and CSI-RS configurations and how the CSI reporting is triggered for CSI-RS configuration. Aperiodic CSI-RS is configured and triggered/activated as described in Clause 8.5.1.2.

Table 8.5.1.1-1: Triggering/Activation of CSI reporting for the possible CSI-RS Configurations

CSI-RS Configuration	Aperiodic CSI Reporting
Aperiodic CSI-RS	Triggered by SCI.

For CSI reporting, wideband CQI reporting is supported. A wideband CQI is reported for a single codeword for the entire CSI reporting band.

[TS 38.214, clause 8.5.1.2]

The CSI-triggering UE is not allowed to trigger another aperiodic CSI report for the same UE before the last slot of the expected reception or completion of the ongoing aperiodic CSI report associated with the SCI format 2-A with the '*CSI request*' field set to 1, where the last slot of the expected reception of the ongoing aperiodic CSI report is given by [10, TS38.321].

An aperiodic CSI report is triggered by an SCI format 2-A with the 'CSI request' field set to 1.

A UE is not expected to transmit a sidelink CSI-RS and a sidelink PT-RS which overlap.

[TS 38.321, clause 5.22.1.7]

The Sidelink Channel State Information (SL-CSI) reporting procedure is used to provide a peer UE with sidelink channel state information as specified in clause 8.5 of TS 38.214 [7].

RRC configures the following parameters to control the SL-CSI reporting procedure:

- sl-LatencyBoundCSI-Report, which is maintained for each PC5-RRC connection.

The MAC entity maintains an *sl-CSI-ReportTimer* for each pair of the Source Layer-2 ID and the Destination Layer-2 ID corresponding to a PC5-RRC connection. *sl-CSI-ReportTimer* is used for an SL-CSI reporting UE to follow the latency requirement signalled from a CSI triggering UE. The value of *sl-CSI-ReportTimer* is the same as the latency requirement of the SL-CSI reporting in *sl-LatencyBoundCSI-Report* configured by RRC.

The MAC entity shall for each pair of the Source Layer-2 ID and the Destination Layer-2 ID corresponding to a PC5-RRC connection which has been established by upper layers:

- 1> if the SL-CSI reporting has been triggered by an SCI and not cancelled:
 - 2> if the *sl-CSI-ReportTimer* for the triggered SL-CSI reporting is not running:

3> start the *sl*-*CSI*-*ReportTimer*.

2> if the *sl-CSI-ReportTimer* for the triggered SL-CSI reporting expires:

- 3> cancel the triggered SL-CSI reporting.
- 2> else if the MAC entity has SL resources allocated for new transmission and the SL-SCH resources can accommodate the SL-CSI reporting MAC CE and its subheader as a result of logical channel prioritization:
 - 3> instruct the Multiplexing and Assembly procedure to generate a Sidelink CSI Reporting MAC CE as defined in clause 6.1.3.35;
 - 3> stop the *sl-CSI-ReportTimer* for the triggered SL-CSI reporting;
 - 3> cancel the triggered SL-CSI reporting.
- 2> else if the MAC entity has been configured with Sidelink resource allocation mode 1:
 - 3> trigger a Scheduling Request.
- NOTE: The MAC entity configured with Sidelink resource allocation mode 1 may trigger a Scheduling Request if transmission of a pending SL-CSI reporting with the sidelink grant(s) cannot fulfil the latency requirement associated to the SL-CSI reporting.

12.2.7.2.3 Test description

12.2.7.2.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 uses NR Cell 1 as its synchronization reference source.

UE:

- UE is authorised to perform NR sidelink communication.
- UE uses NR Cell 1 as its synchronization reference source.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.7.2.3.1-1.

Table 12.2.7.2.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EFUST		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{v2xP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in 38.508-1[4] Table	
		4.10.1-1	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Unicast (On), and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1 and using UE initiated unicast mode NR sidelink communication procedure as defined in TS 38.508-1 [4] subclause 4.9.22.

12.2.7.2.3.2 Test procedure sequence

Table 12.2.7.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to enable SL CSI reporting				
2	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
3	The NR-SS-UE 1 transmits an	<	NR PC5 RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	provide sidelink CSI-RS resource and				

	reporting configuration.				
4	The UE transmits an	>	NR PC5 RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSid		
	message		elink		
5	The NR-SS-UE 1 transmits a SCI format 2-A	<	SCI format 2-A	-	-
	with CSI request = 1 and starts transmitting SL				
	CSI-RS according to the SL CSI-RS resource				
	configuration included in				
	RRCReconfigurationSidelink message.				
6	Check: Does the UE transmit a SL CSI	>	MAC CE (Sidelink CSI Reporting)	1	Р
	reporting MAC-CE before slot n+k?				
	NOTE: Slot n is the slot that UE receives SCI				
	format 2-A with CSI request = 1. k is the SL				
	CSI report latency requirement (in slots)				
	indicated by sl-LatencyBoundCSI-Report.				

12.2.7.2.3.3 Specific message contents

Table 12.2.7.2.3.3-1: RRCReconfiguration (Table 12.2.7.2.3.2-1, Step 1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK						
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
sl-ConfigDedicatedNR-r16 CHOICE {						
setup	SL-ConfigDedicatedNR					
	specified in 38.508-1					
	Table 4.6.6-7 with					
	condition SELECTED					
	and SL CSI REPORT					
}						
}						
}						
}						
}						
}						
}						
}						

Table 12.2.7.2.3.3-2: RRCReconfigurationSidelink (Table 12.2.7.2.3.2-1, Step 3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX and SL_CSI

Table 12.2.7.2.3.3-3: RRCReconfigurationCompleteSidelink (Table 12.2.7.2.3.2-1, Step 4)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-4 with condition TX

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12.2.8 Inter-carrier concurrent operation / Sidelink failure

12.2.8.1 Inter-carrier concurrent operation / Sidelink failure / PC5 RRC Reconfiguration Failure / Initiating UE side 12.2.8.1.1 Test Purpose (TP)

(1)

with { UE is in connected state. UE has established PC5 RRC connection with peer UE on unicast sidelink and has sent an RRCReconfigurationSidelink message to peer UE. }

ensure that {

when { UE receives an RRCReconfigurationFailureSidelink from peer UE. }

then { UE continues to use the configuration used prior to corresponding
RRCReconfigurationSidelink message and sends a SidelinkUEInformation message to indicate sidelink
reconfiguration failure. }

}

12.2.8.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1, 5.8.10.2, 5.8.10.3, 5.8.10.4 and 5.8.10.5. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

- the release of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.1;
- the establishment of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the modification for the parameters included in *SLRB-Config* of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.
- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.8]

The UE shall perform the following actions upon reception of the RRCReconfigurationFailureSidelink:

1> stop timer T400 for the destination, if running;

- 1> continue using the configuration used prior to corresponding *RRCReconfigurationSidelink* message;
- 1> if UE is in RRC_CONNECTED:
 - 2> perform the sidelink UE information for NR sidelink communication procedure, as specified in 5.8.3.3 or sub-clause 5.10.15 in TS 36.331 [10];

The UE shall set the contents of the *SidelinkUEInformationNR* message as follows:

1> if the UE initiates the procedure to indicate it is (no more) interested to receive NR sidelink communication or to request (configuration/ release) of NR sidelink communication transmission resources or to report to the network that a sidelink radio link failure or sidelink RRC reconfiguration failure has been declared (i.e. UE includes all concerned information, irrespective of what triggered the procedure):

2> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:

•••

3> if configured by upper layers to transmit NR sidelink communication:

•••

- 4> if a sidelink radio link failure or a sidelink RRC reconfiguration failure has been declared, according to clauses 5.8.9.3 and 5.8.9.1.8, respectively;
 - 5> include *sl-FailureList* and set its fields as follows for each destination for which it reports the NR sidelink communication failure:
 - 6> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink communication transmission;

[[]TS 38.331, clause 5.8.3.3]
...

- 6> else if *RRCReconfigurationFailureSidelink* is received:
 - 7> set *sl-Failure* as *configFailure* for the associated destination for the NR sidelink communication transmission;

•••

1> else:

2> submit the SidelinkUEInformationNR message to lower layers for transmission.

12.2.8.1.3 Test description

12.2.8.1.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE

- NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.8.1.3.1-1.
- UE is synchronised on GNSS.

Table 12.2.8.1.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EFust		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{VST}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in Table 12.2.8.1.3.3-1	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Unicast (On), and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1 and UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.22.

12.2.8.1.3.2 Test procedure sequence

Table 12.2.8.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		ТР	Verdict
		U - S	Message		
1	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode).				
2	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: CLOSE UE TEST LOOP		
	NOTE: UE continuously sends SDAP		COMPLETE		
	SDUs on SL-DRB				
3	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to reconfigure SDAP entity of the				
	established SL DRB associated to the PC5				
	unicast link between the UE and the NR-SS-				
	UE1 to sI-SDAP-Header = absent.				
4	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
5	The UE transmits an	>	PC5 RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	reconfigure the established SL DRB				
	associated to the PC5 unicast link between the				
	UE and the NR-SS-UE1.				
6	The NR-SS-UE1 transmits an	<	PC5 RRC:	-	-
	RRCReconfigurationFailureSidelink message		RRCReconfigurationFailureSideli		
			nk		
7	Check: Does the UE transmit a	>	NR RRC:	1	Р
	SidelinkUEInfomationNR message to inform		SidelinkUEInfomationNR		
	NR Cell 1 the PC5 RRC reconfiguration				
	failure?				
8	Check: Does the SDAP PDUs transmitted on	-	-	1	F
	the established SL DRB associated to the PC5				
	unicast link between the UE and the NR-SS-				
	UE1 without SDAP header?				
9	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to open UE test loop mode E.		TC: OPEN UE TEST LOOP		
10	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: OPEN UE TEST LOOP		
			COMPLETE		

12.2.8.1.3.3 Specific message contents

Table 12.2.8.1.3.3-1: CLOSE UE TEST LOOP (Table 12.2.8.1.3.2-1, Step 1)

Derivation Path: 36.508 [7] Table 4.7A-3 with condition UE TEST LOOP MODE E(V2X Transmission)						
Information Element Value/remark Comment Co						
UE test loop mode E LB setup						
Communication Transmit or Receive	0000001	'01' indicates V2X UE				
		triggered to transmit NR				
		sidelink communication				
		with single spatial layer.				

Table 12.2.8.1.3.3-2: RRCReconfiguraion (Table 12.2.8.1.3.2-1, Step 3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with co	Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK					
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
sl-ConfigDedicatedNR-r16 CHOICE {						
setup	SL-ConfigDedicatedNR	Table				
		12.2.8.1.3.3-3				
}						
}						
}						
}						
}						
}						
}						
}						

Table 12.2.8.1.3.3-3: SL-ConfigDedicatedNR (Table 12.2.8.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-7 with condition SL_DRB						
Information Element	Value/remark	Comment	Condition			
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {						
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry					
(SIZE (1maxNrofSLRB-r16)) OF SL-						
RadioBearerConfig-r16 {						
SL-RadioBearerConfig-r16[1] SEQUENCE {		Entry 1				
slrb-Uu-ConfigIndex-r16	n	n is the SLRB-Uu-				
		ConfigIndex of the				
		SL-DRB				
		associated with				
		the PC5 unicast				
		link between the				
		UE and NR-SS-				
		UE1				
sI-SDAP-Config-r16 SEQUENCE {						
sl-SDAP-Header-r16	absent					
}						
}						
}						
}						

Table 12.2.8.1.3.3-4: RRCReconfigurationSidelink (Table 12.2.8.1.3.2-1, Step 5)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX and SL_DRB					
Information Element	Value/remark	Comment	Condition		
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {					
SLRB-Config-r16[1] SEQUENCE {		entry 1			
sl-SDAP-ConfigPC5-r16 SEQUENCE {					
sl-MappedQoS-FlowsToAddList-r16	Not checked				
sl-SDAP-Header-r16	absent				
}					
sl-PDCP-ConfigPC5-r16	Not checked				
sl-RLC-ConfigPC5-r16	Not checked				
sl-MAC-LogicalChannelConfigPC5-r16	Not checked				
}					
}					
}					
}					
]					

Table 12.2.8.1.3.3-5: RRCReconfigurationFailureSidelink (Table 12.2.8.1.3.2-1, Step 6)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-5 with condition RX

Table 12.2.8.1.3.3-6: SidelinkUEInformationNR (Table 12.2.8.1.3.2-1, Step 7)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-28A with condition SIDELINK_TX					
Information Element	Value/remark	Comment	Condition		
SidelinkUEInformationNR-r16 ::= SEQUENCE {					
criticalExtensions CHOICE {					
sidelinkUEInformationNR-r16 SEQUENCE {					
sl-FailureList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSL-Dest-r16)) OF SL-Failure-r16 {					
SL-Failure-r16[1] SEQUENCE {					
sl-DestinationIdentity-r16	SL-DestinationIdentity of				
	NR-SS-UE1				
sl-Failure-r16	configFailure				
}					
}					
}					
}					
}					

12.2.8.2 Inter-carrier concurrent operation / Sidelink failure / PC5 RRC Reconfiguration Failure / Peer UE side

12.2.8.2.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED and having established PC5-RRC connection with peer UE on unicast sidelink }

ensure that {

when { UE receives an RRCReconfigurationSidelink that UE cannot comply from peer UE }

Release 17

then { UE continues to use the configuration used prior to the reception of the
RRCReconfigurationSidelink message and sends a RRCReconfigurationFailureSidelink message }

}

12.2.8.2.2 Conformance requirements

References: The conformance requirements covered in the current TC are specified in: TS 38.331, clause 5.8.9.1.3. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.3]

The UE shall perform the following actions upon reception of the RRCReconfigurationSidelink:

•••

- 1> if the UE is unable to comply with (part of) the configuration included in the *RRCReconfigurationSidelink* (i.e. sidelink RRC reconfiguration failure):
 - 2> continue using the configuration used prior to the reception of the *RRCReconfigurationSidelink* message;

2> set the content of the *RRCReconfigurationFailureSidelink* message;

3> submit the RRCReconfigurationFailureSidelink message to lower layers for transmission;

•••

NOTE 1: When the same logical channel is configured with different RLC mode by another UE, the UE handles the case as sidelink RRC reconfiguration failure.

12.2.8.2.3 Test description

12.2.8.2.3.1 Pre-test conditions

System Simulator:

- SS-NW
 - NR Cell 1
 - System information combination 14 as defined in TS 38.508-1 [4] clause 4.4.3.1 is used in NR Cell 1.
- NR-SS-UE
 - NR-SS-UE1: Operating as NR sidelink communication transmitting and receiving device on the resources that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.

- The UE uses GNSS as the synchronization reference source.

Preamble:

- The UE is in state 3N-B RRC_CONNECTED_with_SL as defined in TS 38.508-1 [4] subclause 4.4A on NR Cell 1, using generic parameters Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) and NR-SS-UE1 initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

12.2.8.2.3.2 Test procedure sequence

Table 12.2.8.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The NR-SS-UE1 transmits a	<	PC5 RRC:	-	-
	RRCReconfigurationSidelink message that UE		RRCReconfigurationSidelink		
	cannot comply on SL-SRB3.				
2	Check: Does the UE transmit a	>	PC5 RRC:	1	Р
	RRCReconfigurationFailureSidelink message		RRCReconfigurationFailureSidelin		
	on SL-SRB3?		k		
3	Check: Does the test result of generic test	-	-	1	-
	procedure in TS 38.508-1 subclause 4.9.31				
	indicate the UE still has SL-DRB configured in				
	preamble?				

12.2.8.2.3.3 Specific message contents

Table 12.2.8.2.3.3-1: RRCReconfigurationSidelink (step 1, Table 12.2.8.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition RX					
Information Element	Value/Remark	Comment	Condition		
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-					
r16 {					
SLRB-PC5-ConfigIndex-r16 [1]	2	Index value			
		to refer to a			
		different			
		value than			
		TS 38.508-			
		1[4] Table			
		466-37			
1		4.0.0-37			
}					
}					
}					

Table 12.2.8.2.3.3-2: RRCReconfigurationFailureSidelink (step 2, Table 12.2.8.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-5 with condition TX

12.2.8.3 Inter-carrier concurrent operation / Sidelink failure / Sidelink radio link failure / transmission side

12.2.8.3.1 Test Purpose (TP)

(1)

with { UE is in connected state. UE has established PC5 RRC connection with peer UE on unicast sidelink and has sent an RRCReconfigurationSidelink message to peer UE }

ensure that {

when { UE doesn't receive RRCReconfigurationCompleteSidelink or RRCReconfigurationFailure before
T400 expires. }

then { UE releases PC5-RRC connection and indicates the release to upper layer and sends a SidelinkUEInformationNR message to indicate SL RLF. }

}

(2)

with { UE is in connected state. UE has established PC5 RRC connection with peer UE on unicast sidelink and has established a AM SL DRB }

ensure that $\{$

when { Retransmission number of the AM SL DRB reaches the maximum number of retransmissions. }

then { UE releases PC5-RRC connection and indicates the release to upper layer and sends a SidelinkUEInformationNR message to indicate SL RLF. }

}

(3)

with { UE is in connected state. UE has established PC5 RRC connection with peer UE on unicast sidelink. }

ensure that {

when { MAC detects that maximum number of consecutive HARQ DTX has been reached. }

then { UE releases PC5-RRC connection and indicates the release to upper layer and sends a SidelinkUEInformationNR message to indicate SL RLF. }

}

12.2.8.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331 [22], subclause 5.8.9.1, 5.8.10.2, 5.8.10.3, 5.8.10.4 and 5.8.10.5. Unless otherwise stated these are Rel-16 requirements.

[TS 38.331, clause 5.8.9.1.1]



Figure 5.8.9.1.1-1: Sidelink RRC reconfiguration, successful



Figure 5.8.9.1.1-2: Sidelink RRC reconfiguration, failure

The purpose of this procedure is to modify a PC5-RRC connection, e.g. to establish/modify/release sidelink DRBs, to (re-)configure NR sidelink measurement and reporting, to (re-)configure sidelink CSI reference signal resources and CSI reporting latency bound.

The UE may initiate the sidelink RRC reconfiguration procedure and perform the operation in sub-clause 5.8.9.1.2 on the corresponding PC5-RRC connection in following cases:

- the release of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.1;
- the establishment of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the modification for the parameters included in *SLRB-Config* of sidelink DRBs associated with the peer UE, as specified in sub-clause 5.8.9.1a.2;
- the (re-)configuration of the peer UE to perform NR sidelink measurement and report.
- the (re-)configuration of the sidelink CSI reference signal resources and CSI reporting latency bound.

In RRC_CONNECTED, the UE applies the NR sidelink communications parameters provided in *RRCReconfiguration* (if any). In RRC_IDLE or RRC_INACTIVE, the UE applies the NR sidelink communications parameters provided in system information (if any). For other cases, UEs apply the NR sidelink communications parameters provided in *SidelinkPreconfigNR* (if any). When UE performs state transition between above three cases, the UE applies the NR sidelink communications parameters provided in the new state, after acquisition of the new configurations. Before acquisition of the new configurations, UE continues applying the NR sidelink communications parameters provided in the old state.

[TS 38.331, clause 5.8.9.1.2]

The UE shall set the contents of *RRCReconfigurationSidelink* message as follows:

^{1&}gt; start timer T400 for the destination associated with the sidelink DRB;

•••

The UE shall submit the RRCReconfigurationSidelink message to lower layers for transmission.

[TS 38.331, clause 5.8.9.3]

The UE shall:

- 1> upon indication from sidelink RLC entity that the maximum number of retransmissions for a specific destination has been reached; or
- 1> upon T400 expiry for a specific destination; or
- 1> upon indication from MAC entity that the maximum number of consecutive HARQ DTX for a specific destination has been reached; or
- 1> upon integrity check failure indication from sidelink PDCP entity concerning SL-SRB2 or SL-SRB3 for a specific destination:
 - 2> consider sidelink radio link failure to be detected for this destination;
 - 2> release the DRBs of this destination, in according to sub-clause 5.8.9.1a.1;
 - 2> release the SRBs of this destination, in according to sub-clause 5.8.9.1a.3;
 - 2> discard the NR sidelink communication related configuration of this destination;
 - 2> reset the sidelink specific MAC of this destination;
 - 2> consider the PC5-RRC connection is released for the destination;
 - 2> indicate the release of the PC5-RRC connection to the upper layers for this destination (i.e. PC5 is unavailable);
 - 2> if UE is in RRC_CONNECTED:

3> perform the sidelink UE information for NR sidelink communication procedure, as specified in 5.8.3.3;

NOTE: It is up to UE implementation on whether and how to indicate to upper layers to maintain the keep-alive procedure [55].

[TS 38.331, clause 5.8.3.3]

The UE shall set the contents of the *SidelinkUEInformationNR* message as follows:

- 1> if the UE initiates the procedure to indicate it is (no more) interested to receive NR sidelink communication or to request (configuration/ release) of NR sidelink communication transmission resources or to report to the network that a sidelink radio link failure or sidelink RRC reconfiguration failure has been declared (i.e. UE includes all concerned information, irrespective of what triggered the procedure):
 - 2> if *SIB12* including *sl-ConfigCommonNR* is provided by the PCell:
 - •••
 - 3> if configured by upper layers to transmit NR sidelink communication:

•••

4> if a sidelink radio link failure or a sidelink RRC reconfiguration failure has been declared, according to clauses 5.8.9.3 and 5.8.9.1.8, respectively;

- 5> include *sl-FailureList* and set its fields as follows for each destination for which it reports the NR sidelink communication failure:
 - 6> set *sl-DestinationIdentity* to the destination identity configured by upper layer for NR sidelink communication transmission;
 - 6> if the sidelink RLF is detected as specified in sub-clause 5.8.9.3:
 - 7> set *sl-Failure* as *rlf* for the associated destination for the NR sidelink communication transmission;

...

1> else:

2> submit the SidelinkUEInformationNR message to lower layers for transmission.

[TS 38.322, clause 5.3.2]

•••

When an RLC SDU or an RLC SDU segment is considered for retransmission, the transmitting side of the AM RLC entity shall:

- if the RLC SDU or RLC SDU segment is considered for retransmission for the first time:
 - set the RETX_COUNT associated with the RLC SDU to zero.
- else, if it (the RLC SDU or the RLC SDU segment that is considered for retransmission) is not pending for retransmission already and the RETX_COUNT associated with the RLC SDU has not been incremented due to another negative acknowledgment in the same STATUS PDU:
 - increment the RETX_COUNT.
- if RETX_COUNT = maxRetxThreshold:
 - indicate to upper layers that max retransmission has been reached.

•••

[TS 38.321, clause 5.22.1.3.3]

The HARQ-based Sidelink RLF detection procedure is used to detect Sidelink RLF based on a number of consecutive DTX on PSFCH reception occasions for a PC5-RRC connection.

RRC configures the following parameter to control HARQ-based Sidelink RLF detection:

- sl-maxNumConsecutiveDTX.

The following UE variable is used for HARQ-based Sidelink RLF detection.

numConsecutiveDTX, which is maintained for each PC5-RRC connection.

The Sidelink HARQ Entity shall (re-)initialize *numConsecutiveDTX* to zero for each PC5-RRC connection which has been established by upper layers, if any, upon establishment of the PC5-RRC connection or (re)configuration of *sl-maxNumConsecutiveDTX*.

The Sidelink HARQ Entity shall for each PSFCH reception occasion associated to the PSSCH transmission:

- 1> if PSFCH reception is absent on the PSFCH reception occasion:
 - 2> increment numConsecutiveDTX by 1;

- 2> if *numConsecutiveDTX* reaches *sl-maxNumConsecutiveDTX*:
 - 3> indicate HARQ-based Sidelink RLF detection to RRC.

1> else:

2> re-initialize *numConsecutiveDTX* to zero.

12.2.8.3.3 Test description

12.2.8.3.3.1 Pre-test conditions

System Simulator:

- NR Cell
 - NR Cell 1 is the serving cell.
 - System information combination NR-14 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- NR-SS-UE
- NR-SS-UE 1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.

UE:

- UE is authorised to perform NR sidelink communication.
- UE is synchronised on GNSS.
- The UE is equipped with below information in UE or in a USIM containing default values (as per TS 38.508-1 [4]) except for those listed in Table 12.2.8.3.3.1-1.

Table 12.2.8.3.3.1-1: UE/ USIM configuration

USIM field	Priority	Value	Access Technology Identifier
EF _{UST}		As per TS 36.508 [18] clause	
		4.9.3.4	
EF _{vst}		Service n°119 is "available"	
EF _{V2XP_PC5}		As per TS 38.508-1[4] clause	
		4.8.3.3.3	
		SL-PreconfigurationNR included in	
		V2X data policy over PC5 is	
		defined in 38.508-1 [4] Table	
		4.10.1-1	

Preamble:

- The UE is in state 3N-B as defined in TS 38.508-1 [4], subclause 4.4A, using generic procedure parameter Sidelink (On), Unicast (On), and Test Mode (On) as defined in TS 38.508-1 [4], subclause 4.5.1 and using the UE initiated procedure to establish unicast link as defined in TS 38.508-1 [4] subclause 4.9.22.

12.2.8.3.3.2 Test procedure sequence

Table 12.2.8.3.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode).				
2	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: CLOSE UE TEST LOOP		
			COMPLETE		
2A	The UE starts to transmit on PC5 unicast link	-	-	-	-
3	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to reconfigure PC5 RRC connection				
	between the UE and the NR-SS-UE 1				
4	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
5	The UE transmits an	>	NR PC5 RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	reconfigure PC5 RRC connection between the				
	UE and the NR-SS-UE 1.				
	NOTE: UE is expected to start timer T400 as				
	specified in TS 38.331 clause 5.8.9.1.2.				
6	Void	-	-	-	-
7	Check: Does the UE transmit a	>	NR RRC:	1	Р
	SidelinkUEInfomationNR message after expiry		SidelinkUEInfomationNR		
	of T400 to inform NR Cell 1 the sidelink radio				
	link failure?				
7A	Does UE send SDAP SDUs on SL DRB#n in	-	-	-	F
	the next 5 seconds?				
8	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DI InformationTransfer	-	-
	message to open LIE test loop mode E				
9	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: UI InformationTransfer	-	_
	COMPLETE message		TC: OPEN UE TEST LOOP		
			COMPLETE		
10	Void	-	-	-	_
11	The SS performs the generic procedure	-	-	-	-
	specified in subclause 4.9.22 to establish PC5				
	unicast link between the UE and the NR-SS-				
	UF 1				
12	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode)				
13	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: UI InformationTransfer	-	-
	COMPLETE message		TC: CLOSE UE TEST LOOP		
			COMPLETE		
13	The UE starts to transmit on PC5 unicast link	-	-	-	-
A					
14	The NR-SS-UE 1 stops transmitting RLC	-	-	-	-
	acknowledgments for the RI C PDUs				
	transmitted by the UF				
15	Check: Does the UE transmit a	>	NR RRC:	2	Р
	SidelinkUEInfomationNR message to inform		SidelinkUEInfomationNR	_	
	NR Cell 1 the sidelink radio link failure?				
15	Does UE send SDAP SDUs on SL DRB#n in	-	-	2	F
A	the next 5 seconds?			-	
16	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
_	message to open UE test loop mode F		TC: OPEN UE TEST LOOP		
17	The UE transmits an OPEN UF TEST I OOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: OPEN UF TEST LOOP		
			COMPLETE		
18	Void	-	-	-	-
19	The SS performs the generic procedure	-	-	-	-
	specified in subclause 4.9.22 to establish PC5				

	unicast link between the UE and the NR-SS-				
	UE 1.				
20	The SS transmits a CLOSE UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to close UE test loop mode E		TC: CLOSE UE TEST LOOP		
	(Transmit Mode).				
21	The UE transmits a CLOSE UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: CLOSE UE TEST LOOP		
			COMPLETE		
21	The UE starts to transmit on PC5 unicast link	-	-	-	-
Α					
22	The NR-SS-UE 1 stops transmitting HARQ	-	-	-	-
	ACK/NACK for the MAC PDUs transmitted by				
	the UE.				
23	Check: Does the UE transmit a	>	NR RRC:	3	Р
	SidelinkUEInfomationNR message to inform		SidelinkUEInfomationNR		
	NR Cell 1 the sidelink radio link failure?				
23	Does UE send SDAP SDUs on SL DRB#n in	-	-	3	F
Α	the next 5 seconds?				
24	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message to open UE test loop mode E.		TC: OPEN UE TEST LOOP		
25	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message		TC: OPEN UE TEST LOOP		
			COMPLETE		
26	Void	-	-	-	-

12.2.8.3.3.3 Specific message contents

Table 12.2.8.3.3.3-1: CLOSE UE TEST LOOP (Table 12.2.8.3.3.2-1, Step 1, 12 and 20)

Derivation Path: 36.508 [7] Table 4.7A-3 with condition UE TEST LOOP MODE E(V2X Transmission)					
Information Element	Value/remark	Comment	Condition		
UE test loop mode E LB setup					
Communication Transmit or Receive	00000001	'01' indicates V2X UE			
		triggered to transmit NR			
		sidelink communication			
		with single spatial layer.			

Table 12.2.8.3.3.3-2: RRCReconfiguraion (Table 12.2.8.3.3.2-1, Step 3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 with condition SIDELINK					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
sl-ConfigDedicatedNR-r16 CHOICE {					
setup	SL-ConfigDedicatedNR	Table			
		12.2.8.3.3.3-3			
}					
}					
}					
}					
}					
}					
}					
}					

Table 12.2.8.3.3.3-3: SL-ConfigDedicatedNR (Table 12.2.8.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.6-7 with condition SL_DRB				
Information Element	Value/remark	Comment	Condition	
SL-ConfigDedicatedNR-r16 ::= SEQUENCE {				
sl-RadioBearerToAddModList-r16 SEQUENCE	1 entry			
(SIZE (1maxNrofSLRB-r16)) OF SL-				
RadioBearerConfig-r16 {				
SL-RadioBearerConfig-r16[1] SEQUENCE {		Entry 1		
slrb-Uu-ConfigIndex-r16	1			
sl-SDAP-Config-r16 SEQUENCE {				
sl-SDAP-Header-r16	absent			
}				
}				
}				
}				

Table 12.2.8.3.3.3-4: RRCReconfigurationSidelink (Table 12.2.8.3.3.2-1, Step 5)

Derivation Path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX and SL_DRB				
Information Element	Value/remark	Comment	Condition	
RRCReconfigurationSidelink ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfigurationSidelink-r16 SEQUENCE {				
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry			
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {				
SLRB-Config-r16[1] SEQUENCE {		entry 1		
sl-SDAP-ConfigPC5-r16 SEQUENCE {				
sl-MappedQoS-FlowsToAddList-r16	Not checked			
sl-SDAP-Header-r16	absent			
}				
sl-PDCP-ConfigPC5-r16	Not checked			
sl-RLC-ConfigPC5-r16	Not checked			
sl-MAC-LogicalChannelConfigPC5-r16	Not checked			
}				
}				
}				
}				
}				

Table 12.2.8.3.3.3-5: SidelinkUEInformationNR (Table 12.2.8.3.3.2-1, Step 7, 15 and 23)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-28A with condition SIDELINK_TX						
Information Element	Value/remark Comment Conditio					
SidelinkUEInformationNR-r16 ::= SEQUENCE {						
criticalExtensions CHOICE {						
sidelinkUEInformationNR-r16 SEQUENCE {						
sl-FailureList-r16 SEQUENCE (SIZE	1 entry					
(1maxNrofSL-Dest-r16)) OF SL-Failure-r16 {						
SL-Failure-r16[1] SEQUENCE {						
sl-DestinationIdentity-r16	SL-DestinationIdentity of					
	NR-SS-UE 1					
sl-Failure-r16	rlf					
}						
}						
}						
}						
}						

13 V2X NAS layer

13.1 V2X policy provisioning

13.1.1 V2X policy provisioning / Precedence / Validity timer expires / geographical area changes

13.1.1.1 Test Purpose (TP)

(1)

with { UE having V2XP over PC5 configured in the USIM and UE being out of NR network coverage }

ensure that $\{$

when { UE is required to start NR V2X communication }

then { UE conducts V2X communication according to parameters of V2XP over PC5 from USIM }

}

(2)

with { UE having V2XP over PC5 configured in the USIM and UE being in NR network coverage }

ensure that {

```
when { UE receives V2XP over PC5 from SS and then NR cell is off }
```

then { UE conducts V2X communication according to parameters of V2XP over PC5 from SS }

}

(3)

```
with { UE having received V2XP over PC5 from SS }
```

ensure that $\{$

when { Validity timer expires and NR cell is on }

then { UE initiates a UE-requested V2X policy provisioning procedure }

}

(4)

with { UE having received V2XP over PC5 from SS after UE initiates a UE-requested V2X policy provisioning procedure }

ensure that $\{$

when { UE is located in the geographical area and UE is requested by a service to transmit a V2X packet }

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then { UE initiates a V2X communication on the frequency associated with the service }

}

(5)

with { UE having initiated a V2X communication on the frequency associated with the service }

ensure that $\{$

when { UE moves out of the geographical area }

then { UE cannot continue the V2X communication on the frequency associated with the service }

}

13.1.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587, clauses 5.2.2 and 5.2.3. Unless otherwise stated these are Rel-16 requirements.

[TS 24.501, clause 5.2.2]

•••

The UE shall use the V2X configuration parameters in the following order of decreasing precedence:

- a) the V2X configuration parameters provided as a V2XP using the UE policy delivery service as specified in annex D of 3GPP TS 24.501 [6];
- b) the V2X configuration parameters provided by a V2X application server via V1 reference point;
- c) the V2X configuration parameters configured in the USIM; and
- d) the V2X configuration parameters pre-configured in the ME.

[TS 24.501, clause 5.2.3]

The configuration parameters for V2X communication over PC5 consist of:

- a) a validity timer for the validity of the configuration parameters for V2X communication over PC5;
- b) a list of PLMNs and RATs in which the UE is authorized to use V2X communication over PC5 when the UE is served by E-UTRA or served by NR. Each entry of the list contains a PLMN ID and RATs in which the UE is authorized to use V2X communication over PC5;
- c) an indication of whether the UE is authorized to use V2X communication over PC5 when the UE is not served by E-UTRA and not served by NR;
- d) list of RATs in which the UE is authorized to use V2X communication over PC5 and the radio parameters of the RAT for V2X communication over PC5 applicable per geographical area with an indication of whether these radio parameters of the RAT are "operator managed" or "non-operator managed" when the UE is not served by E-UTRA and not served by NR;

e) void

- f) optionally, a list of V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules. Each mapping rule contains one or more V2X service identifiers, PC5 RAT(s) and, if the PC5 RAT(s) include E-UTRA-PC5, Tx profiles corresponding to the E-UTRA-PC5;
- g) configuration parameters for privacy support, consisting of:
 - 1) a list of V2X services requiring privacy. Each entry of the list contains one or more V2X service identifiers and one or more geographical areas where the privacy is required; and
 - 2) a privacy timer value as specified in 3GPP TS 24.588 [7] clause 5.3;
- h) configuration parameters for a V2X communication over PC5 in E-UTRA-PC5, consisting of:
 - a list of V2X service identifier to destination layer-2 ID mapping rules. Each mapping rule contains one or more V2X service identifiers and the destination layer-2 ID;
 - 2) optionally, a default destination layer-2 ID;
 - 3) a list of PPPP to PDB mapping rules. Each mapping rule contains a ProSe Per-Packet Priority (PPPP) and a Packet Delay Budget (PDB);
 - optionally, list of V2X service identifier to V2X E-UTRA frequency mapping rules. Each mapping rule contains one or more V2X service identifiers and the V2X E-UTRA frequencies with associated geographical areas; and
 - 5) optionally, a list of the V2X services authorized for ProSe Per-Packet Reliability (PPPR). Each entry of the list contains one or more V2X service identifiers and a ProSe Per-Packet Reliability (PPPR) value; and
- i) configuration parameters for a V2X communication over PC5 in NR-PC5, consisting of:
 - 1) optionally, a list of V2X service identifier to V2X NR frequency mapping rules. Each mapping rule contains one or more V2X service identifiers and the V2X NR frequencies with associated geographical areas;
 - 2) a list of V2X service identifier to destination layer-2 ID for broadcast mapping rules. Each mapping rule contains one or more V2X service identifiers and the destination layer-2 ID for broadcast;
 - 3) optionally, a default destination layer-2 ID for broadcast;
 - 4) a list of V2X service identifier to destination layer-2 ID for groupcast mapping rules. Each mapping rule contains one or more V2X service identifiers and the destination layer-2 ID for groupcast;
 - 5) a list of V2X service identifier to default destination layer-2 ID for unicast initial signalling mapping rules. Each mapping rule contains one or more V2X service identifiers and the default destination layer-2 ID for initial signalling to establish unicast connection;
 - 6) a list of V2X service identifier to PC5 QoS parameters mapping rules. The PC5 QoS parameters are specified in clause 5.4.2 of 3GPP TS 23.287 [3];
 - 7) an AS configuration, including a list of SLRB mapping rules applicable when the UE is not served by E-UTRA and is not served by NR. Each SLRB mapping rule contains a PC5 QoS profile and an SLRB. The PC5 QoS profile contains the following parameters:
 - i) the PC5 QoS profile contains a PQI;
 - ii) if the PQI of the PC5 QoS profile identifies a GBR QoS, the PC5 QoS profile contains a PC5 flow bit rates consisting of a guaranteed flow bit rate (GFBR) and a maximum flow bit rate (MFBR);
 - iii) if the PQI of the PC5 QoS profile identifies a non-GBR QoS, the PC5 QoS profile contains the PC5 link aggregated bit rate consisting of a per link aggregate maximum bit rate (PC5 LINK-AMBR);

- NOTE: PC5 link aggregated bit rate is only used for unicast mode communications over PC5.
 - iv) the PC5 QoS profile contains a range, which is only used for groupcast mode communications over PC5; and
 - v) the PC5 QoS profile can contain the priority level, the averaging window, and the maximum data burst volume. If one or more of the priority level, the averaging window or the maximum data burst volume are not contained in the PC5 QoS profile, their default values apply;
 - 8) a list of NR-PC5 unicast security policies. Each entry in the list contains an NR-PC5 unicast security policy composed of:
 - i) one or more V2X service identifiers;
 - ii) the signalling integrity protection policy for the V2X service identifier(s);
 - iii) the signalling ciphering policy for the V2X service identifier(s);
 - iv) the user plane integrity protection policy for the V2X service identifier(s);
 - v) the user plane ciphering policy for the V2X service identifier(s); and
 - vi) one or more geographical areas where the NR-PC5 unicast security policy applies; and
 - a list of V2X service identifier to default mode of communication mapping rules. Each mapping rule contains one or more V2X service identifiers and the default mode of communication (one of unicast, groupcast or broadcast).
- 13.1.1.3 Test description

13.1.1.3.1 Pre-test conditions

SS-NW:

- NR Cell 1.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.3 is used in NR Cell 1.
- 1 GNSS simulator

NR-SS-UE:

- NR-SS-UE 1 is as defined in TS 38.508-1 [4], configured for and operating as NR Sidelink Communication receiving device on the resources which the UE is expected to use for transmission.
- NR-SS-UE 1 is synchronised on GNSS.

UE:

- The UE is equipped with a USIM configuration as defined in clause 4.8.3.3.3 of TS 38.508-1 [4].
- UE is synchronised on GNSS.

Preamble:

- UE is brought to state 4-A, Out of Coverage (NR sidelink), in accordance with the procedure described in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*), Cast Type (*unicast*), UE initiating unicast mode NR sidelink communication, Test Loop Function (On) with UE test loop mode E.

13.1.1.3.2 Test procedure sequence

Table 13.1.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS configures:	-	-	-	-
	SS-NW				
	- NR Cell 1 as "Non-suitable "Off" cell" in				
	accordance with TS 38.508-1 [4], Table				
	6.2.2.1-3.				
	- GNSS simulator is configured for Scenario				
	#1.				
2	Check: Does the UE continuously send STCH	>	V2X Data packet	1	P
	SDAP PDUs on SL DRB#n in every PSSCH				
	duration with the resources pre-configured in				
	SL-PreconfigurationNR IE with NRf1 test				
	frequency for NR Sidelink in USIM? (Note 1)				
	NOTE: The UE has activated and closed test				
	Trigger the UE to open UE test lean mode E				
3	NOTE: The UE test loop mode E may be	-	-	-	-
	oppond by MMI or AT command (+CCUTIE)				
Δ	Trigger the LIE to deactivate LIE test loop	-	_	-	
-	mode				
	NOTE [.] The deactivation of UE test loop mode				
	may be performed by MMI or AT command				
	(+CATM)				
4A-	The NR-SS-UE1 releases unicast mode	-	-	-	-
4B	sidelink connection by executing steps 1-2 of				
	Table 4.9.30.2.2-1 in TS 38.508-1 [4].				
5	The SS configures:	-	-	-	-
	SS-NW				
	- NR Cell 1 as "Serving cell" in accordance				
	with TS 38.508-1 [4], Table 6.2.2.1-3.				
6	The UE performs Step 1-22a1 of Table	-	-	-	-
	4.5.2.2-2 in TS 38.508-1 [4], with 'connected				
	without release'.				
7	SS NW/ transmite a DL NAS TRANSPORT				
'	message containing a MANAGE LE POLICY			-	-
	COMMAND message to transfer the V/2X				
	policy to the LIE				
8	The UE transmits a UL NAS TRANSPORT	>	5GMM: UL NAS TRANSPORT	-	-
	message containing a MANAGE UE POLICY				
	COMPLETE message		UE V2X: MANAGE UE POLICY		
			COMPLETE		
8A	SS-NW transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
Q	The SS configures:	-	_		_
	SS-NW		-		
	- NR Cell 1 as "Non-suitable "Off" cell" in				
	accordance with TS 38 508-1 [4] Table				
	6221-3				
10	Trigger the UE to activate UE test loop mode	-	-	-	-
	NOTE: The activation of UE test loop mode			1	
	may be performed by MMI or AT command				
	(+CATM).			1	
11	Trigger the UE to close UE test loop mode E	-	-	-	-
	(transmission mode).			1	
	NOTE: The UE test loop mode E may be			1	
	closed by MMI or AT command (+CCUTLE).			1	
11	The UE performs Steps 2-7 of Table	-	-	-	-
A-	4.9.22.2.2-1 in TS 38.508-1 [4] to establish				
11F	unicast mode NR sidelink communication on	1		1	

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---------	----

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12	Check: Does the UE continuously send STCH	>	V2X Data packet	2	Р
	SDAP PDUs on SL DRB#n in every PSSCH				
	duration with the resources pre-configured in				
	CL DragonfigurationND IF with NDf2 toot				
	SL-Preconingurationing is with NRI2 test				
	frequency for NR Sidelink of V2X policy in step				
	7? (Note 1)				
12	Trigger the UE to open UE test loop mode E	-	-	-	-
A	NOTE: The UE test loop mode E may be				
	opened by MMI or AT command (+CCUTLE).				
13	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	3	Р
A	RRCSetupRequest message within 30				
	seconds after step 7?				
13	The UE performs Step 3-8 of Table 4 5 4 2-3	-	-	-	_
B-	in TS 38 508-1 [/] with 'connected without				
10					
13	release.				
G					
12	Trigger the UE to deactivate UE test loop	-	-	-	-
B	mode.				
	NOTE: The deactivation of UE test loop mode				
	may be performed by MMI or AT command				
	(+CATM)				
12	The NR-SS-UE1 releases unicast mode	-	-	-	_
C-	sidelink connection by executing steps 1-2 of				
10	Table 4.0.20.2.2.1 in TC 20 500.1 [4]				
12	Table 4.9.30.2.2-1 IN 15 38.508-1 [4].				
D					
13	The SS configures:	-	-	-	-
	SS-NW				
	- NR Cell 1 as "Serving cell" in accordance				
	with TS 38.508-1 [4], Table 6.2.2.1-3.				
14	Check: Does the UE transmit a UL NAS	>	5GMM: UL NAS TRANSPORT	3	Р
	TRANSPORT message containing a LIF				
			UE V2X: UE POLICY		
	POLICI PROVISIONING REQUEST message				
	?				
15	SS NW transmite a DL NAS TRANSPORT			+	
15				-	-
	message containing a MANAGE UE POLICY		PCF: MANAGE UE POLICY		
	COMMAND message		COMMAND		
15	The UE transmits a UL NAS TRANSPORT	>	5GMM: UL NAS TRANSPORT	-	-
A	message containing a MANAGE UE POLICY				
	COMPLETE message		UE V2X: MANAGE UE POLICY		
			COMPLETE		
15	SS-NW transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
В					
16	Trigger the UE to activate UE test loop mode	-	-	-	-
Α	NOTE: The activation of UE test loop mode				
.	may be performed by MMI or AT command				
16	Trigger the LIE to close LIE test leap mode E		 		
10		-	-	-	-
В					
	NUIE: The UE test loop mode E may be				
	closed by MMI or AT command (+CCUTLE).				
16	The UE performs Steps 2-7 of Table	-	-	-	-
C-	4.9.22.2.2-1 in TS 38.508-1 [4] to establish				
16	unicast mode NR sidelink communication on				
н	NRf3.				
16	The SS configures:	-	-	-	-
	SC-NIM				
	- INR Cell 1 as "INON-SUITABle "UTT" Cell" IN				
	accordance with TS 38.508-1 [4], Table				
	6.2.2.1-3.				

17	Trigger the UE to reset UTC time.	-	-	-	-
	NOTE: The UTC time reset may be performed				
	by MMI or AT command (+CUTCR).				
18	SS configures:	-	-	-	-
	GNSS simulator is configured for Scenario #2:				
	move from inside Geographical area #1 to				
	outside Geographical area #1, and starts step				
	1 to simulate a location in the centre of				
	Geographical area #1 as defined in TS 38.508-				
	1 [4] Table 4.11.2-2. Geographical area #1 is				
	also pre-configured in the UE.				
19	Check: Does the UE continuously send STCH	>	V2X Data packet	4	Р
	SDAP PDUs on SL DRB#n in every PSSCH				
	duration with the resources in SL-				
	PreconfigurationNR IE with NRf3 test				
	frequency for NR Sidelink of V2X policy in step				
	15? (Note 1)				
20	SS configures:	-	-	-	-
	GNSS simulator is triggered to start step 2 of				
	Scenario #2 to simulate the UE moving to a				
	location outside Geographical area #1 as				
	defined in TS 38.508-1 [4] Table 4.11.2-2. The				
	area outside Geographical area #1 is not pre-				
	configured in the UE.				
21	Wait for 71 sec (as detailed in TS 38.508-1 [4]	-	-	-	-
	Table 4.11.2-2) to allow the simulated location				
	for the UE to leave Geographical area #1 and				
	for the UE to acquire new location data.				
22	Check: Does the UE continuously send STCH	>	V2X Data packet	5	F
	SDAP PDUs on SL DRB#n in every PSSCH				
	duration with the resources in SL-				
	PreconfigurationNR IE with NRf3 test				
	frequency for NR Sidelink of V2X policy in step				
	15, in the next 10 seconds?				
23	Trigger the UE to open UE test loop mode E	-	-	-	-
	NOTE: The UE test loop mode E may be				
	opened by MMI or AT command (+CCUTLE).				
24	Trigger the UE to deactivate UE test loop	-	-	-	-
	mode.				
	NOTE: The deactivation of UE test loop mode				
	may be performed by MMI or AT command				
	(+CATM).				
Note	1: Although the UE is expected to transmit con	tinuously	, only one STCH SDAP SDU packet is	showr	1
	explicitly in this step sequence.				

13.1.1.3.3 Specific message contents

Table 13.1.1.3.3-0: DL NAS TRANSPORT (step 7, 15, Table 13.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4] Table 4.7.1-11			
Information Element	Value/remark	Comment	Condition
Payload container type	'0101'B	UE policy	
		container type	
Payload container	Set according to Table		
	13.1.1.3.3-1		

Table 13.1.1.3.3-1: MANAGE UE POLICY COMMAND (step 7, 15, Table 13.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4] Table 4.7.6-1			
Information Element	Value/remark	Comment	Condition
UE policy section management list			
UE policy section management list contents	1 entry		
UE policy section management sublist (PLMN-1)			
UE policy section management sublist contents			
Instruction 1			
UE policy section contents			
UE policy part 1			
UE policy part type	'0011'B	V2XP	
UE policy part contents	See Table 13.1.1.3.3-2		

Table 13.1.1.3.3-2: UE policy part contents (Table 13.1.1.3.3-1)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.4-1			
Information Element	Value/remark	Comment	Condition
UE policy part contents={V2XP contents}	See Table 13.1.1.3.3-3		

Table 13.1.1.3.3-3: V2XP contents (Table 13.1.1.3.3-2)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.4-2			
Information Element	Value/remark	Comment	Condition
V2XP info #1	See Table 13.1.1.3.3-4		
V2XP info #2	Not Present		

Table 13.1.1.3.3-4: V2XP info (Table 13.1.1.3.3-3)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.4-3			
Information Element	Value/remark	Comment	Condition
V2XP info contents	See Table 13.1.1.3.3-5		

Table 13.1.1.3.3-5: V2XP info = {UE policies for V2X communication over PC5} (Table 13.1.1.3.3-4)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-1				
Information Element	Value/remark	Comment	Condition	
Validity timer	'FF FF FF FF FF FF FF	5 bytes, Expiration	Step 15	
	FF FF FF'H	UTC time of		
		validity of the UE		
		policies, in		
		seconds since		
		midnight UTC of		
		January 1, 1970		
		(not counting leap		
		seconds)		
	Current GNSS UTC time		Step 7	
	+ 30 seconds			
V2X service identifier to PC5 RAT and Tx profiles	See Table 4.7.5.5-12 in			
mapping rules	TS 38.508-1 [4] with			
	condition NR-PC5			
Not served by E-UTRA and not served by NR	See Table 13.1.1.3.3-6			

Table 13.1.1.3.3-6: Not served by E-UTRA and not served by NR (Table 13.1.1.3.3-5)

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Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-6				
Information Element	Value/remark	Comment	Condition	
EPINENN	'0'B	UE is not		
		authorized to use		
		V2X		
		communication		
		over E-UTRA-PC5		
		when not served		
		by E-UTRA and		
		not served by NR		
E-UTRA radio parameters per geographical area list	Not present			
NR radio parameters per geographical area list	See Table 13.1.1.3.3-7			

Table 13.1.1.3.3-7: Radio parameters per geographical area list (Table 13.1.1.3.3-6)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-7			
Information Element	Value/remark	Comment	Condition
Radio parameters per geographical area info 1	See Table 13.1.1.3.3-8		

Table 13.1.1.3.3-8: Radio parameters per geographical area info (Table 13.1.1.3.3-7)

Derivation TS 38.508-1 [4] Table 4.7.5.5-8			
Information Element	Value/remark	Comment	Condition
Radio parameters	See Table 13.1.1.3.3-9		

Table 13.1.1.3.3-9: Radio parameters (Table 13.1.1.3.3-8)

Derivation Path: TS 38.508-1 [4] Table 4.7.5.5-11			
Information Element	Value/remark	Comment	Condition
Radio parameters contents	See Table 13.1.1.3.3-10		

Table 13.1.1.3.3-10: SL-PreconfigurationNR (Table 13.1.1.3.3-9)

Derivation Path: TS 38.508-1 [4] Table 4.10.1-1			
Information Element	Value/remark	Comment	Condition
SL-PreconfigurationNR-r16 ::= SEQUENCE {			
sidelinkPreconfigNR-r16 SEQUENCE {			
sI-PreconfigFreqInfoList-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofFreqSL-r16)) OF {			
SL-FreqConfigCommon-r16[0]	See Table 13.1.1.3.3-11		
}			
}			
}			

Table 13.1.1.3.3-11: SL-FreqConfigCommon (Table 13.1.1.3.3-10)

Derivation Path: TS 38.508-1 [4] Table 4.6.6-11				
Information Element	Value/remark	Comment	Condition	
SL-FreqConfigCommon-r16 ::= SEQUENCE {				
sl-SCS-SpecificCarrierList-r16 SEQUENCE (SIZE	1 entry			
(1maxSCSs)) OF SCS-SpecificCarrier {				
SCS-SpecificCarrier[1]	See Table 13.1.1.3.3-12	entry 1		
}				
sl-AbsoluteFrequencyPointA-r16	sl-	See TS 38.508-1	Step 7	
	AbsoluteFrequencyPoint	[4] Table 6.2.3.7-		
	A as defined for the SL	1.		
	NRf2 frequency			
	sl-	See TS 38.508-1	Step 15	
	AbsoluteFrequencyPoint	[4] Table 6.2.3.7-		
	A as defined for the SL	1.		
	NRf3 frequency			
sl-AbsoluteFrequencySSB-r16	sl-	See TS 38.508-1	Step 7	
	AbsoluteFrequencySSB	[4] Table 6.2.3.7-		
	as defined for the SL	1.		
	NRf2 frequency			
	sl-	See TS 38.508-1	Step 15	
	AbsoluteFrequencySSB	[4] Table 6.2.3.7-		
	as defined for the SL	1.		
	NRf3 frequency			
}				

Table 13.1.1.3.3-12: SCS-SpecificCarrier (Table 13.1.1.3.3-11)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-160			
Information Element	Value/remark	Comment	Condition
SCS-SpecificCarrier ::= SEQUENCE {			
offsetToCarrier	offsetToCarrier as	See TS 38.508-1	Step 7
	defined for the SL NRf2	[4] Table 6.2.3.7-	
	frequency	1.	
	offsetToCarrier as	See TS 38.508-1	Step 15
	defined for the SL NRf3	[4] Table 6.2.3.7-	
	frequency	1.	
}			

Table 13.1.1.3.3-13: UL NAS TRANSPORT (step 8, 14, 15A Table 13.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4] Table 4.7.1-11			
Information Element	Value/remark	Comment	Condition
Payload container type	'0101'B	UE policy	
		container type	
Payload container	Set to MANAGE UE		Step 8,15A
	POLICY COMPLETE		
	message		
	Set to UE POLICY		Step 14
	PROVISIONING		
	REQUEST message		

13.2 PC5 unicast

13.2.1 PC5 unicast / link establishment / Reject / Conflict Layer 2 ID

```
13.2.1.1 Test Purpose (TP)
```

(1)

with { UE being out of coverage, Test loopback activated}

ensure that $\{$

when { UE has a V2X packet to be transmitted over PC5 }

```
then { UE initiates PC5 unicast link establishment }
```

```
}
```

(2)

with { UE having transmitted PC5 unicast link establishment Request message }

ensure that {

```
when { The Layer 2 ID is conflicted }
```

then { the PC5 unicast link establishment procedure fails}

```
}
```

13.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587 [FFS], subclause 6.1.2.2.2 and 6.1.2.2.5. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.2.2]

The initiating UE shall meet the following pre-conditions before initiating this procedure:

- a) a request from upper layers to transmit the packet for V2X service over PC5;
- b) the communication mode is unicast mode (e.g. pre-configured as specified in clause 5.2.3 or indicated by upper layers);
- c) the link layer identifier for the initiating UE (i.e. layer-2 ID used for unicast communication) is available (e.g. pre-configured or self-assigned) and is not being used by other existing PC5 unicast links within the initiating UE;
- d) the link layer identifier for the destination UE (i.e. the unicast layer-2 ID of the target UE or the broadcast layer-2 ID) is available to the initiating UE (e.g. pre-configured, obtained as specified in clause 5.2.3 or known via prior V2X communication);
- NOTE 1: In the case where different V2X services are mapped to distinct default destination layer-2 IDs, when the initiating UE intends to establish a single unicast link that can be used for more than one V2X service identifiers, the UE can select any of the default destination layer-2 ID for unicast initial signalling.

[TS 24.587, subclause 6.1.2.2.5]

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If the DIRECT LINK ESTABLISHMENT REQUEST message cannot be accepted, the target UE shall send a DIRECT LINK ESTABLISHMENT REJECT message. The DIRECT LINK ESTABLISHMENT REJECT message contains a PC5 signalling protocol cause IE set to one of the following cause values:

#1 direct communication to the target UE not allowed;

#3 conflict of layer-2 ID for unicast communication is detected;

#5 lack of resources for PC5 unicast link; or

#111 protocol error, unspecified.

•••

For a received DIRECT LINK ESTABLISHMENT REQUEST message from a layer-2 ID (for unicast communication), if the target UE already has an existing link established to a UE using this layer-2 ID or is currently processing a DIRECT LINK ESTABLISHMENT REQUEST message from the same layer-2 ID, and with one of following parameters different from the existing link or the link for which the link establishment is in progress:

a) the source user info;

b) type of data (e.g. IP or non-IP); or

c) security policy,

the target UE shall send a DIRECT LINK ESTABLISHMENT REJECT message containing PC5 signalling protocol cause value #3 "conflict of layer-2 ID for unicast communication is detected".

NOTE: The type of data (e.g. IP or non-IP) is indicated by the optional IP address configuration IE included in the corresponding DIRECT LINK SECURITY MODE COMPLETE message, i.e. the type of data for the requested link is IP type if this IE is included, and the type of data for the requested link is non-IP if this IE is not included.

•••

After sending the DIRECT LINK ESTABLISHMENT REJECT message, the target UE shall provide the following information along with the initiating UE's layer-2 ID for unicast communication and the target UE's layer-2 ID for unicast communication to the lower layer:

a) an indication of deactivation of the PC5 unicast security protection and deletion of security context for the PC5 unicast link, if applicable.

Upon receipt of the DIRECT LINK ESTABLISHMENT REJECT message, the initiating UE shall stop timer T5000 and abort the PC5 unicast link establishment procedure.

•••

After receiving the DIRECT LINK ESTABLISHMENT REJECT message, the initiating UE shall provide the following information along with the initiating UE's layer-2 ID for unicast communication and the target UE's layer-2 ID for unicast communication to the lower layer:

a) an indication of deactivation of the PC5 unicast security protection and deletion of security context for the PC5 unicast link, if applicable.

13.2.1.3 Test description

13.2.1.3.1 Pre-test conditions

System Simulator:

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- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A and Test Mode (*On*), Test Loop Function (*Off*) as defined in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*),Cast Type (*Unicast*), UE initiating unicast mode NR sidelink communication, GNSS Sync (*On*).

13.2.1.3.2 Test procedure sequence

Table 13.2.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The NR-SS-UE1 releases unicast mode	-	-	-	-
	sidelink connection by executing steps 1-2 of				
	Table 4.9.30.2.2-1 in TS38.508-1 [4].				
2	Trigger UE to close UE test loop mode E	-	-	-	-
	(transmission mode).				
	NOTE: The UE test loop mode E may be				
	closed by MMI or AT command (+CCUTLE).				
3	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	1	Р
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
4	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REJECT message with the		ESTABLISHMENT REJECT		
	PC5 signalling protocol cause set to 'conflict of				
	layer-2 ID for unicast communication is				
	detected'.				
5	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMMAND message		MODE COMMAND		
-	EXCEPTION: Step 7 is optional and may	-	-	-	-
	occur during Step 6				
6	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK SECURITY	2	F
	SECURITY MODE COMPLETE message in		MODE COMPLETE		
	the next 5 seconds?				
7	The UE sends a DIRECT LINK	-	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
-	EXCEPTION: steps 8-13 are executed if UE	-	-	-	-
	has sent DIRECT LINK ESTABLISHMENT				
	REQUEST message in step7.				
8-	Steps 3-8 of the procedure defined in Table	-	-	-	-
13	4.9.22.2.2-1 in TS 38.508-1 [4] is performed.				
14	The SS sends AT COMMAND +CCUTLE to	-	-	-	-
	open test loop function.				

13.2.1.3.3 Specific message contents

Table 13.2.1.3.3-1: Message DIRECT LINK ESTABLISHMENT REQUEST (step 3, Table 13.2.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-7 with condition Tx

Table 13.2.1.3.3-2: Message DIRECT LINK ESTABLISHMENT REJECT (step 4, Table 13.2.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-28 with condition Rx				
Information Element	Value/Remark	Comment	Condition	
PC5 signalling protocol cause	'0000 0011'B	Conflict of layer-2		
		ID for unicast		
		communication is		
		detected		

Table 13.2.1.3.3-3: Message DIRECT LINK SECURITY MODE COMMAND (step 5, Table 13.2.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-18 with condition Rx

Table 13.2.1.3.3-4: Message DIRECT LINK SECURITY MODE COMPLETE (step 6, Table 13.2.1.3.2-1)

```
Derivation path: TS 38.508-1 [4], Table 4.7.4-19 with condition Tx
```

13.2.2 PC5 unicast / link Security Mode

```
13.2.2.1 Test Purpose (TP)
```

(1)

```
with { UE having received a DIRECT LINK SECURITY MODE COMMAND message }
```

ensure that {

when { The DIRECT LINK SECURITY MODE COMMAND message includes non matching UE security capabilities }

then { UE transmits a DIRECT LINK SECURITY MODE REJECT message }

}

13.2.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587 [FFS], subclause 6.1.2.7.5. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.7.5]

If the DIRECT LINK SECURITY MODE COMMAND message cannot be accepted, the target UE shall send a DIRECT LINK SECURITY MODE REJECT message, and the target UE shall abort the ongoing procedure that triggered the initiation of the PC5 unicast link security mode control procedure unless the ongoing procedure is a PC5 unicast link establishment procedure and the Target user info is not included in the DIRECT LINK ESTABLISHMENT

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REQUEST message. The DIRECT LINK SECURITY MODE REJECT message contains a PC5 signalling protocol cause IE indicating one of the following cause values:

#7: integrity failure;

#8: UE security capabilities mismatch;

#9: LSBs of $K_{NRP-sess}$ ID conflict;

#10:UE PC5 unicast signalling security policy mismatch;

#11:lack of resources for PC5 unicast link; or

#111: protocol error, unspecified.

•••

If the target UE detects that the received UE security capabilities IE in the DIRECT LINK SECURITY MODE COMMAND message has been altered compared to the latest values that the target UE sent to the initiating UE in the DIRECT LINK ESTABLISHMENT REQUEST message or DIRECT LINK REKEYING REQUEST message, the target UE shall include PC5 signalling protocol cause #8 "UE security capabilities mismatch" in the DIRECT LINK SECURITY MODE REJECT message.

•••

After the DIRECT LINK SECURITY MODE REJECT message is generated, the target UE shall pass this message to the lower layers for transmission along with the initiating UE's layer-2 ID for unicast communication and the target UE's layer-2 ID for unicast communication.

Upon receipt of the DIRECT LINK SECURITY MODE REJECT message, the initiating UE shall stop timer T5007, provide an indication to the lower layer of deactivation of the PC5 unicast security protection and deletion of security context for the PC5 unicast link, if applicable and:

a) if the PC5 signalling protocol cause IE in the DIRECT LINK SECURITY MODE REJECT message is set to #9 "LSBs of K_{NRP-sess} ID conflict", retransmit the DIRECT LINK SECURITY MODE COMMAND message with a different value for the 8 LSBs of K_{NRP-sess} ID and restart timer T5007; or

b) if the PC5 signalling protocol cause IE is set to the value other than #9 "LSBs of KNRP-sess ID conflict", abort the ongoing procedure that triggered the initiation of the PC5 unicast link security mode control procedure.

13.2.2.3 Test description

13.2.2.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A and Test Mode (*On*), Test Loop Function (*Off*) as defined in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), UE initiating unicast mode NR sidelink communication, GNSS Sync (*On*).

13.2.2.3.2 Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The NR-SS-UE1 releases unicast mode	-	-	-	-
	sidelink connection by executing steps 1-2 of				
	Table 4.9.30.2.2-1 in TS 38.508-1 [4].				
2	Trigger UE to close UE test loop mode E	-	-	-	-
	(transmission mode).				
	NOTE: The UE test loop mode E may be				
	closed by MMI or AT command (+CCUTLE).				
3	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
4	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMMAND message		MODE COMMAND		
	including non matching UE security				
	capabilities				
5	The UE transmits a DIRECT LINK SECURITY	>	PC5-S: DIRECT LINK SECURITY	1	Р
	MODE REJECT message with PC5 signalling		MODE REJECT		
	protocol cause #8 UE security capabilities				
	mismatch.				
6-	The UE establishes unicast mode sidelink	-	-	-	-
12	connection by executing steps 2-8 of Table				
	4.9.22.2.2-1 in TS38.508-1 [4].				
13	Trigger UE to deactivate UE test loop mode.	-	-	-	-
	NOTE: The deactivation of UE test loop mode				
	may be performed by MMI or AT command				
	(+CATM).				

13.2.2.3.3 Specific message contents

Table 13.2.2.3.3-1: Message DIRECT LINK ESTABLISHMENT REQUEST (step 3, Table 13.2.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-7 with condition Tx

Table 13.2.2.3.3-2: Message DIRECT LINK SECURITY MODE COMMAND (step 4, Table 13.2.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-18 with condition Rx				
Information Element	ion Element Value/Remark		Condition	
UE security capabilities				
Length of UE security capabilities contents	'02'H			
5G-EA algorithms	'1100 0000'B	5G-EA0 and 5G-		
		EA1 supported		
5G-IA algorithms	'1100 0000'B	5G-IA0 and 5G-		
		IA1 supported		

Table 13.2.2.3.3-3: Message DIRECT LINK SECURITY MODE REJECT (step 5, Table 13.2.2.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-20 with condition Tx			
Information Element	Value/Remark	Comment	Condition
PC5 signalling protocol cause	'0000 1000'B	UE security	
		capabilities	
		mismatch	

13.2.3 PC5 unicast / Link modification

13.2.3.1 Test Purpose (TP)

(1)

with { UE having set up a V2X PDU session over PC5}

ensure that {

when { UE receives a DIRECT LINK MODIFICATION REQUEST to add a QoS flow to be used on an added unicast SL-DRB }

then { UE can communicate using the newly added QoS flow on added SL-DRB }

}

(2)

with { UE having set up a V2X PDU session over PC5}

ensure that {

when { UE receives a DIRECT LINK MODIFICATION REQUEST to modify a QoS flow associated with the SL-DRB} $\ensuremath{\mathsf{DRB}}$

then { UE can communicate on the SL-DRB using the newly modified QoS }

}

(3)

with { UE having set up a V2X PDU session over PC5}

ensure that {

when { UE receives a DIRECT LINK MODIFICATION REQUEST to delete a QoS flow and associated SL-DRB is released}

then { UE releases the SL-DRB and its associated QoS flow and sends the complete message}

}

13.2.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587, subclause 6.1.2.3.2, 6.1.2.3.3. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.3.2]

The initiating UE shall meet the following pre-conditions before initiating this procedure for adding a new V2X service to the existing PC5 unicast link:

- a) there is a PC5 unicast link between the initiating UE and the target UE; and
- b) the pair of application layer IDs and the network layer protocol of this PC5 unicast link are identical to those required by the application layer in the initiating UE for this V2X service.
- c) the security policy corresponding to the V2X service identifier (e.g. ITS-AID of the new V2X service) is aligned with the security policy of the existing PC5 unicast link.

After receiving the service data or request from the upper layers, the initiating UE shall perform the PC5 QoS flow match as apecified in clause 6.1.2.13. If there is no matched PC5 QoS flow, the initiating UE shall derive the PC5 QoS parameters and assign the PQFI(s) for the PC5 QoS flows(s) to be established as specified in clause 6.1.2.12.

If the PC5 unicast link modification procedure is to add new PC5 QoS flow(s) to the existing PC5 unicast link, the initiating UE shall create a DIRECT LINK MODIFICATION REQUEST message. In this message, initiating UE:

- a) shall include the PQFI(s) and the corresponding PC5 QoS parameters, including the V2X service identifier(s); and
- b) shall include the link modification operation code set to "add new PC5 QoS flow(s) to the existing PC5 unicast link ".

If the PC5 unicast link modification procedure is to modify the PC5 QoS parameters for existing PC5 QoS flow(s) in the existing PC5 unicast link, the initiating UE shall create a DIRECT LINK MODIFICATION REQUEST message. In this message, the initiating UE:

- a) shall include the PQFI(s) and the corresponding PC5 QoS parameters, including the V2X service identifier(s); and
- b) shall include the link modification operation code set to "modify PC5 QoS parameters of the existing PC5 QoS flow(s)".

If the PC5 unicast link modification procedure is to associate new V2X service(s) with existing PC5 QoS flow(s), the initiating UE shall create a DIRECT LINK MODIFICATION REQUEST message. In this message, the initiating UE:

- a) shall include the PQFI(s) and the corresponding PC5 QoS parameters, including the V2X service identifier(s); and
- b) shall include the link modification operation code set to "associate new V2X service(s) with existing PC5 QoS flow(s)".

If the PC5 unicast link modification procedure is to remove the associated V2X service(s) from existing PC5 QoS flow(s), the initiating UE shall create a DIRECT LINK MODIFICATION REQUEST message. In this message, the initiating UE:

- a) shall include the PQFI(s) and the corresponding PC5 QoS parameters including the V2X service identifier(s); and
- b) shall include the link modification operation code set to "remove V2X service(s) from existing PC5 QoS flow(s)".

If the PC5 unicast link modification procedure is to remove any PC5 QoS flow(s) from the existing PC5 unicast link, the initiating UE shall create a DIRECT LINK MODIFICATION REQUEST message. In this message, the initiating UE:

- a) shall include the PQFI(s); and
- b) shall include the link modification operation code set to "remove existing PC5 QoS flow(s) from the existing PC5 unicast link".

After the DIRECT LINK MODIFICATION REQUEST message is generated, the initiating UE shall pass this message to the lower layers for transmission along with the initiating UE's layer-2 ID for unicast communication and the target UE's layer-2 ID for unicast communication, and start timer T5001. The UE shall not send a new DIRECT LINK MODIFICATION REQUEST message to the same target UE while timer T5001 is running.

Initiating UE		Target UE
Start T5001	DIRECT LINK MODIFICATION REQUEST	
Stop T5001	DIRECT LINK MODIFICATION ACCEPT	
	OR	
Start T5001	DIRECT LINK MODIFICATION REQUEST	
Stop T5001	DIRECT LINK MODIFICATION REJECT	

Figure 6.1.2.3.2: PC5 unicast link modification procedure

[TS 24.587, subclause 6.1.2.3.3]

If the DIRECT LINK MODIFICATION REQUEST message is accepted, the target UE shall respond with the DIRECT LINK MODIFICATION ACCEPT message.

If the DIRECT LINK MODIFICATION REQUEST message is to add a new V2X service, add new PC5 QoS flow(s) or modify any existing PC5 QoS flow(s) in the PC5 unicast link, the target UE shall include in the DIRECT LINK MODIFICATION ACCEPT message:

a) the PQFI(s), the corresponding PC5 QoS parameters and the V2X service identifier(s) that the target UE accepts.

If the DIRECT LINK MODIFICATION REQUEST message is to remove an existing V2X service from the PC5 unicast link, the target UE shall delete the V2X service identifier received in the DIRECT LINK MODIFICATION REQUEST message and the corresponding PQFI(s) and PC5 QoS parameters from the profile associated with the PC5 unicast link.
If the DIRECT LINK MODIFICATION REQUEST message is to remove existing PC5 QoS flow(s) from the PC5 unicast link, the target UE shall delete the PQFI(s) and the corresponding PC5 QoS parameters from the profile associated with the PC5 unicast link.

If the DIRECT LINK MODIFICATION REQUEST message is to add a new V2X service, add new PC5 QoS flow(s) or modify any existing PC5 QoS flow(s) in the PC5 unicast link, after sending the DIRECT LINK MODIFICATION ACCEPT message, the target UE shall provide the added or modified PQFI(s) and corresponding PC5 QoS parameters along with PC5 link identifier to the lower layer.

If the DIRECT LINK MODIFICATION REQUEST message is to remove an existing V2X service or to remove the existing PC5 QoS flow(s) from the PC5 unicast link, after sending the DIRECT LINK MODIFICATION ACCEPT message, the target UE shall provide the removed PQFI(s) along with the PC5 link identifier to the lower layer.

If the target UE accepts the PC5 unicast link modification request, then the target UE may perform the PC5 QoS flow establishment over PC5 unicast link as specified in clause 6.1.2.12 and perform the PC5 QoS flow match over PC5 unicast link as specified in clause 6.1.2.13.

13.2.3.3 Test description

13.2.3.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.
- NR-SS-UE 1 is synchronised on GNSS.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A with Test Mode (*On*), Test Loop Function (*Off*) as defined in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*), NR-SS-UE initiating unicast mode NR sidelink communication, Cast Type (*Unicast*), GNSS Sync (*On*).

13.2.3.3.2 Test procedure sequence

Table 13.2.3.3.2-1: Main behaviour

	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	MODIFICATION REQUEST to add a QoS flow		MODIFICATION REQUEST		
2	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK	1	Р
	MODIFICATION ACCEPT message?		MODIFICATION ACCEPT		
3	The NR-SS-UE sends a	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	establish a unicast mode SL-DRB#2.				
4	Check: Does the UE send a	>	PC5-RRC:	1	Р
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message?		nk		
5	Check: Does the test result of generic test	-	-	1	-
	procedure in TS 38.508-1 subclause 4.9.31				
	indicate that the UE has user plane				
	connectivity on SL-DRB#2?				
6	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	MODIFICATION REQUEST to modify the QoS		MODIFICATION REQUEST		
	flow associated with SL=DRB#2.				
7	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK	2	Р
	MODIFICATION ACCEPT message?		MODIFICATION ACCEPT		
8	Check: Does the test result of generic test	-	-	2	-
	procedure in TS 38.508-1 subclause 4.9.31				
	indicate that the UE has user plane				
	connectivity on SL-DRB#2?				
9	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	MODIFICATION REQUEST to release a QoS		MODIFICATION REQUEST		
	flow associated with SL=DRB#2				
10	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK	3	Р
	MODIFICATION ACCEPT message?		MODIFICATION ACCEPT		
11	The NR-SS-UE sends a	<	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	indicate release of unicast mode SL DRB.				
12	Check: The UE sends a	>	PC5-RRC:	3	P
	RRCReconfigurationSidelinkComplete		RRCReconfigurationSidelinkComple		
	message?		te		

13.2.3.3.3 Specific message contents

Table 13.2.3.3.1: Message DIRECT LINK MODIFICATION REQUEST (step 1, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-9 with condition Rx

Table 13.2.3.3.3-2: Message DIRECT LINK MODIFICATION ACCEPT (step 2, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-10

Table 13.2.3.3.3-3: RRCReconfigurationSidelink (step 3, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 Conditions RX and SL_DRB					
RRCReconfigurationSidelink ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfigurationSidelink-r16 SEQUENCE {					
slrb-ConfigToAddModList-r16 SEQUENCE (SIZE	1 entry				
(1maxNrofSLRB-r16)) OF SLRB-Config-r16 {					
SLRB-Config-r16[1] SEQUENCE {		entry 1			
sl-SDAP-ConfigPC5-r16 SEQUENCE {					
sl-MappedQoS-FlowsToAddList-r16	1 entry				
SEQUENCE (SIZE (1 maxNrofSL-QFIsPerDest-					
r16)) OF SL-PQFI-r16 {					
SL-PQFI-r16[1]	2	entry 1			
}					
}					
sl-MAC-LogicalChannelConfigPC5-r16					
SEQUENCE {					
sl-LogicalChannelIdentity-r16	LogicalChannelIdentity				
	with condition DRB2				
}					
}					
}					
}					
}					
}					

Table 13.2.3.3.3-4: RRCReconfigurationSidelink (step 4, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 Conditions RX and SL_DRB

Table 13.2.3.3.3-5: Message DIRECT LINK MODIFICATION REQUEST (step 6, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-9 with condition Rx					
Information Element	Value/remark	Comment	Condition		
Link modification operation code	'0000 0100'B	Modify PC5 QoS			
		parameters of the			
		existing PC5 OoS			
		flow(o)			
OoC flow descriptions		now(s)			
Longth of DCE OoS flow descriptions contents	Sot to the actual length of				
Length of PC5 Q05 now descriptions contents					
	PC5 QoS flow				
	descriptions contents' in				
	bytes				
PC5 QoS flow description 1					
PQFI	'00 0010'B				
Operation Code	'011'B	Modify existing			
		PC5 QoS flow			
		description			
Number of parameters	5				
E	1	parameters list is			
		included			
Associated V2X service identifiers					
Length of V2X service identifier contents	'04'H				
V2X service identifier 1	'00 00 00 02'H				
Parameters list					
Parameter 1					
Parameter identifier	'01'H	POI			
Length of parameter contents	1	· •			
Parameter contents	23	Platooning			
		hetween LIEs			
		Soo Tablo 5 4 4 1			
		See Table 5.4.4-1			
Deremeter 2		IN 15 23.287[XX]			
Parameter identifier					
Parameter internet	02 H	GFBR			
Deremeter contents	3	10 * 1Mbpo -			
Parameter contents					
	0000 1100 B	48Mbps.			
Parameter 3					
Parameter identifier	103 H	MFBR			
Length of parameter contents	3				
Parameter contents	0000 0111 0000 0000	$24 \wedge 4100ps =$			
	0001 1000'B	96Mbps.			
Parameter 4					
Parameter identifier	<u>104'H</u>	Averaging window			
Length of parameter contents	2	0000			
Parameter contents	0000 0111 1101 0000'B	ZUUUMS			
Parameter 5		Defeult is de de			
Parameter identifier	.00.H	Default priority			
		level			
Length of parameter contents	1				
Parameter contents	3				

Table 13.2.3.3.3-6: Message DIRECT LINK MODIFICATION ACCEPT (step 7, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-10			
QoS flow descriptions			·
PC5 QoS flow descriptions IEI	'79'H		
Length of PC5 QoS flow descriptions contents	Set to the actual length of		
	'PC5 QoS flow		
	descriptions contents' in		
	bytes		
PC5 QoS flow description 1			
PQFI	'00 0010'B		
Operation Code	'011'B	Modify existing	
		PC5 OoS flow	
		description	
Number of parameters	5		
E	1	parameters list is	
		included	
Associated V2X service identifiers			
Length of V2X service identifier contents	'04'H		
V2X service identifier 1	'00 00 00 02'H		
Parameters list			
Parameter 1			
Parameter identifier	'01'H	PQI	
Length of parameter contents	1	-	
Parameter contents	23	Platooning	
		between UEs,	
		See Table 5.4.4-1	
		in TS 23,287[xx]	
Parameter 2			
Parameter identifier	'02'H	GFBR	
Length of parameter contents	3	-	
Parameter contents	'0000 0111 0000 0000	12 * 4Mbps =	
	0000 1100'B	48Mbps.	
Parameter 3			
Parameter identifier	'03'H	MFBR	
Length of parameter contents	3		
Parameter contents	'0000 0111 0000 0000	24 * 4Mbps =	
	0001 1000'B	96Mbps.	
Parameter 4		•	
Parameter identifier	'04'H	Averaging window	
Length of parameter contents	2		
Parameter contents	'0000 0111 1101 0000'B	2000ms	
Parameter 5			
Parameter identifier	'06'H	Default priority	
		level	
Length of parameter contents	1		
Parameter contents	3		

Table 13.2.3.3.3-7: Message DIRECT LINK MODIFICATION REQUEST (step 9, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-9 with condition Rx					
Information Element	Value/remark	Comment	Condition		
Link modification operation code	'0000 0101'B	Remove existing			
		PC5 QoS flow(s)			
		from the existing			
		PC5 unicast link			
QoS flow descriptions					
Length of PC5 QoS flow descriptions contents	Set to the actual length of				
	'PC5 QoS flow				
	descriptions contents' in				
	bytes				
PC5 QoS flow description 1					
PQFI	'00 0010'B				
Operation Code	'010'B	Delete existing			
		PC5 QoS flow			
		description			
Number of parameters	0				
E	0	parameters list is			
		not included			
Associated V2X service identifiers					
Length of V2X service identifier contents	'04'H				
V2X service identifier 1	'00 00 00 02'H				

Table 13.2.3.3.3-8: Message DIRECT LINK MODIFICATION ACCEPT (step 10, Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-10 with condition RX				
QoS flow descriptions				
PC5 QoS flow descriptions IEI	'79'H			
Length of PC5 QoS flow descriptions contents	Set to the actual length of			
	'PC5 QoS flow			
	descriptions contents' in			
	bytes			
PC5 QoS flow description 1				
PQFI	'00 0010'B			
Operation Code	'010'B	Delete existing		
		PC5 QoS flow		
		description		
Number of parameters	0			
E	0	parameters list is		
		not included		
Associated V2X service identifiers				
Length of V2X service identifier contents	'04'H			
V2X service identifier 1	'00 00 00 02'H			

Table 13.2.3.3.9: RRCReconfigurationSidelink (step 11, Table Table 13.2.3.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3			
Information Element	Value/Remark	Comment	Condition
RRCReconfigurationSidelink ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfigurationSidelink-r16 SEQUENCE {			
slrb-ConfigToReleaseList-r16 SEQUENCE (SIZE	1 entry		
(1maxNrofSLRB-r16)) OF SLRB-PC5-ConfigIndex-			
r16 {			
SLRB-PC5-ConfigIndex-r16 [1]	2	entry 1	
}			
}			
}			
}			

13.2.4 PC5 unicast / link Release / Reestablish PC5 unicast link to same UE

13.2.4.1 Test Purpose (TP)

(1)

with { UE having established a V2X DIRECT LINK with a K_NRP ID to a SS-UE, and released the DIRECT LINK after receiving a DIRECT LINK RELEASE REQUEST message }

ensure that $\{$

when { UE has a V2X packet to be transmitted over PC5 to the same SS-UE }

then { UE transmits DIRECT LINK ESTABLISHMENT REQUEST }

```
}
```

13.2.4.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587, subclause 6.1.2.4.2, 6.1.2.4.4, 6.1.2.2.2. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.4.2]

The initiating UE shall initiate the procedure if a request from upper layers to release a PC5 unicast link with the target UE which uses a known layer-2 ID (for unicast communication) is received and there is an existing PC5 unicast link between these two UEs.

The initiating UE may initiate the procedure if the target UE has been non-responsive, e.g. no response in the PC5 unicast link modification procedure, PC5 unicast link identifier update procedure, PC5 unicast link re-keying procedure or PC5 unicast link keep-alive procedure.

The initiating UE may initiate the procedure to release an established PC5 unicast link if the UE has reached the maximum number of established PC5 unicast links and there is a need to establish a new PC5 unicast link. In this case, which PC5 unicast link is to be released is up to UE implementation.

The initiating UE may initiate the procedure to release an established PC5 unicast link upon expiry of the timer T5005.

In order to initiate the PC5 unicast link release procedure, the initiating UE shall create a DIRECT LINK RELEASE REQUEST message with a PC5 signalling protocol cause IE indicating one of the following cause values:

#1 direct communication with the target UE not allowed;

#2 direct communication to the target UE no longer needed;

#4 direct connection is not available anymore;

#5 lack of resources for PC5 unicast link; or

#111 protocol error, unspecified.

The initiating UE shall include the new MSB of K_{NRP} ID in the DIRECT LINK RELEASE REQUEST message.

After the DIRECT LINK RELEASE REQUEST message is generated, the initiating UE shall pass this message to the lower layers for transmission along with the initiating UE's layer-2 ID for unicast communication and the target UE's layer-2 ID for unicast communication, and shall stop T5011 if running. The initiating UE shall start timer T5002.

Initiating UE		Target UE
Start T5002 _	DIRECT LINK RELEASE REQUEST ►	
Stop T5002 ┥	DIRECT LINK RELEASE ACCEPT	



[TS 24.587, subclause 6.1.2.4.4]

Upon receipt of the DIRECT LINK RELEASE ACCEPT message, the initiating UE shall stop timer T5002 and shall release the PC5 unicast link by performing the following behaviors:

a) inform the lower layer along with the PC5 link identifier that the PC5 unicast link has been released; and

b) delete the PC5 unicast link context of the PC5 unicast link after an implementation specific time.

The initiating UE shall form the new K_{NRP} ID from the MSB of K_{NRP} ID included in the DIRECT LINK RELEASE REQUEST message and the LSB of K_{NRP} ID received in the DIRECT LINK RELEASE ACCEPT message. The initiating UE shall replace the existing K_{NRP} ID with the new K_{NRP} ID. The initiating UE may include the new K_{NRP} ID in DIRECT LINK ESTABLISHMENT REQUEST message with the target UE as specified in clause 6.1.2.2.2.

[TS 24.587, subclause 6.1.2.2.2]

The initiating UE shall meet the following pre-conditions before initiating this procedure:

a) a request from upper layers to transmit the packet for V2X service over PC5;

- b) the communication mode is unicast mode (e.g. pre-configured as specified in clause 5.2.3 or indicated by upper layers);
- c) the link layer identifier for the initiating UE (i.e. layer-2 ID used for unicast communication) is available (e.g. pre-configured or self-assigned) and is not being used by other existing PC5 unicast links within the initiating UE;
- d) the link layer identifier for the destination UE (i.e. the unicast layer-2 ID of the target UE or the broadcast layer-2 ID) is available to the initiating UE (e.g. pre-configured, obtained as specified in clause 5.2.3 or known via prior V2X communication);
- NOTE 1: In the case where different V2X services are mapped to distinct default destination layer-2 IDs, when the initiating UE intends to establish a single unicast link that can be used for more than one V2X service identifiers, the UE can select any of the default destination layer-2 ID for unicast initial signalling.
- e) the initiating UE is either authorised for V2X communication over PC5 in NR-PC5 in the serving PLMN, or has a valid authorization for V2X communication over PC5 in NR-PC5 when not served by E-UTRA and not served by NR. The UE considers that it is not served by E-UTRA and not served by NR if the following conditions are met:
 - 1) not served by NR and not served by E-UTRA for V2X communication over PC5;
 - 2) in limited service state as specified in 3GPP TS 23.122 [2], if the reason for the UE being in limited service state is one of the following;
 - i) the UE is unable to find a suitable cell in the selected PLMN as specified in 3GPP TS 38.304 [9];
 - ii) the UE received a REGISTRATION REJECT message or a SERVICE REJECT message with the 5GMM cause #11 "PLMN not allowed" as specified in 3GPP TS 24.501 [6]; or
 - iii) the UE received a REGISTRATION REJECT message or a SERVICE REJECT message with the 5GMM cause #7 "5GS services not allowed" as specified in 3GPP TS 24.501 [6]; or
 - 3) in limited service state as specified in 3GPP TS 23.122 [2] for reasons other than i), ii) or iii) above, and located in a geographical area for which the UE is provisioned with "non-operator managed" radio parameters as specified in clause 5.2.3;
- f) there is no existing PC5 unicast link for the pair of peer application layer IDs, or there is an existing PC5 unicast link for the pair of peer application layer IDs and:
 - 1) the network layer protocol of the existing PC5 unicast link is not identical to the network layer protocol required by the upper layer in the initiating UE for this V2X service; or
 - 2) the security policy (either signalling security policy or user plane security policy) corresponding to the V2X service identifier is not compatible with the security policy of the existing PC5 unicast link; and
- g) the number of established PC5 unicast links is less than the implementation-specific maximum number of established NR PC5 unicast links allowed in the UE at a time.

After receiving the service data or request from the upper layers, the initiating UE shall derive the PC5 QoS parameters and assign the PQFI(s) for the PC5 QoS flows(s) to be established as specified in clause 6.1.2.12.

In order to initiate the PC5 unicast link establishment procedure, the initiating UE shall create a DIRECT LINK ESTABLISHMENT REQUEST message. The initiating UE:

- a) shall include the source user info set to the initiating UE's application layer ID received from upper layers;
- b) shall include the V2X service identifier(s) received from upper layer;

- c) shall include the target user info set to the target UE's application layer ID if received from upper layers or if the destination layer-2 ID is the unicast layer-2 ID of target UE;
- d) shall include the Key establishment information container if the UE PC5 unicast signalling integrity protection policy is set to "signalling integrity protection required" or "signalling integrity protection preferred", and may include the Key establishment information container if the UE PC5 unicast signalling integrity protection policy is set to "signalling integrity protection not needed";
- NOTE 2: The Key establishment information container is provided by upper layers.
- e) shall include a Nonce_1 set to the 128-bit nonce value generated by the initiating UE for the purpose of session key establishment over this PC5 unicast link if the UE PC5 unicast signalling integrity protection policy is set to "signalling integrity protection required" or "signalling integrity protection preferred";
- f) shall include its UE security capabilities indicating the list of algorithms that the initiating UE supports for the security establishment of this PC5 unicast link;
- g) shall include the 8 MSBs of K_{NRP-sess} ID chosen by the initiating UE as specified in 3GPP TS 33.536 [20] if the UE PC5 unicast signalling integrity protection policy is set to "signalling integrity protection required" or "signalling integrity protection preferred";
- h) may include a K_{NRP} ID if the initiating UE has an existing K_{NRP} for the target UE; and
- i) shall include its UE PC5 unicast signalling security policy. In the case where the different V2X services are mapped to the different PC5 unicast signalling security policies, when the initiating UE intends to establish a single unicast link that can be used for more than one V2X service, each of the signalling security polices of those V2X services shall be compatible, e.g. "signalling integrity protection not needed" and "signalling integrity protection required" are not compatible.

After the DIRECT LINK ESTABLISHMENT REQUEST message is generated, the initiating UE shall pass this message to the lower layers for transmission along with the initiating UE's layer-2 ID for unicast communication and the destination layer-2 ID, and start timer T5000. The UE shall not send a new DIRECT LINK ESTABLISHMENT REQUEST message to the same target UE identified by the same application layer ID while timer T5000 is running. If the target user info IE is not included in the DIRECT LINK ESTABLISHMENT REQUEST message (i.e. V2X service oriented PC5 unicast link establishment procedure), the initiating UE shall handle multiple DIRECT LINK ESTABLISHMENT ACCEPT messages, if any, received from different target UEs for the establishment of multiple PC5 unicast links before the expiry of timer T5000.

NOTE 3: In order to ensure successful PC5 unicast link establishment, T5000 should be set to a value larger than the sum of T5006 and T5007.

Initiating UE		Target UE
Start T5000	DIRECT LINK ESTABLISHMENT REQUEST	
Stop T5000	DIRECT LINK ESTABLISHMENT ACCEPT ◀	
	OR	
Start T5000	DIRECT LINK ESTABLISHMENT REQUEST	
Stop T5000	DIRECT LINK ESTABLISHMENT REJECT ◀	

Figure 6.1.2.2.2: UE oriented PC5 unicast link establishment procedure

Initiating UE

Target UEs

DIRECT LINK ESTABLISHMENT REQUEST Start T5000

DIRECT LINK ESTABLISHMENT ACCEPT

DIRECT LINK ESTABLISHMENT ACCEPT

T5000 expires

Figure 6.1.2.2.3: V2X service oriented PC5 unicast link establishment procedure

13.2.4.3 Test description

13.2.4.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.

- NR-SS-UE 1 is synchronised on GNSS.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A with Test Mode (*On*), Test Loop Function (*Off*) as defined in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*), NR-SS-UE initiating unicast mode NR sidelink communication, Cast Type (*Unicast*), GNSS Sync (*On*).

13.2.4.3.2 Test procedure sequence

Table 13.2.4.3.2-1: Main behaviour

	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The NR-SS-UE1 releases unicast mode	-	-	-	-
	sidelink connection by executing steps 1-2 of				
	Table 4.9.30.2.2-1 in TS 38.508-1 [4].				
2	Trigger UE to close UE test loop mode E	-	-	-	-
	(transmission mode).				
	NOTE: The UE test loop mode E may be				
	closed by MMI or AT command (+CCUTLE).				
3	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK	1	Р
	ESTABLISHMENT REQUEST message.		ESTABLISHMENT REQUEST		
4	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK SECURITY		
	SECURITY MODE COMMAND message.		MODE COMMAND		
5	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK SECURITY	-	-
	SECURITY MODE COMPLETE message.		MODE COMPLETE		
6	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	ESTABLISHMENT ACCEPT message.		ESTABLISHMENT ACCEPT		
7	Check: Does the UE send an	>	PC5-RRC:	-	-
	RRCReconfigurationSidelink message to		RRCReconfigurationSidelink		
	establish a unicast mode SL-DRB?				
8	The NR-SS-UE sends an	<	PC5-RRC:	-	-
	RRCReconfigurationCompleteSidelink		RRCReconfigurationCompleteSideli		
	message.		nk		
9	UE continuously sends SDAP SDUs on SL-	-	-	-	-
	DRB				
10	Trigger UE to deactivate UE test loop mode.	-	-	-	-
	NOTE: The deactivation of UE test loop mode				
	may be performed by MMI or AT command				
	(+CATM).				

13.2.4.3.3 Specific message contents

Table 13.2.4.3.3-1: Message DIRECT LINK ESTABLISHMENT REQUEST (step 3, Table 13.2.1.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-7 with condition Tx

Table 13.2.4.3.3-2: Message DIRECT LINK SECURITY MODE COMMAND (step 4, Table 13.2.4.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-18 with condition Rx

Table 13.2.4.3.3-3: Message DIRECT LINK SECURITY MODE COMPLETE (step 5, Table 13.2.4.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-19 with condition Tx

Table 13.2.4.3.3-4: Message DIRECT LINK ESTABLISHMENT ACCEPT (step 6, Table 13.2.4.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-8 with condition Rx

Table 13.2.4.3.3-5: RRCReconfigurationSidelink (step 7, Table 13.2.4.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-3 with condition TX

Table 13.2.4.3.3-6: RRCReconfigurationCompleteSidelink (steps 8, Table 13.2.4.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.6.1A-4 with condition RX

13.2.5 PC5 unicast / link identifier update

13.2.5.1 Test Purpose (TP)

(1)

```
with { UE having established a DIRECT LINK with Layer 2 ID-1 to a peer UE }
```

ensure that {

when { UE receives a DIRECT LINK IDENTIFIER UPDATE REQUEST message with same Layer 2 ID-1 but with
user info different from the user info IE included in this message }

then { UE transmits a DIRECT LINK IDENTIFIER UPDATE REJECT message }

}

(2)

with { UE having established a DIRECT LINK with old Layer 2 ID-1 to a peer UE. UE receives a DIRECT LINK IDENTIFIER UPDATE REQUEST message and responds with a DIRECT LINK IDENTIFIER UPDATE ACCEPT message with new Layer 2 ID-2 }

ensure that {

when { UE receives a V2X packet from the peer UE }

then { the Layer 2 ID associated with the V2X packet is the old Layer 2 ID-1 }

}

(3)

with { UE having established a DIRECT LINK with old Layer 2 ID-1 to a peer UE. UE receives a DIRECT LINK IDENTIFIER UPDATE REQUEST message and responds with a DIRECT LINK IDENTIFIER UPDATE ACCEPT message with new Layer 2 ID-2 }

ensure that {

when { UE receives a DIRECT LINK IDENTIFIER UPDATE ACK message from the peer UE }

then { UE transmits a V2X packet and the Layer 2 ID associated with the V2X packet is the new Layer 2 ID-2 }

}

13.2.5.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587, subclause 6.1.2.5.3, 6.1.2.5.4 and 6.1.2.5.6. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.5.3]

Upon receipt of a DIRECT LINK IDENTIFIER UPDATE REQUEST message, if the target UE determines:

a) the PC5 unicast link associated with this request message is still valid; and

b) the timer T5010 for the PC5 unicast link identified by this request message is not running,

then the target UE accepts this request, and responds with a DIRECT LINK IDENTIFIER UPDATE ACCEPT message.

The target UE shall create the DIRECT LINK IDENTIFIER UPDATE ACCEPT message. In this message, the target UE:

a) shall include the target UE's new layer-2 ID assigned by itself;

- b) shall include the new LSB of K_{NRP-sess} ID;
- c) shall include the initiating UE's new MSB of $K_{\text{NRP-sess}}$ ID;
- d) shall include the initiating UE's new layer-2 ID;
- e) shall include the target UE's new application layer ID if received from upper layer;

f) shall include the initiating UE's new IP address/prefix if received from the initiating UE and IP communication is used;

g) shall include the initiating UE's new application layer ID if received from the initiating UE; and

h) shall include the target UE's new IP address/prefix if IP communication is used and changed.

After the DIRECT LINK IDENTIFIER UPDATE ACCEPT message is generated, the target UE shall pass this message to the lower layers for transmission along with the initiating UE's old layer-2 ID for unicast communication and the target UE's old layer-2 ID for unicast communication, and start timer T5010. The UE shall not send a new DIRECT LINK IDENTIFIER UPDATE ACCEPT message to the same initiating UE while timer T5010 is running.

Before target UE receives the traffic using the new layer-2 IDs, the target UE shall continue to receive the traffic with the old layer-2 IDs (i.e. initiating UE's old layer-2 ID and target UE's old layer-2 ID) from initiating UE.

Before target UE receives the DIRECT LINK IDENTIFIER UPDATE ACK message from initiating UE, the target UE shall keep sending traffic to the initiating UE using the old layer-2 IDs (i.e. initiating UE's old layer-2 ID for unicast communication and target UE's old layer-2 ID for unicast communication).

[24.587, subclause 6.1.2.5.4]

Upon receipt of the DIRECT LINK IDENTIFIER UPDATE ACCEPT message, the initiating UE shall stop timer T5009 and respond with a DIRECT LINK IDENTIFIER UPDATE ACK message. In this message, the initiating UE:

a) shall include the target UE's new layer-2 ID;

- b) shall include the target UE's new LSB of K_{NRP-sess} ID;
- c) shall include the target UE's new application layer ID, if received; and
- d) shall include the target UE's new IP address/prefix, if received.

After the DIRECT LINK IDENTIFIER UPDATE ACK message is generated, the initiating UE shall pass this message to the lower layers for transmission along with the initiating UE's old layer-2 ID for unicast communication and the target UE's old layer-2 ID for unicast communication and shall stop timer T5011 if running and start a timer T5011 as configured if at least one of V2X service identifiers for the PC5 unicast link satisfying the privacy requirements as specified in clause 5.2.3.

Upon sending the DIRECT LINK IDENTIFIER UPDATE ACK message, the initiating UE shall update the associated PC5 unicast link context with the new identifiers and pass the new layer-2 IDs (i.e. initiating UE's new layer-2 ID for unicast communication and target UE's new layer-2 ID for unicast communication if changed) along with the PC5 link identifier down to the lower layer. Then the initiating UE shall use the new layer-2 IDs (i.e. initiating UE's new layer-2 ID for unicast communication if changed) to transmit the PC5 signalling message and PC5 user plane data.

The initiating UE shall continue to receive traffic with the old layer-2 IDs (i.e. initiating UE's old layer-2 ID for unicast communication and target UE's old layer-2 ID for unicast communication) from the target UE until it receives traffic with the new layer-2 IDs (i.e. initiating UE's new layer-2 ID and target UE's new layer-2 ID if changed) from the target UE.

[24.587, subclause 6.1.2.5.6]

If the DIRECT LINK IDENTIFIER UPDATE REQUEST message cannot be accepted, the target UE shall send a DIRECT LINK IDENTIFIER UPDATE REJECT message. The DIRECT LINK IDENTIFIER UPDATE REJECT message contains a PC5 signalling protocol cause IE set to one of the following cause values:

#3 conflict of layer-2 ID for unicast communication is detected; or

#111 protocol error, unspecified.

For a received DIRECT LINK IDENTIFIER UPDATE REQUEST message from a layer-2 ID (for unicast communication), if the target UE already has an existing link using this layer-2 ID or is currently processing a DIRECT LINK IDENTIFIER UPDATE REQUEST message from the same layer-2 ID, but with user info different from the user info IE included in this new incoming message, the target UE shall send a DIRECT LINK IDENTIFIER UPDATE REJECT message with PC5 signalling protocol cause value #3 "conflict of layer-2 ID for unicast communication is detected".

NOTE: After receiving the DIRECT LINK IDENTIFIER UPDATE REJECT message, whether the initiating UE initiates the PC5 unicast link release procedure or initiates another PC5 unicast link identifier update procedure with a new layer-2 ID depends on UE implementation.

For other reasons causing the failure of link identifier update, the target UE shall send a DIRECT LINK IDENTIFIER UPDATE REJECT message with PC5 signalling protocol cause value #111 "protocol error, unspecified".

Release 17

Upon receipt of the DIRECT LINK IDENTIFIER UPDATE REJECT message, the initiating UE shall stop timer T5009 and abort this PC5 unicast link identifier update procedure.

13.2.5.3 Test description

13.2.5.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 uses GNSS as the synchronization reference source.
- GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE uses GNSS as the synchronization reference source.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.

Preamble:

- The UE is in state 4-A and Test Loop Function (*On*) with UE test loop mode E as defined in TS 38.508-1 [4], subclause 4.4A using generic procedure parameter Sidelink (*On*), Cast Type (*Unicast*), GNSS Sync (*On*) using NR-SS-UE initiated unicast mode NR sidelink communication procedure in subclause 4.9.23.

13.2.5.3.2 Test procedure sequence

Table 13.2.5.3.2-1: Main behaviour

St	Procedure		Message Sequence		Verdict
		U - S	Message		

1	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK	-	-
	IDENTIFIER UPDATE REQUEST message		IDENTIFIER UPDATE REQUEST		
	including new Layer 2 ID-2.				
2	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK	-	-
	IDENTIFIER UPDATE ACCEPT message.		IDENTIFIER UPDATE ACCEPT		
3	Trigger the UE to close UE test loop mode E	-	-	-	-
	(Receive Mode).				
	NOTE: Closing of UE test loop mode E may be				
	performed by MMI or AT command				
	(+CCUTLE)				
4	The NR-SS-UE1 transmits one V2X packet on	<	V2X nacket	-	_
	old Laver 2 ID-1 to the LIE				
	NOTE: This step verifies TP2 - it is expected				
	that the LIE shall receive the packet - if they				
	were received is checked in step E				
	FFS Trigger the LIE to report the counter of				
5	successful reportion of V2X packet	-	-	-	-
	NOTE: Deguesting the UE to report the				
	NOTE. Requesting the OE to report the				
	counter of successful reception of V2X packet				
	may be performed by MMI or AT command				
	(+CUSPCREQ).				
6	Check: Does the UE reported counter of	-	-	2	Р
	successful reception of V2X packet?				
		<	PC5-S: DIRECT LINK	-	-
0	The ND SS UF1 transmits and V2V packet on				
0	new Lover 2 ID 2 to the LIE			-	-
	NOTE: This stop verifies TD2 it is expected				
	NOTE: This step vernies TP3 - it is expected				
	that the UE shall receive the packet - If they				
	were received is checked in step 10.				
9	ringger the OE to report the counter of	-	-	-	-
	successiul reception of V2X packet.				
	NOTE: Requesting the UE to report the				
	counter of successful reception of V2X packet				
	may be performed by MMI or AT command				
10	(+CUSPCREQ).				
10	Check: Does the UE reported counter of	-	-	3	Р
11	successful reception of V2X packet?				
11	I rigger the UE to open UE test loop mode E.	-	-	-	-
	NOTE: Opening of UE test loop mode E may				
	be performed by MMI or AT command				
10					
12		<		-	-
	IDENTIFIER UPDATE REQUEST message		IDENTIFIER UPDATE REQUEST		
10	Including Layer 2 ID-2.	<u> </u>		4	
13	Check: Does the UE transmit a DIRECT LINK	>		[⊥]	Р
	IDENTIFIER UPDATE REJECT message?		IDENTIFIER UPDATE REJECT		

13.2.5.3.3 Specific message contents

Table 13.2.5.3.3-1: DIRECT LINK IDENTIFIER UPDATE REQUEST (step 1 & 12, Table 13.2.5.3.2-1)

Derivation path: TS 38.508-1	[4], Table 4.7.4-23 with condition Rx		
Information Element	Value/remark	Comment	Condition
Source user info			
Application Layer ID 1	'00 00 05 00'H	New application Layer ID in initiating UE side	Step 12

Table 13.2.5.3.3-2: DIRECT LINK IDENTIFIER UPDATE ACCEPT (step 2, Table 13.2.5.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-24 with condition Tx

Table 13.2.5.3.3-2A: DIRECT LINK IDENTIFIER UPDATE ACK (step 7, Table 13.2.5.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-25 with condition Rx

Table 13.2.5.3.3-3: DIRECT LINK IDENTIFIER UPDATE REJECT (step 13, Table 13.2.5.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-2	6 with condition Tx		
Information Element	Value/remark	Comment	Condition
PC5 signalling protocol cause	'0000 0011'B	conflict of layer-2 ID for	
		unicast communication is	
		detected	

13.2.6 PC5 unicast / link keep alive

13.2.6.1 Test Purpose (TP)

(1)

with { UE having transmitted a DIRECT LINK KEEPALIVE REQUEST message with Keep-alive counter value of n }

ensure that $\{$

when { UE does not receive DIRECT LINK KEEPALIVE RESPONSE message when T5004 expires }

then { UE re-transmits a DIRECT LINK KEEPALIVE REQUEST message with same Keep-alive counter value of n }

}

(2)

with { UE having received a first DIRECT LINK KEEPALIVE REQUEST message with Keep-alive counter value of n1, and UE having sent a DIRECT LINK KEEPALIVE RESPONSE message}

ensure that {

when { UE receives a second DIRECT LINK KEEPALIVE REQUEST message with Keep-alive counter value of n2 < n1} $\,$

then { UE does not transmit a DIRECT LINK KEEPALIVE RESPONSE message for the second DIRECT LINK KEEPALIVE REQUEST message}

}

(3)

with { UE having transmitted a message and having started T5003}

ensure that $\{$

```
when { UE does not receive any message before T5003 expires }
  then { UE transmits a DIRECT LINK KEEPALIVE REQUEST message}
  }
```

13.2.6.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.587 [FFS], subclause 6.1.2.8.5.1 and 6.1.2.8.5.2. Unless otherwise stated these are Rel-16 requirements.

[TS 24.587, subclause 6.1.2.8.5.1]

a) Timer T5004 expires.

The initiating UE shall retransmit the DIRECT LINK KEEPALIVE REQUEST message with the last used value of the keep-alive counter and restart timer T5004. After reaching the maximum number of allowed retransmissions, the initiating UE shall abort the PC5 unicast link keep-alive procedure and locally release the PC5 unicast link.

NOTE: The maximum number of allowed retransmissions is UE implementation specific.

b) The need to use this PC5 unicast link no longer exists before the PC5 unicast link keep-alive procedure is completed.

The initiating UE shall abort the PC5 unicast link keep-alive procedure and initiate a PC5 unicast link release procedure.

c) The initiating UE receives a DIRECT LINK KEEPALIVE RESPONSE message with a keep-alive counter value different from the value which the initiating UE had included in the last sent DIRECT LINK KEEPALIVE REQUEST message.

The initiating UE shall discard the DIRECT LINK KEEPALIVE RESPONSE message.

d) The initiating UE receives a PC5 signalling message other than a DIRECT LINK KEEPALIVE RESPONSE message or PC5 user plane data from the target UE over this PC5 unicast link while timer T5004 is running.

The initiating UE shall stop timer T5004, abort the PC5 unicast link keep-alive procedure, start timer T5003 and increment the keep-alive counter for the PC5 unicast link.

e) The initiating UE receives a DIRECT LINK KEEPALIVE RESPONSE message when T5004 is not running.

The initiating UE shall discard the DIRECT LINK KEEPALIVE RESPONSE message.

[TS 24.587, subclause 6.1.2.8.5.2]

a) Timer T5005 expires.

The target UE shall:

- 1) initiate a PC5 unicast link keep-alive procedure to check the link; or
- 2) initiate the PC5 unicast link release procedure.

Whether the UE chooses 1) or 2) is left to UE implementation.

b) The target UE receives a DIRECT LINK KEEPALIVE REQUEST message with a keep-alive counter value lower than the value which the target UE had included in the last sent DIRECT LINK KEEPALIVE RESPONSE message.

The target UE shall discard the DIRECT LINK KEEPALIVE REQUEST message.

c) The target UE receives a DIRECT LINK KEEPALIVE REQUEST message if there is a pending PC5 signalling message or PC5 user plane data to be sent to the initiating UE over this PC5 unicast link.

The target UE:

- shall pass this PC5 signalling message to the lower layers for transmission along with the target UE's layer-2 ID for unicast communication and the initiating UE's layer-2 ID for unicast communication, or perform the data transmission over PC5 unicast link as specified in clause 6.1.2.9; and
- 2) shall consider transmission of this PC5 signalling message or PC5 user plane data to be an implicit DIRECT LINK KEEPALIVE RESPONSE message and skip generating a DIRECT LINK KEEPALIVE RESPONSE message. If a maximum inactivity period is included in the DIRECT LINK KEEPALIVE REQUEST message, the target UE shall stop T5005, if running, and start T5005 with its value set to the maximum inactivity period.
- 13.2.6.3 Test description

13.2.6.3.1 Pre-test conditions

System Simulator:

- NR-SS-UE
 - NR-SS-UE1 operating as NR sidelink communication device on the resources (i.e. the frequency included in pre-configuration) that UE is expected to use for transmission and reception via PC5 interface.
 - NR-SS-UE1 is synchronised on GNSS.
- · GNSS simulator
 - The GNSS simulator is started and configured for Scenario #1.

UE:

- UE is authorised to perform NR sidelink communication.
- The UE is equipped with a USIM containing default values as per TS 38.508-1 [4] clause 4.8.3.3.3.
- UE is synchronised on GNSS.

Preamble:

- The UE is in state 4-A and Test Mode (*On*), Test Loop Function(*Off*) as defined in TS 38.508-1 [4], Table 4.5.7.2-1 using generic procedure parameter Sidelink (*On*), NR-SS-UE initiating unicast mode NR sidelink communication, Cast Type (*Unicast*), GNSS Sync (*On*).

13.2.6.3.2 Test procedure sequence

Table 13.2.6.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The UE transmits a DIRECT LINK	>	PC5-S: DIRECT LINK KEEPALIVE	-	-
	KEEPALIVE REQUEST message with keep-		REQUEST		
	alive counter = 0.				
2	The NR-SS-UE1 waits 5 seconds (T5004=5s).	-	-	-	-
3	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK KEEPALIVE	1	Р
	KEEPALIVE REQUEST message with keep-		REQUEST		
	alive counter = 0?				
4	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK KEEPALIVE	-	-
	KEEPALIVE RESPONSE message with keep-		RESPONSE		
	alive counter = 0.				
4A	The NR-SS-UE1 waits 5 seconds (T5003=5s).	-	-	-	-
4B	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK KEEPALIVE	3	Р
	KEEPALIVE REQUEST message with keep-		REQUEST		
	alive counter = 1?				
4C	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK KEEPALIVE	- 1	-
	KEEPALIVE RESPONSE message with keep-		RESPONSE		
	alive counter = 1				
5	The NR-SS-UE1 waits 4 seconds (less than	-	-	- 1	-
	T5003 (5s))				
6	The NR-SS-UE1 transmits a DIRECT LINK	<	PC5-S: DIRECT LINK KEEPALIVE	- 1	-
	KEEPALIVE RECIJEST message with keen-		REQUEST		
	alive counter = 0				
7	The UE transmits a DIRECT LINK	>	PC5-S' DIRECT LINK KEEPALIVE	-	-
	KEEPALIVE RESPONSE message with keen-		RESPONSE		
	alive counter = 0				
8	The NR-SS-LIF1 waits 4 seconds (less than	-	_	<u> </u>	_
	T5003 (5c))				
9	The NR-SS-LIE1 transmits a DIRECT LINK	<	PC5-S' DIRECT LINK KEEPALIVE	+	
	KEEDALIVE DEOLIEST message with keen-				
	alive sounter = 1		KEQ0E31		
10	The LIE transmits a DIRECT LINK				
10		/	PCS-S. DIRECT LINK REEFALIVE	-	-
	REEPALIVE RESPONSE message with keep-		RESPONSE		
11	alive counter = 1. The ND SS $UE1$ weite 4 eccende (less then				
11		-	-	-	-
10	The NR SS LIE1 transmite a DIRECT LINU				
12		<	PCJ-3. DIRECT LINK REEPALIVE	-	-
	KEEPALIVE REQUEST Message with keep-		REQUESI		
10	aive counter = 0.			-	
13	Check: Does the UE transmit a DIRECT LINK	>	PC5-S: DIRECT LINK KEEPALIVE	2	F
	KEEPALIVE RESPONSE message in next 4		RESPONSE		
	seconds?				

13.2.6.3.3 Specific message contents

Table 13.2.6.3.3-1: Message DIRECT LINK KEEPALIVE REQUEST (step 1, step3, step 4B Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-13 with condition Tx					
Information Element	Value/Remark	Comment	Condition		
Keep-alive counter	'00 00 00 00'H	Step 1,Step 3			
	'00 00 00 01'H	Step 4B			

Table 13.2.6.3.3-2: Message DIRECT LINK KEEPALIVE REQUEST (step 6, step12 Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-13 with condition Rx

Table 13.2.6.3.3-3: Message DIRECT LINK KEEPALIVE REQUEST (step 9, Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-13 with condition Rx					
Information Element Value/Remark Comment Condit					
Keep-alive counter	'00 00 00 01'H				

Table 13.2.6.3.3-4: Message DIRECT LINK KEEPALIVE RESPONSE (step 4, step 4C Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-14 with condition Rx					
Information Element Value/Remark Comment Co					
Keep-alive counter	'00 00 00 00'H	Step 4			
	'00 00 00 01'H	Step 4C			

Table 13.2.6.3.3-5: Message DIRECT LINK KEEPALIVE RESPONSE (step 7, Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-14 with condition Tx					
Information Element Value/Remark Comment Conditio					
Keep-alive counter	'00 00 00 00'H				

Table 13.2.6.3.3-5: Message DIRECT LINK KEEPALIVE RESPONSE (step 10, Table 13.2.6.3.2-1)

Derivation path: TS 38.508-1 [4], Table 4.7.4-14 with condition Tx

14 MBS

14.1 MBS Broadcast

14.1.1 MBS Broadcast/ MCCH Information Acquisition

14.1.1.1 MBS Broadcast/ MCCH Information Acquisition/ entering the cell providing SIB20

14.1.1.1.1 Test Purpose (TP)

(1)

with { UE in switched off state and interested to receive MBS broadcast services }

ensure that {

```
when { UE is switched on and camped on a cell providing SIB20 }
```

then { UE acquires the MBSBroadcastConfiguration message at the next repetition period and starts MBS reception }

}

(2)

with { UE in NR RRC_IDLE state and receiving MBS broadcast services }

ensure that {

```
when { UE reselects to a cell providing SIB20 }
```

then { UE acquires the MBSBroadcastConfiguration message at the next repetition period and starts MBS reception }

}

(3)

with { UE in NR RRC_INACTIVE state and receiving MBS broadcast services }

ensure that {

```
when { UE reselects to a cell providing SIB20 }
```

then { UE acquires the MBSBroadcastConfiguration message at the next repetition period and starts MBS reception }

}

(4)

with { UE in NR RRC_CONNECTED state and receiving MBS broadcast services }

ensure that {

```
when { UE handovers to a cell providing SIB20 }
```

then { UE acquires the MBSBroadcastConfiguration message at the next repetition period and starts MBS reception }

}

(5)

with { UE received SIB20 in a cell}

ensure that {

when { MCCH is only scheduled in the slot indicated by mcch-WindowStartSlot }

then { UE acquires the MBSBroadcastConfiguration message in the slot indicated by <code>mcch-WindowStartSlot</code> }

(6)

with { UE received SIB20 in a cell}

ensure that {

when { MCCH is scheduled starting from the slot indicated by mcch-WindowStartSlot and during mcch-WindowDuration (larger than 1 slot) }

then { UE acquires the MBSBroadcastConfiguration message starting from the slot indicated by
mcch-WindowStartSlot and during mcch-WindowDuration }

14.1.1.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.6.2; TS 38.331, clauses 5.9.1.1, 5.9.1.2, 5.9.2.2 and 5.9.2.3. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.6.2]

MBS broadcast can be received by UEs in RRC_IDLE, RRC_INACTIVE and RRC_CONNECTED state. A UE can receive the MBS configuration for broadcast session (e.g., parameters needed for MTCH reception) via MCCH in RRC_IDLE, RRC_INACTIVE and RRC_CONNECTED state. The parameters needed for the reception of MCCH are provided via System Information.

The following principles govern the MCCH structure:

MCCH provides the list of all broadcast services with ongoing sessions transmitted on MTCH(s) and the
associated information for broadcast session includes MBS session ID, associated G-RNTI scheduling
information and information about neighbouring cells providing certain service on MTCH(s). MCCH content is
transmitted within periodically occurring time domain windows, referred to as MCCH transmission window
defined by MCCH repetition period, MCCH window duration and radio frame/slot offset;

•••

[TS 38.331, clause 5.9.1.1]

UE receiving or interested to receive MBS broadcast service(s) applies MBS broadcast procedures described in this clause as well as the MBS Interest Indication procedure as specified in clause 5.9.4.

MBS broadcast configuration information is provided on MCCH logical channel. MCCH carries the *MBSBroadcastConfiguration* message which indicates the MBS broadcast sessions that are provided in the cell as well as the corresponding scheduling related information for these sessions. Optionally, the *MBSBroadcastConfiguration* message may also contain a list of neighbour cells providing the same broadcast MBS service(s) as provided in the current cell. The configuration information required by the UE to receive MCCH is provided in *SIB20*. Additionally, System Information provides also an information related to service continuity of MBS broadcast in *SIB21*.

[TS 38.331, clause 5.9.1.2]

The MCCH information (i.e. information transmitted in messages sent over MCCH) is transmitted periodically, using a configurable repetition period and within a configured transmission window. MCCH transmissions (and the associated radio resources and MCS) are indicated via the PDCCH addressed to MCCH-RNTI. PDCCH monitoring occasion(s) for MCCH transmission are determined according to the common search space indicated by *searchspaceMCCH*. If *searchspaceMCCH* is set to zero, PDCCH monitoring occasions for MCCH message reception in the MCCH transmission window are the same as PDCCH monitoring occasions for *SIB1* where the mapping between PDCCH monitoring occasions and SSBs is specified in TS 38.213[13]. If *searchspaceMCCH* is not set to zero, PDCCH monitoring occasions for MCCH message are determined based on search space indicated by *searchspaceMCCH*. PDCCH monitoring occasions for MCCH message which are not overlapping with UL symbols (determined according to *tdd-UL-DL-ConfigurationCommon*) are sequentially numbered from one in the MCCH transmission window.

[TS 38.331, clause 5.9.2.2]

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A UE shall apply the MCCH information acquisition procedure upon becoming interested to receive MBS broadcast services. A UE interested to receive MBS broadcast services shall apply the MCCH information acquisition procedure upon entering the cell providing *SIB20* (e.g. upon power on, following UE mobility), upon receiving *SIB20* of an SCell via dedicated signalling and upon receiving a notification that the MCCH information has changed due to the start of new MBS service(s).

[TS 38.331, clause 5.9.2.3]

An MBS capable UE interested to receive or receiving an MBS broadcast service shall:

- ...
- 1> if the UE enters a cell broadcasting *SIB20*; or
- 1> if the UE receives *sCellSIB20*:
 - 2> acquire the *MBSBroadcastConfiguration* message on MCCH in the concerned cell at the next repetition period.

14.1.1.1.3 Test description

14.1.1.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 (TAI-1) and NR Cell 2 (TAI-1).
- The SS configures the NR Cell 1 as the "Serving cell" and NR Cell 2 as "Non-suitable "Off" cell".
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- None.

Preamble:

- The UE is in state 0N-B as defined in TS 38.508-1 [4], subclause 4.4A.
- Before being switched off the UE is made interested in receiving MBS Broadcast service with MBS Service ID '000001'H

14.1.1.1.3.2 Test procedure sequence

Table 14.1.1.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The UE is switched on.	-	-	-	-
2-	Steps 1 to 20a1 of the registration procedure	-		-	-
21	described in TS 38.508-1 subclause 4.5.2.2-2				
	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C.				
	NOTE: The UE performs registration and				
	activate test mode C and the RRC connection				
	is released.				
22	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 1 (Note 1)				
23-	Steps 1 to 9a2 of the generic procedures	-	-	-	-
31	described in TS 38 508-1 subclause 4 5 4 2-3				
	are performed on NR Cell 1 with condition LIE				
	Excention: Step 32 is repeated 5 times	_	_	_	_
32	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with I CID=1 and α -RNTI = '0001'				
22	The SS transmits an LIF TEST LOOP MODE	<	NR RRC: DL InformationTransfer	-	-
				_	_
	message.		MBMS PACKET COUNTER		
24	LIE responds with LIE TEST LOOP MODE O	+	KEQUESI		
34	DE responds with DE TEST LOOP MODE C	>	NR RRC: ULINIOMALION TRANSIER	-	-
	MBMS PACKET COUNTER RESPONSE.		IC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
35	Check: Is the number of reported MBS	-	-	1,6	P
	Packets received on the MTCH in step 34				
	greater than zero?				
36	The SS transmits an <i>RRCRelease</i> message.	<	NR RRC: RRCRelease	-	-
37	The SS configures:	-	-	-	-
	-NR Cell 1 as the "Non-suitable cell".				
	-NR Cell 2 as the "Serving cell".				
38	Wait for 34[FR1]/130[FR2] seconds.(Note 2)	-	-	-	-
39	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 2. (Note 1)				
-	Exception: Step 40 is repeated 5 times	-	-	-	-
40	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID= 1 and g-RNTI = 'FFF2'H.				
41-	Steps 1 to 8 of the generic procedures	-	-	-	-
48	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed on NR Cell 2.				
49	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
50	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
51	Check: Is the number of reported MBS	-	-	2.6	Р
	Packets received on the MTCH in step 50			_,•	
	greater than the number of reported in step				
	342				
52	SS change NR Cell 1 system information	-	-	-	-
53	The SS configures:				
	-NR Cell 1 as the "Serving cell "				
1		1	1	1	1

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-NR Cell 2 as the "Suitable neighbour intra-		
frequency cell ".		

54	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message including reconfigurationWithSvnc to				
	order the UE to perform intra-frequency				
	handover to NR Cell 1				
55	Check: Does the LIE transmit	>		_	_
55	BBCBooonfigurationComplete message in NB		DDCDoconfigurationComplete		-
			RRCReconnyurationComplete		
56	Wait for a scheduling period for SIB20.	-	-	-	-
57	wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 1. (Note 3)				
-	Exception: Step 58 is repeated 5 times	-	-	-	-
58	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1 and g-RNTI = '0002'H				
59	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message		MBMS PACKET COUNTER		
	message.		DECUEST		
60			NP PPC: III InformationTransfor		
00				-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
61	Check: Is the number of reported MBS	-	-	4,5	Р
	Packets received on the MTCH in step 60				
	greater than the number of reported in step				
	50?				
-	EXCEPTION: Steps 62a1-62a13 describe	-	-	-	-
	behaviour that depends on UE configuration:				
	the "lower case letter" identifies a sten				
	converted to the takes place if inactive State is				
	sequence that takes place it inactive state is				
622	Configured				
62a	IF pc_inactiveState THEN the SS transmits an	<	NR RRC: RRCRelease	-	-
1	RRCRelease message with suspendConfig.				
62a	SS change NR Cell 2 system information	-	-	-	-
2					
62a	The SS configures:	-	-	-	-
3	-NR Cell 1 as the "Non-suitable cell".				
	-NR Cell 2 as the "Serving cell".				
62a	Wait for 8[FR1]/27[FR2] seconds.(Note 2)	-	-	-	-
4					
62a	Wait for a period equal to the MCCH repetition	-	-	-	-
5	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Coll 2 (Noto 2)				
	Exception: Stop 67 is repeated 5 times				
620	The SS transmite a MPS Dealed on the MTCL	-	MRS Dacket	-	-
	with LOD-1 and a DNT - 255111		WIDS FACKEL	-	-
0	WILL LUD=1 and G-KNII = FFF1'H.			+	
62a	The SS transmits a Paging message including	<	NR RRC: Paging	-	-
7	a matched identity (correct <i>fullI-RNTI</i>).				
62a	The UE transmits an RRCResumeRequest	>	NR RRC: RRCResumeRequest	-	-
8	message.				
62a	The SS transmits an <i>RRCResume</i> message.	<	NR RRC: RRCResume	-	-
9					
62a	The UE transmits an RRCResumeComplete	>	NR RRC: RRCResumeComplete	-	-
10	message.				
62a	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
11	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message				
			PEOLIEST		
620	LIE responds with LIE TEST LOOD MODE C	<u> </u>	ND DDC: /// InformationTransfor	+ +	
102a					-
12	I WIDIVIS PAUKET UUUNTEK RESPUNSE.	1	I IC. UE IEST LOUP MODE C	1	

		MBMS PACKET COUNTER		
		RESPONSE		
Check: Is the number of reported MBS	-	-	3,5	Р
Packets received on the MTCH in step 77				
greater than the number of reported in step				
60?				
1: MAC PDU for MBSBroadcastConfiguration i	s 15 byte	s (12 bytes RLC SDU + 1 byte UMD F	PDU he	ader + 2
bytes MAC sub Header) and DL assignment	s are set	to 96 bits (L_{RBs} & I_{MCS} as per 38.523-3	[3] anne	ex B) so
that MBSBroadcastConfiguration need to be	sent in 2	slots.		
2: The wait time at steps 38 is the cell re-select	tion delay	to a newly detectable cell, it can be e	express	ed as:
T _{detect,NR Intra} (as per TS 38.133 [30], clause 4.	2.2.3) plu	s the time to read the system informa	tion T _{SI-}	NR
(1280ms).				
3: MAC PDU for MBSBroadcastConfiguration i	s 15 byte	s (12 bytes RLC SDU + 1 byte UMD F	PDU he	ader + 2
bytes MAC sub Header) and DL assignment	is set to	larger than 120 bits (L _{RBs} & I _{MCS} as per	38.523	3-3[3]
annex B) so that MBSBroadcastConfiguration could to be sent in 1 slot.				
4: The wait time at steps 62a4 is the cell re-sel	ection de	lay to an already detected cell, it can	be expr	essed
as: Tevaluate NR Intra (as per TS 38,133 [30], clau	se 4.2.2.3	B) plus the time to read the system inf	ormatio	
(1000				···· · Si Mit
	 Check: Is the number of reported MBS Packets received on the MTCH in step 77 greater than the number of reported in step 60? MAC PDU for <i>MBSBroadcastConfiguration</i> i bytes MAC sub Header) and DL assignment that <i>MBSBroadcastConfiguration</i> need to be The wait time at steps 38 is the cell re-select T_{detect,NR_Intra} (as per TS 38.133 [30], clause 4. (1280ms). MAC PDU for <i>MBSBroadcastConfiguration</i> i bytes MAC sub Header) and DL assignment annex B) so that <i>MBSBroadcastConfiguration</i> The wait time at steps 62a4 is the cell re-sel as: T_{evaluate,NR_Intra} (as per TS 38.133 [30], clau (202m-1) 	 Check: Is the number of reported MBS Packets received on the MTCH in step 77 greater than the number of reported in step 60? MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 byte bytes MAC sub Header) and DL assignments are set that <i>MBSBroadcastConfiguration</i> need to be sent in 2 The wait time at steps 38 is the cell re-selection delay T_{detect,NR_Intra} (as per TS 38.133 [30], clause 4.2.2.3) plu (1280ms). MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 byte bytes MAC sub Header) and DL assignment is set to annex B) so that <i>MBSBroadcastConfiguration</i> could to the wait time at steps 62a4 is the cell re-selection de as: T_{evaluate,NR_Intra} (as per TS 38.133 [30], clause 4.2.2.3 	Check: Is the number of reported MBS - Packets received on the MTCH in step 77 - greater than the number of reported in step - 60? - 1: MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 bytes (12 bytes RLC SDU + 1 byte UMD F bytes MAC sub Header) and DL assignments are set to 96 bits (L _{RBs} & I _{MCS} as per 38.523-3) that <i>MBSBroadcastConfiguration</i> need to be sent in 2 slots. 2: The wait time at steps 38 is the cell re-selection delay to a newly detectable cell, it can be e T_detect.NR_intra (as per TS 38.133 [30], clause 4.2.2.3) plus the time to read the system informa (1280ms). 3: MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 bytes (12 bytes RLC SDU + 1 byte UMD F bytes MAC sub Header) and DL assignment is set to larger than 120 bits (L _{RBs} & I _{MCS} as per annex B) so that <i>MBSBroadcastConfiguration</i> could to be sent in 1 slot. 4: The wait time at steps 62a4 is the cell re-selection delay to an already detected cell, it can la as: Tevaluate.NR_intra (as per TS 38.133 [30], clause 4.2.2.3) plus the time to read the system information is 15 bytes (12 bytes RLC SDU + 1 byte UMD F	Check: Is the number of reported MBS - RESPONSE Packets received on the MTCH in step 77 - 3,5 greater than the number of reported in step - - 3,5 60? - - - 3,5 1: MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 bytes (12 bytes RLC SDU + 1 byte UMD PDU he bytes MAC sub Header) and DL assignments are set to 96 bits (L _{RBs} & I _{MCS} as per 38.523-3[3] and that <i>MBSBroadcastConfiguration</i> need to be sent in 2 slots. 2: The wait time at steps 38 is the cell re-selection delay to a newly detectable cell, it can be express T _{detect,NR_Intra} (as per TS 38.133 [30], clause 4.2.2.3) plus the time to read the system information T _{SH} (1280ms). 3: MAC PDU for <i>MBSBroadcastConfiguration</i> is 15 bytes (12 bytes RLC SDU + 1 byte UMD PDU he bytes MAC sub Header) and DL assignment is set to larger than 120 bits (L _{RBs} & I _{MCS} as per 38.523 annex B) so that <i>MBSBroadcastConfiguration</i> could to be sent in 1 slot. 4: The wait time at steps 62a4 is the cell re-selection delay to an already detected cell, it can be express annex B) so that <i>MBSBroadcastConfiguration</i> could to be sent in 1 slot. 4: The wait time at steps 62a4 is the cell re-selection delay to an already detected cell, it can be express annex B. So that <i>MBSBroadcastConfiguration</i> could to be sent in 1 slot. 4: The wait time at steps 62a4 is the cell re-selection delay to an already detected cell, it can be express annex B. So that <i>MBSBroadcastConfiguration</i> could to be sent in 1 slot.<

14.1.1.1.3.3 Specific message contents

Table 14.1.1.1.3.3-1: SIB1 of NR Cell 1 and NR Cell 2 (preamble and all steps, Table 14.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
servingCellConfigCommon	ServingCellConfigComm	Table	
	onSIB	14.1.1.1.3.3-2	
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry		
(1maxSI-Message)) OF SchedulingInfo2-r17 {			
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	2	entry number for	
		si-SchedulingInfo	
		in <i>SIB1</i> +1	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType20		
}			
valueTag-r17	0		
	1		step 52 and
			step 62a2
}			
}			
}			
}			
}			
<u>}</u>			
<u>}</u>			
}			

Table 14.1.1.1.3.3-2: ServingCellConfigCommonSIB (Table 14.1.1.1.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.1.1.3.3-3	
}			

Table 14.1.1.1.3.3-3: DownlinkConfigCommonSIB (Table 14.1.1.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53	_		
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.1.1.3.3-4	
}			

Table 14.1.1.1.3.3-4: BWP-DownlinkCommon (Table 14.1.1.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Comment	Condition	
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon			
	with conditioni			
	MBS_Broadcast			
}				
}				

Table 14.1.1.1.3.3-5: SIB20 of NR Cell 1 and NR Cell 2 (preamble and all steps, Table 14.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-19			
Information Element	Value/remark	Comment	Condition
SIB20-r17 ::= SEQUENCE {			
mcch-Config-r17 SEQUENCE {			
mcch-WindowStartSlot-r17	6		SCS15 OR SCS
			120
	3		SCS30
	2		step52 and step
			62a2
mcch-WindowDuration-r17	sl2		
	Not present		step52 and step
			62a2
}			
cfr-ConfigMCCH-MTCH-r17	Not present		NR Cell 1
	CFR-ConfigMCCH-MTCH-	TS 38.508-1 [4],	NR Cell 2
	r17 with condition	Table 4.6.7-2	
	SIB1_BWP		
}			

Table 14.1.1.1.3.3-6: ACTIVATE TEST MODE (step 10a1, Table 14.1.1.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.1.1.3.3-7: CLOSE UE TEST LOOP (step 31a1, Table 14.1.1.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.1.1.3.3-8: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 33, step 49, step 59, step 62a11, Table 14.1.1.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.1.1.3.3-9: *MBSBroadcastConfiguration* (step 22, step39, step57, step 62a5, Table 14.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA			
Information Element	Value/remark	Comment	Condition
MBSBroadcastConfiguration-r17 := SEQUENCE {			
criticalExtensions CHOICE {			
mbsBroadcastConfiguration-r17 SEQUENCE {			
mbs-SessionInfoList-r17	MBS-SessionInfoList	Table	
		14.1.1.1.3.3-10	
}			
}			
}			
Note : The size for MBSBroadcastConfiguration-r17 is 1	2 bytes		

Table 14.1.1.1.3.3-10: MBS-SessionInfoList (Table 14.1.1.1.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	1 entry		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {			
g-RNTI-r17	'0001'H		step 22 for NR
			Cell 1
	'0002'H		step 57 for NR
			Cell 1
	'FFF2'H		step 39 for NR
			Cell 2
	'FFF1'H		step 62a5 for NR
			Cell 2
}			
}			

Table 14.1.1.1.3.3-11: RRCRelease (step 62a1, Table 14.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-16 with condition NR_RRC_INACTIVE

Table 14.1.1.1.3.3-12: Paging (step 62a7, Table 14.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9 with condition NR_RRC_RESUME

14.1.1.2 MBS Broadcast/ MCCH Information Acquisition/ becoming interested to receive MBS broadcast services

14.1.1.2.1 Test Purpose (TP)

(1)

with { UE in NR RRC_IDLE state and camped on a cell providing SIB20 and not interested to receive MBS broadcast services }

ensure that {

when { UE is becoming interested to receive one MBS broadcast service }

then { UE acquires the MBSBroadcastConfiguration message and starts MBS reception for this MBS broadcast service }

}

14.1.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clauses 5.9.2.2. Unless otherwise stated these are Rel-17 requirements.

[TS 38.331, clause 5.9.2.2]

A UE shall apply the MCCH information acquisition procedure upon becoming interested to receive MBS broadcast services. A UE interested to receive MBS broadcast services shall apply the MCCH information acquisition procedure upon entering the cell providing *SIB20* (e.g. upon power on, following UE mobility), upon receiving *SIB20* of an SCell via dedicated signalling and upon receiving a notification that the MCCH information has changed due to the start of new MBS service(s).

14.1.1.2.3 Test description

14.1.1.2.3.1 Pre-test conditions

System Simulator:

- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- UE is made not interested in receiving MBS Broadcast services.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.1.1.2.3.2 Test procedure sequence

Table 14.1.1.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS updates MBSBroadcastConfiguration	-	-	-	-
	message to include the configuration for MBS				
	Service ID '000002'H				
2	The SS transmits MCCH information change	-	-	-	-
	notification due to the start of new MBS				
	service.				
3	Wait until SS stops transmitting MCCH	-	-	-	-
	information change notification.				
4	UE is made interested in receiving MBS	-	-	-	-
	Broadcast service with MBS Service ID				
	'000002'H.				
5	Wait for 30s to ensure that UE have acquired	-	-	-	-
	the updated MBSBroadcastConfiguration in				
	step 1 due to becoming interested to receiving				
	MBS Broadcast service with MBS Service ID				
	'000002'H.				
6-	Steps 1 to 9a2 of the generic procedures	-	-	-	-
14	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed with condition UE TEST LOOP				
	MODE C.				
-	Exception: Step 15 is repeated 5 times	-	-	-	-
15	The SS transmits an MBS Packet on the	<	MBS Packet.	-	-
	MTCH with LCID=2 and g-RNTI = '0002'H.				
16	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
17	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
18	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MTCH in step 17				
	greater than zero?				

14.1.1.2.3.3 Specific message contents

Table 14.1.1.2.3.3-1: SIB1 of NR Cell 1 (preamble and all steps, Table 14.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
servingCellConfigCommon	ServingCellConfigComm	Table	
	onSIB	14.1.1.2.3.3-2	
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry		
(1maxSI-Message)) OF SchedulingInfo2-r17 {			
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	2	entry number for	
		si-SchedulingInfo	
		in SIB1 +1	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType20		
}			
valueTag-r17	0		
}			
}			
}			
}			
}			
}			
<u>}</u>			
<u>}</u>			

Table 14.1.1.2.3.3-2: ServingCellConfigCommonSIB (Table 14.1.1.2.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.1.2.3.3-3	
}			

Table 14.1.1.2.3.3-3: DownlinkConfigCommonSIB (Table 14.1.1.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.1.2.3.3-4	
}			

Table 14.1.1.2.3.3-4: BWP-DownlinkCommon (Table 14.1.1.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Comment	Condition	
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon			
	with condition			
	MBS_Broadcast			
}				
}				

Table 14.1.1.2.3.3-5: *MBSBroadcastConfiguration* (preamble and step 1, Table 14.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA			
Information Element	Value/remark	Comment	Condition
MBSBroadcastConfiguration-r17 := SEQUENCE {			
criticalExtensions CHOICE {			
mbsBroadcastConfiguration-r17 SEQUENCE {			
mbs-SessionInfoList-r17	MBS-SessionInfoList-	Table	Preamble
	Service1	14.1.1.2.3.3-6	
	MBS-SessionInfoList-	Table	Step 1
	Service1and2	14.1.1.2.3.3-7	
}			
}			
}			

Table 14.1.1.2.3.3-6: MBS-SessionInfoList-Service1 (Table 14.1.1.2.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	1 entry		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI-r17 with condition		
	Service1		
g-RNTI-r17	'0001'H		
}			
}			
Table 14.1.1.2.3.3-7: MBS-SessionInfoList-Service1and2 (Table 14.1.1.2.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	2 entries		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI-r17 with condition	Table	
	Service1	1/11222	
	Servicer	14.1.1.2.3.3	
	10001111	8	
G-RNTI-I1/			
IIID-LISIBIOAUCASI-IIT SEQUENCE (SIZE	1 entry		
(1maxNrofMRB-Broadcast-r17)) OF MRB-			
InfoBroadcast-r17 {			
MRB-InfoBroadcast-r17[1] SEQUENCE {		entry 1	
pdcp-Config-r17 SEQUENCE {			
pdcp-SN-SizeDL-r17	Not present		
headerCompression-r17 CHOICE {			
notUsed	NULL		
}			
t-Reordering-r17	Not present		
}			
rlc-Config-r17 SEQUENCE {			
logicalChannelIdentity-r17	1		
sn-FieldLength-r17	Not present		
t-Reassembly-r17	Not present		
}			
}			
}			
mtch-SchedulingInfo-r17	Not present		
mtch-NeighbourCell-r17	Not present		
pdsch-ConfigIndex-r17	Not present		
mtch-SSB-MappingWindowIndex-r17	Not present		
}			
MBS-SessionInfo-r17[2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI-r17 with condition	Table	
	Service2	14.1.1.2.3.3-	
		8	
g-RNTI-r17	'0002'H		
mrb-ListBroadcast-r17 SEQUENCE (SIZE	1 entry		
(1maxNrofMRB-Broadcast-r17)) OF MRB-			
InfoBroadcast-r17 {			
MRB-InfoBroadcast-r17[1] SEQUENCE {		entry 1	
pdcp-Config-r17 SEQUENCE {			
pdcp-SN-SizeDL-r17	Not present		
headerCompression-r17 CHOICE {			
notUsed	NULL		
}	-		
t-Reordering-r17	Not present		
}	•		
rlc-Config-r17 SEOUENCE {			
logicalChannelIdentity-r17	2		
sn-FieldLength-r17	Not present		
t-Reassembly-r17	Not present		
}			
}			
}			
mtch-SchedulingInfo-r17	Not present		
mtch-NeighbourCell-r17	Not present		
pdsch-ConfigIndex-r17	Not present		
mtch-SSB-MappingWindowIndex-r17	Not present		
}			
}			

Table 14.1.1.2.3.3-8: TMGI-r17 (Table 14.1.1.2.3.3-6, Table 14.1.1.2.3.3-7)

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Derivation Path: TS 38.508-1 [4], Table 4.6.7-9				
Information Element		Value/remark	Comment	Condition
TMGI-r17 ::= SEQUENCE {				
plmn-Id-r17 CHOICE {				
plmn-Index-r17		1		
}				
serviceId-r17		'000002'H	OCTET STRING	Service2
			(SIZE (3))	
		'000001'H	OCTET STRING	Service1
			(SIZE (3))	
}				
Condition	Explanation			
Service1	Broadcast MBS Service with MBS service id '000001'H			
Service2	Broadcast MBS Service with MBS service id '000002'H			

Table 14.1.1.2.3.3-9: ACTIVATE TEST MODE (preamble, Table 14.1.1.2.3.2-1)

Derivation Dath: 36 P	T 191 802	$\Gamma_{a}hla / 7\Delta_{-}1$	condition LIE	TESTIOOD	MODEC

Table 14.1.1.2.3.3-10: CLOSE UE TEST LOOP (step 14a1, Table 14.1.1.2.3.2-1)

Derivation Path: 38.508-1 [4], 4.7A.2, condition UE TEST LOOP MODE C and Broadcast MRB			
Information Element	Value/remark	Comment	Condition
UE test loop mode C LB setup		MRB ID	
MRB ID	60000001	Bit1 of Octet1 = 1:	
	00000000	Broadcast MRB.	
	1000000'B	Bit4 – bit1 of Octet2 = 0	
		0 0 0 and bit8 of Octet3	
		= 1: Identity of the	
		logical channel of	
		broadcast MTCH is 2.	

Table 14.1.1.2.3.3-11: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 16, Table 14.1.1.2.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.1.2.3.3-12: Physical layer parameters for DCI format 4_0 (all steps, Table 7.1.1.2.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.3.6.1.5.1-1, condition MCCH-RNTI			
Parameter	Value	Value in binary	Condition
MCCH change notification	MSB indicates no new MBS service(s)	"00"	NOT Step 2
	start. LSB indicates no modification of		
	MCCH information other than the		
	change caused by start of new MBS		
	service(s).		
	MSB indicates a new MBS service start.	"10"	Step 2
	LSB indicates no modification of MCCH		
	information other than the change		
	caused by start of new MBS service(s).		

14.1.1.3 MBS Broadcast/ MCCH Information Acquisition/ MCCH Information change notification

14.1.1.3.1 Test Purpose (TP)

(1)

with { UE in NR RRC IDLE state and camped on a cell providing SIB20 and interested to receive MBS broadcast service }

ensure that {

when { UE is receiving a notification that the MCCH information has changed due to the start of new MBS service }

then { UE starts acquiring the MBSBroadcastConfiguration message on MCCH from the slot in which the change notification was received }

}

(2)

with { UE in NR RRC CONNECTED state and is receiving data via broadcast MRB }

ensure that {

when { UE is receiving a notification that the MCCH information has changed due to MCCH
information modification other than the change caused by the start of new MBS session }

then { UE starts acquiring the MBSBroadcastConfiguration message on MCCH from the slot in which the change notification was received }

}

14.1.1.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.6.2; TS 38.331, clauses 5.9.1.3, 5.9.2.2 and 5.9.2.3. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.6.2]

The following principles govern the MCCH structure:

•••

- MCCH uses a modification period and MCCH contents are only allowed to be modified at each modification period boundary; A notification mechanism is used to announce the change of MCCH contents due to broadcast session start, modification or stop and due to neighbouring cell information modification;
- NOTE: It is up to UE implementation to use the start and stop times in the USD to determine when to start monitoring the MCCH for the session the UE is interested in.
- When the UE receives a MCCH change notification, it acquires the updated MCCH in the same MCCH modification period where the change notification is sent.

[TS 38.331, clause 5.9.1.3]

Change of MCCH information only occurs at specific radio frames, i.e. the concept of a modification period is used. Within a modification period, the same MCCH information may be transmitted a number of times, as defined by its scheduling (which is based on a repetition period).

When the network changes (some of) the MCCH information, it notifies the UEs about the change starting from the beginning of the MCCH modification period via PDCCH which schedules the MCCH in every repetition in that modification period.

Upon receiving a change notification, a UE receiving or interested to receive MBS services transmitted using MBS broadcast acquires the new MCCH information starting from the same slot. The UE applies the previously acquired MCCH information until the UE acquires the new MCCH information. The notification is transmitted with a 2-bit bitmap, see TS 38.212 [17] clause 7.3.1.5.1. The MSB in the 2-bit bitmap, when set to '1', indicates the start of new MBS service(s). The LSB in the 2-bit bitmap, when set to '1', indicates modification of MCCH information other than the change caused by start of new MBS service(s), e.g. modification of a configuration of an on-going MBS session(s), MBS session(s) stop or neighbouring cell information modification.

[TS 38.331, clause 5.9.2.2]

A UE shall apply the MCCH information acquisition procedure upon becoming interested to receive MBS broadcast services. A UE interested to receive MBS broadcast services shall apply the MCCH information acquisition procedure upon entering the cell providing *SIB20* (e.g. upon power on, following UE mobility), upon receiving *SIB20* of an SCell via dedicated signalling and upon receiving a notification that the MCCH information has changed due to the start of new MBS service(s). A UE that is receiving data via broadcast MRB shall apply the MCCH information acquisition procedure upon receiving a notification that the MCCH information has changed due to MCCH information acquisition procedure upon receiving a notification that the MCCH information has changed due to MCCH information modification other than the change caused by the start of new MBS service(s).

[TS 38.331, clause 5.9.2.3]

An MBS capable UE interested to receive or receiving an MBS broadcast service shall:

- 1> if the procedure is triggered by an MCCH information change notification:
 - 2> start acquiring the *MBSBroadcastConfiguration* message on MCCH in the concerned cell from the slot in which the change notification was received;
 - •••

```
14.1.1.3.3 Test description
```

14.1.1.3.3.1 Pre-test conditions

System Simulator:

- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- UE is made interested in receiving MBS Broadcast service with MBS Service ID '000001'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.1.1.3.3.2 Test procedure sequence

Table 14.1.1.3.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS updates MBSBroadcastConfiguration	-	-	-	-
	message to include the configuration for MBS				
	Service ID '000001'H				
2	The SS transmits MCCH information change	-	-	-	-
	notification due to the start of new MBS				
-	service.				
3-	Steps 1 to 9a2 of the generic procedures	-	-	-	-
11	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed with condition UE TEST LOOP				
	MODE C.				
-	Exception: Step 12 is repeated 5 times	-	-	-	-
12	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
12	With LCID=1 and g-RNTI = '0001'H.		ND DDC: DL InformationTransfor		
13		<		-	-
	C MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
14			REQUEST		
14	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULINFORMATION FRANSFER	-	-
	MBMS PACKET COUNTER RESPONSE.		IC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
15	Chealy Is the number of reported MBC		RESPONSE	1	
15	Check. Is the humber of reported MBS	-	-	1 I	P
	Packets received on the MTCH III step 14				
16	greater than zero?				
10	measure to modify the configuration for MDC	-	-	-	-
17	Service ID 000001 H				
11	notification due to MPS convice modification	-	-	-	-
_	Exception: Step 18 is repeated 5 times				_
18	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
10	with $I CID=1$ and q -RNTI = '0002'H				
19	The SS transmits an UF TEST LOOP MODE	<	NR RRC: DI InformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UF TEST LOOP MODE C		
	message		MBMS PACKET COUNTER		
			REQUEST		
20	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
21	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MTCH in step 20				
	greater than the number of reported in step				
	15?				
22	The SS transmits an <i>RRCRelease</i> message.	<	NR RRC: RRCRelease	-	-
23	The SS updates MBSBroadcastConfiguration	-	-	-	-
	message to exclude the configuration for MBS				
	Service ID '000001'H.			1	
24	The SS transmits MCCH information change	-	-	-	-
	notification due to MBS service stop.			1	
-	Exception: Step 25 is repeated 5 times	-	-	-	-
25	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID=1 and g-RNTI = '0002'H.				
26-	Steps 1 to 8 of the generic procedures	-	-	-	-
33	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed.				
34	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		IC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		

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35	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
36	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MTCH in step 35				
	equal to the number of reported in step 21?				

14.1.1.3.3.3 Specific message contents

Table 14.1.1.3.3.3-1: SIB1 of NR Cell 1 (preamble and all steps, Table 14.1.1.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28				
Information Element	Value/remark	Comment	Condition	
SIB1 ::= SEQUENCE {				
servingCellConfigCommon	ServingCellConfigComm	Table		
	onSIB	14.1.1.3.3.3-2		
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry			
(1maxSI-Message)) OF SchedulingInfo2-r17 {				
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1		
si-BroadcastStatus-r17	broadcasting			
si-WindowPosition-r17	2	entry number for		
		si-SchedulingInfo		
		in S <i>IB1</i> +1		
si-Periodicity-r17	64			
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry			
(1maxSIB)) OF SIB-TypeInfo-v1700 {				
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1		
sibType-r17 CHOICE {				
type1-r17	sibType20			
}				
valueTag-r17	0			
}				
}				
}				
}				
}				
}				
}				
[}				

Table 14.1.1.3.3.3-2: ServingCellConfigCommonSIB (Table 14.1.1.3.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.1.3.3.3-3	
}			

Table 14.1.1.3.3.3-3: DownlinkConfigCommonSIB (Table 14.1.1.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.1.3.3.3-4	
}			

Table 14.1.1.3.3.3-4: BWP-DownlinkCommon (Table 14.1.1.3.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Comment	Condition	
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon			
	with condition			
	MBS_Broadcast			
}				
}				

Table 14.1.1.3.3.3-5: SIB20 of NR Cell 1 (preamble and all steps, Table 14.1.1.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-19			
Information Element	Value/remark	Comment	Condition
SIB20-r17 ::= SEQUENCE {			
mcch-Config-r17 SEQUENCE {			
mcch-WindowStartSlot-r17	6		SCS15 OR SCS
			120
	3		SCS30
mcch-WindowDuration-r17	Not present		
}			
cfr-ConfigMCCH-MTCH-r17	CFR-ConfigMCCH-MTCH-	TS 38.508-1 [4],	
	r17 with condition	Table 4.6.7-2	
	SIB1_BWP		
}			

Table 14.1.1.3.3.3-6: ACTIVATE TEST MODE (preamble, Table 14.1.1.3.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.1.3.3.3-7: CLOSE UE TEST LOOP (step 11a1, Table 14.1.1.3.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.1.3.3.3-8: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 13, step 19 and step 34, Table 14.1.1.3.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.1.3.3.3-9: MBSBroadcastConfiguration (preamble, step 1, step16 and step23, Table14.1.1.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA			
Information Element	Value/remark	Comment	Condition
MBSBroadcastConfiguration-r17 := SEQUENCE {			
criticalExtensions CHOICE {			
mbsBroadcastConfiguration-r17 SEQUENCE {			
mbs-SessionInfoList-r17	MBS-SessionInfoList-	Table	Preamble,
	Service2	14.1.1.3.3.3-10	Step 23
	MBS-SessionInfoList-	Table	Step 1, Step
	Service1and2	14.1.1.3.3.3-11	16
}			
}			
}			

Table 14.1.1.3.3.3-10: MBS-SessionInfoList-Service2 (Table 14.1.1.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	1 entry		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI-r17 with condition		
	Service2		
g-RNTI-r17	'0003'H		
mrb-ListBroadcast-r17 SEQUENCE (SIZE	1 entry		
(1maxNrofMRB-Broadcast-r17)) OF MRB-			
InfoBroadcast-r17 {			
MRB-InfoBroadcast-r17[1] SEQUENCE {		entry 1	
pdcp-Config-r17 SEQUENCE {			
pdcp-SN-SizeDL-r17	Not present		
headerCompression-r17 CHOICE {			
notUsed	NULL		
}			
t-Reordering-r17	Not present		
}			
rlc-Config-r17 SEQUENCE {			
logicalChannelIdentity-r17	2		
sn-FieldLength-r17	Not present		
t-Reassembly-r17	Not present		
}			
}			
}			
}			
}			

Table 14.1.1.3.3.3-11: MBS-SessionInfoList-Service1and2 (Table 14.1.1.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	2 entries		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI-r17 with condition		
	Convice2		
	0003 H		
IIID-LISIBIOAUCASI-IIT SEQUENCE (SIZE	1 entry		
(1maxNrotMRB-Broadcast-r17)) OF MRB-			
InfoBroadcast-r17 {			
MRB-InfoBroadcast-r17[1] SEQUENCE {		entry 1	
pdcp-Contig-r17 SEQUENCE {			
pdcp-SN-SizeDL-r17	Not present		
headerCompression-r17 CHOICE {			
notUsed	NULL		
}			
t-Reordering-r17	Not present		
}			
rlc-Config-r17 SEQUENCE {			
logicalChannelIdentity-r17	2		
sn-FieldLength-r17	Not present		
t-Reassembly-r17	Not present		
}			
}			
}			
mtch-SchedulingInfo-r17	Not present		
mtch-NeighbourCell-r17	Not present		
pdsch-ConfigIndex-r17	Not present		
mtch-SSB-MappingWindowIndex-r17	Not present		
}			
MBS-SessionInfo-r17[2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI-r17 with condition		
	Service1		
a-RNTI-r17	'0001'H		Step 1
	'0002'H		Step 16
mrb-ListBroadcast-r17 SEOUENCE (SIZE	1 entry		
(1 maxNrofMRB-Broadcast-r17)) OF MRB-			
InfoBroadcast r17 (
MPP InfoProadcast r17[1] SEQUENCE (optry 1	
nden Config r17 SEQUENCE {			
	Not procept		
hooderCompression r17 CHOICE (Not present		
noioseu	NOLL		
}	Not procent		
	Not present		
	1		
Sn-FleidLength-r17	Not present		
	inol present		
}			
<u>}</u>			
}	Network		
mtch-SchedulingInto-r1/	inot present		
mtch-NeighbourCell-r17	Not present		
pdsch-ContigIndex-r17	Not present		
mtch-SSB-MappingWindowIndex-r17	Not present	-	
}			
}			

Table 14.1.1.3.3.3-12: TMGI-r17 (Table 14.1.1.3.3.3-10, Table 14.1.1.3.3.3-11)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-9				
Information Element		Value/remark	Comment	Condition
TMGI-r17 ::= SEQUENCE {				
plmn-Id-r17 CHOICE {				
plmn-Index-r17		1		
}				
serviceId-r17		'000002'H	OCTET STRING	Service2
			(SIZE (3))	
		'000001'H	OCTET STRING	Service1
			(SIZE (3))	
}				
Condition		Explanation		
Service1	Broadcast MBS Service with MBS service id '000001'H			
Service2	Broadcast MBS Service with MBS service id '000002'H			

Table 14.1.1.3.3.3-13: Physical layer parameters for DCI format 4_0 (all steps, Table 7.1.1.2.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.3.	6.1.5.1-1, condition MCCH-RNTI		
Parameter	Value	Value in binary	Condition
MCCH change notification	MSB indicates no new MBS service(s)	"00"	NOT (Step
	start. LSB indicates no modification of		1, Step 17,
	MCCH information other than the		Step 24)
	change caused by start of new MBS		
	service(s).		
	MSB indicates a new MBS service start.	"10"	Step 1
	LSB indicates no modification of MCCH		
	information other than the change		
	caused by start of new MBS service(s).		
	MSB indicates no new MBS service(s)	"01"	Step 17,
	start. LSB indicates the modification of		Step 24
	MCCH information other than the		
	change caused by start of new MBS		
	service(s).		

14.1.1.4 MBS Broadcast/ MCCH Information Acquisition/ receiving SIB20 of an SCell via dedicated signalling

14.1.1.4.1 MBS Broadcast/ MCCH Information Acquisition/ receiving SIB20 of an SCell via dedicated signalling / Intra-band Contiguous CA

14.1.1.4.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC CONNECTED state with SCell configured and interested to receive MBS broadcast services }

ensure that {

when { UE is receiving SIB20 for the Scell via dedicated signalling }

then { UE starts acquiring the MBSBroadcastConfiguration message on MCCH in the Scell at the next repetition period and starts MBS reception }

}

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14.1.1.4.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clauses 5.9.2.2 and 5.9.2.3. Unless otherwise stated these are Rel-17 requirements.

[TS 38.331, clause 5.9.2.2]

A UE shall apply the MCCH information acquisition procedure upon becoming interested to receive MBS broadcast services. A UE interested to receive MBS broadcast services shall apply the MCCH information acquisition procedure upon entering the cell providing *SIB20* (e.g. upon power on, following UE mobility), upon receiving *SIB20* of an SCell via dedicated signalling and upon receiving a notification that the MCCH information has changed due to the start of new MBS service(s).

[TS 38.331, clause 5.9.2.3]

An MBS capable UE interested to receive or receiving an MBS broadcast service shall:

- ...
- 1> if the UE enters a cell broadcasting *SIB20*; or
- 1> if the UE receives *sCellSIB20*:
 - 2> acquire the *MBSBroadcastConfiguration* message on MCCH in the concerned cell at the next repetition period.
- 14.1.1.4.1.3 Test description

14.1.1.4.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the PCell, NR Cell 3 is the SCell to be added.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- UE is made interested in receiving MBS Broadcast service with MBS Service ID '000001'H.

Preamble:

- The UE is in state 3N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.1.1.4.1.3.2 Test procedure sequence

Table 14.1.1.4.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an	<	NR RRC: RRCReconfiguration	-	-
	RRCReconfigurationmessage containing a				
	sCellToAddModList with SCell NR Cell 3				
	addition.				
2	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationtComplete		
3	The SS transmits Activation MAC control	<	MAC PDU (SCell		
	element to activate NR SCell 3.		Activation/Deactivation MAC CE		
			of one octet (C ₁ =1))		
4	The SS starts to transmit	-	-	-	-
	MBSBroadcastConfiguration message on NR				
	Cell 3				
5	The SS transmits an	<	NR RRC: RRCReconfiguration	-	-
	RRCReconfigurationmessage containing				
	SIB20 of NR Cell 3.				
6	The UE transmits an	>		-	-
	RRCReconfigurationComplete message		RRCReconfigurationtComplete		
<i>'</i>	paried for the UE to reacive	-	-	-	-
	MPSPreadeastConfiguration massage on ND				
821	Cell 3. Steps 0a1 to 0a2 of the generic procedures	_	_	-	
-	described in TS 38 508-1 subclause 4.5.4.2-3		-		
822	are performed with condition LIE TEST LOOP				
002	MODE C on NR Cell 1				
-	Exception: Step 9 is repeated 5 times	-	-	-	-
9	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	on NR Cell 3.				
10	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message on NR Cell 1.		MBMS PACKET COUNTER		
	5		REQUEST		
11	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
12	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MTCH in step 11				
	greater than zero?				

14.1.1.4.3.3 Specific message contents

Table 14.1.1.4.1.3.3-1: RRCReconfiguration (step 1 and step 5, Table 14.1.1.4.1.3.2-1)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-13 with condition SCell_add				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration SEQUENCE {				
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.1.1.4.1.3.3-2		
}				
}				
}				
}				

Table 14.1.1.4.1.3.3-2: CellGroupConfig (Table 14.1.1.4.1.3.3-1)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-19 with condition SCell_add			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
sCellToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofSCells)) OF SCellConfig {			
SCellConfig[1] SEQUENCE {		entry 1	
sCellConfigCommon	ServingCellConfigComm	Table	Step 1
	on	14.1.1.4.1.3.3-5	
	Not present		Step 5
sCellConfigDedicated	ServingCellConfig with		Step 1
	condition No_UL and		
	Scell_Add		
	Not present		Step 5
sCellSIB20-r17	Not present		Step 1
sCellSIB20-r17 CHOICE {			Step 5
setup	SCellSIB20-r17	OCTET STRING	
		(CONTAINING	
		SystemInformatio	
		n)	
}		,	
}			
}			
}			

Table 14.1.1.4.1.3.3-3: SystemInformation (Table 14.1.1.4.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-29			
Information Element	Value/remark	Comment	Condition
SystemInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
systemInformation-IEs SEQUENCE {			
sib-TypeAndInfo SEQUENCE (SIZE (1maxSIB))	1 entry		
OF CHOICE {			
sib20-v1700	SIB20-r17	Table	
		14.1.1.4.1.3.3-4	
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

Table 14.1.1.4.1.3.3-4: SIB20-r17 (Table 14.1.1.4.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-19			
Information Element	Value/remark	Comment	Condition
SIB20-r17 ::= SEQUENCE {			
cfr-ConfigMCCH-MTCH-r17	FFS		
}			

Table 14.1.1.4.1.3.3-5: ServingCellConfigCommon (Table 14.1.1.4.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-168, condition SCell_add and No_UL			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
		14.1.1.4.1.3.3-6	
}			

Table 14.1.1.4.1.3.3-6: DownlinkConfigCommon (Table 14.1.1.4.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-52, condition SCell_Add			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommon ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.1.4.1.3.3-7	
}			

Table 14.1.1.4.1.3.3-7: BWP-DownlinkCommon (Table 14.1.1.4.1.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10, condition SCell_Add					
Value/remark	Comment	Condition			
PDCCH-ConfigCommon	Table				
	14.1.1.4.1.3.3-8				
	on SCell_Add Value/remark PDCCH-ConfigCommon	Value/remark Comment PDCCH-ConfigCommon Table 14.1.1.4.1.3.3-8 14.1.1.4.1.3.3-8			

Table 14.1.1.4.1.3.3-8: PDCCH-ConfigCommon (Table 14.1.1.4.1.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-96, condition SCell_Add and MBS_Broadcast					
Information Element	Value/remark	Comment	Condition		
PDCCH-ConfigCommon ::= SEQUENCE {					
commonControlResourceSet	ControlResourceSet				
	Not present				
commonSearchSpaceList SEQUENCE (SIZE (14))	1 entry				
OF SearchSpace {					
SearchSpace[1]	SearchSpace with	entry 1			
	condition CSS				
}					
searchSpaceMCCH-r17	SearchSpaceId with				
	condition CSS				
commonSearchSpaceListExt2-r17	1 entry				
SEQUENCE(SIZE (14)) OF SearchSpaceExt-v1700					
{					
SearchSpaceExt-v1700[1] SEQUENCE {		entry 1			
searchSpaceType-r17 SEQUENCE {					
common-r17 SEQUENCE {					
dci-Format4-0-r17 SEQUENCE {					
}					
}					
}					
}					
}					
}					

Table 14.1.1.4.1.3.3-9: ACTIVATE TEST MODE (preamble, Table 14.1.1.4.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.1.4.1.3.3-10: CLOSE UE TEST LOOP (step 8a1, Table 14.1.1.4.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

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Table 14.1.1.4.1.3.3-11: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 10, Table 14.1.1.4.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

14.1.1.4.2 MBS Broadcast/ MCCH Information Acquisition/ receiving SIB20 of an SCell via dedicated signalling / Inter-band CA

The scope and description of the present TC is the same as test case 14.1.1.4.1 with the following differences:

- CA configuration: Inter-band CA replaces Intra-band Contiguous CA
- Cells configuration: NR Cell 10 replaces NR Cell 3

14.1.1.4.3 MBS Broadcast/ MCCH Information Acquisition/ receiving SIB20 of an SCell via dedicated signalling / Intra-band non Contiguous CA

The scope and description of the present TC is the same as test case 14.1.1.4.1 with the following differences:

- CA configuration: Intra-band non-Contiguous CA replaces Intra-band Contiguous CA

14.1.2 MBS Broadcast/ Service Continuity

14.1.2.1 MBS Broadcast/ Service Continuity/ Cell reselection/ frequency prioritization

14.1.2.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC IDLE state and is receiving MBS broadcast service via broadcast MRB and camped on a cell providing SIB21 indicating a MBS FSAI in mbs-FSAI-IntraFreq-r17 and the same MBS FSAI is also indicated for this MBS broadcast service in MBS User Service Description (USD)}

ensure that {

when { an intra-frequency neighbour cell providing the MBS service and an inter-band neighbour cell not providing the MBS service becomes better than the serving cell }

then { UE performs cell reselection to the intra-frequency cell even if the inter-frequency cell
is better and continues MBS reception }

}

(2)

with { UE in NR RRC IDLE state and interested to receive MBS broadcast service and camped on a cell
not providing SIB20 }

ensure that {

when { serving cell providing SIB21 indicating a MBS FSAI in mbs-FSAI-InterFreq-r17 and the same
MBS FSAI is also indicated for this MBS broadcast service in MBS User Service Description (USD) }

then { UE performs cell reselection to the inter-frequency neighbour cell even if the serving
cell is better and starts MBS reception }

}

(3)

with { UE in NR RRC INACTIVE state and is receiving MBS data via broadcast MRB and camped on a cell
providing SIB20 and SIB21 indicating a MBS FSAI in mbs-FSAI-IntraFreq-r17 and the same MBS FSAI is
also indicated for this MBS broadcast service in MBS User Service Description (USD) }

ensure that {

when { an intra-frequency neighbour cell providing the MBS service and an inter-band neighbour cell not providing the MBS service becomes better than the serving cell }

then { UE performs cell reselection to the intra-frequency cell even if the inter-frequency cell is better and continues MBS reception }

}

14.1.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.6.5.1; TS 38.304, clause 5.2.4.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.6.5.1]

In RRC_IDLE and RRC_INACTIVE, the UE applies the normal cell reselection rules with the following modifications:

- the UE which is receiving or interested to receive MBS broadcast service(s) via PTM and can only receive these MBS broadcast service(s) via PTM while camping on the frequency providing these MBS broadcast service(s) is allowed to make this frequency highest priority when the conditions described in TS 38.304 [10] are met;
- when the MBS broadcast service(s) which the UE is interested in are no longer available (after the end of the session) or the UE is no longer interested in receiving the service(s), the UE no longer prioritises the frequency providing these MBS broadcast service(s).

[TS 38.304, clause 5.2.4.1]

The UE shall only perform cell reselection evaluation for NR frequencies and inter-RAT frequencies that are given in system information and for which the UE has a priority provided.

If the MBS broadcast capable UE is receiving or interested to receive an MBS broadcast service(s) and can only receive this MBS broadcast service(s) by camping on a frequency on which it is provided, the UE may consider that frequency to be the highest priority during the MBS broadcast session as specified in TS 38.300 [2] as long as the two following conditions are fulfilled:

 SIB1 scheduling information of the cell reselected by the UE due to frequency prioritization for MBS contains SIB20;

2) Either:

- One or more MBS FSAI(s) of that frequency is indicated in SIB21 of the serving cell and the same MBS FSAI(s) is also indicated for this MBS broadcast service in MBS User Service Description (USD) as specified in TS 26.346 [20], or
- SIB21 is not provided in the serving cell and that frequency is included in the USD of this service, or
- SIB21 is provided in the serving cell but does not provide the frequency mapping for the concerned service, and that frequency is included in the USD of this service.

NOTE 0g: It is up to UE implementation which frequency to select, when the USD provides multiple frequencies for the service the UE is interested in.

If the MBS broadcast capable UE is receiving or interested to receive an MBS broadcast service, the UE may consider cell reselection candidate frequencies at which it cannot receive the MBS broadcast service to be of the lowest priority during the MBS broadcast session as specified in TS 38.300 [2], as long as the SIB20 is provided by the cell on the MBS frequency which the UE monitors and as long as the condition 2) above is fulfilled for the serving cell.

NOTE 0h: Example scenarios in which such down-prioritisation may be needed include the cases where camping is not possible for the UE on the MBS broadcast frequency (e.g. the MBS broadcast frequency belongs to a PLMN different from UE's registered PLMN) while the UE can receive the MBS broadcast service when camped on another frequency than the MBS broadcast frequency or current frequency.

[TS 23.247, clause 6.5.4]

The MBS Frequency Selection Area (FSA) ID is used for broadcast MBS session to guide the frequency selection of the UE.

MBS FSA ID identifies a preconfigured area within, and in proximity to, which the cell(s) announces the MBS FSA ID and the associating frequency (details see TS 38.300 [9]).

14.1.2.1.3 Test description

14.1.2.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 (TAI-1), NR Cell 11 (TAI-2) and NR Cell 23 (TAI-2).
- The SS configures the NR Cell 23 as the "Serving cell" and NR Cell 1 and NR Cell 11 as "Non-suitable "Off" cell".
- System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 23.
- System information combination NR-25 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1 and NR cell 11.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 23(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.1.2.1.3.2 Test procedure sequence

Table 14.1.2.1.3.2-1 and 14.1.2.1.3.2-2 illustrates the downlink power levels to be applied for NR Cell 1, NR Cell 11 and NR Cell 23 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1" is applied at the point indicated in the Main behaviour description in Table 14.1.2.1.3.2-3.

Table 14.1.2.1.3.2-1: Time instances of cell power level and parameter changes for FR1

	Parameter	Unit	NR	NR	NR	Remark
			Cell 1	Cell 11	Cell 23	
						The power level values are assigned to
т0		dBm/SCS	-91	Off	-85	satisfy $R_{NR Cell 1} < R_{NR Cell 23}$ and $Srxlev_{NR Cell 1}$
	333 EPRE					> Thresh _{NR Cell 1, HighP}
						The power level values are assigned to
T1		dBm/SCS	-91	-85	-79	satisfy R _{NR Cell 1} < R _{NR Cell 11} < R _{NR Cell 23} and
	SSS EPRE					Srxlev NR Cell 1 < Thresh Serving, LowP
						The power level values are assigned to
T2		dBm/SCS	-85	-91	-79	satisfy R _{NR Cell 11} < R _{NR Cell 1} < R _{NR Cell 23} and
	333 EPRE					Srxlev NR Cell 11 < Thresh Serving, LowP

Table 14.1.2.1.3.2-2: Time instances of cell power level and parameter changes for FR2

	Parameter	Unit	NR	NR	NR	Remark
			Cell 1	Cell 11	Cell 23	
						The power level values are assigned to
T0		dBm/SCS	FFS	FFS	FFS	satisfy $R_{NR Cell 1} < R_{NR Cell 23}$ and $Srxlev_{NR Cell 1}$
	333 EPRE					> Thresh _{NR Cell 1, HighP}
						The power level values are assigned to
T1		dBm/SCS	FFS	FFS	FFS	satisfy R _{NR Cell 1} < R _{NR Cell 11} < R _{NR Cell 23} and
	555 EPRE					Srxlev NR Cell 1 < Thresh Serving, LowP
						The power level values are assigned to
T2		dBm/SCS	FFS	FFS	FFS	satisfy $R_{NR Cell 11} < R_{NR Cell 1} < R_{NR Cell 23}$ and
	333 EPRE					Srxlev NR Cell 11 < Thresh Serving, LowP

Table 14.1.2.1.3.2-3: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The SS starts to broadcast SIB21 (according	-	-	-	-
	to System information combination NR-24) as				
	defined in TS 38.508-1 [4] clause 4.4.3.1.2) on				
	NR Cell 23 including mbs-FSAI-InterFreqList-				
	r17 indicating MBS-FSAI-r17=1 for the				
	frequency of NP Cell 1				
2	The SS transmits a Short message on PDCCH	-	PDCCH (DCI 1_0): Short	-	-
-	using P-RNTI indicating a		Message		
	system/nfoModification on NP Coll 22		Message		
3	Wait for 2.1* modification period to allow the				
	now system information to take offect				
1	LIE is made interested in receiving MBS		_	_	
-	service ID '000001'H associated with MBS				
	Service ID 000001 H associated with MBS				
5	The LIE transmits an DDC SetupDequest	>		2	D
	message on NP Coll 1	>	NK KKC. KKCSetapKequest	2	
6-	Steps 2 to 6a1 of the registration procedure	_		_	
10	described in TS 22 502 1 [4] subclause	_	-	_	-
10	4 0 E 2 2 1 are performed on ND Cell 1				
11	4.9.5.2.2-1 are periormed on NR Cell 1.				
11	wait for a period equal to the MCCH repetition	-	-	-	-
	MBSBroadcastConfiguration message on NR				
-	EXCEPTION: In parallel to the events	-	-	-	-
	described in steps 18-20, the steps described				
	in Table 14.1.2.1.3.2-4 may take place,				
	depending on the UE implementation.				
12-	Steps 1 to 9a2 of the generic procedures	-	-	-	-
20	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C.				
-	EXCEPTION: Step 21 is repeated 5 times.	-	-	-	-
21	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1.				
22-	Void.	-	-	-	-
29					
30	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
31	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
32	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MTCH in step 31				
	greater than zero?				
33	The SS transmits an <i>RRCRelease</i> message.	<	NR RRC: RRCRelease	-	-
34	The SS changes NR Cell 1, NR Cell 11 and	-	-	-	-
	NR Cell 23 levels according to the row "T1" in				
	table Table 14.1.2.1.3.2-1/2.				
35	The UE transmits an RRCSetupRequest	>	NR RRC: RRCSetupRequest	1	Р
	message on NR Cell 11.				
36-	Steps 2 to 6a1 of the registration procedure	-	-	-	-
40	described in TS 38.508-1 [4] subclause				
	4.9.5.2.2-1 are performed on NR Cell 11				
41	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				

Cell 11.

-	EXCEPTION: Step 42 is repeated 5 times.	-	-		-
42	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1.				
-	EXCEPTION: In parallel to the events	-	-	-	-
	described in steps 49-52, the steps described				
	in Table 14.1.2.1.3.2-4 may takeplace,				
	depending on the UE implementation.				
43-	Steps 1 to 8 of the generic procedures	-	-	-	-
50	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed on NR Cell 11.				
51	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message		MBMS PACKET COUNTER		
			REQUEST		
52	UE responds with UE TEST LOOP MODE C	>	NR RRC: UI InformationTransfer	-	-
02	MBMS PACKET COUNTER RESPONSE				
	MBM3TACKET COUNTER RESI ONSE.				
F 2	Checky to the number of reported MDC		RESPONSE	1	
53	Check: Is the humber of reported MBS	-	-	1	Р
	Packets received on the MICH In step 52				
	greater than the number of reported in step				
	31?				
-	EXCEPTION: Steps 54a1-54a21 describe	-	-	-	-
	behaviour that depends on UE configuration;				
	the "lower case letter" identifies a step				
	sequence that takes place if inactiveState is				
	configured				
54a	IF pc_inactiveState THEN the The SS	<	NR RRC: RRCRelease	-	-
1	transmits an RRCRelease message including				
	suspendConfig.				
54a	The SS changes NR Cell 1, NR Cell 11 and	-	-	-	-
2	NR Cell 23 levels according to the row "T2" in				
	table Table 14.1.2.1.3.2-1/2.				
54a	The UE transmits an RRCSetupRequest	>	NR RRC: RRCSetupRequest	3	Р
3	message on NR Cell 1.				
54a	Steps 2 to 6a1 of the registration procedure	-	-	-	-
4-	described in TS 38.508-1 [4] subclause				
54a	4.9.5.2.2-1 are performed on NR Cell 1.				
8					
54a	Wait for a period equal to the MCCH repetition	-	-	-	-
9	period for the UE to receive				
Ū	MRSBroadcastConfiguration message on NR				
-	EXCEPTION: Step 54a10 is repeated 5 times	-	-	-	
54a	The SS transmits a MRS Packet on the MTCH	<	MBS Packet	-	_
10	with I CID=1			_	
- 10	EXCEPTION: In parallel to the events		-	-	_
	described in steps 5/217-5/220 the steps				
	described in Steps 34417-34420, the steps				
	utounder in rapid 14.1.2.1.3.2-4 Illay				
E 40	Implementation.				
54a	departies in TC 20 F00 4 substance 4 5 4 0 0	-	-		
	described in 15 38.508-1 Subclause 4.5.4.2-3				
54a	are performed on NR Cell 1.				
18					
54a	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
19	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
54a	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
20	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		

			MBMS PACKET COUNTER			
			RESPONSE			
54a	Check: Is the number of reported MBS	-	-	3	Р	
21	Packets received on the MTCH in step 54a20					
	greater than the number of reported in step					
	52?					
Note	Note 1: The request may be performed by MMI or AT command.					

Table 14.1.2.1.3.2-4: Parallel behaviour

St	Procedure		Message Sequence	ТР	Verdict
		U - S	Message		
1	UE transmits an MBSInterestIndication	>	MBSInterestIndication	-	-
	message.				

14.1.2.1.3.3 Specific message contents

Table 14.1.2.1.3.3-1: SIB1 of NR Cell 23 (preamble and all steps, Table 14.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28						
Information Element	Value/remark	Comment	Condition			
SIB1 ::= SEQUENCE {						
servingCellConfigCommon	ServingCellConfigComm	Table				
	onSIB	14.1.2.1.3.3-3				
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
nonCriticalExtension SEQUENCE {						
si-SchedulingInfo-v1700	Not present		Preamble			
			and NR Cell			
			23			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry					
(1maxSI-Message)) OF SchedulingInfo2-r17 {						
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1				
si-BroadcastStatus-r17	broadcasting					
si-WindowPosition-r17	3	entry number for				
		si-SchedulingInfo				
		in SIB1 +1				
si-Periodicity-r17	64					
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry					
(1maxSIB)) OF SIB-TypeInfo-v1700 {						
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1				
sibType-r17 CHOICE {						
type1-r17	sibType21		Step1-64			
			and NR Cell			
			23			
}						
valueTag-r17	0					
}						
}						
}						
}						
}						
}						
}						
}						

Table 14.1.2.1.3.3-2: SIB1 of NR Cell 1 and NR Cell 11 (preamble and all steps, Table 14.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
servingCellConfigCommon	ServingCellConfigComm	Table	
	onSIB	14.1.2.1.3.3-3	
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	2 entries		
(1maxSI-Message)) OF SchedulingInfo2-r17 {			
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	3	entry number for	
		si-SchedulingInfo	
		in SIB1 +1	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType20		
}			
valueTag-r17	0		
}			
}			
}			
}			
SchedulingInfo2-r17 [2] SEQUENCE {		entry 2	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	4	entry number for	
		si-SchedulingInfo	
		in SIB1 +2	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType21		
}			
valueTag-r17	0		
}			
}			
}			
}			
}			
}			
}			
}			

Table 14.1.2.1.3.3-3: ServingCellConfigCommonSIB (Table 14.1.2.1.3.3-1 and Table 14.1.2.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.2.1.3.3-4	
}			

Table 14.1.2.1.3.3-4: DownlinkConfigCommonSIB (Table 14.1.2.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.2.1.3.3-5	
}			

Table 14.1.2.1.3.3-5: BWP-DownlinkCommon (Table 14.1.2.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB					
Information Element	Value/remark	Condition			
BWP-DownlinkCommon ::= SEQUENCE {					
pdcch-ConfigCommon CHOICE {					
setup	PDCCH-ConfigCommon				
	with conditioni				
	MBS_Broadcast				
}					
}					

Table 14.1.2.1.3.3-6: SIB21 of NR Cell 1 and NR Cell 11 and NR Cell 23 (all steps, Table 14.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-20					
Information Element	Value/remark	Comment	Condition		
SIB21-r17 ::= SEQUENCE {					
mbs-FSAI-IntraFreq-r17	Not present		NR Cell 23		
mbs-FSAI-IntraFreq-r17 SEQUENCE (SIZE	1 entry		NR Cell 1,		
(1maxFSAI-MBS-r17)) OF MBS-FSAI-r17 {			NR Cell 11		
MBS-FSAI-r17[1]	'000001'H	entry 1			
		OCTET STRING			
		(SIZE (3))			
}					
mbs-FSAI-InterFreqList-r17	Not present		NR Cell 1,		
			NR Cell 11		
mbs-FSAI-InterFreqList-r17 SEQUENCE (SIZE	1 entry		NR Cell 23		
(1maxFreq)) OF MBS-FSAI-InterFreq-r17 {					
MBS-FSAI-InterFreq-r17[1] SEQUENCE {		entry 1			
dl-CarrierFreq-r17	ARFCN-ValueNR of NR				
	Cell 1				
mbs-FSAI-List-r17 SEQUENCE (SIZE	1 entry				
(1maxFSAI-MBS-r17)) OF MBS-FSAI-r17 {					
MBS-FSAI-r17[1]	'000001'H	entry 1			
		OCTET STRING			
		(SIZE (3))			
}					
}					
}					
}					

Table 14.1.2.1.3.3-7: ACTIVATE TEST MODE (preamble, Table 14.1.2.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.2.1.3.3-8: CLOSE UE TEST LOOP (step 20a1, Table 14.1.2.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.2.1.3.3-9: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 30, step 51, step 53a19, Table 14.1.2.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.2.1.3.3-10: RRCRelease (step 54a1, Table 14.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-16 with condition NR RRC INACTIVE

14.1.2.2 MBS Broadcast/ Service Continuity/ Handover/ MBS Interest Indication/ inter-frequency

14.1.2.2.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and interested to receive MBS broadcast service and has not transmitted a MBSInterestIndication message }

ensure that {

when { SIB21 provided in the serving cell indicates that the MBS service is available on a frequency of an inter-frequency neighbour cell and the FSAI of this frequency is also indicated in the USD for this session }

then { UE transmits a MBSInterestIndication message indicating interest in MBS reception on the frequency }

}

(2)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message
indicating interest in MBS reception on a frequency of an inter-frequency neighbour cell }

ensure that {

when { 1s after the UE has transmitted the MBSInterestIndication message the UE receives
RRCReconfiguration message including a reconfigurationWithSync indicating a the NR frequency of the
inter-frequency neighbour cell }

then { UE performs inter-frequency handover and starts MBS reception }

}

(3)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message }

ensure that {

when { UE handover from a cell not providing SIB20 to a cell providing SIB20 and SIB21 }

then { UE transmits a MBSInterestIndication message }

}

(4)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message }

ensure that {

when { The set of MBS broadcast frequencies of interest is different from mbs-FreqList included in
the last transmission of the MBS Interest Indication }

then { UE transmits a MBSInterestIndication message indicating interest in MBS reception on the
frequency }

}

(5)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message }

ensure that {

when { UE receives a RRCReconfiguration message including reconfigurationWithSync less than 1
second after the last transmission of an MBSInterestIndication message and target cell provides
SIB21}

then { UE re-transmit a MBSInterestIndication message }

}

14.1.2.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.6.5.2; TS 38.331, clauses 5.9.4.2, 5.9.4.3, 5.9.4.4, 5.9.4.5 and 5.3.5.3. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.6.5.2]

To ensure service continuity of MBS broadcast, the UE in RRC_CONNECTED state may send MBS Interest Indication to the gNB, consisting of the following information:

- List of MBS frequencies UE is interested to receive, sorted in decreasing order of interest;
- Priority between the reception of all listed MBS frequencies and the reception of any unicast bearer;
- List of MBS broadcast services the UE is interested to receive, in case SIB20 is scheduled by the UE's PCell.

MBS Interest Indication information reporting can be implicitly enabled/disabled by the presence of SIB21.

The gNB may use this information, together with the information about the UE's capabilities (e.g., supported band combinations), when providing an RRC configuration and/or downlink assignments to the UE, to allow the UE to receive the MBS services the UE is interested in. MBS Interest Indication information can be exchanged between source gNB and target gNB during handover.

[TS 38.331, clause 5.9.4.2]

Upon initiating the procedure, the UE shall:

- 1> if *SIB21* is provided by the PCell:
 - 2> ensure having a valid version of *SIB21* for the PCell;

- 2> if the UE did not transmit MBS Interest Indication since last entering RRC_CONNECTED state; or
- 2> if since the last time the UE transmitted an MBS Interest Indication, the UE connected to a PCell not providing *SIB21*:
 - 3> if the set of MBS broadcast frequencies of interest, determined in accordance with 5.9.4.3, is not empty:
 - 4> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate transmission of the MBSInterestIndication message;

2> else:

3> if the set of MBS broadcast frequencies of interest, determined in accordance with 5.9.4.3, is different from *mbs-FreqList* included in the last transmission of the MBS Interest Indication; or

...

- 4> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate transmission of the MBSInterestIndication message;
- NOTE: The UE may send MBS Interest Indication even when it is able to receive the MBS services it is interested in i.e. to avoid that the network allocates a configuration inhibiting MBS broadcast reception.
 - 3> else if *SIB20* is provided for the PCell or for the SCell:
 - 4> if since the last time the UE transmitted the MBS Interest Indication, the UE connected to a PCell not providing *SIB20* and the UE was not provided with *SIB20* for an SCell; or
 - 4> if the set of MBS broadcast services of interest determined in accordance with 5.9.4.4 is different from *mbs-ServiceList* included in the last transmission of the MBS Interest Indication:
 - 5> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate the transmission of *MBSInterestIndication* message.

[TS 38.331, clause 5.9.4.3]

The UE shall:

- 1> consider a frequency to be part of the MBS frequencies of interest if the following conditions are met:
 - 2> at least one MBS session the UE is receiving or interested to receive via a broadcast MRB is ongoing or about to start; and
- NOTE 1: The UE may determine whether the session is ongoing from the start and stop time indicated in the User Service Description (USD), see TS 38.300 [2] or TS 23.247 [67].
 - 2> for at least one of these MBS sessions, SIB21 acquired from the PCell includes mapping between the concerned frequency and one or more MBS FSAIs indicated in the USD for this session, or for at least one of these MBS sessions, the concerned frequency is not included in SIB21 but is indicated in the USD for this session; and
- NOTE 2: The UE considers a frequency to be part of the MBS frequencies of interest even though NG-RAN may (temporarily) not employ a broadcast MRB for the concerned session, i.e., the UE does not verify if the session is indicated on MCCH.
 - 2> the *supportedBandCombinationList* the UE included in *UE-NR-Capability* contains at least one band combination including the concerned MBS frequency.
- NOTE 3: When evaluating which frequencies the UE is capable of receiving, the UE does not take into account whether they are currently configured as serving frequencies.

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[TS 38.331, clause 5.9.4.4]

The UE shall:

- 1> consider an MBS service to be part of the MBS services of interest if the following conditions are met:
 - 2> the UE is receiving or interested to receive this service via a broadcast MRB; and
 - 2> the session of this service is ongoing or about to start; and
 - 2> one or more MBS FSAIs in the USD for this service is included in *SIB21* acquired from the PCell for a frequency belonging to the set of MBS frequencies of interest, determined according to 5.9.4.3 or *SIB21* acquired from the PCell does not provide the frequency mapping for the concerned service but that frequency is included in the USD of this service.
- NOTE: The UE may determine whether the session is ongoing from the start and stop time indicated in the User Service Description (USD), see TS 38.300 [2] or TS 23.247 [67].

[TS 38.331, clause 5.9.4.5]

The UE shall set the contents of the MBS Interest Indication as follows:

- 1> if the set of MBS frequencies of interest, determined in accordance with 5.9.4.3, is not empty:
 - 2> include *mbs-FreqList* and set it to include the MBS frequencies of interest sorted by decreasing order of interest, using the *absoluteFrequencySSB* for serving frequency, if applicable, and the *ARFCN-ValueNR*(s) as included in *SIB21* or in USD (for neighbouring frequencies);
- •••
 - 2> if *SIB20* is provided for the PCell or for the SCell:
 - 3> include *mbs-ServiceList* and set it to indicate the set of MBS services of interest sorted by decreasing order of interest determined in accordance with 5.9.4.4.

[TS 38.331, clause 5.3.5.3]

1> if *reconfigurationWithSync* was included in *spCellConfig* of an MCG or SCG and when MAC of an NR cell group successfully completes a Random Access procedure triggered above; or,

•••

- 2> if reconfigurationWithSync was included in masterCellGroup and the target cell provides SIB21:
 - 3> if the UE initiated transmission of an *MBSInterestIndication* message during the last 1 second preceding reception of this *RRCReconfiguration* message; or

•••

4> initiate transmission of an *MBSInterestIndication* message in accordance with clause 5.9.4;

14.1.2.2.3 Test description

14.1.2.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 (TAI-1) and NR Cell 3 (TAI-1).
- The SS configures the NR Cell 1 as the "Serving cell" and NR Cell 3 as "Non-suitable "Off" cell".

- System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- System information combination NR-25 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 3.

UE:

- None.

Preamble:

- The UE is in state 3N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.1.2.2.3.2 Test procedure sequence

Table 14.1.2.2.3.2-1/2 illustrates the downlink power levels and other changing parameters to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T0", and "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 14.1.2.2.3.2-1: Time instances of ce	power level and	parameter changes for FR1
--	-----------------	---------------------------

	Parameter	Unit	NR Cell 1	NR Cell 3	Remark
					Power levels are such that entry
то	SS/PBCH	dBm/SCS	00	04	condition for event A3 is not satisfied
	SSS EPRE	ubiii/SCS	-00	-94	for the neighbour NR cell: Mn + Ofn +
					Ocn – Hys > Mp + Ofp + Ocp + Off
					Power levels are such that entry
					condition for event A3 is satisfied for
T1		dBm/SCS	-88	-82	inter-frequency neighbour NR cell
	555 EPRE				3(measId 1): Mn + Ofn + Ocn – Hys >
					Mp + Ofp + Ocp + Off

Table 14.1.2.2.3.2-2: Time instances of cell power level and parameter changes for FR2

	Parameter	Unit	NR Cell 1	NR Cell 3	Remark
					Power levels are such that entry
то	TO SS/PBCH dBm/COC FFC FFC	condition for event A3 is not satisfied			
10	SSS EPRE	ubiii/SCS	FFS	FFS FFS	for the neighbour NR cell: Mn + Ofn +
					Ocn – Hys > Mp + Ofp + Ocp + Off
					Power levels are such that entry
T1					condition for event A3 is satisfied for
	SS/PBCH	dBm/SCS	FFS	FFS	inter-frequency neighbour NR cell
	555 EPRE				3(measId 1): Mn + Ofn + Ocn – Hys >
					Mp + Ofp + Ocp + Off

Table 14.1.2.2.3.2-3: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The UE is made interested in receiving a MBS	-	-	-	-
	service with MBS Service ID '000001'H				
	associated with the MBS FSAI 1 (Note 1).				
2	The UE is made aware that the MBS Service	-	-	-	-
	ID '000001'H is ongoing (Note 1).				
3	The SS starts to broadcast SIB21 (according to	-	-	-	-
	System information combination NR-24) as				
	defined in TS 38.508-1 [4] clause 4.4.3.1.2) on				
	NR Cell 1 including mbs-FSAI-InterFreqList-r17				
	indicating MBS-FSAI-r17=1 for the frequency				
	of NR Cell 3.				
4	The SS transmits a Short message on PDCCH	-	PDCCH (DCI 1_0): Short	-	-
	using P-RNTI indicating a		Message		
	systemInfoModification on NR Cell 1.				
5	Check: Does the UE transmit	>	MBSInterestIndication	1	Р
	MBSInterestIndication message.				
6	The SS waits for 1s.	-	-	-	-
7	The SS transmits an RRCReconfiguration	<	RRCReconfiguration	-	-
	message to setup inter frequency				
	measurement on NR Cell 1.				
8	The UE transmits an	>	RRCRecontigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 1 to confirm the setup of inter- frequency				
	measurement.				
9	The SS changes NR Cell 1 and NR Cell 3 level	-	-	-	-
	according to the row "T1" in table 14.1.2.2.3.2-				
-10	1/2.		14		
10	The UE transmits a <i>MeasurementReport</i>	>	MeasurementReport	-	-
	message to report event A3 on NR Cell 1 with				
	the measured RSRP, RSRQ value for NR Cell				
11	3. The SS transmits on DDCDoconfiguration		RRC Reconfiguration		
11	message on ND Cell 1 to order the LIE to		RRCReconinguration	-	-
	nessage on NR Cell 1 to order the OE to				
12	The LIE transmits an	>	PPCPeconfigurationComplete	_	_
12	PPCPeconfigurationComplete message on NP		River Ceconinguration Complete		_
13	LIE transmits an MRSInterestIndication	>	MBSInterestIndication	3	P
10	message on NR Cell 3			Ū	
14	Wait for a scheduling period for SIB20.	-	-	-	-
15	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 3.				
16a	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
1-	described in TS 38.508-1 subclause 4.5.4.2-3				
16a	are performed on NR Cell 3 with condition UE				
2	TEST LOOP MODE C.				
-	Exception: Step 17 is repeated 5 times	-	-	-	-
17	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1.				
18	The SS transmits an UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
L			REQUEST		
19	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		IC: UE IEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE	-	
20	Check: is the number of reported MBS Packets	-	-	2	P

	received on the MTCH in step 19 greater than				
	zero?				
21	The SS starts to broadcast SIB20 (according to	-	-	-	-
	System information combination NR-25) as				
	defined in TS 38.508-1 [4] clause 4.4.3.1.2) on				
	NR Cell 1.				
22	The UE is made interested in receiving a MBS	-	-	-	-
	service with MBS Service ID '000000'H				
	associated with the MBS FSAI 0 and not				
	interested in receiving a MBS service with MBS				
	Service ID '000001'H associated with the MBS				
	FSAI 1 (Note 1).				
23	The UE is made aware that the MBS Service	-	-	-	-
	ID=0 is ongoing (Note 1).				
24	UE transmits an MBSInterestIndication	>	MBSInterestIndication	4	Р
	message on NR Cell 3				
25	The SS transmits an RRCReconfiguration	<	RRCReconfiguration	-	-
	message on NR Cell 3 to order the UE to				
	perform inter-frequency handover to NR Cell 1				
	within 1s.				
26	The UE transmits an	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 1?				
27	UE transmits an MBSInterestIndication	>	MBSInterestIndication	5	Р
	message on NR Cell 1				
28	Wait for a scheduling period for SIB20.	-	-	-	-
29	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 1.				
-	Exception: Step 30 is repeated 5 times	-		-	-
30	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
- 01	WITH LCID=1.		ND DDC: DL/mformationTransfor		
31	The SS transmits an UE TEST LOOP MODE C	<	NR RRC: DLINIOIMALION TRANSIER	-	-
	MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
22			REQUEST		
32	DE l'esponds with de l'EST LOOP MODE C	>		-	-
	MBMS PACKET COUNTER RESPONSE.				
			MBMS PACKET COUNTER		
22	Chack: Is the number of reported MPS Deckete		KESPUNSE	1	P
ు	reactived on the MTCH in stop 22 greater than	-	-	L T	F
	the number of reported in step 102				
Note	Line number of reported in step 19?	 [
INDLE	1. The request may be performed by MIMI OF AT	comina	nu.		

14.1.2.2.3.3 Specific message contents

Table 14.1.2.2.3.3-1: SIB1 of NR Cell 1 and NR Cell 3 (preamble and all steps, Table 14.1.2.2.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
servingCellConfigCommon	ServingCellConfigComm	Table	
	onSIB	14.1.2.2.3.3-2	
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEOUENCE {			
nonCriticalExtension SEOUENCE {			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	2 entries		
(1 maxSI-Message)) OF SchedulingInfo2-r17 {			
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	3	entry number for	
		si-SchedulinaInfo	
ai Dariadiaity r17	64		
SI-PEHOUICILY-I17	04		
SID-Mappinginio-117 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-V1700 {			
SIB-TypeInfo-v1/00 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			(0) 01
type1-r17	sibType20		(Step 21
			AND NR
			Cell 1)OR
			NR Cell 3
	sibType21		Preamble
			AND NR
			Cell 1
3			
valueTag-r17	0		
}			
}			
}			
}			
SchedulingInfo2-r17 [2]	Not present		Preamble
[AND NR
SchedulingInfo2-r17 [2] SEQUENCE (ontry 2	(Stop 21
			Cell 1)OR
			NR Cell 3
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	4	entry number for	
		si-SchedulingInfo	
		in SIB1 +2	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType21		
}			
valueTag-r17	0		
}			
}			
}			
}			
}			
}			
}			
}			

Table 14.1.2.2.3.3-2: ServingCellConfigCommonSIB (Table 14.1.2.2.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.2.2.3.3-3	
}			

Table 14.1.2.2.3.3-3: DownlinkConfigCommonSIB (Table 14.1.2.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.2.2.3.3-4	
}			

Table 14.1.2.2.3.3-4: BWP-DownlinkCommon (Table 14.1.2.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB					
Information Element	Value/remark Comment				
BWP-DownlinkCommon ::= SEQUENCE {					
pdcch-ConfigCommon CHOICE {					
setup	PDCCH-ConfigCommon				
	with conditioni				
	MBS_Broadcast				
}					
}					
Table 14.1.2.2.3.3-5: SIB21 of NR Cell 1 and NR Cell 3 (preamble and all steps, Table 14.1.2.2.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-20				
Information Element	Value/remark	Comment	Condition	
SIB21-r17 ::= SEQUENCE {				
mbs-FSAI-IntraFreq-r17 SEQUENCE (SIZE	1 entry			
(1maxFSAI-MBS-r17)) OF MBS-FSAI-r17 {				
MBS-FSAI-r17[1]	'000000'H	entry 1	NR Cell 1	
		OCTET STRING		
		(SIZE (3))		
	'000001'H	entry 1	NR Cell 3	
		OCTET STRING		
		(SIZE (3))		
}				
mbs-FSAI-InterFreqList-r17 SEQUENCE (SIZE	1 entry			
(1maxFreq)) OF MBS-FSAI-InterFreq-r17 {				
MBS-FSAI-InterFreq-r17[1] SEQUENCE {		entry 1		
dl-CarrierFreq-r17	ARFCN-ValueNR of NR		NR Cell 1	
	Cell 3			
	ARFCN-ValueNR of NR		NR Cell 3	
	Cell 1			
mbs-FSAI-List-r17 SEQUENCE (SIZE	1 entry			
(1maxFSAI-MBS-r17)) OF MBS-FSAI-r17 {				
MBS-FSAI-r17[1]	'000001'H	entry 1	NR Cell 1	
		OCTET STRING		
		(SIZE (3))		
	'000000'H	entry 1	NR Cell 3	
		OCTET STRING		
		(SIZE (3))		
}				
}				
}				
}				

Table 14.1.2.2.3.3-6: ACTIVATE TEST MODE (preamble, Table 14.1.2.2.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.2.2.3.3-7: RRCReconfiguration (step 7, Table 14.1.2.2.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-13 with condition MEAS

Table 14.1.2.2.3.3-8: MeasConfig (Table 14.1.2.2.3.3-7)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-69			
Information Element	Value/remark	Comment	Condition
MeasConfig ::= SEQUENCE {			
measObjectToAddModList SEQUENCE (SIZE	2 entries		
(1maxNrofMeasId)) OF MeasObjectToAddMod {			
MeasObjectToAddMod[1] SEQUENCE {		entry 1	
measObjectId	1		
measObject CHOICE {			
measObjectNR SEQUENCE {			
ssbFrequency	ARFCN-ValueNR of NR		
	Cell 1		
absThreshSS-BlocksConsolidation	Not present		
}			
}			
}			
MeasObjectToAddMod[2] SEQUENCE {		entry 2	
measObjectId	2		
measObject CHOICE {			
measObjectNR SEQUENCE {			
ssbFrequency	ARFCN-ValueNR of NR		
	Cell 3		
absThreshSS-BlocksConsolidation	Not present		
}			
}			
}			
}			
reportConfigToAddModList SEQUENCE(SIZE	1 entry		
(1maxReportConfigId)) OF ReportConfigToAddMod {			
ReportConfigToAddMod[1] SEQUENCE {		entry 1	
reportConfigId	1		
reportConfig CHOICE {			
reportConfigNR	ReportConfigNR-	Table	
	EventA3	14.1.2.2.3.3-10	
}			
}			
}			
measIdToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofMeasId)) OF MeasIdToAddMod {			
MeasIdToAddMod[1] SEQUENCE {		entry 1	
measId	1		
measObjectId	2		
reportConfigId	1		
}			
}			
measGapConfig	MeasGapConfig		
}			

Table 14.1.2.2.3.3-9: ReportConfigNR-EventA3 (Table 14.1.2.2.3.3-8)

Derivation Path: TS 38 508-1 [4] Table 4 6 3-142 w	ith condition EVENIT A3					
Information Element Value/remark Comment Con						
	value/remark	Comment	Condition			
ReportConligNR .:= SEQUENCE {						
reportType CHOICE {						
eventTriggered SEQUENCE {						
eventId CHOICE {						
eventA3 SEQUENCE {			EVENT_A3			
a3-Offset CHOICE {						
rsrp	6	3dB	FR1			
	FFS		FR2			
}						
hysteresis	0	0 dB				
timeToTrigger	ms640					
}						
}						
reportAmount	r1					
reportQuantityCell SEQUENCE {						
rsrp	true					
rsrq	false					
sinr	false					
}						
}						
}						
}						

Table 14.1.2.2.3.3-10: RRCReconfiguration (step 11 and step 25, Table 14.1.2.2.3.2-3)

Derivation path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange

Table 14.1.2.2.3.3-11: MBSBroadcastConfiguration of NR Cell 1 and NR Cell 3 (step 15 and step29,
Table 14.1.2.2.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA			
Information Element	Value/remark	Comment	Condition
MBSBroadcastConfiguration-r17 := SEQUENCE {			
criticalExtensions CHOICE {			
mbsBroadcastConfiguration-r17 SEQUENCE {			
mbs-SessionInfoList-r17	MBS-SessionInfoList	Table	
		14.1.2.2.3.3-12	
}			
}			
}			

Table 14.1.2.2.3.3-12: MBS-SessionInfoList (Table 14.1.2.2.3.3-11)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6			
Information Element	Value/remark	Comment	Condition
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	1 entry		
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-			
r17 {			
MBS-SessionInfo-r17[1] SEQUENCE {			
mbs-SessionId-r17	TMGI-r17	Table	
		14.1.2.2.3.3-13	
}			
}			

Table 14.1.2.2.3.3-13: TMGI (Table 14.1.2.2.3.3-12)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-9			
Information Element	Value/remark	Comment	Condition
TMGI-r17 ::= SEQUENCE {			
serviceId-r17	'000000'H	OCTET	NR Cell 1
		STRING	
		(SIZE (3))	
	'000001'H	OCTET	NR Cell 3
		STRING	
		(SIZE (3))	
}			

Table 14.1.2.2.3.3-14: CLOSE UE TEST LOOP (step 16a1, Table 14.1.2.2.3.2-3)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.2.2.3.3-15: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 18 and step 31, Table 14.1.2.2.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-9

14.1.2.3 MBS Broadcast/ Service Continuity/ Handover/ MBS Interest Indication/ intra-frequency

14.1.2.3.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and is receiving MBS broadcast service and has not transmitted a
MBSInterestIndication message }

ensure that {

when { SIB21 provided in the serving cell indicates that the MBS service is available on a frequency of intra-frequency neighbour cell and the FSAI of this frequency is also indicated in the USD for this session }

then { UE transmits a MBSInterestIndication message indicating interest in MBS reception on the frequency }

}

(2)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message
indicating interest in MBS reception on a frequency of intra-frequency neighbour cell }

ensure that {

when { 1s after the UE has transmitted the MBSInterestIndication message the UE receives
RRCReconfiguration message including a reconfigurationWithSync indicating a the NR frequency of the
intra-frequency neighbour cell }

then { UE performs intra-frequency handover and continues to receive MBS reception }

}

(3)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message }

ensure that {

when { Since the last time the UE transmitted an MBS Interest Indication, UE handovers from a cell
not providing SIB21 to a cell providing SIB21 }

then { UE transmits a MBSInterestIndication message }

}

(4)

with { UE in NR RRC_CONNECTED state and having transmitted a MBSInterestIndication message }

ensure that {

when { The set of MBS broadcast services of interest is different from mbs-ServiceList included in
the last transmission of the MBS Interest Indication }

then { UE transmits a MBSInterestIndication message indicating new mbs-ServiceList }

}

14.1.2.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.6.5.2; TS 38.331, clauses 5.9.4.2, 5.9.4.3, 5.9.4.4 and 5.9.4.5. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.6.5.2]

To ensure service continuity of MBS broadcast, the UE in RRC_CONNECTED state may send MBS Interest Indication to the gNB, consisting of the following information:

- List of MBS frequencies UE is interested to receive, sorted in decreasing order of interest;
- Priority between the reception of all listed MBS frequencies and the reception of any unicast bearer;
- List of MBS broadcast services the UE is interested to receive, in case SIB20 is scheduled by the UE's PCell.

MBS Interest Indication information reporting can be implicitly enabled/disabled by the presence of SIB21.

The gNB may use this information, together with the information about the UE's capabilities (e.g., supported band combinations), when providing an RRC configuration and/or downlink assignments to the UE, to allow the UE to receive the MBS services the UE is interested in. MBS Interest Indication information can be exchanged between source gNB and target gNB during handover.

[TS 38.331, clause 5.9.4.2]

Upon initiating the procedure, the UE shall:

- 1> if *SIB21* is provided by the PCell:
 - 2> ensure having a valid version of *SIB21* for the PCell;

2> if the UE did not transmit MBS Interest Indication since last entering RRC_CONNECTED state; or

- 2> if since the last time the UE transmitted an MBS Interest Indication, the UE connected to a PCell not providing *SIB21*:
 - 3> if the set of MBS broadcast frequencies of interest, determined in accordance with 5.9.4.3, is not empty:
 - 4> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate transmission of the MBSInterestIndication message;

2> else:

3> if the set of MBS broadcast frequencies of interest, determined in accordance with 5.9.4.3, is different from *mbs-FreqList* included in the last transmission of the MBS Interest Indication; or

•••

- 4> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate transmission of the *MBSInterestIndication* message;
- NOTE: The UE may send MBS Interest Indication even when it is able to receive the MBS services it is interested in i.e. to avoid that the network allocates a configuration inhibiting MBS broadcast reception.
 - 3> else if *SIB20* is provided for the PCell or for the SCell:
 - 4> if since the last time the UE transmitted the MBS Interest Indication, the UE connected to a PCell not providing *SIB20* and the UE was not provided with *SIB20* for an SCell; or
 - 4> if the set of MBS broadcast services of interest determined in accordance with 5.9.4.4 is different from *mbs-ServiceList* included in the last transmission of the MBS Interest Indication:
 - 5> set the contents of MBS Interest Indication according to 5.9.4.5 and initiate the transmission of *MBSInterestIndication* message.

[TS 38.331, clause 5.9.4.3]

The UE shall:

- 1> consider a frequency to be part of the MBS frequencies of interest if the following conditions are met:
 - 2> at least one MBS session the UE is receiving or interested to receive via a broadcast MRB is ongoing or about to start; and
- NOTE 1: The UE may determine whether the session is ongoing from the start and stop time indicated in the User Service Description (USD), see TS 38.300 [2] or TS 23.247 [67].
 - 2> for at least one of these MBS sessions, SIB21 acquired from the PCell includes mapping between the concerned frequency and one or more MBS FSAIs indicated in the USD for this session, or for at least one of these MBS sessions, the concerned frequency is not included in SIB21 but is indicated in the USD for this session; and
- NOTE 2: The UE considers a frequency to be part of the MBS frequencies of interest even though NG-RAN may (temporarily) not employ a broadcast MRB for the concerned session, i.e., the UE does not verify if the session is indicated on MCCH.
 - 2> the *supportedBandCombinationList* the UE included in *UE-NR-Capability* contains at least one band combination including the concerned MBS frequency.
- NOTE 3: When evaluating which frequencies the UE is capable of receiving, the UE does not take into account whether they are currently configured as serving frequencies.

[TS 38.331, clause 5.9.4.4]

The UE shall:

1> consider an MBS service to be part of the MBS services of interest if the following conditions are met:

- 2> the UE is receiving or interested to receive this service via a broadcast MRB; and
- 2> the session of this service is ongoing or about to start; and
- 2> one or more MBS FSAIs in the USD for this service is included in *SIB21* acquired from the PCell for a frequency belonging to the set of MBS frequencies of interest, determined according to 5.9.4.3 or *SIB21* acquired from the PCell does not provide the frequency mapping for the concerned service but that frequency is included in the USD of this service.
- NOTE: The UE may determine whether the session is ongoing from the start and stop time indicated in the User Service Description (USD), see TS 38.300 [2] or TS 23.247 [67].

[TS 38.331, clause 5.9.4.5]

The UE shall set the contents of the MBS Interest Indication as follows:

- 1> if the set of MBS frequencies of interest, determined in accordance with 5.9.4.3, is not empty:
 - 2> include *mbs-FreqList* and set it to include the MBS frequencies of interest sorted by decreasing order of interest, using the *absoluteFrequencySSB* for serving frequency, if applicable, and the *ARFCN-ValueNR*(s) as included in *SIB21* or in USD (for neighbouring frequencies);

•••

- 2> if *SIB20* is provided for the PCell or for the SCell:
 - 3> include *mbs-ServiceList* and set it to indicate the set of MBS services of interest sorted by decreasing order of interest determined in accordance with 5.9.4.4.

14.1.2.3.3 Test description

14.1.2.3.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 (TAI-1) and NR Cell 2 (TAI-1).
- The SS configures the NR Cell 1 as the "Serving cell" and NR Cell 2 as "Non-suitable "Off" cell".
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 2.

UE:

None.

Preamble:

The UE is in state 3N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode
 on to activate UE TEST MODE C and Test Loop Function = off.

14.1.2.3.3.2 Test procedure sequence

Release 17

Table 14.1.2.3.3.2-1/2 illustrates the downlink power levels and other changing parameters to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T0", and "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 14.1.2.3.3.2-1: Time instances of cel	power level and	d parameter changes fo	or FR1
---	-----------------	------------------------	--------

	Parameter	Unit	NR Cell 1	NR Cell 2	Remark			
					Power levels are such that entry			
то	SS/PBCH	dPm/SCS	00	04	condition for event A3 is not satisfied			
	SSS EPRE	ubiii/3C3	-00	-94	for the neighbour NR cell: Mn + Ofn +			
					Ocn – Hys > Mp + Ofp + Ocp + Off			
					Power levels are such that entry			
					condition for event A3 is satisfied for			
T1	T1 SSS EPRE dBm/SCS	S EPRE	-88	S -88	dBm/SCS -88	dBm/SCS -88 -82	-82	intra-frequency neighbour NR cell 2
								(measId 1): Mn + Ofn + Ocn – Hys >
					Mp + Ofp + Ocp + Off			
					Power levels are such that entry			
					condition for event A3 is satisfied for			
T2	T2 SSS EPRE		-82	-88	intra-frequency neighbour NR cell			
					1(measId 1): Mn + Ofn + Ocn – Hys >			
					Mp + Ofp + Ocp + Off			

Table 14.1.2.3.3.2-2: Time instances of cell power level and parameter changes for FR2

	Parameter	Unit	NR Cell 1	NR Cell 2	Remark		
					Power levels are such that entry		
то	SS/PBCH	dPm/SCS	EES	EES	condition for event A3 is not satisfied		
	SSS EPRE		ГГЗ	ГГЗ	for the neighbour NR cell: Mn + Ofn +		
					Ocn – Hys > Mp + Ofp + Ocp + Off		
					Power levels are such that entry		
					condition for event A3 is satisfied for		
T1	T1 SSS EPRE dBm/SCS	dBm/SCS	FFS	FFS FFS	dBm/SCS FFS FFS	FFS	intra-frequency neighbour NR cell 2
					(measId 1): Mn + Ofn + Ocn – Hys >		
					Mp + Ofp + Ocp + Off		
					Power levels are such that entry		
					condition for event A3 is satisfied for		
T2 33/PE		dBm/SCS	FFS	FFS	intra-frequency neighbour NR cell		
	SSS EPRE				1(measId 1): Mn + Ofn + Ocn – Hys >		
					Mp + Ofp + Ocp + Off		

Table 14.1.2.3.3.2-3: Main behaviour

St	Procedure	Message Sequence			Verdict
		U - S	Message		
1	The UE is made interested in receiving a MBS	-	-	-	-
	service with MBS Service ID=1 associated with				
	the MBS FSAI 1 (Note 1).				
2	The UE is made aware that the MBS Service	-	-	-	-
	ID=1 is ongoing (Note 1).				
3	The SS starts to broadcast SIB21 (according to	-	-	-	-
	System information combination NR-22) as				
	defined in TS 38.508-1 [4] clause 4.4.3.1.2) on				
	NR Cell 1 including mbs-FSAI-IntraFreqList-r17				
L .	indicating MBS-FSAI-r17=1.			ļ	
4	The SS transmits a Short message on PDCCH	-	PDCCH (DCI 1_0): Short	-	-
	using P-RNII indicating a		Message		
	systemInfoModification on NR Cell 1.	-			
5	Check: Does the UE transmit	>	MBSInterestindication		Р
	MBSInterestIndication message.				
6	Wait for a scheduling period for SIB20.	-	-	-	-
	wait for a period equal to the MCCH repetition	-	-	-	-
	MRSPreadcastConfiguration massage on ND				
9 01	Cell 1.				
oai	described in TS 22 509 1 subclause 4 5 4 2 2	-	-	-	-
-	are performed on NP Cell 1 with condition LE				
042					
	TEST LOOP MODE C. Excention: Step 9 is repeated 5 times		_	<u> </u>	
9	The SS transmits a MBS Packet on the MTCH	<	- MBS Packet	-	-
	with I CID=1				
10	The SS transmits an UE TEST LOOP MODE C	<	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER REQUEST		PACKET COUNTER REQUEST		
	message.				
11	UE responds with UE TEST LOOP MODE C	>	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER RESPONSE.		PACKET COUNTER RESPONSE		
12	Check: Is the number of reported MBS Packets	-	-	2	Р
	received on the MTCH in step 11 greater than				
	zero?				
13	The SS waits for 1s.	-	-	-	-
14	The SS transmits an RRCReconfiguration	<	RRCReconfiguration	-	-
	message to setup intra frequency				
	measurement on NR Cell 1.			ļ	
15	The UE transmits an	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 1 to confirm the setup of intra- frequency				
10	measurement.			-	
Τρ	The SS changes NR Cell 1 and NR Cell 2 level	-	-	-	-
	according to the row "11" in table 14.1.2.3.3.2-				
17	1/2.		MeasurementPoport	+	
L 1	me de transmits a inteasurentientikepuit	>	ινισαδυτοπιστιτκεμυτι	-	-
	the measured DSDD_DSDQ value for ND Coll				
	the measured RSRP, RSRQ value for NR Cell				
18	L. The SS transmits an RRCReconfiguration	<	RRCReconfiguration	-	_
10	message on NR Cell 1 to order the LIE to			_	_
	nerform intra-frequency handover to NR Cell 2				
19	The UE transmits an	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 2?				
20	Wait for a scheduling period for SIB20.	-	-	-	-
21	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				

	Cell 2.				
-	Exception: Step 22 is repeated 5 times	-	-	-	-
22	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1.				
23	The SS transmits an UE TEST LOOP MODE C	<	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER REQUEST		PACKET COUNTER REQUEST		
	message.				
24	UE responds with UE TEST LOOP MODE C	>	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER RESPONSE.		PACKET COUNTER RESPONSE		
25	Check: Is the number of reported MBS Packets	-	-	2	P
	received on the MTCH in step 24 greater than			_	•
	the number of reported in step 112				
26	The SS transmite on DDCDeconfiguration	-	DDCDoconfiguration		
20		<	RRCReconiiguration	-	-
	message to setup intra-frequency				
	measurement on NR Cell 2.				
27	The UE transmits an	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 2 to confirm the setup of intra-frequency				
	measurement.				
28	The SS changes NR Cell 1 and NR Cell 2 level	-	-	-	-
	according to the row "T2" in table 14.1.2.3.3.2-				
	1/2				
20	The LIF transmits a MeasurementPenort	>	MeasurementReport	_	_
23	measure to report event A2 on ND Coll 2 with		weasurementreport	_	-
	message to report event A3 on NR Cell 2 with				
	the measured RSRP, RSRQ value for NR Cell				
	1.				
30	The SS transmits an RRCReconfiguration	<	RRCReconfiguration	-	-
	message on NR Cell 2 to order the UE to				
	perform intra-frequency handover to NR Cell 1.				
31	The UE transmits an	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message on NR				
	Cell 1?				
32	UE transmits an MBSInterestIndication	>	MBSInterestIndication	3	Р
	message on NR Cell 1				
33	Wait for a scheduling period for SIB20	_		-	_
34	Wait for a period equal to the MCCH repetition	_	-	-	_
	noried for the LIE to receive				
	MBCBroodcootConfiguration macroage on ND				
	MBSBIDaucasiConiiguration message on NR				
	Cell 1.				
-	Exception: Step 35 is repeated 5 times	-	-	-	-
35	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID=1.				
36	The SS transmits an UE TEST LOOP MODE C	<	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER REQUEST		PACKET COUNTER REQUEST		
	message.				
37	UE responds with UE TEST LOOP MODE C	>	UE TEST LOOP MODE C MBMS	-	-
	MBMS PACKET COUNTER RESPONSE.		PACKET COUNTER RESPONSE		
38	Check: Is the number of reported MBS Packets	-	-	2	Р
_	received on the MTCH in step 37 greater than				
	the number of reported in step 252				
39	The UF is made secondly interested in	-	-	_	-
	receiving a MRS service with MRS Service				
40	U=2 associated with the MBS FSAI 1 (Note 1).				
40	The UE is made aware that the MBS Service	-	-	-	-
L	ID=2 is ongoing (Note 1).				
41	UE transmits an MBSInterestIndication	>	MBSInterestIndication	4	Р
	message on NR Cell 1 to update the mbs-				
	ServiceList				
Note	1. The request may be performed by MMI or AT	C comma	nd		

14.1.2.3.3.3 Specific message contents

Table 14.1.2.3.3.3-1: SIB1 of NR Cell 1 and NR Cell 2 (preamble and all steps, Table 14.1.2.3.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28					
Information Element	Value/remark	Comment	Condition		
SIB1 ::= SEQUENCE {					
servingCellConfigCommon	ServingCellConfigComm	Table 14 1 2 3 3 3-2			
nonCriticalExtension_SEQUENCE {		14.1.2.0.0.0 2			
nonCriticalExtension SEQUENCE {					
nonCriticalExtension SEQUENCE {					
si-SchedulingInfo-v1700 SEQUENCE (SIZE	2 entries				
(1 maxSI-Message)) OF SchedulingInfo2-r17 {					
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1			
si-BroadcastStatus-r17	broadcasting				
si-WindowPosition-r17	2	entry number for			
		si-SchedulingInfo			
ci Doriodicity r17	64	111 SIB1 +1			
SID-Mappinginio-r17 SEQUENCE (SIZE	1 entry				
(1maxSIB)) OF SIB-TypeInto-V1/00 {		o ostar (1			
SIB-TypeInto-V1/00 [1] SEQUENCE {					
sibType-r17 CHOICE {					
type1-r17	sib l ype20		NR Cell 2 OR (preamble AND NR		
}	0				
	0				
}					
SchedulingInfo2-r17 [2]	Not present		NR Cell 2		
SchedulingInfo2-r17 [2] SEOUENCE {		entry 2	Step3 AND		
			NR Cell 1		
si-BroadcastStatus-r17	broadcasting				
si-WindowPosition-r17	3	entry number for si-SchedulingInfo in SIB1 +2			
si-Periodicity-r17	64				
sib-MappingInfo-r17 SEQUENCE (SIZE (1maxSIB)) OF SIB-TypeInfo-y1700 {	1 entry				
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1			
sibType-r17 CHOICE {					
type1-r17	sibType21				
}					
valueTag-r17	0				
}					
}					
}					
}					
}					
}					
}					
}					

Table 14.1.2.3.3.3-2: ServingCellConfigCommonSIB (Table 14.1.2.3.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.2.3.3.3-3	
}			

Table 14.1.2.3.3.3-3: DownlinkConfigCommonSIB (Table 14.1.2.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53	_		
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.2.3.3.3-4	
}			

Table 14.1.2.3.3.3-4: BWP-DownlinkCommon (Table 14.1.2.3.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Condition		
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon			
	with conditioni			
	MBS_Broadcast			
}				
}				

Table 14.1.2.3.3.3-5: SIB21 of NR Cell 1 (step 3, Table 14.1.2.3.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.2-20			
Information Element	Value/remark	Comment	Condition
SIB21-r17 ::= SEQUENCE {			
mbs-FSAI-IntraFreq-r17 SEQUENCE (SIZE	1 entry		
(1maxFSAI-MBS-r17)) OF MBS-FSAI-r17 {			
MBS-FSAI-r17[1]	'000001'H	entry 1	
		OCTET STRING	
		(SIZE (3))	
}			
mbs-FSAI-InterFreqList-r17	Not present		
}			

Table 14.1.2.3.3.3-6: ACTIVATE TEST MODE (preamble, Table 14.1.2.3.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.2.3.3.3-7: RRCReconfiguration (step 14 and step26, Table 14.1.2.3.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-13 with condition MEAS

Table 14.1.2.3.3.3-8: MeasConfig (Table 14.1.2.3.3.3-7)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-69			
Information Element	Value/remark	Comment	Condition
MeasConfig ::= SEQUENCE {			
measObjectToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofMeasId)) OF MeasObjectToAddMod {			
MeasObjectToAddMod[1] SEQUENCE {		entry 1	
measObjectId	1		
measObject CHOICE {			
measObjectNR SEQUENCE {			
ssbFrequency	ARFCN-ValueNR of NR		
	Cell 1		
absThreshSS-BlocksConsolidation	Not present		
}			
}			
}			
}			
reportConfigToAddModList SEQUENCE(SIZE	1 entry		
(1maxReportConfigId)) OF ReportConfigToAddMod {			
ReportConfigToAddMod[1] SEQUENCE {		entry 1	
reportConfigId	1		
reportConfig CHOICE {			
reportConfigNR	ReportConfigNR-	Table	
	EventA3	14.1.2.3.3.3-10	
}			
}			
}			
measIdToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofMeasId)) OF MeasIdToAddMod {			
MeasIdToAddMod[1] SEQUENCE {		entry 1	
measId	1		
measObjectId	1		
reportConfigId	1		
}			
}			
measGapConfig	MeasGapConfig		
}			

Table 14.1.2.3.3.3-9: ReportConfigNR-EventA3 (Table 14.1.2.3.3.3-8)

Derivation Path: TS 38.508-1 [4] Table 4.6.3-142 with condition EVENT_A3				
Information Element	Value/remark	Comment	Condition	
ReportConfigNR ::= SEQUENCE {				
reportType CHOICE {				
eventTriggered SEQUENCE {				
eventId CHOICE {				
eventA3 SEQUENCE {			EVENT_A3	
a3-Offset CHOICE {				
rsrp	6	3dB	FR1	
	FFS		FR2	
}				
hysteresis	0	0 dB		
timeToTrigger	ms640			
}				
}				
reportAmount	r1			
reportQuantityCell SEQUENCE {				
rsrp	true			
rsrq	false			
sinr	false			
}				
}				
}				
}				

Table 14.1.2.3.3.3-10: RRCReconfiguration (step 18 and step 30, Table 14.1.2.3.3.2-3)

Derivation path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange

Table 14.1.2.3.3.3-11: CLOSE UE TEST LOOP (step 8a1, Table 14.1.2.3.3.2-3)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.2.3.3.3-12: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 10, step 23 and step 36, Table 14.1.2.3.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-9

14.1.3 MBS Broadcast/ MAC

14.1.3.1 MBS Broadcast/ MAC/ Correct HARQ process handling

14.1.3.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and is interested to receive or receiving data via broadcast MRB
}

ensure that {

when { UE receives data addressed to G-RNTI on broadcast MRB }

then { UE does not transmit the HARQ feedback for the MBS broadcast HARQ process }

}

(2)

with { UE in NR RRC_CONNECTED state and is receiving MBS broadcast services }

ensure that {

when { UE receives a notification that the MCCH information has changed due to MCCH information
modification other than the change caused by the start of new MBS session(s) }

then { UE starts acquiring the MBSBroadcastConfiguration message on MCCH and UE does not transimit the HARQ feedback for the MBS broadcast HARQ process}

}

14.1.3.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.3.2.2. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.3.2.2]

When a transmission takes place for the HARQ process, one or two (in case of downlink spatial multiplexing) TBs and the associated HARQ information are received from the HARQ entity.

For each received TB and associated HARQ information, the HARQ process shall:

•••

- 1> if the HARQ process is associated with a transmission indicated with a MCCH-RNTI for MBS broadcast, and this is the first received transmission for the TB according to the MCCH schedule indicated by RRC; or
- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI for MBS broadcast, and this is the first received transmission for the TB according to the MTCH schedule indicated by RRC or according to the scheduling indicated by DCI as specified in TS 38.214 [7]; or
- 1> if this is the very first received transmission for this TB (i.e. there is no previous NDI for this TB):

2> consider this transmission to be a new transmission.

1> else:

2> consider this transmission to be a retransmission.

The MAC entity then shall:

1> if this is a new transmission:

2> attempt to decode the received data.

• • •

1> if the HARQ process is associated with a transmission indicated with a MCCH-RNTI or a G-RNTI for MBS broadcast; or

...

^{1&}gt; if the HARQ process is configured with disabled HARQ feedback:

2> not instruct the physical layer to generate acknowledgement(s) of the data in this TB.

14.1.3.1.3 Test description

14.1.3.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell" and NR Cell 2 as "Non-suitable "Off" cell".
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- None.

Preamble:

- The UE is in state 3N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving a MBS service with MBS Service ID=1.

14.1.3.1.3.2 Test procedure sequence

Table 14.1.3.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Wait for a scheduling period for SIB20.	-	-	-	-
2	Wait for a period equals to MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 1				
3a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38 508-1 subclause $45.42-3$				
322	are performed on NR Cell 1 with condition LIE				
502					
	Execution: Stop 4 5 is repeated 5 times				
-	The SS transmits a MBS Dacket on the MTCH	-	- MBS Dacket	-	-
4	with LCID=1 and a DNTI = '0001'H CDC is		MDS Facket.	-	-
	with LCID-I and g-RIVII - 0001 H. CRC IS				
	fail an UE side				
_	fall on UE side.			1	
5	Check: Does the DE transmit a HARQ	>	HARQ ACK/NACK	1	F
	ACK/NACK IN 10ms? (Note 1)(Note 2)				
-	Exception: Step 6-7 is repeated 5 times	-	-	-	-
6	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID=1 and g-RNIT = 0001 'H. CRC is				
	calculated in such a way, it will result in CRC				
	pass on UE side.				
7	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	1	F
	ACK/NACK in 10ms? (Note 1)(Note 2)				
8	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
9	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
10	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MTCH in step 9			-	
	areater than zero?				
11	The SS starts to transmit the notification that		_		
1 11	the MCCH information has changed due to	_	-	_	_
	MCCLL information modification other than the				
	MCCH Information mounication other than the				
	change caused by the start of new MBS				
	session(s) and the updated the				
	MBSBroadcastConfiguration.				
	CRC is calculated in such a way, it will result in				
	CRC fail on UE side.				
12	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	2	F
	ACK/NACK in 160ms? (Note 1)(Note 3)				
13	The SS continues to transmit the notification	-	-	-	-
	that the MCCH information has changed due				
	to MCCH information modification other than				
	the change caused by the start of new MBS				
	session(s) and the undated the				
	MBSBroadcastConfiguration				
	CPC is calculated in such a way, it will result in				
	CPC pass on LE sido				
11	CRC µass UII UE SIUE.			2	
14	ACK/NACK in 160mo2 (Note 1)/Note 2)			<u> </u>	
	AUNINAUN III LOUIIIS? (NOLE L)(NOLE 3)				
-	The SS transmits a MPS Deduct on the MTCL	-	- MBS Dackat	-	-
12		<	WIDS FALKEL	-	-
	with LCID=1 and g-RN II = 0002 H. CRC is				
	calculated in such a way, it will result in CRC				
	pass on UE side.				

16	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	1	F
	ACK/NACK? (Note 1)(Note 2)				
17	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
18	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
19	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MTCH in step 18				
	greater than the number of reported in step 9?				
Note	1: When requested to check HARQ feedback f	or the de	dicated broadcast HARQ process, the	SS	
	shall assume the same PUCCH reception re	quiremer	nt as specified in TS 38.213 section 9	for a no	ormal
	HARQ process.				
Note 2: For duration of 10ms, the SS shall check HARQ ACK/NACK for MBS Packet.					
Note	3: For duration of 160ms, the SS shall check H	ARQ AC	K/NACK for MBSBroadcastConfigurat	tion (MC	ССН
	information). The MCCH repetition period is	20ms an	d the MCCH modification period is 80	ms. Thi	S
	duration (160ms), includes at least 8 times A	/IBSBroa	dcastConfiguration.		

14.1.3.1.3.3 Specific message contents

Table 14.1.3.1.3.3-1: SIB1 of NR Cell 1 (preamble and all steps, Table 14.1.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28			
Information Element	Value/remark	Comment	Condition
SIB1 ::= SEQUENCE {			
servingCellConfigCommon	ServingCellConfigComm	Table	
	onSIB	14.1.3.1.3.3-2	
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
nonCriticalExtension SEQUENCE {			
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry		
(1maxSI-Message)) OF SchedulingInfo2-r17 {			
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1	
si-BroadcastStatus-r17	broadcasting		
si-WindowPosition-r17	2	entry number for	
		si-SchedulingInfo	
		in S <i>IB1</i> +1	
si-Periodicity-r17	64		
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry		
(1maxSIB)) OF SIB-TypeInfo-v1700 {			
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1	
sibType-r17 CHOICE {			
type1-r17	sibType20		
}			
valueTag-r17	0		
}			
}			
}			
}			
}			
}			
}			
}			

Table 14.1.3.1.3.3-2: ServingCellConfigCommonSIB (Table 14.1.3.1.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.3.1.3.3-3	
}			

Table 14.1.3.1.3.3-3: DownlinkConfigCommonSIB (Table 14.1.3.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.3.1.3.3-4	
}			

Table 14.1.3.1.3.3-4: BWP-DownlinkCommon (Table 14.1.3.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Condition		
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon	Table		
	with conditioni	14.1.3.1.3.3-5		
	MBS_Broadcast			
}				
}				

Table 14.1.3.1.3.3-5: ACTIVATE TEST MODE (preamble, Table 14.1.3.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.3.1.3.3-6: CLOSE UE TEST LOOP (step 3a1, Table 14.1.3.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Broadcast MRB

Table 14.1.3.1.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 8, step 17,Table 14.1.3.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.3.1.3.3-8: MBSBroadcastConfiguration (step 2, step11, Table 14.1.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA			
Information Element	Value/remark	Comment	Condition
MBSBroadcastConfiguration-r17 := SEQUENCE {			
criticalExtensions CHOICE {			
mbsBroadcastConfiguration-r17 SEQUENCE {			
mbs-SessionInfoList-r17	MBS-SessionInfoList	Table	
		14.1.3.1.3.3-10	
}			
}			
}			

Table 14.1.3.1.3.3-9: MBS-SessionInfoList (Table 14.1.3.1.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-6					
Information Element	Value/remark	Comment	Condition		
MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE	1 entry				
(1maxNrofMBS-Session-r17)) OF MBS-SessionInfo-					
r17 {					
MBS-SessionInfo-r17[1] SEQUENCE {					
g-RNTI-r17	'0001'H		step 2		
	'0002'H		step 11		
}					
}					

Table 14.1.3.1.3.3-10: Physical layer parameters for DCI format 4_0 (Steps 11, 13, Table 14.1.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.3.6.1.5.1-1			
Parameter	Value	Value in binary	Condition
MCCH change notification	MSB indicates no new MBS service(s)	"01"	
	start. LSB indicates modification of		
	MCCH information other than the		
	change caused by start of new MBS		
	service(s).		

14.1.3.2 MBS Broadcast/ MAC/ DRX operation

14.1.3.2.1 Test Purpose (TP)

(1)

with { UE in NR RRC_IDLE state and is receiving data via broadcast MRB }

ensure that {

when { Long DRX cycle for MBS Broadcast is configured for a G-RNTI and [(SFN × 10) + subframe number] modulo (drx-LongCycle-PTM) = drx-StartOffset-PTM }

then { UE starts the drx-onDurationTimerPTM and monitors the PDCCH for this G-RNTI }

}

(2)

with { UE in NR RRC_INACTIVE state and is receiving data via broadcast MRB }

ensure that {

when { Long DRX cycle for MBS Broadcast is configured for a G-RNTI and [(SFN × 10) + subframe number] modulo (drx-LongCycle-PTM) = drx-StartOffset-PTM }

then { UE starts the drx-onDurationTimerPTM and monitors the PDCCH for this G-RNTI }

}

(3)

with { UE in NR RRC_CONNECTED state and is receiving data via broadcast MRB }

ensure that {

when { Long DRX cycle for MBS Broadcast is configured for a G-RNTI and [(SFN × 10) + subframe number] modulo (drx-LongCycle-PTM) = drx-StartOffset-PTM }

then { UE starts the drx-onDurationTimerPTM and monitors the PDCCH for this G-RNTI }

}

14.1.3.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.7a. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 5.7a]

For MBS broadcast, the MAC entity may be configured by RRC with a DRX functionality per G-RNTI that controls the UE's PDCCH monitoring activity for the MAC entity's G-RNTI(s) as specified in TS 38.331 [5]. When in RRC_IDLE or RRC_INACTIVE or RRC_CONNECTED, if broadcast DRX is configured for a G-RNTI, the MAC entity is allowed to monitor the PDCCH for this G-RNTI discontinuously using the broadcast DRX operation specified in this clause; otherwise the MAC entity monitors each PDCCH for this G-RNTI as specified in TS 38.213 [6]. The broadcast DRX operation specified in this clause is performed independently for each G-RNTI and independently from the DRX operation specified in clauses 5.7 and 5.7b.

RRC controls broadcast DRX operation by configuring the following parameters:

- *drx-onDurationTimerPTM*: the duration at the beginning of a DRX cycle;
- *drx-SlotOffsetPTM*: the delay before starting the *drx-onDurationTimerPTM*;
- *drx-InactivityTimerPTM*: the duration after the PDCCH occasion in which a PDCCH indicates a new DL broadcast transmission for the MAC entity;
- *drx-LongCycleStartOffsetPTM*: the long DRX cycle *drx-LongCycle-PTM* and *drx-StartOffset-PTM* which defines the subframe where the DRX cycle starts.

When broadcast DRX is configured for a G-RNTI, the Active Time includes the time while:

drx-onDurationTimerPTM or drx-InactivityTimerPTM for this G-RNTI is running.

When broadcast DRX is configured for a G-RNTI, the MAC entity shall for this G-RNTI:

- 1 > if [(SFN $\times 10$) + subframe number] modulo (*drx-LongCycle-PTM*) = *drx-StartOffset-PTM*:
 - 2> start *drx-onDurationTimerPTM* after *drx-SlotOffsetPTM* from the beginning of the subframe.
- 1> if the MAC entity is in Active Time for this G-RNTI:
 - 2> monitor the PDCCH for this G-RNTI as specified in TS 38.213 [6];
 - 2> if the PDCCH indicates a DL transmission for MBS broadcast:
 - 3> start or restart *drx-InactivityTimerPTM* in the first symbol after the end of the PDCCH reception.
- NOTE: If a cell is configured for MBS broadcast reception, the SFN of this cell is used to calculate the DRX duration of MBS broadcast on this cell.

14.1.3.2.3 Test description

Release 17

14.1.3.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-20 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 3N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving a MBS Broadcast service with MBS Service ID '000001'H.

14.1.3.2.3.2 Test procedure sequence

Table 14.1.3.2.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message	1	
1	Wait for a scheduling period for SIB20.	-	-	-	-
2	Wait for a period equal to the MCCH repetition	-	-	-	-
	period for the UE to receive				
	MBSBroadcastConfiguration message on NR				
	Cell 1 indicating the DPX parameter for				
	President MPC				
201	Stops 0a1 to 0a2 of the gaparia procedures			+	
Jai	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in 15 38.508-1 subclause 4.5.4.2-3				
3a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C.				
4	SS transmits <i>RRCReconfiguration</i> to configure	<	RRCReconfiguration	-	-
	specific DRX parameters for unicast.				
5	The UE transmits	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete.				
-	Exception: Step 6 is repeated 5 times	-	-	-	-
6	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID=1 when the drx-				
	onDurationTimerPTM is running and DRX for				
	unicast is in inactive time.				
7	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
	litectage		REQUEST		
8	LIE responds with LIE TEST LOOP MODE C	>	NR RRC: III InformationTransfer	-	_
	MBMS PACKET COUNTER RESPONSE				
	MBMSTACKET COUNTERTIEST ONSE.				
	Checky is the purpher of reported MDC		RESPONSE	<u> </u>	
9	Check, is the number of reported MBS	-	-	3	P
	Packets received on the MTCH in step 8				
- 10	greater than zero?			<u> </u>	
10	The SS transmits an <i>RRCRelease</i> message.	<	NR RRC: RRCRelease	-	-
-	Exception: Step 11 Is repeated 5 times	-	-		-
11	The SS transmits a MBS Packet on the MTCH	<	MBS Packel.	-	-
	with LCID=1 when the drx-				
10	onDurationTimerPTM is running.				
12-	Steps 1 to 8 of the generic procedures	-	-	-	-
19	described in TS 38.508-1 subclause 4.5.4.2-3				
	are performed on NR Cell 2.				
20	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
21	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
22	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MTCH in step 21				
	greater than the number of reported in step 8?				
-	EXCEPTION: Steps 23a1-23a9 describe	-	-	-	-
	behaviour that depends on LIF configuration.				
	the "lower case letter" identifies a stop				
	concerned that takes place if inseting State is				
				+	
23a	IF pc_inactiveState THEN the SS transmits an	<	NR RRC: RRCRelease	-	-
	RRCRelease message with suspendConfig.			+	
-	Exception: Step 23a2 is repeated 5 times	-	-		-
23a	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
2	with LCID=1 when the drx-				
	onDurationTimerPTM is running.			1	

23a	The SS transmits a Paging message including	<	NR RRC: Paging	-	-
3	a matched identity (correct fullI-RNTI).				
23a	The UE transmits an RRCResumeRequest	>	NR RRC: RRCResumeRequest	-	-
4	message.				
23a	The SS transmits an RRCResume message.	<	NR RRC: RRCResume	-	-
5					
23a	The UE transmits an RRCResumeComplete	>	NR RRC: RRCResumeComplete	-	-
6	message.				
23a	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
7	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
23a	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
8	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
23a	Check: Is the number of reported MBS	-	-	2	Р
9	Packets received on the MTCH in step 23a8				
	greater than the number of reported in step				
	21?				
Note	1: The request may be performed by MMI or A	T comma	nd.		

14.1.3.2.3.3 Specific message contents

Table 14.1.3.2.3.3-1: SIB1 of NR Cell 1 (preamble and all steps, Table 14.1.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-28				
Information Element	Value/remark	Comment	Condition	
SIB1 ::= SEQUENCE {				
servingCellConfigCommon	ServingCellConfigComm	Table		
	onSIB	14.1.3.2.3.3-2		
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
nonCriticalExtension SEQUENCE {				
si-SchedulingInfo-v1700 SEQUENCE (SIZE	1 entry			
(1maxSI-Message)) OF SchedulingInfo2-r17 {				
SchedulingInfo2-r17 [1] SEQUENCE {		entry 1		
si-BroadcastStatus-r17	broadcasting			
si-WindowPosition-r17	2	entry number for		
		si-SchedulingInfo		
		in SIB1 +1		
si-Periodicity-r17	64			
sib-MappingInfo-r17 SEQUENCE (SIZE	1 entry			
(1maxSIB)) OF SIB-TypeInfo-v1700 {				
SIB-TypeInfo-v1700 [1] SEQUENCE {		entry 1		
sibType-r17 CHOICE {				
type1-r17	sibType20			
}				
valueTag-r17	0			
}				
}				
}				
}				
}				
}				
}				
}				

Table 14.1.3.2.3.3-2: ServingCellConfigCommonSIB (Table 14.1.3.2.3.3-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-169			
Information Element	Value/remark	Comment	Condition
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommon	Table	
	SIB	14.1.3.2.3.3-3	
}			

Table 14.1.3.2.3.3-3: DownlinkConfigCommonSIB (Table 14.1.3.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-53			
Information Element	Value/remark	Comment	Condition
DownlinkConfigCommonSIB ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkCommon	Table	
		14.1.3.2.3.3-4	
}			

Table 14.1.3.2.3.3-4: BWP-DownlinkCommon (Table 14.1.3.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-10 with condition InitialBWP_SIB				
Information Element	Value/remark	Condition		
BWP-DownlinkCommon ::= SEQUENCE {				
pdcch-ConfigCommon CHOICE {				
setup	PDCCH-ConfigCommon	Table		
	with conditioni	14.1.3.2.3.3-5		
	MBS_Broadcast			
}				
}				

Table 14.1.3.2.3.3-5: ACTIVATE TEST MODE (preamble, Table 14.1.3.2.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.1.3.2.3.3-6: *MBSBroadcastConfiguration* (preamble and all steps, Table 14.1.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-5ABA with condition DRX_MBS_Broadcast				
Information Element	Value/remark	Condition		
MBSBroadcastConfiguration-r17 := SEQUENCE {				
criticalExtensions CHOICE {				
mbs-SessionInfoList-r17	MBS-SessionInfoList with			
	condition			
	DRX_MBS_Broadcast			
mbsBroadcastConfiguration-r17 SEQUENCE {				
drx-ConfigPTM-List-r17 SEQUENCE (SIZE	1 entry			
(1maxNrofDRX-ConfigPTM-r17)) OF DRX-				
ConfigPTM-r17 {				
DRX-ConfigPTM-r17[1]	DRX-ConfigPTM	entry 1		
		Table 14.1.3.2.3.3-7		
}				
}				
}				
}				

Table 14.1.3.2.3.3-7: DRX-ConfigPTM (Table 14.1.3.2.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-3			
Information Element	Value/remark	Comment	Condition
DRX-ConfigPTM-r17 ::= SEQUENCE {			
drx-onDurationTimerPTM-r17 CHOICE {			
milliSeconds	ms20		
}			
drx-InactivityTimerPTM-r17	ms1		
drx-LongCycleStartOffsetPTM-r17 CHOICE {			
ms640	320		
}			
}			

Table 14.1.3.2.3.3-8: CLOSE UE TEST LOOP (step 3a1, Table 14.1.3.2.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C

Table 14.1.3.2.3.3-9: *RRCReconfiguration* (step 4, Table 14.1.3.2.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
nonCriticalExtension::= SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.1.3.2.3.3-10	
}			
}			
}			
}			

Table 14.1.3.2.3.3-10: CellGroupConfig (Table 14.1.3.2.3.3-10)

Derivation Path: 38.508-1 [4], Table 4.6.3-19			_
Information Element	Value/remark	Comment	Condition
cellGroupConfig ::= SEQUENCE {			
mac-CellGroupConfig SEQUENCE {			
drx-Config CHOICE {			
setup	DRX-Config	Table	
		14.1.3.2.3.3-11	
}			
}			
}			

Table 14.1.3.2.3.3-11: DRX-Config (Table 14.1.3.2.3.3-11)

Derivation Path: 38.508-1 [4], Table 4.6.3-56	-		
Information Element	Value/remark	Comment	Condition
DRX-Config ::= SEQUENCE {			
drx-onDurationTimer CHOICE {			
milliSeconds	ms20		
}			
drx-InactivityTimer	ms1		
drx-LongCycleStartOffset CHOICE {			
ms640	0		
}			
}			

Table 14.1.3.2.3.3-12: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 7, step 20 and step 23a7, Table 14.1.3.2.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.1.3.2.3.3-13: RRCRelease (step 23a1, Table 14.1.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-16 with condition NR RRC INACTIVE

Table 14.1.3.2.3.3-14: Paging (step 23a3, Table 14.1.3.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9 with condition NR_RRC_RESUME

14.2 MBS Multicast

14.2.1 MBS Multicast/ MAC

14.2.1.1 MBS Multicast/ MAC / DL Data Transfer

14.2.1.1.1 MBS Multicast / MAC / DL Data Transfer / PTM transmission / PTP transmission / DCI format 4 1

14.2.1.1.1.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-AM entity for PTP transmission and HARQ feedback for Multicast is not enabled }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and successfully decodes it }

then { UE receives the MAC PDU and forwards it to higher layer }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-AM entity for PTP transmission and HARQ feedback for Multicast is not enabled }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's C-RNTI and successfully decodes it }

then { UE receives the MAC PDU and forwards it to higher layer }

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}

(3)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-AM entity for PTP transmission and HARQ feedback for Multicast is not enabled }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for unknown G-RNTI }

then { UE does not receive the MAC PDU }

}

(4)

with { UE in RRC_Connected state and LCID is used to configure MAC logical Channel for receiving PTM transmission }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and LCID of the MAC PDU is matched with the LCID configured for receiving PTM transmission }

then { UE receives the MAC PDU and forwards it to higher layer }

}

(5)

with { UE in RRC_Connected state and eLCID is used to configure MAC logical Channel for receiving PTM transmission }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and eLCID of the MAC PDU is matched with the eLCID configured for receiving PTM transmission }

then { UE receives the MAC PDU and forwards it to higher layer }

}

(6)

with { UE in RRC_Connected state and size of CFR configured in locationAndBandwidthMulticast-r17 is the same as the size of CORESET 0 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI }

then { UE receives the MAC PDU and forwards it to higher layer }

}

(7)

with { UE in RRC_Connected state and size of CFR configured in locationAndBandwidthMulticast-r17 is the same as the value of locationAndBandwidth of the DL BWP in which the cfr-ConfigMulticast is configured }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI }

then { UE receives the MAC PDU and forwards it to higher layer }

}

14.2.1.1.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.4, 16.10.5.4; TS 38.321, clause 5.3.1, 5.3.2, 5.3.3 and 7.1; TS 38.214, clause 5.1.2.2.3; TS 38.212, clause 7.3.1.5.2. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.4]

The following logical channels are used for MBS delivery:

- MTCH: A point-to-multipoint downlink channel for transmitting MBS data of either multicast session or broadcast session from the network to the UE;
- DTCH: A point-to-point channel defined in clause 6.2.2 for transmitting MBS data of a multicast session from the network to the UE;

•••

The following connections between logical channels and transport channels for group transmission exist:

•••

- MTCH can be mapped to DL-SCH.

[TS 38.300, clause 16.10.5.4]

For multicast service, gNB may deliver Multicast MBS data packets using the following methods:

- PTP Transmission: gNB individually delivers separate copies of MBS data packets to each UEs independently, i.e., gNB uses UE-specific PDCCH with CRC scrambled by UE-specific RNTI (e.g., C-RNTI) to schedule UE-specific PDSCH which is scrambled with the same UE-specific RNTI.
- PTM Transmission: gNB delivers a single copy of MBS data packets to a set of UEs, e.g., gNB uses groupcommon PDCCH with CRC scrambled by group-common RNTI to schedule group-common PDSCH which is scrambled with the same group-common RNTI.

If a UE is configured with both PTM and PTP transmissions, a gNB dynamically decides whether to deliver multicast data by PTM leg and/or PTP leg for a given UE based on the protocol stack defined in clause 16.10.3, based on information such as MBS Session QoS requirements, number of joined UEs, UE individual feedback on reception quality, and other criteria. The same QoS requirements apply regardless of the decision.

[TS 38.321, clause 5.3.1]

When the MAC entity has a C-RNTI, Temporary C-RNTI, CS-RNTI, G-RNTI or G-CS-RNTI, the MAC entity shall for each PDCCH occasion during which it monitors PDCCH and for each Serving Cell:

- 1> if a downlink assignment for this PDCCH occasion and this Serving Cell has been received on the PDCCH for the MAC entity's C-RNTI, or Temporary C-RNTI, or G-RNTI configured for multicast MTCH:
 - •••
 - 2> if the downlink assignment is for the MAC entity's C-RNTI, and if the previous downlink assignment indicated to the HARQ entity of the same HARQ process was either a downlink assignment received for the MAC entity's CS-RNTI or G-CS-RNTI, or a configured downlink assignment for unicast or MBS multicast; or
 - 2> if the downlink assignment is for the MAC entity's G-RNTI configured for multicast MTCH, and if the previous downlink assignment indicated to the HARQ entity of the same HARQ process was either a downlink assignment received for the MAC entity's CS-RNTI or G-CS-RNTI, or other G-RNTI, or C-RNTI, or a configured downlink assignment for unicast or MBS multicast:
 - 3> consider the NDI to have been toggled regardless of the value of the NDI.

[TS 38.321, clause 5.3.2]

For each received TB and associated HARQ information, the HARQ process shall:

1> if the NDI, when provided, has been toggled compared to the value of the previous received transmission corresponding to this TB; or

•••

2> consider this transmission to be a new transmission.

1> else:

2> consider this transmission to be a retransmission.

[TS 38.321, clause 5.3.3]

When a MAC entity receives a MAC PDU for MAC entity's G-RNTI or G-CS-RNTI, or by the configured downlink assignment for MBS multicast containing an LCID or eLCID which is not configured, the MAC entity shall at least:

1> discard the received subPDU.

[TS 38.321, clause 7.1]

Table 7.1-2: RNTI usage

RNTI	Usage	Transport Channel	Logical Channel
C-RNTI	Dynamically scheduled unicast transmission	DL-SCH	CCCH, DCCH, DTCH
G-RNTI	Dynamically scheduled MBS PTM	DL-SCH	MTCH
	transmission		

[TS 38.214, clause 5.1.2.2.3]

In downlink resource allocation of type 1 scheduled using DCI format 4_0 or DCI format 4_1 with CRC scrambled by G-RNTI, G-CS-RNTI or MCCH-RNTI, the resource block assignment information indicates to a scheduled UE a set of contiguously allocated non-interleaved or interleaved virtual resource blocks.

A downlink type 1 resource block assignment field in the DCI format 4_0 or DCI format 4_1 consists of a *RIV* corresponding to a starting resource block in reference to the lowest RB of the CFR

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 $RB_{start} = 0, K, 2 \cdot K, \dots, (N_{BWP}^{initial} - 1) \cdot K$ and a length in terms of virtually contiguously allocated resource blocks L_{RBs}, where $N_{BWP}^{initial}$ is given by

- the size of CORESET 0 if CORESET 0 is configured for the cell;
- the size of initial DL bandwidth part if CORESET 0 is not configured for the cell.

The resource indication value is defined by:

if
$$(L'_{RBs} - 1) \leq \lfloor N_{BWP}^{initial} / 2 \rfloor$$
 then

 $RIV = N_{BWP}^{initial} (L'_{RBs} - 1) + RB'_{start}$

else

$$RIV = N_{BWP}^{initial} (N_{BWP}^{initial} - L'_{RBs} + 1) + (N_{BWP}^{initial} - 1 - RB'_{start})$$

where $L'_{RBs} = L_{RBs}/K$, $RB'_{start} = RB_{start}/K$ and where L'_{RBs} shall not exceed $N_{BWP}^{initial} - RB'_{start}$.

If $N_{CFR} > N_{BWP}^{initial} N_{CFR} > N_{BWP}^{initial}$, *K* is the maximum value from set {1, 2, 4, 6, 8, 10, 12} which satisfies $K \leq \left[N_{CFR}/N_{BWP}^{initial}\right] K \leq \left[N_{CFR}/N_{BWP}^{initial}\right]$; otherwise K = 1.

[TS 38.212, clause 7.3.1.5.2]

DCI format 4_1 is used for the scheduling of PDSCH for multicast in DL cell.

The following information is transmitted by means of the DCI format 4_1 with CRC scrambled by G-RNTI configured by *G-RNTI-Config* or G-CS-RNTI:

- Frequency domain resource assignment $\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right]\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2\right]_{\text{bits}}$ where $N_{RB}^{DL,CFR}N_{RB}^{DL,CFR}$ equals to $N_{RB}^{DL,BWP}N_{RB}^{DL,BWP}$ as given by clause 7.3.1.0
- Time domain resource assignment 4 bits as defined in Clause 5.1.2.1 of [6, TS38.214]
- VRB-to-PRB mapping 1 bit according to Table 7.3.1.2.2-5
- Modulation and coding scheme 5 bits as defined in Clause 5.1.3 of [6, TS38.214]
- New data indicator 1 bit
- Redundancy version 2 bits as defined in Table 7.3.1.1.1-2
- HARQ process number 4 bits
- Downlink assignment index 2 bits as defined in Clause 9.1.3 of [5, TS 38.213], as counter DAI
- PUCCH resource indicator 3 bits as defined in Clause 9.2.3 of [5, TS38.213]
- PDSCH-to-HARQ_feedback timing indicator 3 bits as defined in Clause 9.2.3 of [5, TS38.213]
- Reserved bits 3 bits

14.2.1.1.1.3 Test description

- 14.2.1.1.1.3.1 Pre-test conditions
- System Simulator:

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- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.1.1.1.3.2 Test procedure sequence

Table 14.2.1.1.1.3.2-1: Main behaviour
St	Procedure	Message Sequence			Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS transmits a downlink assignment	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE				
4	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID matched with the LCID configured				
	for receiving PTM transmission.				
5	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
6	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
1	Check: Is the number of reported MBS	-	-	1, 4,	Р
	Packets received on the MRB in step 6 equal			1	
	to 1?				
8	I ne SS transmits a downlink assignment	<	(PDCCH (C-RNTI))	-	-
	addressed to the C-RN II assigned to the UE		MBC Dealiet		
9	The SS transmits a MBS Packet on the DTCH	<	MBS Packet.	-	-
	for reaciving DTD transmission				
10	Check: Does the LIE transmit a HAPO ACK2	>		2	D
11	The SS transmits an LIE TEST LOOP MODE	<	NR RRC: DI InformationTransfer	-	-
	message		MBMS PACKET COUNTER		
	incoouge.		REQUEST		
12	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
13	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MRB in step 12 equal				
	to 2?				
14	The SS transmits a downlink assignment to	<	(PDCCH (unknown G-RNTI))	-	-
	including a G-RNTI different from the assigned				
	to the UE				
15	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID matched with the LCID configured				
	for receiving PTM transmission.				
16	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
17	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
18	Check: Is the number of reported MBS	-	-	3	Р
	Packets received on the MRB in step 17 equal				
	to 2?				

19	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	-
	configure eLCID for receiving PTM				
	transmission and CFR for multicast to the				
	same size of CORESET 0.				
20	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
21	The SS transmits a downlink assignment	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE				
22	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with eLCID matched with the eLCID configured				
	for receiving PTM transmission.				
23	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
24	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
25	Check: Is the number of reported MBS	-	-	1, 5,	Р
	Packets received on the MRB in step 24 equal			6	
	to 3?				

14.2.1.1.1.3.3 Specific message contents

Table 14.2.1.1.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.1.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	AMPTP UMPTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	AMPTP UMPTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}	_				
}					
}					
}					
}					

Table 14.2.1.1.1.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	n is chosen as the			
	condition DRBn and	next available			
	MRBm and	number higher or			
	AMPTP UMPTM	equal to 2			
	_	m=1			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	n is set to the			
	condition MRBm DRBn	same value as for			
	and AMPTP UMPTM	the			
	_	radioBearerConfig			
		IE above			
		m=1			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}	C C				
}					
}					
}					
}					

Table 14.2.1.1.1.3.3-4: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.1.3.3-5: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 5, step 11,
step 16 and step23, Table 14.2.1.1.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.1.3.3-6: *RRCReconfiguration* (step 19, Table 14.2.1.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.1.3.3-7	
}			
}			
}			
}			

Table 14.2.1.1.1.3.3-7: CellGroupConfig (Table 14.2.1.1.1.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 , condition MRBm and AMPTP_UMPTM (m=1)					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	1 entry				
(SIZE(1maxLCH)) OF RLC-BearerConfig {					
RLC-BearerConfig[1]	RLC-BearerConfig	entry 1			
		Table			
		14.2.1.1.1.3.3-8			
}					
rlc-BearerToReleaseList SEQUENCE	Not present				
(SIZE(1maxLC-ID)) OF LogicalChannelIdentity {					
LogicalChannelIdentity[1]	LogicalChannelIdentity	entry 1			
	with condition MRBm and	m=1			
	РТМ				
}					
mac-CellGroupConfig	Not present				
physicalCellGroupConfig	Not present				
spCellConfig SEQUENCE {					
spCellConfigDedicated	ServingCellConfig	Table			
		14.2.1.1.1.3.3-9			
}					

Table 14.2.1.1.1.3.3-8: RLC-BearerConfig (Table 14.2.1.1.1.3.3-7)

Derivation Path: TS 38.331 [6], Table 4.6.3-148 , conditions UM_DLonly and PTM and MRBm (m=1)					
Information Element	Value/remark	Comment	Condition		
RLC-BearerConfig ::= SEQUENCE {					
logicalChannelIdentityExt-r17	320				
}					
}					

Table 14.2.1.1.1.3.3-9: ServingCellConfig (Table 14.2.1.1.1.3.3-7)

Derivation Path: TS 38.331 [6], Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
initialDownlinkBWP	BWP-DownlinkDedicated	Table	
		14.2.1.1.1.3.3-10	

Table 14.2.1.1.1.3.3-10: BWP-DownlinkDedicated (Table 14.2.1.1.1.3.3-9)

Derivation Path: TS 38.331 [6], Table 4.6.3-11			
Information Element	Value/remark	Comment	Condition
BWP-DownlinkDedicated ::= SEQUENCE {			
cfr-ConfigMulticast-r17 CHOICE {			
setup	CFR-ConfigMulticast	Table	
		14.2.1.1.1.3.3-11	
}			
}			

Table 14.2.1.1.1.3.3-11: CFR-ConfigMulticast (Table 14.2.1.1.1.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-23AA					
I	formation Element	Value/remark	Comment	Condition	
CFR-ConfigMultic	ast-r17 ::= SEQUENCE {				
locationAndBan	dwidthMulticast-r17	Same as coreset 0	Note 1		
}					
Note 1: The va	lue for locationAndBandwidth parame	ter is calculated as the RIV v	alue in accordance to	TS 38.214	
[21] with N_{BWP}^{size} = 275, RB_{start} = Offset Carrier CORESET#0 [RBs] in the TS 38.508-1 [4], 6.2.3.1 and					
L_{RBs} = the length of the CORESET#0 for each test band.					

14.2.1.1.2 MBS Multicast / MAC / DL Data Transfer/ PTM transmission/ DCI format 4_2

14.2.1.1.2.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and locationAndBandwidthMulticast-r17 does not equal to the value
of locationAndBandwidth of the DL BWP in which the cfr-ConfigMulticast is configured and resource
allocation type 0 for pdsch-ConfigMulticast }

ensure that {

when { UE receives downlink assignment DCI format 4_2 with MAC PDU scheduled for UE's G-RNTI }

then { UE receives the MAC PDU and forwards it to higher layer }

}

(2)

with { UE in RRC_Connected state and locationAndBandwidthMulticast-r17 does not equal to the value
of locationAndBandwidth of the DL BWP in which the cfr-ConfigMulticast is configured and resource
allocation type 1 for pdsch-ConfigMulticast }

ensure that {

when { UE receives downlink assignment DCI format 4_2 with MAC PDU scheduled for UE's G-RNTI }

then { UE receives the MAC PDU and forwards it to higher layer }

}

14.2.1.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.214, clauses 5.1.2.2.1 and 5.1.2.2.3; TS 38.212, clause 7.3.1.5.3. Unless otherwise stated these are Rel-17 requirements.

[TS 38.214, clause 5.1.2.2.1]

In downlink resource allocation of type 0 scheduled using a DCI with CRC scrambled by G-RNTI for multicast or G-CS-RNTI, the resource block assignment information bitmap is calculated based on the description above with the following changes: the parameter $N_{BWP,i}^{start} N_{BWP,i}^{start}$ is the starting PRB of the CFR, $N_{BWP,i}^{size} N_{BWP,i}^{size}$ is the size of the common frequency resource (CFR) and the value of the higher layer parameter *rbg-Size* is configured by *pdsch-ConfigMulticast*.

[TS 38.214, clause 5.1.2.2.3]

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In downlink resource allocation of type 1 scheduled using DCI format 4_2 with CRC scrambled by G-RNTI for

multicast or G-CS-RNTI, the description in clause 5.1.2.2.2 with the following changes: RB_{start} corresponds to a starting resource block in reference to the lowest RB of the CFR and N_{BWP}^{size} is the size of the CFR.

[TS 38.214, clause 7.3.1.5.3]

DCI format 4_2 is used for the scheduling of PDSCH in DL cell.

The following information is transmitted by means of the DCI format 4_2 with CRC scrambled by G-RNTI for multicast or G-CS-RNTI configured by *MBS-RNTI-SpecificConfig*:

- Frequency domain resource assignment number of bits determined by the following, where N_{RR}^{DL,CFR} N_{RR}^{DL,CFR} is the size of the common frequency resource as configured by higher layer parameter *locationAndBandwidthMulticast*:
 - *N_{RBG}N_{RBG}* bits if only resource allocation type 0 is configured, where *N_{RBG}N_{RBG}* is defined in Clause 5.1.2.2.1 of [6, TS38.214],
 - $\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right]\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right]$ bits if only resource allocation type 1 is configured, or
 - $\max(\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right], N_{RBG}) + 1\max(\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right], N_{RBG}) + 1$ bits if resourceAllocation in pdsch-ConfigMulticast is configured as 'dynamicSwitch'.
 - If *resourceAllocation* in *pdsch-ConfigMulticast* is configured as '*dynamicSwitch*', the MSB bit is used to indicate resource allocation type 0 or resource allocation type 1, where the bit value of 0 indicates resource allocation type 0 and the bit value of 1 indicates resource allocation type 1.
 - For resource allocation type 0, the *NRBGNRBG* LSBs provide the resource allocation as defined in Clause 5.1.2.2.1 of [6, TS 38.214].
 - For resource allocation type 1, the $\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right]\left[\log_2(N_{RB}^{DL,CFR}(N_{RB}^{DL,CFR}+1)/2)\right]_{\text{LSBs}}$ provide the resource allocation as defined in Clause 5.1.2.2.2 of [6, TS 38.214]

14.2.1.1.2.3 Test description

14.2.1.1.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 1.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode
 = on to activate UE TEST MODE C and Test Loop Function = off.
- 14.2.1.1.2.3.2 Test procedure sequence

Table 14.2.1.1.2.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict		
		U - S	Message				
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-		
-	procedures described in TS 38.508-1						
1b1	subclause 4.9.34 are performed on NR Cell 1						
2a1	to establish an associated PDU Session to the						
	MBS DNN and join in MBS Multicast session.						
	(Note 1) (Note 2)						
13a	Steps 9a1 to 9a2 of the NR	-	-	-	-		
1-	RRC_CONNECTED procedure in TS 38.508-1						
13a	Table 4.5.4.2-3 are executed with condition UE						
2	TEST LOOP MODE C and Multicast MRB.						
14	The SS transmits a MBS Packet.	<	MBS Packet.	-	-		
15	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-		
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C				
	message.		MBMS PACKET COUNTER				
			REQUEST				
16	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-		
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C				
			MBMS PACKET COUNTER				
			RESPONSE				
17	Check: Is the number of reported MBS	-	-	1	P		
	Packets received in step 16 equal to 1?						
18	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-		
	message including pdsch-ConfigMulticast with						
	IE resourceAllocation set to						
	resourceAllocationType1.						
19	The UE transmit an	>	NR RRC:	-	-		
	RRCReconfigurationComplete message		RRCReconfigurationComplete				
20	The SS transmits a MBS Packet.	<	MBS Packet.	-	-		
21	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-		
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C				
	message.		MBMS PACKET COUNTER				
			REQUEST				
22	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-		
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C				
			MBMS PACKET COUNTER				
			RESPONSE				
23	Check: Is the number of reported MBS	-	-	2	P		
	Packets received in step 22 equal to 2?		L				
Note	1: LocationAndBandwidthMulticast is configure	d to use	same frequency domain resources as	s CORE	SET#0.		
	LocationAndBandwidthMulticast is different f	rom loca	<i>tionAndBandwidth</i> of the DL BWP ex	pect for	n38,		
	n39, n48 and n50.						
Note	Note 2: ResourceAllocation of pdsch-ConfigMulticast set to resourceAllocationType0.						

14.2.1.1.2.3.3 Specific message contents

Table 14.2.1.1.2.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.2.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.2.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	UM_PTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.1.1.2.3.3-4			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.1.1.2.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR						
Information Element	Value/remark	Value/remark Comment				
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration ::= SEQUENCE {						
radioBearerConfig	RadioBearerConfig with condition DRBn and MRBm and UM_PTM	n is chosen as the next available number higher or equal to 2 m=1				
nonCriticalExtension SEQUENCE {						
masterCellGroup	CellGroupConfig	Table 14.2.1.1.2.3.3-5				
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message					
}						
}						
}						
}						

Table 14.2.1.1.2.3.3-4: CellGroupConfig (Table 14.2.1.1.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm and UM_PTM (m=1)								
Information Element Value/remark Comment Cond								
CellGroupConfig ::= SEQUENCE {								
spCellConfig SEQUENCE {								
spCellConfigDedicated	ServingCellConfig	Table						
		14.2.1.1.2.3.3-6						
}								
}								

Table 14.2.1.1.2.3.3-5: CellGroupConfig (Table 14.2.1.1.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and UM_PTM (Note 1)						
Information Element Value/remark Comment						
CellGroupConfig ::= SEQUENCE {						
spCellConfig SEQUENCE {						
spCellConfigDedicated	ServingCellConfig	Table				
		14.2.1.1.2.3.3-6				
}						
}						
Note 1: n is set to the same value as for the radioBea	rerConfig IE in Table 14.2.1.	1.2.3.3-2 and m=1.				

Table 14.2.1.1.2.3.3-6: ServingCellConfig (Table 14.2.1.1.2.3.3-2, Table 14.2.1.1.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167, condition MBS_Multicast						
Information Element Value/remark Comment Condition						
ServingCellConfig ::= SEQUENCE {						
initialDownlinkBWP	BWP-DownlinkDedicated	Table				
		14.2.1.1.2.3.3-7				
}						

Table 14.2.1.1.2.3.3-7: BWP-DownlinkDedicated (Table 14.2.1.1.2.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-11, condition MBS_Multicast						
Information Element Value/remark Comment Cond						
BWP-DownlinkDedicated ::= SEQUENCE {						
cfr-ConfigMulticast-r17 CHOICE {						
setup	CFR-ConfigMulticast	Table				
		14.2.1.1.2.3.3-8				
}						
}						

Table 14.2.1.1.2.3.3-8: CFR-ConfigMulticast (Table 14.2.1.1.2.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-23AA					
Information Element	Value/remark	Comment	Condition		
CFR-ConfigMulticast-r17 ::= SEQUENCE {					
locationAndBandwidthMulticast-r17	Same as CORESET#0	Note 1			
pdcch-ConfigMulticast-r17	PDCCH-Config	Note 2			
		Table			
		14.2.1.1.2.3.3-9			
pdsch-ConfigMulticast-r17	PDSCH-Config with		Step1a15,		
	condition MBS_Multicast		Step1b10		
	and Used_for_Type0				
	PDSCH-Config with		Step 18		
	condition MBS_Multicast				
}					
Note 1: The value for locationAndBandwidthMulticas	t parameter is calculated as t	he RIV value in acco	rdance to TS		
38.214 [21] with N_{BWP}^{size} = 275, RB_{start}	B_{start} = Offset Carrier CORESET#0 [RBs] in the TS 38.508-1 [4],				
6.2.3.1 and L_{RBs} = the length of the CORESET#0 for each test band.					
Note 2: The DCI format 4-2 is configured to send in C	CORESET#0.				

Table 14.2.1.1.2.3.3-9: PDCCH-Config (Table 14.2.1.1.2.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-95, condition MSS					
Information Element	Value/remark	Comment	Condition		
PDCCH-Config ::= SEQUENCE {					
searchSpacesToAddModList SEQUENCE(SIZE	1 entry				
(110)) OF SearchSpace {					
SearchSpace[1]	SearchSpace	entry 1			
		Table			
		14.2.1.1.2.3.3-10			
}					
}					

Table 14.2.1.1.2.3.3-10: SearchSpace (Table 14.2.1.1.2.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-162, condition MSS					
Information Element Value/remark Comment Cond					
SearchSpace ::= SEQUENCE {					
controlResourceSetId	0				
}					

Table 14.2.1.1.2.3.3-11: CLOSE UE TEST LOOP (step 13a1, Table 14.2.1.1.2.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.2.3.3-12: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 15 and step 21, Table 14.2.1.1.2.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.2.3.3-13: RRCReconfiguration (step 18, Table 14.2.1.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.2.3.3-14	
}			
}			
}			
}			

Table 14.2.1.1.2.3.3-14: CellGroupConfig (Table 14.2.1.1.2.3.3-13)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
mac-CellGroupConfig	Not present		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig	Table	
		14.2.1.1.2.3.3-6	
}			
}			

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14.2.1.1.4 MBS Multicast/ MAC / DL Data Transfer/ PTM retransmission for multicast/ RRC-based enabling-disabling HARQ feedback for Multicast / ACK-NACK

14.2.1.1.4.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and successfully decodes it }

then { UE sends ACK for the corresponding HARQ process and forwards it to higher layer }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and decodes it failure }

then { UE sends NACK for the corresponding HARQ process }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC }

ensure that {

when { UE receives MAC PDU retransmission for UE's G-RNTI and successfully decodes it }

then { UE sends ACK for the corresponding HARQ process and forwards it to higher layer }

}

(4)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC and pdsch-AggregationFactor > 1 }

ensure that {

when { UE receives downlink assignment on the PDCCH for the UE's G-RNTI and receives data in the associated slot and successive pdsch-AggregationFactor - 1 HARQ retransmissions within a bundle and UE could not successfully decode the data }

then { UE sends NACK on the HARQ process }

}

(5)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC and pdsch-AggregationFactor > 1 }

ensure that {

when { UE receives downlink assignment on the PDCCH for the UE's G-RNTI and receives data in the associated slot and successive pdsch-AggregationFactor – 1 HARQ retransmissions within a bundle and UE could successfully decode the data }

then { UE sends ACK on the HARQ process }

```
}
```

(6)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast is disabled by RRC }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI }

then { UE does not send HARQ feedback }

```
}
```

14.2.1.1.4.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.5.7; TS 38.321, clause 5.3.2; TS 38.213, clause 18. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.5.7]

Two HARQ-ACK reporting modes are defined for MBS:

- For the first HARQ-ACK reporting mode, the UE generates HARQ-ACK information with ACK value when a UE correctly decodes a transport block or detects a DCI format indicating an SPS PDSCH release; otherwise, the UE generates HARQ-ACK information with NACK value.
- For the second HARQ-ACK reporting mode, the UE does not transmit a PUCCH that would include only HARQ-ACK information with ACK values.

HARQ-ACK feedback for multicast can be enabled or disabled by higher layer configuration per G-RNTI or per G-CS-RNTI and/or indication in the DCI scheduling multicast transmission.

[TS 38.321, clause 5.3.2]

For each received TB and associated HARQ information, the HARQ process shall:

1> if the NDI, when provided, has been toggled compared to the value of the previous received transmission corresponding to this TB; or

•••

2> consider this transmission to be a new transmission.

1> else:

2> consider this transmission to be a retransmission.

The MAC entity then shall:

- 1> if this is a new transmission:
 - 2> attempt to decode the received data.
- 1> else if this is a retransmission:
 - 2> if the data for this TB has not yet been successfully decoded:
 - 3> instruct the physical layer to combine the received data with the data currently in the soft buffer for this TB and attempt to decode the combined data.

•••

- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and HARQ feedback is disabled; or
- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and NACK only HARQ feedback is configured and the data for this TB is successfully decoded; or

•••

- 1> if the HARQ process is configured with disabled HARQ feedback:
 - 2> not instruct the physical layer to generate acknowledgement(s) of the data in this TB.
- 1> else:

2> instruct the physical layer to generate acknowledgement(s) of the data in this TB.

[TS 38.213, clause 18]

This clause is applicable only for PDCCH receptions, PDSCH receptions, and PUCCH transmissions for MBS on a serving cell. DCI formats with CRC scrambled by G-RNTI or G-CS-RNTI scheduling PDSCH receptions are referred to as multicast DCI formats and the PDSCH receptions are referred to as multicast PDSCH receptions. DCI formats with CRC scrambled by MCCH-RNTI or G-RNTI for MTCH scheduling PDSCH receptions are referred to as broadcast DCI formats and the PDSCH receptions are referred to as broadcast DCI formats and the PDSCH receptions are referred to as broadcast PDSCH receptions. HARQ-ACK information associated with multicast DCI formats or multicast PDSCH receptions is referred to as multicast HARQ-ACK information.

•••

A PDSCH reception providing an initial transmission of a transport block is scheduled only by a multicast DCI format. For the first HARQ-ACK reporting mode, a PDSCH reception providing a retransmission of the transport block can be scheduled either by a multicast DCI format using a same G-RNTI as the G-RNTI of the initial transmission of the transport block, or by a unicast DCI format using a C-RNTI [6, TS 38.214].

14.2.1.1.4.3 Test description

14.2.1.1.4.3.1 Pre-test conditions

System Simulator:

Release 17

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.
- 14.2.1.1.4.3.2 Test procedure sequence

Table 14.2.1.1.4.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message	1	
1a1	Step 1a1 to 1b12a1 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.9.34 are				
1b1	performed on NR Cell 1 to establish an				
2a1	associated PDU Session to the MBS DNN and				
	ioin in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38 508-1 subclause 4 5 4 2-3				
292	are performed on NR Cell 1 with condition LIE				
202	TEST LOOP MODE C and Multicast MPR				
3	The SS indicates a new transmission	<i>ć</i>			_
	addressed to the C DNTL assigned to the LIE		(FDCCH (G-KNT))	-	-
1	The SS transmits a MBS Packet on the MTCH	6	MBS Dacket	<u> </u>	_
	with LCID matched with the LCID configured		MDS I deket		
	for reaciving DTM transmission				
	Tor receiving PTM transmission.				
	I ne content of the MBS Packet is set so that				
	UE could successfully decode the data from its				
	soft buffer.				
5	Check: Does the UE transmit a HARQ ACK?	>	HARQ ACK	1	Р
6	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
7	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
8	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB in step 7 equal				
	to 1?				
9	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
_	addressed to the G-RNTI assigned to the UF.				
10	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
_	with LCID matched with the LCID configured				
	for receiving PTM transmission				
	The CRC is calculated in such a way, it will				
	result in CPC error on LIE side				
11	Check: Does the LIE transmit a HARO NACK2	>		2	P
	EXCEPTION: Steps 12-13 shall be repeated			-	-
	till HARO ACK is received at step 13 or until				
	HAPO retransmission count = 4 is reached for				
	MRQ Tetransmission count – 4 is reached for				
10	MBS Packet at step 13 (Note 1).				
12	the SS indicates a retransmission addressed	<	(PDCCH (G-RNTI))	-	-
10	to the G-RNTI assigned to the UE.		MBC Dealect		
13	The SS transmits the same MBS Packet like	<	MBS Packel	-	-
	step 10 for PTM retransmission for multicast.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.			<u> </u>	
13	Check: Does the UE transmit a HARQ ACK?	>	HARQ ACK	3	P
14	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		IC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST	<u> </u>	
15	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
L			RESPONSE		
16	Check: Is the number of reported MBS	-	-	3	Р
	Packets received on the MRB in step 15 equal				
	to 2?				

17	The SS transmits RRCReconfiguration to configure pdsch-AggregationFactor-r17 to n4	<	NR RRC: RRCReconfiguration	-	-
	for multicast.				
18	The UE transmits	>	NR RRC ¹	-	-
	PRCPeconfigurationComplete		PPCPeconfigurationComplete		
19	The SS indicates a new transmission	<	(PDCCH (G-RNTI))		_
15	addressed to the C DNTL assigned to the UF		(FDCCH (G-RNT))	_	-
	addressed to the G-RN H assigned to the UE.		MDC De alvat		
20	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID matched with the LCID configured				
	for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
21	In the following 3 consecutive slots, the SS	<	MBS Packet	-	-
	transmits same MBS Packet in sten 20				
	The CDC is calculated in such a way it will				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
22	Check: Does the UE transmit a HARQ NACK	>	HARQ NACK	4	P
	on slot n3+k1? (Note 2)				
23	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
24	The SS transmits a MBS Packet on the MTCH	<	MBS Packet.	-	-
	with LCID matched with the LCID configured				
	for receiving DTM transmission				
	The CDC is calculated in such a way it will				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
25	In the following 3 consecutive slots, the SS	<	MBS Packet.	-	-
	transmits same MBS Packet in step 24.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
26	Check: Does the UE transmit a HARO ACK on	>	HARO ACK	5	Р
	slot $n3+k12$ (Note 2)				-
27	The SS transmits an LIE TEST LOOP MODE	٤	NP PPC: DI InformationTransfer	<u> </u>	_
21				_	_
	C MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
			REQUEST		
28	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformation Transfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
29	Check: Is the number of reported MBS	-	-	5	Р
	Packets received on the MRB in step 28 equal				
	to 32				
20	The SS transmite PPCPoconfiguration to		NP PPC: PPCPoconfiguration		
30	disable LADO feedback for multipast		INC KKC. KKCKeconinguration	_	-
01					
31	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
32	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
33	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID matched with the LCID configured				
	for receiving PTM transmission.				
34	Check: Does the UE transmit a HARO	>	HARO ACK/NACK	6	F
- ·	ACK/NACK?			-	
35	The SS transmits an LIE TEST LOOP MODE	<	NR RRC [•] DI InformationTransfer	_	-
	message.				
			REQUEST		
36	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		

37	Check: Is the number of reported MBS	-	-	6	Р
	Packets received on the MRB in step 36 equal				
	to 4?				
Note	e 1: The value 4 for the maximum number of HARQ retransmissions has been chosen based on an assumption				
	that, given the radio conditions used in this test case, a UE soft combiner implementation should have				
	sufficient retransmissions to be able to successfully decode the data in its soft buffer.				
Note	2: n0 is the index of slot when 1 st transmission of MBS Packet in step 20/24 happens, n1, n2, n3 are indices				indices
	of slots when 2 nd , 3 rd , 4 th transmission of MBS Packet in step 21/25 may happen, k1 is obtained from				
	"PDSCH-to-HARQ_feedback timing indicator" of downlink assignment in step 19/23.				

14.2.1.1.4.3.3 Specific message contents

Table 14.2.1.1.4.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.4.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.4.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.4.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	m=1			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	Table			
	condition MRBm and	14.2.1.1.4.3.3-4			
	UM_PTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.1.1.4.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.4.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	n is chosen as the		
	condition DRBn and	next available		
	MRBm and UM PTM	number higher or		
	_	equal to 2		
		 m=1		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.1.4.3.3-4A		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.1.4.3.3-4: CellGroupConfig (Table 14.2.1.1.4.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and UM_PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and ACK_NACK				
}					

Table 14.2.1.1.4.3.3-4A: CellGroupConfig (Table 14.2.1.1.4.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and UM_PTM (Note 1)					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and ACK_NACK				
}					
Note 1: n is set to the same value as for the radioBearerConfig IE in Table 14.2.1.1.4.3.3-3 and m=1					

Table 14.2.1.1.4.3.3-5: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.4.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.4.3.3-6: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 6, step 14,step 27 and step35, Table 14.2.1.1.4.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.4.3.3-7: *RRCReconfiguration* (step 17, Table 14.2.1.1.4.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.4.3.3-7	
}			
}			
}			
}			

Table 14.2.1.1.4.3.3-8: CellGroupConfig (Table 14.2.1.1.4.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig	Table	
		14.2.1.1.4.3.3-9	
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

Table 14.2.1.1.4.3.3-9: MAC-CellGroupConfig (Table 14.2.1.1.4.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condition MBS_Multicast and RRC_Enable_HARQFeedback and					
ACK NACK					
Information Element	Value/remark	Comment	Condition		
MAC-CellGroupConfig ::= SEQUENCE {					
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-					
r17 {					
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1			
pdsch-AggregationFactor-r17	n4				
}					
}					

Table 14.2.1.1.4.3.3-10: RRCReconfiguration (step 30, Table 14.2.1.1.4.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13						
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration ::= SEQUENCE {						
radioBearerConfig	Not present					
nonCriticalExtension SEQUENCE {						
masterCellGroup	CellGroupConfig	Table				
		14.2.1.1.4.3.3-11				
}						
}						
}						
}						

Table 14.2.1.1.4.3.3-11: CellGroupConfig (Table 14.2.1.1.4.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

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14.2.1.1.5 MBS Multicast/ MAC / DL Data Transfer/ PTP retransmission for multicast / RRC-based enabling-disabling HARQ feedback for Multicast/ ACK-NACK

14.2.1.1.5.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by RRC and a MAC PDU for
UE's G-RNTI is not successfully decoded }

ensure that {

when { UE receives MAC PDU retransmission for UE's C-RNTI and successfully decodes it }

then { UE sends ACK for the corresponding HARQ process and forwards it to higher layer }



14.2.1.1.5.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.3.2; TS 38.213, clause 18. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.3.2]

For each received TB and associated HARQ information, the HARQ process shall:

1> if the NDI, when provided, has been toggled compared to the value of the previous received transmission corresponding to this TB; or

•••

2> consider this transmission to be a new transmission.

1> else:

2> consider this transmission to be a retransmission.

The MAC entity then shall:

1> if this is a new transmission:

2> attempt to decode the received data.

1> else if this is a retransmission:

2> if the data for this TB has not yet been successfully decoded:

3> instruct the physical layer to combine the received data with the data currently in the soft buffer for this TB and attempt to decode the combined data.

•••

- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and HARQ feedback is disabled; or
- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and NACK only HARQ feedback is configured and the data for this TB is successfully decoded; or

•••

1> if the HARQ process is configured with disabled HARQ feedback:

2> not instruct the physical layer to generate acknowledgement(s) of the data in this TB.

1> else:

2> instruct the physical layer to generate acknowledgement(s) of the data in this TB.

[TS 38.213, clause 18]

This clause is applicable only for PDCCH receptions, PDSCH receptions, and PUCCH transmissions for MBS on a serving cell. DCI formats with CRC scrambled by G-RNTI or G-CS-RNTI scheduling PDSCH receptions are referred to as multicast DCI formats and the PDSCH receptions are referred to as multicast PDSCH receptions. DCI formats with CRC scrambled by MCCH-RNTI or G-RNTI for MTCH scheduling PDSCH receptions are referred to as broadcast DCI formats and the PDSCH receptions are referred to as broadcast DCI formats and the PDSCH receptions are referred to as broadcast PDSCH receptions. HARQ-ACK information associated with multicast DCI formats or multicast PDSCH receptions is referred to as multicast HARQ-ACK information.

•••

A PDSCH reception providing an initial transmission of a transport block is scheduled only by a multicast DCI format. For the first HARQ-ACK reporting mode, a PDSCH reception providing a retransmission of the transport block can be scheduled either by a multicast DCI format using a same G-RNTI as the G-RNTI of the initial transmission of the transport block, or by a unicast DCI format using a C-RNTI [6, TS 38.214].

14.2.1.1.5.3 Test description

14.2.1.1.5.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.1.1.5.3.2 Test procedure sequence

Table 14.2.1.1.5.3.2-1: Main behaviour

St	Procedure	Message Sequence TP			Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
4	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with LCID matched with the LCID configured				
	for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
5	Check: Does the UE transmit a HARQ NACK?	>	HARQ NACK	1	Р
-	EXCEPTION: Steps 6-7 shall be repeated till	-	-	-	-
	HARQ ACK is received at step 8 or until				
	HARQ retransmission count = 4 is reached for				
	MBS Packet at step 7 (Note 1).				
6	The SS indicates a retransmission addressed	<	(PDCCH (C-RNTI))	-	-
	to the C-RNTI assigned to the UE.				
7	The SS transmits the same MBS Packet like	<	MBS Packet	-	-
	step 4 for PTP retransmission for multicast.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
8	Check: Does the UE transmit a HARQ ACK?	>	HARQ ACK	1	Р
9	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
10	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
11	Check: Is the number of reported MBS	-	-	1	P
	Packets received on the MRB in step 10 equal				
	to 1?				
Note	1: The value 4 for the maximum number of HA	RQ retrar	nsmissions has been chosen based o	n an as	sumption
	that, given the radio conditions used in this t	est case,	a UE soft combiner implementation s	should h	lave
	sufficient retransmissions to be able to succe	essfully d	ecode the data in its soft buffer.		

14.2.1.1.5.3.3 Specific message contents

Table 14.2.1.1.5.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.5.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.5.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.5.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	m=1			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	Table			
	condition MRBm and	14.2.1.1.5.3.3-4			
	UM_PTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.1.1.5.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.5.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with condition DRBn and MRBm and UM_PTM	n is chosen as the next available number higher or equal to 2 m=1		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table 14.2.1.1.5.3.3-4A		
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message			
}				
}				
}				
}				

Table 14.2.1.1.5.3.3-4: CellGroupConfig (Table 14.2.1.1.5.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and UM_ PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and ACK_NACK				
}					

Table 14.2.1.1.5.3.3-4A: CellGroupConfig (Table 14.2.1.1.5.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and AMPTP_UMPTM (Note 1)				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
mac-CellGroupConfig	MAC-CellGroupConfig			
	with condition			
	MBS_Multicast and			
	RRC_Enable_HARQFee			
	dback and ACK_NACK			
}				
Note 1: n is set to the same value as for the radioBearerConfig IE in Table 14.2.1.1.5.3.3-3 and m=1				

Table 14.2.1.1.5.3.3-5: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.5.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.5.3.3-6: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 9, Table14.2.1.1.5.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

14.2.1.1.6 MBS Multicast/ MAC / DL Data Transfer/ PTM retransmission for multicast/ DCI-based enabling-disabling HARQ feedback for Multicast/ ACK-NACK

14.2.1.1.6.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by DCI 4_2 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and successfully decodes it }

 $then~\{$ UE sends ACK for the corresponding HARQ process and forwards the MAC PDU to higher layer $\}$

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by DCI 4_2 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and decodes it failure }

then { UE sends NACK for the corresponding HARQ process }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with ACK-NACK mode is enabled by DCI 4_2 }

ensure that {

when { UE receives MAC PDU retransmission for UE's G-RNTI and successfully decodes it }

then { UE sends ACK for the corresponding HARQ process and forwards the MAC PDU to higher layer }

}

(4)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast is disabled by DCI 4_2 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTIand successfully decodes it }

then { UE does not send HARQ feedback and UE forwards the MAC PDU to higher layer }

}

(5)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and harq-FeedbackEnablerMulticast with value set to 'dci-enabler' for a G-RNTI }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled by multicast DCI format 4_1 associated with the G-RNTI and successfully decodes it }

then { UE send HARQ feedback and forwards the MAC PDU to higher layer }

}

14.2.1.1.6.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.3.2; TS 38.213, clause 18. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.3.2]

1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI or a configured downlink assignment for MBS multicast and HARQ feedback is disabled; or

•••

2> not instruct the physical layer to generate acknowledgement(s) of the data in this TB.

1> else:

2> instruct the physical layer to generate acknowledgement(s) of the data in this TB.

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[TS 38.213, clause 18]

A UE can be configured per G-RNTI for multicast or per G-CS-RNTI, by *harq-FeedbackEnablerMulticast* with value set to 'enabled', to provide HARQ-ACK information for PDSCH receptions. When the UE is not provided *harq-FeedbackEnablerMulticast* for a G-RNTI for multicast or G-CS-RNTI and *pdsch-HARQ-ACK-Codebook = dynamic* for multicast HARQ-ACK information, the UE does not provide HARQ-ACK information for respective PDSCH receptions. If a UE is provided *harq-FeedbackEnablerMulticast* with value set to 'dci-enabler' for a G-RNTI for multicast or a G-CS-RNTI, the UE provides HARQ-ACK information for PDSCH receptions scheduled by multicast DCI format 4_1 associated with the G-RNTI or the G-CS-RNTI, and determines whether or not to provide the HARQ-ACK information for PDSCH receptions scheduled by multicast DCI format 4_2 associated with the G-RNTI for multicast or the G-CS-RNTI [4, TS 38.212]. If a UE is provided *pdsch-HARQ-ACK-Codebook = semi-static* for multicast HARQ-ACK information, the UE does not expect to be provided *harq-FeedbackEnablerMulticast* with value set to 'dci-enabler' for a G-CS-RNTI.

14.2.1.1.6.3 Test description

14.2.1.1.6.3.1 Pre-test conditions

System Simulator:

- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.1.1.6.3.2 Test procedure sequence

Table 14.2.1.1.6.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1a1	Step 1a1 to 1b12a1 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.9.34 are				
1b1	performed on NR Cell 1 to establish an				
2a1	associated PDU Session to the MBS DNN and				
	ioin in MBS Multicast session				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38 508-1 subclause 4 5 4 2-3				
222	are performed on NP Cell 1 with condition LIE				
202	TEST LOOP MODE C and Multipast MDP				
	TEST LOOP MODE C and Mullicast MRB.				
3	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to G-RN II and enabling HARQ-				
	ACK feedback in DCI format 4-2.		MDC De alvet		
4	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MICH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The content of the MBS Packet is set so that				
	UE could successfully decode the data from its				
	soft buffer.				
5	Check: Does the UE transmit a HARQ ACK?	>	HARQ ACK	1	Р
6	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
7	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE		TC: UF TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
8	Check: Is the number of reported MBS	-	-	1	P
Ŭ	Packets received on the MRB in sten 7 equal			-	
	to 12				
0	to 1?	/			
9	addressed to C DNTL and enabling UADO		(FDEEH (G-KNTI))	-	-
	ACK feedback in DCL formet 4.2				
10	The SS transmits on MBS Dealect on the	-	MRS Dookot		
	MTCL with LOD metched with the LOD		MBS Facket	-	-
	MICH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
11	Check: Does the UE transmit a HARQ NACK?	>	HARQ NACK	2	P
-	EXCEPTION: Steps 12-13 shall be repeated	-	-	-	-
	till HARQ ACK is received at step 13 or until				
	HARQ retransmission count = 4 is reached for				
	MBS Packet at step 13 (Note 1).				
12	The SS indicates a retransmission addressed	<	(PDCCH (G-RNTI))	-	-
	to G-RNTI and enabling HARQ-ACK feedback				
	in DCI format 4-2.				
13	The SS transmits the same MBS Packet as	<	MBS Packet	-	-
	step 10 for PTM retransmission for multicast.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UF side				
14	Check: Does the UE transmit a HARO ACK?	>	HARO ACK	3	Р
15	The SS transmits a UE TEST I OOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UF TEST LOOP MODE C		
	- message.				
16	LIE responds with LIE TEST LOOP MODE C	>	NR RRC: III InformationTransfor	_	_
10	MEMS DACKET COUNTED DESDONEE			-	-
	WIDIVIS FACKET COUNTER RESPONSE.				
1		1	KESPONSE	1	

17	Check: Is the number of reported MBS	-	-	3	Р
	Packets received on the MRB in step 16 equal				
	to 2?				
18	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to G-RNTI and disabling HARO-				
	ACK feedback in DCI format 4-2				
18	The SS transmits a MBS Packet on the MTCH	<	MBS Packet	-	-
	with I CID matched with the I CID configured				
	for receiving DTM transmission				
	The content of the MPS Dealert is get so that				
	The content of the WBS Packet is set so that				
	OE could successfully decode the data from its				
10	SOIL DUITER.			1	
19			HARQ ACK/NACK	4	Г
20	ACK/NACK?		ND DDC: DL InformationTransfor		
20				-	-
	MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
01					
21	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULINFORMATION FRANSFER	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
22	Check: Is the number of reported MBS	-	-	4	Р
	Packets received on the MRB in step 21 equal				
	to 3?				
23	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to G-RNTI in DCI format 4-1.				
24	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The content of the MBS Packet is set so that				
	UE could successfully decode the data from its				
	soft buffer.				
25	Check: Does the UE transmit a HARQ ACK?	>	HARQ ACK	5	Р
26	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
27	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
28	Check: Is the number of reported MBS	-	-	5	Р
	Packets received on the MRB in step 27 equal				
	to 4?				
Note	1: The value 4 for the maximum number of HA	RQ retrai	, nsmissions has been chosen based o	n an as	sumption
	that, given the radio conditions used in this t	est case,	a UE soft combiner implementation s	hould h	ave
sufficient retransmissions to be able to successfully decode the data in its soft buffer.					

14.2.1.1.6.3.3 Specific message contents

Table 14.2.1.1.6.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.6.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.6.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.6.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	m=1		
	condition MRBm and			
	UM PTM			
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.1.6.3.3-4		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.1.6.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.6.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with condition DRBn and MRBm and UM_PTM	n is chosen as the next available number higher or equal to 2 m=1			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table 14.2.1.1.6.3.3-5			
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message				
}					
}					
}					
}					

Table 14.2.1.1.6.3.3-4: CellGroupConfig (Table 14.2.1.1.6.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and UM_PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and DCI				
	and ACK_NACK				
}					

Table 14.2.1.1.6.3.3-5: CellGroupConfig (Table 14.2.1.1.6.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and UM_PTM (Note 1)					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and DCI				
and ACK_NACK					
}					
Note 1: n is set to the same value as for the radioBearerConfig IE in Table 14.2.1.1.6.3.3-3 and m=1					

Table 14.2.1.1.6.3.3-6: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.6.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.6.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 6, step 14 and step 21, Table 14.2.1.1.6.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.6.3.3-8: Physical layer parameters for DCI format 4_2 (step 3, step 9, step 12 and step 18, Table 14.2.1.1.6.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.3.6.1.5.3-1			
Parameter	Value	Value in binary	Condition
Enabling/disabling HARQ-ACK feedback indication	1	'1'	Step 3, Step 9, Step 12
	0	'0'	Step 18

14.2.1.1.7 MBS Multicast/ MAC / DL Data Transfer/ RRC-based enabling-disabling HARQ feedback for Multicast / NACK-only

14.2.1.1.7.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with NACK-only mode is enabled by RRC }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and successfully decodes it }

then { UE does not send ACK for the corresponding HARQ process and UE forwards MAC PDU to higher layer }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with NACK-only mode is enabled by RRC }

ensure that {

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when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and decodes it failure }

then { UE sends NACK for the corresponding HARQ process }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with NACK-only mode is enabled by RRC and pdsch-AggregationFactor > 1 }

ensure that {

when { UE receives downlink assignment on the PDCCH for the UE's G-RNTI and receives data in the associated slot and successive pdsch-AggregationFactor – 1 HARQ retransmissions within a bundle and UE could not successfully decode the data }

```
then { UE sends NACK on the HARQ process }
```

}

(4)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast is disabled by RRC }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI }

then { UE does not send HARQ feedback }

}

(5)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with NACK-only mode is enabled by RRC and
moreThanOneNackOnlyMode is configured }

ensure that {

when { UE needs to provide more than one HARQ-ACK information bits in a PUCCH }

then { UE provide more than one HARQ-ACK information bits in a PUCCH by selecting a resource from a set of resources for the PUCCH transmission based on the values of the HARQ-ACK information bits as described in 38.213 Table 18-1 }

}

(6)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission and HARQ feedback for Multicast with NACK-only mode is enabled by RRC and
moreThanOneNackOnlyMode is not configured }

ensure that {

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when { UE needs to provide more than one HARQ-ACK information bits in a PUCCH }

then { UE provide more than one HARQ-ACK information bits in a PUCCH according to ACK-NACK mode }

}

14.2.1.1.7.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.3.2; TS 38.213, clause 18; TS 38.214, clause 5.1.2.1; TS 38.331, clause 6.3.2. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.3.2]

For each received TB and associated HARQ information, the HARQ process shall:

1> if the NDI, when provided, has been toggled compared to the value of the previous received transmission corresponding to this TB; or

•••

2> consider this transmission to be a new transmission.

1> else:

2> consider this transmission to be a retransmission.

The MAC entity then shall:

```
1> if this is a new transmission:
```

2> attempt to decode the received data.

1> else if this is a retransmission:

2> if the data for this TB has not yet been successfully decoded:

3> instruct the physical layer to combine the received data with the data currently in the soft buffer for this TB and attempt to decode the combined data.

•••

- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and HARQ feedback is disabled; or
- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI for MBS multicast and NACK only HARQ feedback is configured and the data for this TB is successfully decoded; or

•••

1> if the HARQ process is configured with disabled HARQ feedback:

2> not instruct the physical layer to generate acknowledgement(s) of the data in this TB.

1> else:

2> instruct the physical layer to generate acknowledgement(s) of the data in this TB.

[TS 38.213, clause 18]

For the second HARQ-ACK reporting mode, the UE does not transmit a PUCCH that would include only HARQ-ACK information with ACK values. The second HARQ-ACK reporting mode is not applicable for the first SPS PDSCH reception after activation of SPS PDSCH receptions for a SPS configuration, or for DCI formats having associated HARQ-ACK information without scheduling a PDSCH reception.

For the second HARQ-ACK reporting mode, when a number of HARQ-ACK information bits is one, a UE transmits a PUCCH only when the HARQ-ACK information bit has NACK value. The UE determines a PUCCH to provide the HARQ-ACK information as described in clause 9.2.1 when UE is not provided *moreThanOneNackOnlyMode*, or as the first PUCCH in Table 18-1 when UE is provided *moreThanOneNackOnlyMode*. For a PUCCH resource associated with PUCCH format 0, the UE transmits the PUCCH as described in [4, TS 38.211] by obtaining m_0m_0 as described for HARQ-ACK information in clause 9.2.3 and by setting $m_{cs} = 0m_{cs} = 0$. For a PUCCH resource associated with PUCCH format 1, the UE transmits the PUCCH as described in [4, TS 38.211] by setting b(0) = 0b(0) = 0.

A UE that is indicated the second HARQ-ACK reporting mode, and for the case when the UE reports more than one HARQ-ACK information bits, the UE can be indicated to provide the HARQ-ACK information bits in a PUCCH either according to the first HARQ-ACK reporting mode when the UE is not provided *moreThanOneNackOnlyMode* or, for only one G-RNTI or only one G-CS-RNTI, according to the second HARQ-ACK reporting mode by selecting a PUCCH resource from a set of PUCCH resources for the PUCCH transmission based on the values of the HARQ-ACK information bits as described in Table 18-1 when the UE is provided moreThanOneNackOnlyMode. The UE generates HARQ-ACK information bits for the second HARQ-ACK reporting mode according to a Type-2 HARQ-ACK codebook as described in clause 9.1.3.1. For a PUCCH resource associated with PUCCH format 0, the UE transmits the PUCCH as described in [4, TS 38.211] by obtaining m_0m_0 as described for HARQ-ACK information in clause 9.2.3 and by setting $m_{cs} = 0m_{cs} = 0$. For a PUCCH resource associated with PUCCH format 1, the UE transmits the PUCCH as described in [4, TS 38.211] by setting b(0) = 0b(0) = 0.

For a UE that is indicated the second HARQ-ACK reporting mode, the UE does not expect to be provided *pdsch*-*HARQ-ACK-Codebook* = *semi-static* for multicast HARQ-ACK information.

For a UE that is indicated the second HARQ-ACK reporting mode and *moreThanOneNackOnlyMode*, all PUCCH resources associated with the second HARQ-ACK reporting mode have same starting symbol and same number of symbols and, when PUCCH resources in Table 18-1 are located in more than one PRBs, the more than one PRBs are adjacent and are associated with a same MPR value [8-1, TS 38.101-1].

Table 18-1: Mapping of values of HARQ-ACK information bits to PUCCH resources for the second
HARQ-ACK reporting mode

Value	of HARQ-A	CK informat	ion bits	PUCCH resource
{0}	{0,0}	{0,0,0}	{0,0,0,0}	1 st PUCCH resource from <i>resourceList/sps-</i> <i>PUCCH-AN-ListMulticast</i>
	{1,0}	{1,0,0}	{1,0,0,0}	2 nd PUCCH resource from resourceList/sps- PUCCH-AN-ListMulticast
	{0,1}	{0,1,0}	{0,1,0,0}	3 rd PUCCH resource from resourceList/sps- PUCCH-AN-ListMulticast
		{1,1,0}	{1,1,0,0}	4 th PUCCH resource from resourceList
		{0,0,1}	{0,0,1,0}	5 th PUCCH resource from resourceList
		{1,0,1}	{1,0,1,0}	6 th PUCCH resource from <i>resourceList</i>
		{0,1,1}	{0,1,1,0}	7 th PUCCH resource from <i>resourceList</i>
			{1,1,1,0}	8th PUCCH resource from resourceList
			{0,0,0,1}	9th PUCCH resource from resourceList
			{1,0,0,1}	10 th PUCCH resource from resourceList
			{0,1,0,1}	11 th PUCCH resource from resourceList
			{1,1,0,1}	12 th PUCCH resource from <i>resourceList</i>
			{0,0,1,1}	13th PUCCH resource from resourceList
			{1,0,1,1}	14 th PUCCH resource from resourceList
			{0,1,1,1}	15 th PUCCH resource from resourceList

[TS 38.214, clause 5.1.2.1]

When receiving PDSCH scheduled by DCI format 4_1, or 4_2 in PDCCH with CRC scrambled by G-RNTI for multicast, if the UE is configured with *pdsch-AggregationFactor* in the *MBS-RNTI-SpecificConfig* associated with the corresponding G-RNTI for multicast, the same symbol allocation is applied across the *pdsch-AggregationFactor* consecutive slots.

[TS 38.331, clause 6.3.2]

moreThanOneNackOnlyMode

Indicates the mode of supporting more than one NACK-only feedback in the same PUCCH transmission. Mode 1 means UE multiplexing the HARQ-ACK bits by transforming NACK-only into ACK/NACK HARQ bits. Mode 2 means UE transmitting a specific sequence or a PUCCH transmission corresponding to the combination of more than one NACK-only HARQ feedback. If multicast CFR is not configured, this field is not included. Otherwise, if the field is absent, UE uses mode 1 for multicast CFR.

14.2.1.1.7.3 Test description

14.2.1.1.7.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.1.1.7.3.2 Test procedure sequence

Table 14.2.1.1.7.3.2-1: Main behaviour

St	Procedure	Message Sequence			Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
4	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
5	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	1	F
	ACK/NACK?				
6	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformation I ransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULINformation Fransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
0	Chook: Is the number of reported MPS		RESPONSE	1	
0	Check. Is the humber of reported MBS	-	-	L T	P
	to 12				
9	The SS indicates a new transmission	<i></i>			
	addressed to the G-RNTI assigned to the LIF				
10	The SS transmits an MBS Packet on the	<	MBS Packet	_	_
	MTCH with I CID matched with the I CID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side				
11	Check: Does the UE transmit a HARO NACK?	>	HARO NACK	2	Р
12	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE				
	in SFN x, slot 2 and the "PDSCH-to-				
	HARO feedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN x, slot 9.				
13	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
14	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE				
	in SFN x, slot 5 and the "PDSCH-to-				
	HARQ_feedback timing indicator" is configured				
	to require UE to feedback HARO-ACK				
	information in SFN x, slot 9.				
15	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				

16	Check: Does the UE transmit {HARQ ACK, HARQ ACK}?	>	{HARQ ACK, HARQ ACK}	6	Р
17	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer		-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
18	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
19	Check: Is the number of reported MBS	-	-	6	Р
	Packets received on the MRB in step 18 equal				
	to 3?				
20	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	-
	configure pdsch-AggregationFactor-r17 to n4				
	for multicast.				
21	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
22	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
23	The SS transmits an MBS Packet on the	<	MBS Packet.	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
24	In the following 3 consecutive slots, the SS	<	MBS Packet.	-	-
	transmits same MBS Packet in step 23.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
25	Check: Does the UE transmit a HARQ NACK	>	HARQ NACK	3	Р
	on slot n3+k1? (Note 2)				
26	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	-
	disable HARQ feedback for multicast				
27	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
28	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UE.				
29	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
30	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	4	F
	ACK/NACK?				
31	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
32	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
33	Check: Is the number of reported MBS	-	-	4	P
	Packets received on the MRB in step 32 equal				
	to 4?				
-	EXCEPTION: Steps 34a1-34a12 describe	-	-	-	-
	behaviour that depends on UE configuration;				
	the "lower case letter" identifies a step				
	sequence that takes place if				
	pc_nack_OnlyFeedbackSpecificResourceFor				
	Multicast-r17 is configured				

34a	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	-
1	enable NACK only HARQ feedback for				
	multicast and configure				
	moreThanOneNackOnlvMode				
34a	The UE transmits	>	NR RRC:	-	-
2	RRCReconfigurationComplete.		RRCReconfigurationComplete		
	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
3	addressed to the G-RNTI assigned to the LIF				
	in SEN v slot 2 and the "PDSCH-to-				
	HAPO foodback timing indicator" is configured				
	HARQ_leeuback linning indicator is configured				
	to require OE to recuback HARQ-ACK				
240	Information in SEN y, slot 9.		MDC Dealiet		
34a	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
4	MICH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
34a	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
5	addressed to the G-RNTI assigned to the UE				
	in SFN y, slot 5 and the "PDSCH-to-				
	HARQ_feedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN y, slot 9.				
34a	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
6	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC nass on LIE side				
34a	Check: Does the UE transmit HARO	>	{HARO ACK HARO ACK}	5	F
7		-			
34a	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	_
8	addressed to the G-RNTL assigned to the LIF				
	in SEN 7, slot 2 and the "PDSCH-to-				
	HAPO foodback timing indicator" is configured				
	to require LIE to feedback LIADO ACK				
	to require UE to recuback HARQ-ACK				
240	The SS transmits on MBS Decket on the		MBC Dealect		
34a	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
9	MICH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
34a	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
10	addressed to the G-RNTI assigned to the UE				
	in SFN z, slot 5 and the "PDSCH-to-				
	HARQ_feedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN z, slot 9.				
34a	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
11	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC fail on UE side.				
34a	Check: Does the UE transmit {HARO ACK	>	{HARO ACK. HARO NACK}	5	Р
12	HARO NACK) in the 2 nd PUCCH resource from			-	
	resourcel ist?				
342	The SS transmits a LIE TEST LOOP MODE C	<	NR RRC: DI InformationTransfer	-	_
13	MBMS PACKET COUNTER REQUEST				
	message				
	message.		DECHEST		
3/12	LIE responds with LIE TEST LOOP MODE C	>	NR RRC: III InformationTransfer	-	_
1/	MRMS PACKET COLINITED DESDONISE			_	-
1 I I I		1		1	1

			MBMS PACKET COUNTER			
			RESPONSE			
34a	Check: Is the number of reported MBS	-	-	5	Р	
15	Packets received on the MRB in step 34a14					
	equal to 7?					
Note	Note 1: The value 4 for the maximum number of HARQ retransmissions has been chosen based on an assumption					
	that, given the radio conditions used in this t	est case,	a UE soft combiner implementation s	hould h	lave	
	sufficient retransmissions to be able to succe	essfully d	ecode the data in its soft buffer.			
Note	Note 2: n0 is the index of slot when 1 st transmission of MBS Packet in step 23 happens, n1, n2, n3 are indices of					
	slots when 2 nd , 3 rd , 4 th transmission of MBS Packet in step 24 may happen, k1 is obtained from "PDSCH-to-					
	HARQ feedback timing indicator" of downlink assignment in step 22.					

14.2.1.1.7.3.3 Specific message contents

Table 14.2.1.1.7.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.7.3.3-2: RRCReconfiguration (step 1a15, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	UM_PTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.1.1.7.3.3-4			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.1.1.7.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with condition DRBn and MRBm and UM_PTM	n is chosen as the next available number higher or equal to 2 m=1			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table 14.2.1.1.7.3.3-5			
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message				
}					
}					
}					
}					

Table 14.2.1.1.7.3.3-4: CellGroupConfig (Table 14.2.1.1.7.3.3-2)

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Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and UM_PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and NACK_ONLY				
}					

Table 14.2.1.1.7.3.3-5: CellGroupConfig (Table 14.2.1.1.7.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and UM_PTM (Note 1)					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and NACK_ONLY				
}					
Note 1: n is set to the same value as for the radioBea	Note 1:				

Table 14.2.1.1.7.3.3-6: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.7.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.7.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 6, step 17, step31 and step 34a14, Table 14.2.1.1.7.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.7.3.3-8: Physical layer parameters for DCI format 4_1 (step 12, step 14, step 34a3, step34a5, step34a8 and step 34a10, Table 14.2.1.1.8.3.2-1)

Parameter	Value	Value in binary	Condition		
PDSCH-to-HARQ_feedback timing indicator	K1 = 7	"110"	Step 12, Step34a3 and Step 34a8		
	K1 = 4	"011"	Step 14, Step34a5 and Step 34a10		
Note: K1 set for DCI 4 1 is { 1, 2, 3, 4, 5, 6, 7, 8 } because dl-DataToUL-ACK-MulticastDCI-Format4-1 is not provided					

Table 14.2.1.1.7.3.3-9: RRCReconfiguration (step 20, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.7.3.3-10	
}			
}			
}			
}			

Table 14.2.1.1.7.3.3-10: CellGroupConfig (Table 14.2.1.1.7.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig	Table	
		14.2.1.1.7.3.3-11	
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

Table 14.2.1.1.7.3.3-11: MAC-CellGroupConfig (Table 14.2.1.1.7.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condition MBS_Multicast and RRC_Enable_HARQFeedback and ACK_NACK

Information Element	Value/remark	Comment	Condition
MAC-CellGroupConfig ::= SEQUENCE {			
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-			
r17 {			
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1	
pdsch-AggregationFactor-r17	n4		
}			
}			

Table 14.2.1.1.7.3.3-12: RRCReconfiguration (step 26, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.7.3.3-13	
}			
}			
}			
}			

Table 14.2.1.1.7.3.3-13: CellGroupConfig (Table 14.2.1.1.7.3.3-12)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

Table 14.2.1.1.7.3.3-14: RRCReconfiguration (step 34a1, Table 14.2.1.1.7.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.7.3.3-15	
}			
}			
}			
}			

Table 14.2.1.1.7.3.3-15: CellGroupConfig (Table 14.2.1.1.7.3.3-14)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig	Table	
		14.2.1.1.7.3.3-16	
}			
}			

Table 14.2.1.1.7.3.3-16: ServingCellConfig (Table 14.2.1.1.7.3.3-15)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167			
Information Element	Value/remark	Comment	Condition
ServingCellConfig ::= SEQUENCE {			
tdd-UL-DL-ConfigurationDedicated	Not present		
initialDownlinkBWP	Not present		
downlinkBWP-ToReleaseList	Not present		
downlinkBWP-ToAddModList	Not present		
firstActiveDownlinkBWP-Id	Not present		
bwp-InactivityTimer	Not present		
defaultDownlinkBWP-Id	Not present		
uplinkConfig	Not present		
supplementaryUplink	Not present		
pdcch-ServingCellConfig	Not present		
pdcch-ServingCellConfig	Not present		
pdsch-ServingCellConfig	Not present		
csi-MeasConfig	Not present		
sCellDeactivationTimer	Not present		
crossCarrierSchedulingConfig	Not present		
tag-Id	0		
dummy1	Not present		
pathlossReferenceLinking	Not present		
servingCellMO	Not present		
moreThanOneNackOnlyMode-r17	mode2		
}			

14.2.1.1.8 MBS Multicast/ MAC / DL Data Transfer/ Multiplex multicast HARQ-ACK information with unicast HARQ-ACK information

14.2.1.1.8.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-AM entity for PTP transmission and HARQ feedback for Multicast with ACKNACK mode is enabled by RRC and unicast is configured to use dynamic harq-ack codebook and multicast
is configured to use semi-static harq-ack codebook }

ensure that {

when { UE needs to multiplex the unicast and multicast HARQ-ACK information in a same PUCCH based
on SS scheduling }

then { UE uses the last unicast DCI format to determine the PUCCH resource }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-AM entity for PTP transmission and HARQ feedback for Multicast with ACKNACK mode is enabled by RRC and unicast is configured to use dynamic harq-ack codebook and multicast
is configured to use semi-static harq-ack codebook }

ensure that {

when { UE needs to multiplex the unicast and multicast HARQ-ACK information in a same PUCCH based on SS scheduling }

then { UE appends the HARQ-ACK codebooks for the multicast HARQ-ACK information to the HARQ-ACK codebooks for the unicast HARQ-ACK information }

}

14.2.1.1.8.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.213, clause 18 and 9.1.2.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38.213, clause 18]

If a UE would report unicast HARQ-ACK information and multicast HARQ-ACK information with same priority index in a slot, the UE multiplexes the unicast HARQ-ACK information and the multicast HARQ-ACK information following the procedures in this clause and in clauses 9.1.2 and 9.1.3.

If, for unicast and multicast HARQ-ACK information of same priority value, a UE

- is provided
 - either *pdsch-HARQ-ACK-Codebook* = *dynamic* or *pdsch-HARQ-ACK-Codebook-r16* for unicast HARQ-ACK information and *pdsch-HARQ-ACK-Codebook* = *semi-static* for multicast HARQ-ACK information,
 - or pdsch-HARQ-ACK-Codebook = semi-static for unicast HARQ-ACK information and pdsch-HARQ-ACK-Codebook = dynamic for multicast HARQ-ACK information, and
- would multiplex the unicast and multicast HARQ-ACK information in a same PUCCH or PUSCH

the UE

- appends the HARQ-ACK codebooks for the multicast HARQ-ACK information to the HARQ-ACK codebooks for the unicast HARQ-ACK information
- if O_{ACK} + O_{SR} + O_{CSI} ≤ 110_{ACK} + O_{SR} + O_{CSI} ≤ 11, the UE determines ⁿHARQ-ACKⁿHARQ-ACK for obtaining a power of a PUCCH transmission with the HARQ-ACK information, as described in clause 7.2.1, as a sum of the ⁿHARQ-ACKⁿHARQ-ACK value from clause 9.1.2.1 or clause 9.1.3.3 and the ⁿHARQ-ACKⁿHARQ-ACK value from clause 9.1.3.1.

A UE determines a PUCCH resource for a PUCCH transmission with HARQ-ACK information as described in clauses 9.2 and 9.2.1 through 9.2.5.

If a UE multiplexes in a PUCCH HARQ-ACK information of same priority associated with unicast DCI formats and with multicast DCI formats in a same PUCCH, the last DCI format that the UE uses to determine the PUCCH resource, as described in clause 9.2.3, is a last unicast DCI format.

[TS 38.213, clause 9.1.2.1]

For a serving cell cc, an active DL BWP, and an active UL BWP, as described in clause 12, the UE determines a set of $M_{A,c}M_{A,c}$ occasions for candidate PDSCH receptions for which the UE can transmit corresponding HARQ-ACK information in a PUCCH in slot $n_U n_U$. If serving cell cc is deactivated, the UE uses as the active DL BWP for determining the set of $M_{A,c}M_{A,c}$ occasions for candidate PDSCH receptions a DL BWP provided by *firstActiveDownlinkBWP-Id*. The determination is based:

a) on a set of slot timing values *K*₁*K*₁ associated with the active UL BWP on the primary cell or, if the PUCCH transmission is indicated by a DCI format to be on the PUCCH-sSCell as described in clause 9A, on a set of slot timing values *K*₁*K*₁ associated with the active UL BWP on the PUCCH-sSCell

•••

-

- If the UE is configured to monitor PDCCH for multicast DCI formats for serving cell cc
- if the UE is not provided type1-Codebook-GenerationMode = 'mode1', K₁K₁ is additionally provided by the union of dl-DataToUL-ACK from pucch-ConfigMulticast1/pucch-ConfigurationListMulticast1 or pucch-ConfigMulticast2/pucch-ConfigurationListMulticast2 and dl-DataToUL-ACK-ForDCI Format4-1
 - if the UE is not provided *dl-DataToUL-ACK-ForDCI Format4-1*, *K*₁*K*₁ is provided by the union of *dl-DataToUL-ACK* from *pucch-ConfigurationListMulticast1 or pucch-ConfigurationListMulticast2* and the slot timing values {1, 2, 3, 4, 5, 6, 7, 8}

14.2.1.1.8.3 Test description

14.2.1.1.8.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.1.1.8.3.2 Test procedure sequence

Table 14.2.1.1.8.3.2-1: Main behaviour

St	Procedure		Message Sequence		Verdict
		U - S	Message	1	
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38 508-1 subclause 4 5 4 2-3				
292	are performed on NR Cell 1 with condition LIE				
202	TEST LOOP MODE C and Multipact MDP				
3	The SS indicates a new transmission	6			
5	addressed to the C RNTL assigned to the LIE				_
	in SEN y, clot 2 and the "DDSCH to				
	III SFN X, Slot Z dilu tile FDSCH-to-				
	Information In SEN X, slot 9.		MDC Dealist		
4	The SS transmits an MBS Packet on the	<	MBS Packel	-	-
	MICH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
5	The SS indicates a new transmission	<	(PDCCH (C-RNTI))	-	-
	addressed to the C-RNTI assigned to the UE				
	in SFN x, slot 5 and the "PDSCH-to-				
	HARQ_feedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN x, slot 9.				
6	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	DTCH with LCID matched with the LCID				
	configured for receiving PTP transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
7	Check: Does the UE transmit HARQ-ACK	>	HARQ ACK/NACK	1,2	Р
	codebooks according to Table 14.2.1.1.8.3.2-2				
	using PUCCH resource indicated by the				
	unicast DCI in step 5?				
8	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message		MBMS PACKET COUNTER		
	incoolige.		REQUEST		
9	LIE responds with LIE TEST LOOP MODE C	>	NR RRC: III InformationTransfer	-	_
	MBMS PACKET COUNTER RESPONSE	-			
			DESDONSE		
10	Check: Is the number of reported MRS	_	-	1 2	D
10	Deckets received on the MDP in stop 0 equal	-	-	1,2	
	to 22				
11	The SS indicates a new transmission	1-		_	_
1 11	addrosped to the C DNTL appianed to the UT			-	-
	audressed to the C-RNTI assigned to the UE				
	III SHN Y, SIOT 2 and the "PUSCH-to-				
	HARQ_reedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN y, slot 9.				
12	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	DTCH with LCID matched with the LCID				
	configured for receiving PTP transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
13	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to the G-RNTI assigned to the UF				

	in SFN y, slot 5 and the "PDSCH-to-				
	HARQ_feedback timing indicator" is configured				
	to require UE to feedback HARQ-ACK				
	information in SFN y, slot 9.				
14	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
15	Check: Does the UE transmit HARQ-ACK	>	HARQ ACK/NACK	1,2	Р
	codebooks according to Table 14.2.1.1.8.3.2-2				
	using PUCCH resource indicated by the				
	unicast DCI in step 11?				
16	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
17	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
18	Check: Is the number of reported MBS	-	-	1,2	Р
	Packets received on the MRB in step 17 equal				
	to 4?				

Table 14.2.1.1.8.3.2-2: HARQ-ACK codebooks feedback

HARQ-ACK codebooks	Comment	Condition
{ACK,NACK,ACK,NACK,NACK,NACK,NACK,NACK }		Step7 AND FDD AND SCS 15KHz
{ACK,NACK,ACK,NACK,NACK,NACK,NACK }		Step7 AND TDD AND SCS 15KHz
{ACK,NACK,ACK,NACK,NACK,NACK }		Step7 AND SCS 30KHz
{ACK,NACK,ACK,NACK,NACK }		Step7 AND SCS 120KHz
{ACK,NACK,NACK,NACK,ACK,NACK,NACK,NACK }		Step15 AND FDD AND SCS 15KHz
{ACK,NACK,NACK,ACK,NACK,NACK,NACK }		Step15 AND TDD AND SCS 15KHz
{ACK,NACK,NACK,NACK,ACK,NACK }		Step15 AND SCS 30KHz
{ACK,NACK,ACK,NACK,NACK }		Step15 AND SCS 120KHz

14.2.1.1.8.3.3 Specific message contents

Table 14.2.1.1.8.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.8.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.8.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.8.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	m=1		
	condition MRBm and			
	AMPTP_UMPTM			
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.1.8.3.3-4		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.1.8.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.8.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with condition DRBn and MRBm and AMPTP_UMPTM	n is chosen as the next available number higher or equal to 2 m=1		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table 14.2.1.1.8.3.3-5		
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message			
}				
}				
}				
}				

Table 14.2.1.1.8.3.3-4: CellGroupConfig (Table 14.2.1.1.8.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and AMPTP UMPTM					
Information Element	Value/remark Comment Con				
CellGroupConfig ::= SEQUENCE {					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast and				
	RRC_Enable_HARQFee				
	dback and ACK_NACK				
physicalCellGroupConfig	physicalCellGroupConfig	Table			
		14.2.1.1.8.3.3-6			
spCellConfig SEQUENCE {					
spCellConfigDedicated	ServingCellConfig	Table			
		14.2.1.1.8.3.3-7			
}					
}					

Table 14.2.1.1.8.3.3-5: CellGroupConfig (Table 14.2.1.1.8.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm_DRBn and AMPTP_UMPTM (Note 1)			
Information Element	Value/remark Comment Cor		
CellGroupConfig ::= SEQUENCE {			
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast and		
	RRC_Enable_HARQFee		
	dback and ACK_NACK		
physicalCellGroupConfig	physicalCellGroupConfig	Table	
		14.2.1.1.8.3.3-6	
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig	Table	
		14.2.1.1.8.3.3-7	
}			
}			
Note 1: n is set to the same value as for the radioBe	earerConfig IE in Table 14.2.1	.1.8.3.3-3 and m=1	

Table 14.2.1.1.8.3.3-6: PhysicalCellGroupConfig (Table 14.2.1.1.8.3.3-4, Table 14.2.1.1.8.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-106			
Information Element	Value/remark	Comment	Condition
PhysicalCellGroupConfig ::= SEQUENCE {			
MulticastConfig-r17 SEQUENCE {			
pdsch-HARQ-ACK-CodebookListMulticast-r17			
CHOICE {			
setup SEQUENCE (SIZE (12)) OF	1 entry		
ENUMERATED {			
ENUMERATED [1]	semiStatic	entry 1	
}			
}			
type1-Codebook-GenerationMode-r17	mode2		
}			
}			

Table 14.2.1.1.8.3.3-7: ServingCellConfig (Table 14.2.1.1.8.3.3-4, Table 14.2.1.1.8.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-167, condition MBS_Multicast				
Information Element	Value/remark	Comment	Condition	
ServingCellConfig ::= SEQUENCE {				
uplinkConfig SEQUENCE {				
initialUplinkBWP	BWP-UplinkDedicated	Table		
		14.2.1.1.8.3.3-8		
}				
}				
}				

Table 14.2.1.1.8.3.3-8: BWP-UplinkDedicated (Table 14.2.1.1.8.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-15			
Information Element	Value/remark	Comment	Condition
BWP-UplinkDedicated ::= SEQUENCE {			
pucch-ConfigMulticast1-r17 CHOICE {			
setup	PUCCH-Config	Table	
		14.2.1.1.8.3.3-9	
}			
}			

Table 14.2.1.1.8.3.3-9: PUCCH-Config (Table 14.2.1.1.8.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-15, condition RF (Note 1)			
Information Element	Value/remark	Comment	Condition
PUCCH-Config ::= SEQUENCE {			
schedulingRequestResourceToAddModList	Not present		
dl-DataToUL-ACK SEQUENCE (SIZE (18)) OF	8 entries		
INTEGER {			
INTEGER[1]	1	entry 1	
INTEGER[2]	2	entry 2	
INTEGER[3]	3	entry 3	
INTEGER[4]	4	entry 4	
INTEGER[5]	5	entry 5	
INTEGER[6]	6	entry 6	
INTEGER[7]	7	entry 7	
INTEGER[8]	8	entry 8	
}			
}			
Note 1: Set intraSlotFrequencyHopping = Not present to ensure that PUCCH Resource for Multicast is different from			
PUCCH Resource for Unicast.			

Table 14.2.1.1.8.3.3-10: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.8.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.8.3.3-11: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 8 and step 16, Table 14.2.1.1.8.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.8.3.3-12: Physical layer parameters for DCI format 4_1 (step 3 and step 13, Table 14.2.1.1.8.3.2-1)

Parameter	Value	Value in binary	Condition
PDSCH-to-HARQ_feedback timing indicator	K1 = 7	"110"	Step 3
	K1 = 4	"011"	Step 13
Note: K1 set for DCI 4 1 is { 1, 2, 3, 4, 5, 6, 7, 8 } because dl-DataToUI -ACK-MulticastDCI-Format4-1 is not provided			

Table 14.2.1.1.8.3.3-13: Physical layer parameters for DCI format 1_1 (step 5 and step 11, Table 14.2.1.1.8.3.2-1)

Parameter	Value	Value in binary	Condition
PDSCH-to-HARQ_feedback timing indicator	K1 = 4	"100"	Step 5
	K1 = 7	"101"	Step 11
Note: K1 set for DCI 1 1 is { 2, 3, 4, 5, 6, 7, 8, 9 }.			

14.2.1.1.9 MBS Multicast/ MAC / DL Data Transfer/ DCI-based enabling-disabling HARQ feedback for Multicast/ NACK-only

14.2.1.1.9.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with NACK-only mode is enabled by DCI 4_2 }

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ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and successfully decodes it }

then { UE does not send HARQ feedback and UE forwards the MAC PDU to higher layer }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast with NACK-only mode is enabled by DCI 4_2 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and decodes it failure }

then { UE sends NACK for the corresponding HARQ process }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission and HARQ feedback for Multicast is disabled by DCI 4_2 }

ensure that {

when { UE receives downlink assignment with MAC PDU scheduled for UE's G-RNTI and decodes it failure }

then { UE does not send HARQ feedback and UE forwards the MAC PDU to higher layer }

}

14.2.1.1.9.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.3.2; TS 38.213, clause 18. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.3.2]

- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI or a configured downlink assignment for MBS multicast and HARQ feedback is disabled; or
- 1> if the HARQ process is associated with a transmission indicated with a G-RNTI or a G-CS-RNTI or a configured downlink assignment for MBS multicast and NACK only HARQ feedback is configured and the data for this TB is successfully decoded; or

•••

1> else:

^{2&}gt; not instruct the physical layer to generate acknowledgement(s) of the data in this TB.

^{2&}gt; instruct the physical layer to generate acknowledgement(s) of the data in this TB.

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[TS 38.213, clause 18]

A UE can be configured per G-RNTI for multicast or per G-CS-RNTI, by *harq-FeedbackEnablerMulticast* with value set to 'enabled', to provide HARQ-ACK information for PDSCH receptions. When the UE is not provided *harq-FeedbackEnablerMulticast* for a G-RNTI for multicast or G-CS-RNTI and *pdsch-HARQ-ACK-Codebook = dynamic* for multicast HARQ-ACK information, the UE does not provide HARQ-ACK information for respective PDSCH receptions. If a UE is provided *harq-FeedbackEnablerMulticast* with value set to 'dci-enabler' for a G-RNTI for multicast or a G-CS-RNTI, the UE provides HARQ-ACK information for PDSCH receptions scheduled by multicast DCI format 4_1 associated with the G-RNTI or the G-CS-RNTI, and determines whether or not to provide the HARQ-ACK information for PDSCH receptions scheduled by multicast DCI format 4_2 associated with the G-RNTI for multicast or the G-CS-RNTI [4, TS 38.212]. If a UE is provided *pdsch-HARQ-ACK-Codebook = semi-static* for multicast HARQ-ACK information, the UE does not expect to be provided *harq-FeedbackEnablerMulticast* with value set to 'dci-enabler' for a G-CS-RNTI.

14.2.1.1.9.3 Test description

14.2.1.1.9.3.1 Pre-test conditions

System Simulator:

- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.1.1.9.3.2Test procedure sequence

Table 14.2.1.1.9.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message]	
1a1	Step 1a1 to 1b12a1 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.9.34 are				
1b1	performed on NR Cell 1 to establish an				
2a1	associated PDU Session to the MBS DNN and				
	join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to G-RNTI and enabling HARQ-				
	ACK feedback in DCI format 4-2.				
4	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission.				
	The content of the MBS Packet is set so that				
	UE could successfully decode the data from its				
	soft buffer.				
5	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	1	F
	ACK/NACK?				
6	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
7	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
8	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB in step 7 equal				
	to 1?				
9	addressed to C DNTL and enabling UADO	<	(PDCCH (G-RNTI))	-	-
	Addressed to G-RNTT and enabling HARQ-				
10	ACK leeuback in DCI lonnal 4-2.		MPS Packet		
10	MTCH with LCID matched with the LCID		MDS Facket	-	_
	configured for receiving DTM transmission				
	The CPC is calculated in such a way, it will				
	result in CDC error on UE side				
11	Check: Does the LIE transmit a HARO NACK2	>		2	D
12	The SS indicates a new transmission	<	(PDCCH (G-RNTI))	-	-
	addressed to G-RNTI and disabling HARO-				
	ACK feedback in DCI format 4-2				
13	The SS transmits an MBS Packet on the	<	MBS Packet	-	-
	MTCH with LCID matched with the LCID				
	configured for receiving PTM transmission				
	The CRC is calculated in such a way, it will				
	result in CRC error on UF side				
14	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	3	F
	ACK/NACK?		_		

14.2.1.1.9.3.3 Specific message contents

Table 14.2.1.1.9.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.1.9.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.1.9.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.1.9.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	m=1		
	condition MRBm and			
	UM PTM			
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.1.9.3.3-4		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.1.9.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.1.1.9.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with	n is chosen as the	
	condition DRBn and	next available	
	MRBm and UM_PTM	number higher or	
		equal to 2	
		m=1	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.1.9.3.3-5	
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			
}			

Table 14.2.1.1.9.3.3-4: CellGroupConfig (Table 14.2.1.1.9.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm (m=1) and UM_PTM				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
mac-CellGroupConfig	MAC-CellGroupConfig			
	with condition			
	MBS Multicast and DCI			
	and NACK_ONLY			
}				

Table 14.2.1.1.9.3.3-5: CellGroupConfig (Table 14.2.1.1.9.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm DRBn and UM PTM (Note 1)			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast and DCI		
	and NACK_ONLY		
}			
Note 1: n is set to the same value as for the radioBearerConfig IE in Table 14.2.1.1.9.3.3-3 and m=1			

Table 14.2.1.1.9.3.3-6: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.1.9.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.1.9.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 6, Table 14.2.1.1.9.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.1.9.3.3-8: Physical layer parameters for DCI format 4_2 (step 3, step 9 and step 12, Table 14.2.1.1.9.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.3.6.1.5.3-1			
Parameter	Value	Value in binary	Condition
Enabling/disabling HARQ-ACK feedback indication	1	'1'	Step 3, Step 9
	0	'0'	Step 12

14.2.1.2 MBS Multicast/ MAC/ DRX operation

14.2.1.2.1 MBS Multicast/ MAC/ DRX operation/ PTM transmission / PTP transmission

14.2.1.2.1.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and Multicast DRX and unicast DRX are configured }

ensure that {

when { Long DRX cycle for a G-RNTI is configured and [(SFN * 10) + subframe number] modulo (drx-LongCycle-PTM) = drx-StartOffset-PTM }

then { UE starts the drx-OnDurationTimerPTM and monitors the PDCCH for this G-RNTI during drx-OnDurationTimerPTM }

}

(2)

5109

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and Multicast DRX and unicast DRX are configured }

ensure that {

when { Long DRX cycle for a G-RNTI is configured and a new DL transmission is indicated on the PDCCH during Active Time }

then { UE starts or restarts the drx-InactivityTimerPTM in the first symbol after the end of the
PDCCH reception and monitors the PDCCH for this G-RNTI during drx-InactivityTimerPTM }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and Multicast DRX and unicast DRX are configured }

ensure that {

when { Long DRX cycle for C-RNTI is configured and [(SFN * 10) + subframe number] modulo (drx-LongCycle) = drx-StartOffset }

then { UE monitors the PDCCH for C-RNTI during drx-OnDurationTimer }

}

(4)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and Multicast DRX and unicast DRX are configured }

ensure that {

when { Long DRX cycle for C-RNTI is configured and a new DL transmission is indicated on the PDCCH during Active Time }

then { UE starts or restarts the drx-InactivityTimer in the first symbol after the end of the PDCCH reception and monitors the PDCCH for C-RNTI during drx-InactivityTimer }

}

(5)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and Multicast DRX and unicast DRX are configured }

ensure that {

when { DRX Command MAC CE indicated by PDCCH addressed to with DCI scrambled with a G-RNTI is received }

then { UE stops drx-onDurationTimerPTM of the DRX for this G-RNTI }

}

5110

(6)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, and only unicast DRX is configured }

ensure that {

```
when { PDCCH indicated a DL multicast transmission is received }
```

then { UE stops drx-RetransmissionTimerDL for the corresponding HARQ process }

}

(7)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, both multicast DRX and unicast DRX are
configured, and allowCSI-SRS-Tx-MulticastDRX-Active is configured }

ensure that {

when { Both unicast DRX and multicast DRX are not in Active Time }

```
then { UE stop report CSI on PUCCH }
```

}

(8)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, only unicast DRX is configured, and
allowCSI-SRS-Tx-MulticastDRX-Active is not configured }

ensure that {

```
when { Unicast DRX is not in Active Time }
```

then { UE stop report CSI on PUCCH }

}

(9)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, both multicast DRX and unicast DRX are
configured, and allowCSI-SRS-Tx-MulticastDRX-Active is configured }

ensure that {

when { Unicast DRX or multicast DRX are in Active Time}

then { UE does not stop report CSI on PUCCH }

}

(10)

5111

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, only unicast DRX is configured, and
allowCSI-SRS-Tx-MulticastDRX-Active is not configured }

```
ensure that {
```

```
when { Unicast DRX is in Active Time }
  then { UE does not stop report CSI on PUCCH }
  }
```

14.2.1.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clause 5.7, 5.7b. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.7]

- 1> if the Long DRX cycle is used for a DRX group, and [(SFN × 10) + subframe number] modulo (*drx-LongCycle*)
 = *drx-StartOffset*:
 - 2> if DCP monitoring is configured for the active DL BWP as specified in TS 38.213 [6], clause 10.3:

••••

2> else:

3> start drx-onDurationTimer for this DRX group after drx-SlotOffset from the beginning of the subframe.

•••

- 1> if a DRX group is in Active Time:
 - 2> monitor the PDCCH on the Serving Cells in this DRX group as specified in TS 38.213 [6];
 - 2> if the PDCCH indicates a DL transmission; or
 - 2> if the PDCCH indicates a one-shot HARQ feedback as specified in clause 9.1.4 of TS 38.213 [6]; or
 - 2> if the PDCCH indicates a retransmission of HARQ feedback as specified in clause 9.1.5 of TS 38.213 [6]:
 - 3> if this Serving Cell is configured with *downlinkHARQ-FeedbackDisabled*:

•••

3> else:

4> start or restart the *drx-HARQ-RTT-TimerDL* for the corresponding HARQ process(es) whose HARQ feedback is reported in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback.

...

- 3> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process(es) whose HARQ feedback is reported;
- 3> stop the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process;

•••

- 2> if the PDCCH indicates a new transmission (DL, UL or SL) on a Serving Cell in this DRX group:
 - 3> start or restart *drx-InactivityTimer* for this DRX group in the first symbol after the end of the PDCCH reception.

•••

- 1> if DCP monitoring is configured for the active DL BWP as specified in TS 38.213 [6], clause 10.3; and
- 1> if the current symbol n occurs within *drx-onDurationTimer* duration; and
- 1> if *drx-onDurationTimer* associated with the current DRX cycle is not started as specified in this clause:

•••

1> else:

- 2> in current symbol n, if a DRX group would not be in Active Time considering grants/assignments scheduled on Serving Cell(s) in this DRX group and DRX Command MAC CE/Long DRX Command MAC CE received and Scheduling Request sent until 4 ms prior to symbol n when evaluating all DRX Active Time conditions as specified in this clause; and
- 2> if allowCSI-SRS-Tx-MulticastDRX-Active is not configured or, in current symbol n, if all multicast DRXes corresponding to the DRX group would not be in Active Time considering multicast assignments/DRX Command MAC CE for MBS multicast received until 4 ms prior to symbol n when evaluating all DRX Active Time conditions as specified in Clause 5.7b and all multicast sessions corresponding to the DRX group are configured with multicast DRX:
 - 3> not transmit periodic SRS and semi-persistent SRS defined in TS 38.214 [7] in this DRX group;
 - 3> not report CSI on PUCCH and semi-persistent CSI configured on PUSCH in this DRX group.

•••

[TS 38.321, clause 5.7b]

For MBS multicast, the MAC entity may be configured by RRC with a DRX functionality per G-RNTI or per G-CS-RNTI that controls the UE's PDCCH monitoring activity for the MAC entity's G-RNTI(s) and G-CS-RNTI(s) as specified in TS 38.331 [5]. When in RRC_CONNECTED, if multicast DRX is configured for a G-RNTI or G-CS-RNTI, the MAC entity is allowed to monitor the PDCCH for this G-RNTI or G-CS-RNTI discontinuously using the multicast DRX operation specified in this clause; otherwise the MAC entity monitors the PDCCH for this G-RNTI or G-CS-RNTI as specified in TS 38.213 [6]. The multicast DRX operation specified in this clause is performed independently for each G-RNTI or G-CS-RNTI and independently from the DRX operation specified in clauses 5.7 and 5.7a.

RRC controls multicast DRX operation per G-RNTI or per G-CS-RNTI by configuring the following parameters:

- *drx-onDurationTimerPTM*: the duration at the beginning of a DRX cycle;
- *drx-SlotOffsetPTM*: the delay before starting the *drx-onDurationTimerPTM*;
- *drx-InactivityTimerPTM*: the duration after the PDCCH occasion in which a PDCCH indicates a new DL multicast transmission for the MAC entity;
- *drx-LongCycleStartOffsetPTM*: the long DRX cycle *drx-LongCycle-PTM* and *drx-StartOffset-PTM* which defines the subframe where the long DRX cycle starts;

•••

When multicast DRX is configured for a G-RNTI or G-CS-RNTI, the Active Time includes the time while:

- *drx-onDurationTimerPTM* or *drx-InactivityTimerPTM* or *drx-RetransmissionTimerDL-PTM* for this G-RNTI or G-CS-RNTI is running.

When multicast DRX is not configured for a G-RNTI or G-CS-RNTI and unicast DRX is configured, the MAC entity shall for this G-RNTI or G-CS-RNTI:

1> monitor the PDCCH as specified in TS 38.213 [6];

- 1> if the PDCCH indicates a DL multicast transmission; or
- 1> if a MAC PDU is received in a configured downlink multicast assignment and CS-RNTI is configured:
 - •••

2> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process.

When multicast DRX is configured for a G-RNTI or G-CS-RNTI, the MAC entity shall for this G-RNTI or G-CS-RNTI:

•••

- 1> if a *drx-HARQ-RTT-TimerDL-PTM* expires:
 - 2> if the data of the corresponding HARQ process was not successfully decoded:
 - 3> start the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process in the first symbol after the expiry of *drx-HARQ-RTT-TimerDL-PTM*.
- 1> if a DRX Command MAC CE indicated by PDCCH addressed to a G-RNTI or G-CS-RNTI, or by a configured downlink multicast assignment is received:
 - 2> stop *drx-onDurationTimerPTM* of the DRX for this G-RNTI or G-CS-RNTI;
 - 2> stop *drx-InactivityTimerPTM* of the DRX for this G-RNTI or G-CS-RNTI.
- 1> if [(SFN × 10) + subframe number] modulo (*drx-LongCycle-PTM*) = *drx-StartOffset-PTM*:
 - 2> start *drx-onDurationTimerPTM* after *drx-SlotOffsetPTM* from the beginning of the subframe.
- 1> if the MAC entity is in Active Time for this G-RNTI or G-CS-RNTI:
 - 2> monitor the PDCCH for this G-RNTI or G-CS-RNTI as specified in TS 38.213 [6];
 - 2> if the PDCCH indicates a DL multicast transmission:

•••

- 3> stop the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process;
- 3> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process.
- 2> if the PDCCH indicates a new multicast transmission for this G-RNTI or G-CS-RNTI:
 - 3> start or restart *drx-InactivityTimerPTM* in the first symbol after the end of the PDCCH reception.
- 14.2.1.2.1.3 Test description
- 14.2.1.2.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.1.2.1.3.2 Test procedure sequence

Table 14.2.1.2.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session				
2a1	Stens 9a1 to 9a2 of the NR	_	-	-	_
-	BRC CONNECTED procedure in TS 38 508-1				
222	Table 45423 are executed with condition LIE				
202	TEST LOOP MODE C and Multipact MDP				
2	TEST LOOP MODE C and Mullicast MRD.	-	NP PPC: PPCPoconfiguration		
3	application to the set of the set			-	-
	The LIE transmite				
4		/	NR RRC.	-	-
-	RRCReconfigurationComplete.		RRCReconfigurationComplete		
5	In the first PDCCH occasion when the drx-	<	MBS Packel.	-	-
	onDuration I imerPTM is running, the SS				
	indicates the transmission of a MBS Packet via				
	RLC-UM for PTM transmission on the PDCCH				
	for G-RNTI.				
6	In the last PDCCH occasion while the <i>drx</i> -	<	MBS Packet.	-	-
	onDurationTimerPTM is still running, the SS				
	indicates the transmission of a MBS Packet via				
	RLC-UM for PTM transmission on the PDCCH				
	for G-RNTI.				
7	drx-InactivityTimerPTM PDCCH-occasions	<	MBS Packet.	-	-
	after the transmission of the MBS Packet				
	transmitted in step 6 was indicated on the				
	PDCCH, the SS indicates the transmission of				
	a MBS Packet via RLC-UM for PTM				
	transmission on the PDCCH for G-RNTL				
8	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message		MBMS PACKET COUNTER		
			REQUEST		
9	UE responds with UE TEST LOOP MODE C	>	NR RRC: UI InformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE		TC: UE TEST LOOP MODE C		
			DESDONISE		
10	Check: Is the number of reported MBS	_	-	12	P
	Packets received on in sten 9 equal to 32			1,2	· ·
11	In the first PDCCH occasion when the dry-	6	MBS Dacket		_
1 11	onDurationTimer is running, the SS indicates		MDS Facket.		_
	the transmission of a MPS Dacket via DLC LIM				
	for DTD transmission on the DDCCU for C				
10	RNII. Chacky Dece the LIE transmit a LIADO ACK for			2	
12	Check. Does the DE transmit a HARQ ACK IO	>	HARQACK	3	P
10	the MBS Packet in Step 11?		MDC Dealiet		
13	In the last PDCCH occasion while the drx-	<	MBS Packel.	-	-
	onDuration i imer is still running, the SS				
	indicates the transmission of a MBS Packet via				
	RLC-UM for PTP transmission on the PDCCH				
	for C-RNTI.				
14	Check: Does the UE transmit a HARQ ACK for	>	HARQ ACK	3	P
	the MBS Packet in Step 13?				
15	<i>drx-InactivityTimer</i> PDCCH-occasions after the	<	MBS Packet.	-	-
	transmission of the MBS Packet transmitted in				
	step 13 was indicated on the PDCCH, the SS				
	indicates the transmission of a MBS Packet via				
	RLC-UM for PTP transmission on the PDCCH				

	for C-RNTI.			1	
16	Check: Does the UE transmit a HARQ ACK for	>	HARQ ACK	4	Р
	the MBS Packet in Step 15?				
17	Check: Does the UE transmit a CSI Report	>	CSI Report	9	Р
	during when the <i>drx-onDurationTimerPTM</i> is				
	running?				
18	In the first PDCCH occasion when the drx-	<	DRX MAC Control element	-	-
	onDurationTimerPTM is running, the SS				
	indicates the transmission of a DRX MAC				
	Control element on the PDCCH for G-RNTI.				
	UE successfully decodes the MAC PDU and				
	stop the drx-onDurationTimerPTM.				
19	Wait drx-InactivityTimerPTM expires after	-	-	-	-
	step18.				
20	Check: Does the UE transmit a CSI Report	>	CSI Report	5,7	F
	after Step19?				
21	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	-
	disable multicast DRX parameters.				
22	The UE transmits	>	NR RRC:	-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
23	In the last PDCCH occasion while the drx-	<	MBS Packet.	-	-
	onDurationTimer is still running, the SS				
	indicates the transmission of a MBS Packet via				
	RLC-UM for PTP transmission on the PDCCH				
	for C-RNTI.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
24	The UE transmit a HARQ ACK for the MBS	>	HARQ NACK	-	-
	Packet in Step 23?				
25	Check: Does the UE transmit a CSI Report	>	CSI Report	10	Р
	during when the drx-RetransmissionTimerDL				
	is running?				
26	In a PDCCH occasion which is X PDCCH sub	<	MBS Packet.	-	-
	frames before the PDCCH occasion in which				
	the drx-RetransmissionTimerDL expires, with				
	X > period of CSI Report, the SS indicates the				
	transmission of a MBS Packet via RLC-UM for				
	PTM transmission on the PDCCH for G-RNTI.				
	UE stops drx-RetransmissionTimerDL.				
27	Check: Does the UE transmit a CSI Report	>	CSI Report	6,8	F
	after step 26?				

14.2.1.2.1.3.3 Specific message contents

Table 14.2.1.2.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.2.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.2.1.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	m=1		
	condition MRBm and			
	UMPTP_UMPTM			
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig with	m=1		
	condition MRBm and			
	UMPTP_UMPTM			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.2.1.3.3-3: *RRCReconfiguration* (step 1b10, Table 14.2.1.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	n is chosen as the		
	condition DRBn and	next available		
	MRBm and	number higher or		
	UMPTP UMPTM	equal to 2		
	_	m=1		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig with	n is set to the		
	condition MRBm_DRBn	same value as for		
	and UMPTP UMPTM	the		
	_	radioBearerConfig		
		IE above		
		m=1		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.2.1.3.3-4: CLOSE UE TEST LOOP (step 2a1, Table 14.2.1.2.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.1.2.1.3.3-5: RRCReconfiguration (step 3, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.2.1.3.3-6		
}				
}				
}				
}				

Table 14.2.1.2.1.3.3-6: CellGroupConfig (Table 14.2.1.2.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
mac-CellGroupConfig	MAC-CellGroupConfig	Table		
		14.2.1.2.1.3.3-7		
physicalCellGroupConfig	Not present			
spCellConfig SEQUENCE {				
servCellIndex	Not present			
reconfigurationWithSync	Not present			
rlf-TimersAndConstants	Not present			
rlmInSyncOutOfSyncThreshold	Not present			
spCellConfigDedicated	ServingCellConfig	Table		
		14.2.1.2.1.3.3-10		
}				
}				

Table 14.2.1.2.1.3.3-7: MAC-CellGroupConfig (Table 14.2.1.2.1.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condition DRX and MBS_Multicast and DRX_MBS_Multicast				
Information Element	Value/remark	Comment	Condition	
MAC-CellGroupConfig ::= SEQUENCE {				
drx-Config CHOICE {				
setup	DRX-Config	Table		
		14.2.1.2.1.3.3-8		
}				
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry			
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-				
r17 {				
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1		
mbs-RNTI-SpecificConfigId-r17	0			
groupCommon-RNTI-r17 CHOICE {				
g-RNTI	RNTI-Value			
}				
drx-ConfigPTM-r17 CHOICE {				
setup	DRX-ConfigPTM	Table		
		14.2.1.2.1.3.3-9		
}				
}				
allowCSI-SRS-Tx-MulticastDRX-Active-r17	true			
}				

Table 14.2.1.2.1.3.3-8: DRX-Config (Table 14.2.1.2.1.3.3-7)

Derivation Path: 38.508-1 [4], Table 4.6.3.56				
Information Element	Value/remark	Comment	Condition	
DRX-Config ::= SEQUENCE {				
drx-onDurationTimer CHOICE {				
milliSeconds	ms40			
}				
drx-InactivityTimer	ms10			
drx-HARQ-RTT-TimerDL	56	4 slots		
drx-HARQ-RTT-TimerUL	56	4 slots		
drx-RetransmissionTimerDL	sl80			
drx-RetransmissionTimerUL	sl80			
drx-LongCycleStartOffset CHOICE {				
ms640	7			
}				
shortDRX	not present			
drx-SlotOffset	0			
}				

Table 14.2.1.2.1.3.3-9: DRX-ConfigPTM (Table 14.2.1.2.1.3.3-7)

Derivation Path: 38.508-1 [4], Table 4.6.7-3			
Information Element	Value/remark	Comment	Condition
DRX-ConfigPTM-r17 ::= SEQUENCE {			
drx-onDurationTimerPTM-r17 CHOICE {			
milliSeconds	ms40		
}			
drx-InactivityTimerPTM-r17	ms10		
drx-HARQ-RTT-TimerDL-PTM-r17	Not present		
drx-RetransmissionTimerDL-PTM-r17	Not present		
drx-LongCycleStartOffsetPTM-r17 CHOICE {			
ms640	27		
}			
drx-SlotOffsetPTM-r17	0		
}			

Table 14.2.1.2.1.3.3-10: ServingCellConfig (Table 14.2.1.2.1.3.3-5)

Derivation Path: 38.508-1 [4], Table 4.6.3-167, condition MBS_Multicast				
Information Element	Value/remark	Comment	Condition	
ServingCellConfig ::= SEQUENCE {				
csi-MeasConfig CHOICE {				
setup	csi-MeasConfig	Table		
		14.2.1.2.1.3.3-11		
}				
}				

Table 14.2.1.2.1.3.3-11: CSI-MeasConfig (Table 14.2.1.2.1.3.3-10)

Derivation Path: 38.508-1 [4], Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig::= SEQUENCE {			
csi-SSB-ResourceSetToAddModList SEQUENCE	1 entry		
(SIZE (1maxNrofCSI-SSB-ResourceSets)) OF CSI-			
SSB-ResourceSet {			
CSI-SSB-ResourceSet[1]	CSI-SSB-ResourceSet	entry 1	
}			
csi-ResourceConfigToAddModList SEQUENCE	1 entry		
(SIZE (1maxNrofCSI-ResourceConfigurations)) OF			
CSI-ResourceConfig {			
CSI-ResourceConfig[1] SEQUENCE {	CSI-ResourceConfig	entry 1	
csi-ResourceConfigId	0		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
csi-SSB-ResourceSetList SEQUENCE (SIZE			
(1maxNrofCSI-SSB-ResourceSetsPerConfig)) OF			
CSI-SSB-ResourceSetId {			
CSI-SSB-ResourceSetId [1]	0		
}			
}			
}			
bwp-Id	0		
resourceType	periodic		
}			
}			
csi-ReportConfigToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofCSI-ReportConfigurations)) OF CSI-			
ReportConfig {			
CSI-ReportConfig[1]	CSI-ReportConfig	entry 1	
		Table	
		14.2.1.2.1.3.3-12	
}			
reportTriggerSize	0		
}			
Table 14.2.1.2.1.3.3-12: CSI-ReportConfig (Table 14.2.1.2.1.3.3-11)

Derivation Path: 38.508-1 [4], Table 4.6.3-39			
Information Element	Value/remark	Comment	Condition
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	0		
carrier	Not present		
resourcesForChannelMeasurement	0		
csi-IM-ResourcesForInterference	Not present		
nzp-CSI-RS-ResourcesForInterference	Not present		
reportConfigType CHOICE {			
periodic SEQUENCE {			
reportSlotConfig CHOICE {			
slots20	9		
}			
pucch-CSI-ResourceList SEQUENCE (SIZE	1 entry		
(1maxNrofBWPs)) OF PUCCH-CSI-Resource {			
PUCCH-CSI-Resource [1] SEQUENCE {		entry 1	
uplinkBandwidthPartId	0		
pucch-Resource	9		
}			
}			
}			
reportQuantity CHOICE {			
ssb-Index-RSRP	NULL		
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	Not present		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	n1		
}			
}			
cqi-Table	table1		
subbandSize	value2		
}			

Table 14.2.1.2.1.3.3-13: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 8, Table 14.2.1.2.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.1.2.1.3.3-14: RRCReconfiguration (Step 21, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-3			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.1.2.1.3.3-15	
}			
}			
}			
}			

Table 14.2.1.2.1.3.3-15: CellGroupConfig (Table 14.2.1.2.1.3.3-14)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
mac-CellGroupConfig	MAC-CellGroupConfig	Table	
		14.2.1.2.1.3.3-16	
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			
}			

Table 14.2.1.2.1.3.3-16: MAC-CellGroupConfig (Table 14.2.1.2.1.3.3-15)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, DRX and MBS_Multicast					
Information Element	Value/remark	Comment	Condition		
MAC-CellGroupConfig ::= SEQUENCE {					
drx-Config CHOICE {					
setup	DRX-Config	Table			
		14.2.1.2.1.3.3-8			
}					
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-					
r17 {					
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1			
mbs-RNTI-SpecificConfigId-r17	0				
groupCommon-RNTI-r17 CHOICE {					
g-RNTI	RNTI-Value				
}					
drx-ConfigPTM-r17 CHOICE {					
release					
}					
}					
allowCSI-SRS-Tx-MulticastDRX-Active-r17	false				
}					

14.2.1.2.2 MBS Multicast/ MAC/ DRX operation/ PTM retransmission for multicast

14.2.1.2.2.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM
transmission, and multicast DRX is configured, and HARQ ACK/NACK feedback for multicast is enabled }

ensure that {

when { UE receives a PTM transmission with G-RNTI and the data in the soft buffer of the corresponding HARQ process for MBS multicast was not successfully decoded }

then { UE starts the drx-RetransmissionTimerDL-PTM for the corresponding HARQ process after expiry of drx-HARQ-RTT-TimerDL-PTM and monitors the G-RNTI PDCCH for drx-RetransmissionTimerDL-PTM consecutive PDCCH Occasion }

}

14.2.1.2.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clauses 5.7b. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.7b]

RRC controls multicast DRX operation per G-RNTI or per G-CS-RNTI by configuring the following parameters:

•••

- *drx-RetransmissionTimerDL-PTM* (per DL HARQ process for MBS multicast): the maximum duration until a DL multicast retransmission is received;
- *drx-HARQ-RTT-TimerDL-PTM* (per DL HARQ process for MBS multicast): the minimum duration before a DL multicast assignment for HARQ retransmission is expected by the MAC entity.

•••

When multicast DRX is configured for a G-RNTI or G-CS-RNTI, the MAC entity shall for this G-RNTI or G-CS-RNTI:

•••

- 1> if a *drx-HARQ-RTT-TimerDL-PTM* expires:
 - 2> if the data of the corresponding HARQ process was not successfully decoded:
 - 3> start the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process in the first symbol after the expiry of *drx-HARQ-RTT-TimerDL-PTM*.

•••

- 1> if the MAC entity is in Active Time for this G-RNTI or G-CS-RNTI:
 - 2> monitor the PDCCH for this G-RNTI or G-CS-RNTI as specified in TS 38.213 [6];
 - 2> if the PDCCH indicates a DL multicast transmission:
 - 3> if HARQ feedback is enabled:
 - 4> start the *drx-HARQ-RTT-TimerDL-PTM* for the corresponding HARQ process in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback;
 - 4> if the first HARQ-ACK reporting mode (i.e. ack-nack) is configured as specified in TS 38.213 [6]:
 - 5> if the PDCCH addressed to G-RNTI indicates a DL multicast transmission; or
 - 5> if the PDCCH addressed to G-CS-RNTI indicates a DL multicast transmission and CS-RNTI is configured:
 - 6> start the *drx-HARQ-RTT-TimerDL* for the corresponding HARQ process in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback.
 - 3> stop the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process;
 - 3> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process.
 - 2> if the PDCCH indicates a new multicast transmission for this G-RNTI or G-CS-RNTI:
 - 3> start or restart *drx-InactivityTimerPTM* in the first symbol after the end of the PDCCH reception.

14.2.1.2.2.3 Test description

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14.2.1.2.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.1.2.2.3.2 Test procedure sequence

Table 14.2.1.2.2.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message	1	
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the NR	-	-	-	-
-	BRC CONNECTED procedure in TS 38 508-1				
292	Table 4 5 4 2-3 are executed with condition LIE				
Luz	TEST LOOP MODE C and Multicast MPR				
3	The SS transmits RPCReconfiguration to	<	NR RRC: PRCReconfiguration	_	
J	configure multicast DBX parameters and		Nic Nice. NiceNeconinguration		_
	configure multicast DRA parameters and				
	The LIE transmits	>		_	_
4	PPCPaconfigurationComplete	>	NR RRC.	-	-
5	In the last PDCCH accasion before the dry	-	MRS Backet		
5	In the last PDCCH occasion before the UX-		MDS Packel.	-	-
	onDuration niner Priviex pires, the SS				
	indicates the new transmission of an MBS				
	Packet on the PDCCH addressed to G-RNII.				
	(Note 1)				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
6	Check: Does the UE transmit a HARQ NACK	>	HARQ NACK	-	-
	for the MBS Packet in step 5?				
7	In the first PDCCH occasion when the drx-	<	MBS Packet.	-	-
	RetransmissionTimerDL-PTM for the MBS				
	Packet in step 5 is started (i.e. after expiry of				
	drx-HARQ-RTT-TimerDL-PTM after step 5),				
	the SS indicates the retransmission of a MBS				
	Packet in step 5 using PTM retransmission for				
	multicast on the PDCCH addressed to G-				
	RNTL (Note 1)				
	The CPC is calculated in such a way, it will				
	result in CDC pass on UE side				
8	Check: Does the LIE transmit a HARO ACK/	>		1	D
0	NACK for the MPS Decket in stop 72	>	HARQ ACKINACK	1 1	
	In the last DDCCH eccession before the dry		MRS Dookot		
9	an Duration Timor DTM expires the SS		MDS Fackel.	-	-
	indicates the new transmission of an MDC				
	Indicates the new transmission of an MBS				
	Packet on the PDCCH addressed to G-RNII.				
	(Note 1)				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
10	Check: Does the UE transmit a HARQ NACK	>	HARQ NACK	-	-
L	for the MBS Packet in step 9?				
-	EXCEPTION: Step 11 shall be repeated till	-	-	-	-
	HARQ ACK is received at step 12 or until				
	HARQ retransmission count = 4 is reached for				
	MBS Packet at step 9 (Note 2) (Note 3).				
11	In the last PDCCH occasion when the drx-	<	MBS Packet.	-	-
	RetransmissionTimerDL-PTM for the MBS				
	Packet is started (i.e. after expiry of drx-				
	HARQ-RTT-TimerDL-PTM), the SS indicates				
	the retransmission of a MBS Packet in step 9				
	using PTM retransmission for multicast on the				
	PDCCH addressed to G-RNTI. (Note 1)				
	The CRC is calculated in such a way it will				
	result in CRC nass on LIF side				
-	EXCEPTION: Up to 3 HARO NACK from the	-	-	-	-
	UE should be allowed at step 12 (Note 2)				

12	Check: Does the UE transmit a HARQ	>	HARQ ACK/NACK	1	Р	
	ACK/NACK for the MBS Packet in step 11?					
Note	Note 1: The DCI format for all the PDCCH addressed to G-RNTI is DCI format 4-1.					
Note	Note 2: The value 4 for the maximum number of HARQ retransmissions has been chosen based on an assumption					
	that, given the radio conditions used in this	test case,	a UE soft combiner implementation s	hould h	nave	
	sufficient retransmissions to be able to suc	cessfully c	ecode the data in its soft buffer.			
Note	3: SS performs new transmission for a MBS F	Packet in s	tep9, and UE starts drx-HARQ-RTT-1	imerDL	and drx-	
	HARQ-RTT-TimerDL-PTM after sending H	ARQ NAC	K in step 10. UE starts drx-Retransmi	ssionTi	merDL	
	after expiry of drx-HARQ-RTT-TimerDL, and SS performs retransmission for the MBS Packet using PTM					
	retransmission for multicast during retransmission timer running. If UE decodes the retransmitted MBS					
	Packet successfully, UE feedbacks HARQ	ACK. If U	E fails to decode the retransmitted MB	S Pack	et	
	successfully, UE feedbacks HARQ NACK a	and starts	drx-HARQ-RTT-TimerDL again.			

14.2.1.2.2.3.3 Specific message contents

Table 14.2.1.2.2.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.2.2.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.2.2.3.3-2: RRCReconfiguration (step 3, Table 14.2.1.2.2.3.2-1)

erivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.1.2.2.3.3-3			
}					
}					
}					
}					

Table 14.2.1.2.2.3.3-3: CellGroupConfig (Table 14.2.1.2.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
mac-CellGroupConfig	MAC-CellGroupConfig	Table	
		14.2.1.2.2.3.3-4	
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

Table 14.2.1.2.2.3.3-4: MAC-CellGroupConfig (Table 14.2.1.2.2.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condit	tion MBS_Multicast and R	RC_Enable_HARQFeed	dback and
ACK_NACK			
Information Element	Value/remark	Comment	Condition
MAC-CellGroupConfig ::= SEQUENCE {			
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-			
r17 {			
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1	
mbs-RNTI-SpecificConfigId-r17	0		
groupCommon-RNTI-r17 CHOICE {			
g-RNTI	RNTI-Value		
}			
drx-ConfigPTM-r17 CHOICE {			
setup	DRX-ConfigPTM	Table	
		14.2.1.2.2.3.3-5	
}			
}			
}			

Table 14.2.1.2.2.3.3-5: DRX-ConfigPTM (Table 14.2.1.2.2.3.3-4)

Derivation Path: 38.508-1 [4], Table 4.6.7-3			
Information Element	Value/remark	Comment	Condition
DRX-ConfigPTM-r17 ::= SEQUENCE {			
drx-onDurationTimerPTM-r17 CHOICE {			
milliSeconds	ms40		
}			
drx-InactivityTimerPTM-r17	ms0		
drx-HARQ-RTT-TimerDL-PTM-r17	56		
drx-RetransmissionTimerDL-PTM-r17	sl80		
drx-LongCycleStartOffsetPTM-r17 CHOICE {			
ms1280	27		
}			
drx-SlotOffsetPTM-r17	0		
}			

14.2.1.2.3 MBS Multicast/ MAC/ DRX operation/ PTP retransmission for multicast

14.2.1.2.3.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with RLC-UM entity for PTM transmission, both multicast DRX and unicast DRX are configured, and HARQ ACK/NACK feedback for multicast is enabled }

ensure that {

when { UE receives a PTM transmission with G-RNTI and the data in the soft buffer of the
corresponding HARQ process for MBS multicast was not successfully decoded }

then { UE starts the drx-RetransmissionTimerDL for the corresponding HARQ process for MBS multicast after expiry of drx-HARQ-RTT-TimerDL and monitors the PDCCH addressed to C-RNTI for drx-RetransmissionTimerDL consecutive PDCCH Occasion }

}

(2)

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with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM transmission and one RLC-UM entity for PTP transmission, both multicast DRX and unicast DRX are configured, and HARQ ACK/NACK feedback for multicast is enabled }

ensure that {

when { UE receives a DL transmission with C-RNTI during drx-RetransmissionTimerDL for the corresponding HARQ process for MBS multicast }

then { UE stops the drx-RetransmissionTimerDL and drx-RetransmissionTimerDL-PTM for the corresponding HARQ process }

}

(3)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, both multicast DRX and unicast DRX are
configured, and period CSI report is configured, and allowCSI-SRS-Tx-MulticastDRX-Active is
configured }

ensure that {

```
when { Both unicast DRX and multicast DRX are not in Active Time }
```

then { UE stop report CSI on PUCCH }

}

(4)

with { UE in RRC_Connected state and Multicast MRB established with one RLC-UM entity for PTM
transmission and one RLC-UM entity for PTP transmission, both multicast DRX and unicast DRX are
configured, and period CSI report is configured, and allowCSI-SRS-Tx-MulticastDRX-Active is
configured }

ensure that {

when { Unicast DRX or multicast DRX are in Active Time}

then { UE does not stop report CSI on PUCCH }

}

14.2.1.2.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.321, clauses 5.7 and 5.7b. Unless otherwise stated these are Rel-17 requirements.

[TS 38.321, clause 5.7]

1> if a DRX group is in Active Time:

2> monitor the PDCCH on the Serving Cells in this DRX group as specified in TS 38.213 [6];

2> if the PDCCH indicates a DL transmission; or

2> if the PDCCH indicates a one-shot HARQ feedback as specified in clause 9.1.4 of TS 38.213 [6]; or

2> if the PDCCH indicates a retransmission of HARQ feedback as specified in clause 9.1.5 of TS 38.213 [6]:

3> if this Serving Cell is configured with *downlinkHARQ-FeedbackDisabled*:

•••

3> else:

- 4> start or restart the *drx-HARQ-RTT-TimerDL* for the corresponding HARQ process(es) whose HARQ feedback is reported in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback.
- NOTE 3: When HARQ feedback is postponed by PDSCH-to-HARQ_feedback timing indicating an inapplicable k1 value, as specified in TS 38.213 [6], the corresponding transmission opportunity to send the DL HARQ feedback is indicated in a later PDCCH requesting the HARQ-ACK feedback.
 - 3> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process(es) whose HARQ feedback is reported;
 - 3> stop the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process;

•••

- 1> if DCP monitoring is configured for the active DL BWP as specified in TS 38.213 [6], clause 10.3; and
- 1> if the current symbol n occurs within *drx-onDurationTimer* duration; and
- 1> if *drx-onDurationTimer* associated with the current DRX cycle is not started as specified in this clause:
 - •••

1> else:

- 2> in current symbol n, if a DRX group would not be in Active Time considering grants/assignments scheduled on Serving Cell(s) in this DRX group and DRX Command MAC CE/Long DRX Command MAC CE received and Scheduling Request sent until 4 ms prior to symbol n when evaluating all DRX Active Time conditions as specified in this clause; and
- 2> if allowCSI-SRS-Tx-MulticastDRX-Active is not configured, or if cfr-ConfigMulticast is not configured for any of the active BWP(s) of the Serving Cell(s), or, in current symbol n, if all multicast DRXes corresponding to the DRX group would not be in Active Time considering multicast assignments/DRX Command MAC CE for MBS multicast received until 4 ms prior to symbol n when evaluating all DRX Active Time conditions as specified in Clause 5.7b and all multicast sessions corresponding to the DRX group are configured with multicast DRX:
 - 3> not transmit periodic SRS and semi-persistent SRS defined in TS 38.214 [7] in this DRX group;

3> not report CSI on PUCCH and semi-persistent CSI configured on PUSCH in this DRX group

[TS 38.321, clause 5.7b]

RRC controls multicast DRX operation per G-RNTI or per G-CS-RNTI by configuring the following parameters:

- *drx-RetransmissionTimerDL-PTM* (per DL HARQ process for MBS multicast): the maximum duration until a DL multicast retransmission is received;
- *drx-HARQ-RTT-TimerDL-PTM* (per DL HARQ process for MBS multicast): the minimum duration before a DL multicast assignment for HARQ retransmission is expected by the MAC entity.

•••

...

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When multicast DRX is configured for a G-RNTI or G-CS-RNTI, the MAC entity shall for this G-RNTI or G-CS-RNTI:

•••

- 1> if a *drx-HARQ-RTT-TimerDL-PTM* expires:
 - 2> if the data of the corresponding HARQ process was not successfully decoded:
 - 3> start the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process in the first symbol after the expiry of *drx-HARQ-RTT-TimerDL-PTM*.

•••

- 1> if the MAC entity is in Active Time for this G-RNTI or G-CS-RNTI:
 - 2> monitor the PDCCH for this G-RNTI or G-CS-RNTI as specified in TS 38.213 [6];
 - 2> if the PDCCH indicates a DL multicast transmission:
 - 3> if HARQ feedback is enabled:
 - 4> start the *drx-HARQ-RTT-TimerDL-PTM* for the corresponding HARQ process in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback;
 - 4> if the first HARQ-ACK reporting mode (i.e. ack-nack) is configured as specified in TS 38.213 [6]:
 - 5> if the PDCCH addressed to G-RNTI indicates a DL multicast transmission; or
 - 5> if the PDCCH addressed to G-CS-RNTI indicates a DL multicast transmission and CS-RNTI is configured:
 - 6> start the *drx-HARQ-RTT-TimerDL* for the corresponding HARQ process in the first symbol after the end of the corresponding transmission carrying the DL HARQ feedback.
 - 3> stop the *drx-RetransmissionTimerDL-PTM* for the corresponding HARQ process;
 - 3> stop the *drx-RetransmissionTimerDL* for the corresponding HARQ process.
 - 2> if the PDCCH indicates a new multicast transmission for this G-RNTI or G-CS-RNTI:
 - 3> start or restart *drx-InactivityTimerPTM* in the first symbol after the end of the PDCCH reception.

14.2.1.2.3.3 Test description

14.2.1.2.3.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- 14.2.1.2.3.3.2 Test procedure sequence

Table 14.2.1.2.3.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session				
2a1	Steps 9a1 to 9a2 of the NR	-	-	-	-
-	RRC CONNECTED procedure in TS 38 508-1				
292	Table $4542-3$ are executed with condition LIE				
202	TEST LOOP MODE C and Multipact MDP				
2	The SS transmits PPC Peconfiguration to	6	NP PPC: PPCPeconfiguration	_	
5	application multipast DBX parameters and		NK KKC. KKCKeconinguration	_	-
	unioast DBX parameters and apple UADO				
	unicasi DRX parameters and enable HARQ				
4	The LIE transmite				
4	The OE transmits	>		-	-
	RRCReconfigurationComplete.		RRCReconfigurationComplete		
5	In the last PDCCH occasion before the drx-	<	MBS Packet.	-	-
	onDurationTimerPTM expires, the SS				
	indicates the new transmission of an MBS				
	Packet on the PDCCH addressed to G-RNTI.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
6	UE transmits a HARQ NACK for the MBS	>	HARQ NACK	-	-
	Packet in step 5.				
7	In the first PDCCH occasion when the drx-	<	MBS Packet	-	-
	RetransmissionTimerDL for the MBS Packet in				
	step 5 is started (i.e. after expiry of drx-HARO-				
	RTT-TimerDL after step 5), the SS indicates				
	the retransmission of a MBS Packet in step 5				
	using PTP retransmission for multicast on the				
	PDCCH addressed to C-PNITI (Note 1)				
	The CDC is calculated in such a way, it will				
	The CRC is calculated in Such a way, it will				
0	Checky Deep the UE transmit a UADO ACK/			1	
0	Check. Does the OE transmit a HARQ ACK/		HARQ ACK/NACK	L T	F
0	In the last DDCCH appacien before the dry		MRS Dookot		
9	In the last PDCCH occasion before the urx-	<	MBS Packet	-	-
	onDuration TimerPTM expires, the SS				
	indicates the new transmission of a MBS				
	Packet on the PDCCH addressed to G-RNTI.				
	The CRC is calculated in such a way, it will				
	result in CRC error on UE side.				
10	Check: Does the UE transmit a HARQ NACK	>	HARQ NACK	-	-
	for the MBS Packet in step 9?				
-	EXCEPTION: Step 11 shall be repeated till	-	-	-	-
	HARQ ACK is received at step 12 or until				
	HARQ retransmission count = 4 is reached for				
	MBS Packet at step 11 (Note 2).				
11	In the last PDCCH occasion when the drx-	<	MBS Packet	-	-
	RetransmissionTimerDL for the MBS Packet is				
	started (i.e. after expiry of drx-HARQ-RTT-				
	TimerDL), the SS indicates the retransmission				
	of a MBS Packet in step 9 using PTP				
	retransmission for multicast on the PDCCH				
	addressed to C-RNTI (Note 3)				
	The CRC is calculated in such a way it will				
	result in CPC nass on UE side				
	EXCEPTION: Up to 2 HADO NACK from the		_		
-	LIE should be allowed at stop 12 (Nets 2)	-	-	-	-
10	Check: Does the LE transmit a HADO			1	
	CHEUK. DUES HIE UE HAHSHIIL & HAKU	>		[⊥]	
	ACK/INACK IOI THE MIBS PACKET IN STEP 11?	1			

13	The SS transmits RRCReconfiguration to	<	NR RRC: RRCReconfiguration	-	_
10	configure CSI report and allowCSI-SPS-Ty-		Nice in concessinguration		
	MulticastDRX-Active-r17				
14	The LIF transmits	>	NR RRC ¹	-	_
1-1	RRCReconfigurationComplete		PPCPeconfigurationComplete		
15	In the last PDCCH occasion before the drx-	<	MBS Packet	-	_
10	onDurationTimerPTM expires the SS				
	indicates the new transmission of an MRS				
	Packet via PLC-LIM for PTM transmission on				
	the DDCCH addressed to C DNTI				
	The CDC is calculated in such a way, it will				
	The CRC is calculated in such a way, it will				
16	The LIE transmits a HARO NACK for the MRS				
10	The UE transmits a HARQ NACK for the MBS	>	HARQNACK	-	-
17	Chook: Doos the UE transmit a CSI Deport		CSI Boport	1	Р
11	during when the dry Detronomination Timer DI	/	CSIReport	4	P
	and drx-Retransmission LimerDL-PTM are				
10	running?		MBC Dealect		
10	In a PDCCH occasion which is A PDCCH sub	<	MBS Packet	-	-
	frames before the PDCCH occasion in which				
	the drx-Retransmission i imerDL expires, with				
	x > period of CSI Report, the SS indicates the				
	new transmission of an MBS Packet via RLC-				
	UM for PTP transmission on the PDCCH				
	addressed to C-RNTI. (Note 5)				
	The CRC is calculated in such a way, it will				
	result in CRC pass on UE side.				
19	Check: Does the UE transmit a CSI Report	>	CSI Report	2,3	F
	after step 18?				
Note	1: If UE support PTP retransmission for multica	ast, UE st	art drx-HARQ-RTT-TimerDL and drx-	HARQ-	RTT-
	TimerDL-PTM for the corresponding HARQ	process i	n the first symbol after the end of the	corresp	onding
	transmission carrying the DL HARQ feedbac	k (i.e. HA	ARQ NACK in step 10).		
Note	2: The value 4 for the maximum number of HA	RQ retrar	nsmissions has been chosen based o	n an as	sumption
	that, given the radio conditions used in this t	est case,	a UE soft combiner implementation s	should h	nave
	sufficient retransmissions to be able to succe	essfully d	ecode the data in its soft buffer.		
Note	SS performs new transmission for a MBS Pa	acket in s	tep9, UE starts drx-HARQ-RTT-Time	rDL and	l drx-
	HARQ-RTT-TimerDL-PTM after sending HA	RQ NAC	K in step 10. UE starts drx-Retransmi	issionTi	merDL
	after expiry of drx-HARQ-RTT-TimerDL, SS	performs	retransmission for the MBS Packet u	ising PT	ΓP
	retransmission for multicast. If UE decode th	e MBS P	acket successfully, UE feedback HAF	RQ ACK	. If UE
	fail to decode the MBS Packet successfully,	UE feedb	backs HARQ NACK and starts drx-HA	RQ-RT	Т-
	TimerDL again.				
Note	4: The DCI format for all the PDCCH addresse	d to G-RI	NTI is DCI format 4-1.		
Note	5: UE stops drx-RetransmissionTimerDL and d	lrx-Retrar	nsmissionTimerDL-PTM, and drx-inac	tiveTim	<i>er</i> =0ms.
	Therefore, UE leaves Active Time.				

14.2.1.2.3.3.3 Specific message contents

Table 14.2.1.2.3.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.1.2.3.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.1.2.3.3.3-2: RRCReconfiguration (step 3, Table 14.2.1.2.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.1.2.3.3.3-3			
}					
}					
}					
}					

Table 14.2.1.2.3.3.3-3: CellGroupConfig (Table 14.2.1.2.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
mac-CellGroupConfig	MAC-CellGroupConfig	Table		
		14.2.1.2.3.3.3-4		
physicalCellGroupConfig	Not present			
spCellConfig	Not present			
}				

Table 14.2.1.2.3.3.3-4: MAC-CellGroupConfig (Table 14.2.1.2.3.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condi	tion MBS_Multicast and R	RC_Enable_HARQFee	dback and
ACK_NACK			
Information Element	Value/remark	Comment	Condition
MAC-CellGroupConfig ::= SEQUENCE {			
drx-Config CHOICE {			
setup	DRX-Config	Table	
		14.2.1.2.3.3.3-5	
}			
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-			
r17 {			
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1	
mbs-RNTI-SpecificConfigId-r17	0		
groupCommon-RNTI-r17 CHOICE {			
g-RNTI	RNTI-Value		
}			
drx-ConfigPTM-r17 CHOICE {			
setup	DRX-ConfigPTM	Table	
		14.2.1.2.3.3.3-6	
}			
}			
}			

Table 14.2.1.2.3.3.3-5: DRX-Config (Table 14.2.1.2.3.3.3-4)

Derivation Path: 38.508-1 [4], Table 4.6.3.56				
Information Element	Value/remark	Comment	Condition	
DRX-Config ::= SEQUENCE {				
drx-onDurationTimer CHOICE {				
milliSeconds	ms40			
}				
drx-InactivityTimer	ms0			
drx-HARQ-RTT-TimerDL	56	4 slots		
drx-HARQ-RTT-TimerUL	56	4 slots		
drx-RetransmissionTimerDL	sl80			
drx-RetransmissionTimerUL	sl80			
drx-LongCycleStartOffset CHOICE {				
ms1280	7			
}				
shortDRX	not present			
drx-SlotOffset	0			
}				

Table 14.2.1.2.3.3.3-6: DRX-ConfigPTM (Table 14.2.1.2.3.3.3-4)

Derivation Path: 38.508-1 [4], Table 4.6.7-3				
Information Element	Value/remark	Comment	Condition	
DRX-ConfigPTM-r17 ::= SEQUENCE {				
drx-onDurationTimerPTM-r17 CHOICE {				
milliSeconds	ms40			
}				
drx-InactivityTimerPTM-r17	ms0			
drx-HARQ-RTT-TimerDL-PTM-r17	56	4 slots		
drx-RetransmissionTimerDL-PTM-r17	sl80			
drx-LongCycleStartOffsetPTM-r17 CHOICE {				
ms1280	27			
}				
drx-SlotOffsetPTM-r17	0			
}				

Table 14.2.1.2.3.3.3-7: RRCReconfiguration (step 13, Table 14.2.1.2.3.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig with	m=1		
	condition MRBm and			
	UMPTP UMPTM			
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.1.2.3.3.3-8		
dedicatedNAS-MessageList SEQUENCE	Not present			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.1.2.3.3.3-8: CellGroupConfig (Table 14.2.1.2.3.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition MRBm and UMPTP_UMPTM				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
mac-CellGroupConfig	MAC-CellGroupConfig	Table		
		14.2.1.2.3.3.3-9		
spCellConfig SEQUENCE {				
spCellConfigDedicated	ServingCellConfig	Table		
		14.2.1.2.3.3.3-10		
}				
}				

Table 14.2.1.2.3.3.3-9: MAC-CellGroupConfig (Table 14.2.1.2.3.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-68, condition DRX and MBS_Multicast and DRX_MBS_Multicast			
Information Element	Value/remark	Comment	Condition
MAC-CellGroupConfig ::= SEQUENCE {			
drx-Config CHOICE {			
setup	DRX-Config	Table	
		14.2.1.2.3.3.3-5	
}			
g-RNTI-ConfigToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxG-RNTI-r17)) OF MBS-RNTI-SpecificConfig-			
r17 {			
MBS-RNTI-SpecificConfig-r17[1] SEQUENCE {		entry 1	
mbs-RNTI-SpecificConfigId-r17	0		
groupCommon-RNTI-r17 CHOICE {			
g-RNTI	RNTI-Value		
}			
drx-ConfigPTM-r17 CHOICE {			
setup	DRX-ConfigPTM	Table	
		14.2.1.2.3.3.3-6	
}			
}			
allowCSI-SRS-Tx-MulticastDRX-Active-r17	true		
}			

Table 14.2.1.2.3.3.3-10: ServingCellConfig (Table 14.2.1.2.3.3.3-8)

Derivation Path: 38.508-1 [4], Table 4.6.3-167, condition MBS_Multicast					
Information Element	Value/remark	Comment	Condition		
ServingCellConfig ::= SEQUENCE {					
csi-MeasConfig CHOICE {					
setup	csi-MeasConfig	Table			
		14.2.1.2.3.3.3-11			
}					
}					

Table 14.2.1.2.3.3.3-11: CSI-MeasConfig (Table 14.2.1.2.3.3.3-10)

Derivation Path: 38.508-1 [4], Table 4.6.3-38			
Information Element	Value/remark	Comment	Condition
CSI-MeasConfig::= SEQUENCE {			
csi-SSB-ResourceSetToAddModList SEQUENCE	1 entry		
(SIZE (1maxNrofCSI-SSB-ResourceSets)) OF CSI-			
SSB-ResourceSet {			
CSI-SSB-ResourceSet[1]	CSI-SSB-ResourceSet	entry 1	
}			
csi-ResourceConfigToAddModList SEQUENCE	1 entry		
(SIZE (1maxNrofCSI-ResourceConfigurations)) OF			
CSI-ResourceConfig {			
CSI-ResourceConfig[1] SEQUENCE {	CSI-ResourceConfig	entry 1	
csi-ResourceConfigId	0		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
csi-SSB-ResourceSetList SEQUENCE (SIZE			
(1maxNrofCSI-SSB-ResourceSetsPerConfig)) OF			
CSI-SSB-ResourceSetId {			
CSI-SSB-ResourceSetId [1]	0		
}			
}			
}			
bwp-Id	0		
resourceType	periodic		
}			
}			
csi-ReportConfigToAddModList SEQUENCE (SIZE	1 entry		
(1maxNrofCSI-ReportConfigurations)) OF CSI-			
ReportConfig {			
CSI-ReportConfig[1]	CSI-ReportConfig	entry 1	
		Table	
		14.2.1.2.3.3.3-12	
}			
reportTriggerSize	0		
}			

Table 14.2.1.2.3.3.3-12: CSI-ReportConfig (Table 14.2.1.2.3.3.3-11)

Derivation Path: 38.508-1 [4], Table 4.6.3-39				
Information Element	Value/remark	Comment	Condition	
CSI-ReportConfig ::= SEQUENCE {				
reportConfigId	0			
carrier	Not present			
resourcesForChannelMeasurement	0			
csi-IM-ResourcesForInterference	Not present			
nzp-CSI-RS-ResourcesForInterference	Not present			
reportConfigType CHOICE {				
periodic SEQUENCE {				
reportSlotConfig CHOICE {				
slots20	9			
}				
pucch-CSI-ResourceList SEQUENCE (SIZE	1 entry			
(1maxNrofBWPs)) OF PUCCH-CSI-Resource {				
PUCCH-CSI-Resource [1] SEQUENCE {		entry 1		
uplinkBandwidthPartId	0			
pucch-Resource	9			
}				
}				
}				
reportQuantity CHOICE {				
ssb-Index-RSRP	NULL			
}				
timeRestrictionForChannelMeasurements	notConfigured			
timeRestrictionForInterferenceMeasurements	notConfigured			
codebookConfig	Not present			
dummy	Not present			
groupBasedBeamReporting CHOICE {				
disabled SEQUENCE {				
nrofReportedRS	n1			
}				
}				
cqi-Table	table1			
subbandSize	value2			
}				

14.2.3 MBS Multicast / PDCP

14.2.3.1 MBS Multicast / PDCP/ PDCP HFN and SN maintenance / Non-Lossless handover / 12 bit SN

14.2.3.1.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 12 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }</pre>

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP
configured for 12 bit SN }

ensure that {

```
when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }
```

then { UE delivers PDCP Data PDU to upper layers }

}

(3)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 12 bit SN }

ensure that {

```
when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }</pre>
```

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(4)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 12 bit SN }

ensure that {

```
when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }
```

then { UE delivers PDCP Data PDU to upper layers }

}

(5)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initial RX-DELIV-r17 in PDCP-Config is not configured and PDCP configured for 12 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < RX_DELIV }</pre>

```
then { UE discards the PDCP DATA PDU with RCVD_COUNT }
```

}

(6)

5143

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config is not configured and PDCP configured for 12 bit SN }

```
ensure that {
```

```
when { UE receives a PDCP Data PDU with RCVD_COUNT = RX_DELIV }
```

```
then { UE delivers PDCP Data PDU to upper layers }
```

```
}
```

14.2.3.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.323, clause 5.1.2, 5.2.2.1, 7.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38. 323, clause 5.1.2]

When upper layers request a PDCP entity re-establishment, the receiving PDCP entity shall:

...

- for SRBs and UM DRBs, set RX_NEXT and RX_DELIV to the initial value;
- for UM MRBs and AM MRBs, set RX_NEXT and RX_DELIV to the initial value if *initialRX-DELIV* is configured in TS 38.331 [3];

...

[TS 38. 323, clause 5.2.2.1]

After determining the COUNT value of the received PDCP Data PDU = RCVD_COUNT, the receiving PDCP entity shall:

•••

- if RCVD_COUNT < RX_DELIV; or
- if the PDCP Data PDU with COUNT = RCVD_COUNT has been received before:
 - discard the PDCP Data PDU;

If the received PDCP Data PDU with COUNT value = RCVD_COUNT is not discarded above, the receiving PDCP entity shall:

- store the resulting PDCP SDU in the reception buffer;
- if RCVD_COUNT >= RX_NEXT:
 - update RX_NEXT to RCVD_COUNT + 1.

•••

- if RCVD_COUNT = RX_DELIV:
 - deliver to upper layers in ascending order of the associated COUNT value after performing header decompression, if not decompressed before;
 - all stored PDCP SDU(s) with consecutively associated COUNT value(s) starting from COUNT = RX_DELIV;

 update RX_DELIV to the COUNT value of the first PDCP SDU which has not been delivered to upper layers, with COUNT value > RX_DELIV;

...

[TS 38.323, clause 7.1]

The receiving PDCP entity shall maintain the following state variables:

a) RX_NEXT

This state variable indicates the COUNT value of the next PDCP SDU expected to be received. The initial value is 0, except for sidelink broadcast and groupcast, for SRBs configured with state variables continuation, and for broadcast MRBs.

•••

b) RX_DELIV

This state variable indicates the COUNT value of the first PDCP SDU not delivered to the upper layers, but still waited for. The initial value is 0, except for sidelink broadcast and groupcast, for SRBs configured with state variables continuation, and for MRBs. For NR sidelink communication for broadcast and groupcast or sidelink SRB4 for broadcast and groupcast based sidelink discovery, the initial value of the SN part of RX_DELIV is ($x - 0.5 \times 2^{[sl-PDCP-SN-Size]}$) modulo ($2^{[sl-PDCP-SN-Size]}$), where x is the SN of the first received PDCP Data PDU. For broadcast MRBs, the initial value of the SN part of RX_DELIV is set to ($x - 0.5 \times 2^{[PDCP-SN-SizeDL-1]}$) modulo ($2^{[PDCP-SN-SizeDL]}$), where x is the SN of the first received PDCP Data PDU. For broadcast MRBs, the initial value of RX_DELIV is set, if provided, by *initialRXDELIV* in TS 38.331 [3].

14.2.3.1.3 Test description

14.2.3.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell and NR Cell 2 is a suitable neighbour intra-frequency cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 1 and NR Cell 2.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode
 on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.3.1.3.2 Test procedure sequence

Table 14.2.3.1.3.2-1 for FR1 and table 14.2.3.1.3.2-2 for FR2 illustrate the downlink power levels to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" and "T2" are to be applied subsequently in the Main behaviour. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 14.2.3.1.3.2-1: Cell configuration changes over time for FR1

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-88	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.1-3
T1	SS/PBCH	dBm/SCS	-88	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-88	
[SSS				
	EPRE				

Table 14.2.3.1.3.2-2: Cell configuration changes over time for FR2

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-91	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.2-2
T1	SS/PBCH	dBm/SCS	-91	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-91	
	SSS				
	EPRE				

Table 14.2.3.1.3.2-3: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	SS sets TX_NEXT = (K-1).	-	-	-	-
	LIE sets RX_NEXT = 0 and sets RX_DELIV =				
	initial RXDFLIV = K (Note 1)				
4	The SS sends the PDCP Data PDU #0 via	<	MBS Packet (PDCP Data PDU	-	-
	RLC-UM of MRB with the following content to		#0)		
	the UE:				
	D/C field = 1 (PDCP Data PDU) and PDCP SN				
	= (K-1).				
	After having sent a PDU, the SS sets				
	IX_NEXI= K. (Note 1)				
	After receiving the PDU, UE discards it				
	Decause RCVD_COUNT < RX_DELIV.		ND DDC: DL InformationTransfor		
5			TC: UE TEST LOOD MODE C	-	-
	message				
	inessaye.		PEOLIEST		
6	UE responds with UE TEST LOOP MODE C	>	NB RRC: UI InformationTransfer	-	-
Ŭ	MBMS PACKET COUNTER RESPONSE		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
7	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB in step 6 equal				
	to 0?				
8	The SS sends the PDCP Data PDU #1 via	<	MBS Packet (PDCP Data PDU	-	-
	RLC-UM of MRB with the following content to		#1)		
	the UE:				
	D/C field = 1 (PDCP Data PDU) and PDCP SN				
	= K.				
	After having cont a DDU the CC acts				
	Aller Having Seni a PDU, the SS Sets TX NEXT- ($K \pm 1$) (Note 1)				
	$I \land I \land I \land I = (\land T I). (IVULE I)$				
	Aller receiving the PDU, UE delivers It to				
	upper layer and sets $K^{I}_{\Lambda} = \Lambda (K^{+1}) d\Pi $				
g	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DI InformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST I OOP MODE C		
	message.		MBMS PACKET COUNTER		
	-		REQUEST		
10	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
11	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MRB in step 10 equal				
	to 1?				
12	The SS sends the PDCP Data PDU #2 via	<	MBS Packet (PDCP Data PDU	-	-

RLC-UM of MRB with the following content to	#2)	
the UE:		
D/C field = 1 (PDCP Data PDLI) and PDCP SN		
After having sent a PDU, the SS sets		
TX_NEXT= (K+2). (Note 1)		
After receiving the PDU, UE delivers it to		
upper layer and sets RX_NEXT to (K+2) and		
sets RX_DELIV to (K+2).		

13	The SS creates a PDCP Data PDU#3 (not transmitted).	-	-	-	-
14	The SS changes NR Cell 2 power level according to the row "T1" in table 14.2.3.1.3.2-1 (FR1) / 14.2.3.1.3.2-2 (FR2).	-	-	-	-
15	The SS transmits NR <i>RRCReconfiguration</i> message to perform PCell change from NR Cell1 to NR Cell2 and sets initialRXDELIV= K+3. (Note 1)	<	RRCReconfiguration	-	-
16	The UE transmits a NR <i>RRCReconfigurationComplete</i> message.	>	RRCReconfigurationComplete	-	-
17	The SS sends the PDCP Data PDU #3 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 1. After having sent a PDU, the SS sets TX_NEXT=(K+3). (Note 1)	<	MBS Packet (PDCP Data PDU #3)	-	-
	After receiving the PDU, UE discards it because RCVD_COUNT < RX_DELIV				
18	The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message.	<	NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST	-	-
19	UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	>	NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE	-	-
20	Check: Is the number of reported MBS Packets received on the MRB in step 19 equal to 1?	-	-	3	Р
21	The SS sends the PDCP Data PDU #4 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. After having sent a PDU, the SS sets TX_NEXT= (K+4). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets PX_NEXT to (K+4) and	<	MBS Packet (PDCP Data PDU #4)	-	-
	sets RX_DELIV to (K+4).				
22	The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message.	<	NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST	-	-
23	UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	>	NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE	-	-
24	Check: Is the number of reported MBS Packets received on the MRB in step 23 equal to 2?	-	-	4	Р
25	The SS changes NR Cell 1 and NR Cell 2 power level according to the row "T2" in table	-	-	-	-

	14 2 3 1 3 2-1 (ER1) / 14 2 3 1 3 2-2 (ER2)				
26	The SS transmits NR $RRCReconfiguration$	<	PPCPeconfiguration		
20	message to perform PCell change from NP		Kitekeeoningaraalon		
27	The LIE transmits a NP	>	PPC Peconfiguration Complete		
21			RRCReconingurationComplete	-	-
20	The SS conde the DDCD Data DDU #1 via		MRS Daakat (DDCD Data DDL)		
20	DLC LIM of MDD with the following content to			-	-
			#3)		
	the OE.				
	After receiving the PDLL LIE discards it				
	Decause RCVD_COUNT < RX_DELIV.				
29	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DI InformationTransfer	-	-
20					
	mossage				
	Thessaye.		DECUEST		
30	LIE responds with LIE TEST LOOP MODE C	>	NP PPC: III InformationTransfer	-	
50					
	MBMS FACKET COUNTER RESPONSE.				
			MIBNIS PACKET COUNTER		
21	Chook: Is the number of reported MPS		RESPONSE		
51	Check. Is the humber of reported MBS	-	-	5	F
	re 22				
	10 2?				
22	The CC conde the DDCD Date DDU #E via		MDC Dealest (DDCD Data DDU		
32	The SS sends the PDCP Data PDU #5 via	<	MBS Packet (PDCP Data PDU	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE:	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE:	<	MBS Packet (PDCP Data PDU #5)	-	_
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3.	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3.	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1)	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and coto DY_NEXT to (V/15) and	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and acte DX_DELW(to (K+5))	<	MBS Packet (PDCP Data PDU #5)	-	_
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS tragements a UE TEST LOOP MODE C	<	MBS Packet (PDCP Data PDU #5)	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i>	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message.	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message.	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST	-	-
32 33 33	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TO: UE TEST LOOP MODE C	-	-
32 33 33 34	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C	-	-
32 33 33	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER	-	-
32	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	<	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE	-	-
32 33 33 34 35	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	< < >	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE -	6	- - - P
32 33 33 34 35	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE.	< < >	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE -	6	- - - P
32 33 34 35	The SS sends the PDCP Data PDU #5 via RLC-UM of MRB with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS sets TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. Check: Is the number of reported MBS Packets received on the MRB in step 34 equal to 3?	< < >	MBS Packet (PDCP Data PDU #5) NR RRC: <i>DLInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST NR RRC: <i>ULInformationTransfer</i> TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE -	6	- - P

14.2.3.1.3.3 Specific message contents

Table 14.2.3.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.3.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.3.1.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	Table 14.2.3.1.3.3-4			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	UM_PTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.3.1.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig	Table 14.2.3.1.3.3-5		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig with condition MRBm_DRBn and UM_PTM	n is set to the same value as for the radioBearerConfig IE above m=1		
dedicatedNAS-MessageList SEQUENCE (SIZE(1maxDRB)) OF DedicatedNAS-Message {} }	DedicatedNAS-Message			
}				
}				
}				

Table 14.2.3.1.3.3-4: RadioBearerConfig (Table 14.2.3.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132, condition MRBm and UM_PTM (m=1)				
Information Element	Value/remark	Comment	Condition	
RadioBearerConfig ::= SEQUENCE {				
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry			
(1maxDRB)) OF MRB-ToAddMod-r17 {				
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1		
pdcp-Config-r17	PDCP-Config	Table 14.2.3.1.3.3-6		
}				
}				
}				

Table 14.2.3.1.3.3-5: RadioBearerConfig (Table 14.2.3.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132, condition DRBn and MRBm and UM_PTM (Note 1)					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
pdcp-Config-r17	PDCP-Config	Table 14.2.3.1.3.3-6			
}					
}					
}					
Note 1: n is chosen as the next available number hig	her or equal to 2. m =1.				

Table 14.2.3.1.3.3-6: PDCP-Config (Table 14.2.3.1.3.3-4, Table 14.2.3.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99 and condition UM_MRB				
Information Element	Value/remark	Comment	Condition	
PDCP-Config ::= SEQUENCE {				
drb SEQUENCE {				
pdcp-SN-Size-UL	Not present			
pdcp-SN-Size-DL	len12bits			
}				
initialRX-DELIV-r17	4095			
}				

Table 14.2.3.1.3.3-7: CLOSE UE TEST LOOP (step 2a1, Table 14.2.3.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.3.1.3.3-8: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 5, step9, step 18, step 22, step 29 and step33, Table 14.2.3.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.3.1.3.3-9: RRCReconfiguration (step 15 and step 26, Table 14.2.3.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig	Table 14.2.3.1.3.3-		
		10		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table 14.2.3.1.3.3-		
		12		
masterKeyUpdate ::= SEQUENCE {				
keySetChangeIndicator	false			
nextHopChainingCount	0			
nas-Container	Not present			
}				
}				
}				
}				
}				

Table 14.2.3.1.3.3-10: RadioBearerConfig (Table 14.2.3.1.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132				
Information Element	Value/remark	Comment	Condition	
RadioBearerConfig ::= SEQUENCE {				
srb-ToAddModList SEQUENCE (SIZE (12)) OF	2 entries			
SRB-ToAddMod {				
SRB-ToAddMod[1] SEQUENCE {		entry 1		
SRB-Identity	SRB-Identity with			
	condition SRB1			
reestablishPDCP	true			
}				
SRB-ToAddMod[2] SEQUENCE {		entry 2		
SRB-Identity	SRB-Identity with	, í		
	condition SRB2			
reestablishPDCP	true			
}				
}				
drb-ToAddModList SEOUENCE (SIZE (1maxDRB))	n entries	n is the number of		
OF DRB-ToAddMod {		DRBs		
DRB-ToAddMod[k k=1 n] SEQUENCE {		entry [k k=1 n]		
cnAssociation CHOICE {				
sdan-Config	SDAP-Config			
}				
drb-Identity	DRB-Identity with			
	condition DRBk			
reestablishPDCP				
nden-Config	PDCP-Config			
}				
}				
securityConfig SEQUENCE {				
securityAlgorithmConfig	SecurityAlgorithmConfig			
keyToUse	master			
}				
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry			
(1 maxDRB)) OF MRB-ToAddMod-r17 {				
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1		
mbs-SessionId-r17	TMGI			
mrb-Identity-r17	MRB-Identity with	m=1		
	condition MPRm			
reestablishPDCP_r17				
nden-Config-r17	PDCP-Config	Table		
		1/2212211		
		14.2.3.1.3.3-11		
]				

Table 14.2.3.1.3.3-11: PDCP-Config (Table 14.2.3.1.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99, condition UM_MRB				
Information Element	Value/remark	Comment	Condition	
PDCP-Config ::= SEQUENCE {				
drb SEQUENCE {				
pdcp-SN-Size-UL	Not present			
pdcp-SN-Size-DL	len12bits			
}				
initialRX-DELIV-r17	4098		Step 15	
	Not present		Step 26	
}				

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition PCell_change				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToAddModList SEQUENCE	3+n entries	n is the number of		
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established		
		before RRC re-		
		establishement		
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1		
	condition SRB1 and Re-			
	establish_RLC			
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2		
	condition SRB2 and Re-			
	establish_RLC			
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]		
	condition DRBk and Re-			
	establish_RLC			
RLC-BearerConfig[n+1]	RLC-BearerConfig with	entry n+1		
	conditions UM_DLonly	m=1		
	and PTM and MRBm and			
	Re-establish_RLC			
}				
mac-CellGroupConfig	MAC-CellGroupConfig			
	with condition			
	MBS_Multicast			
physicalCellGroupConfig	PhysicalCellGroupConfig			
spCellConfig SEQUENCE {				
spCellConfigDedicated	ServingCellConfig with			
	condition MBS_Multicast			
}				
}				

14.2.3.2 MBS Multicast / PDCP/ PDCP HFN and SN maintenance / Non-Lossless handover / 18 bit SN

14.2.3.2.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP
configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }</pre>

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and initial RX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }

```
then { UE delivers PDCP Data PDU to upper layers }
}
```

(3)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }</pre>

```
then { UE discards the PDCP DATA PDU with RCVD_COUNT }
```



(4)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config for this Multicast MRB is not zero and PDCP configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }

then { UE delivers PDCP Data PDU to upper layers }

}

(5)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initialRX-DELIV-r17 in PDCP-Config is not configured and PDCP configured for 18 bit SN }

ensure that {

```
when { UE receives a PDCP Data PDU with RCVD_COUNT < RX_DELIV }</pre>
```

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(6)

with { UE is requested to make a non-lossless handover with pdcp re-establishment and initial RX-DELIV-r17 in PDCP-Config is not configured and PDCP configured for 18 bit SN }

ensure that {

```
when { UE receives a PDCP Data PDU with RCVD_COUNT = RX_DELIV }
```

```
then { UE delivers PDCP Data PDU to upper layers }
```

```
}
```

14.2.3.2.2 Conformance requirements

Same as conformance requirements in clause 14.2.3.1.2

14.2.3.2.3 Test description

14.2.3.2.3.1 Pre-test conditions

Same as pre-test conditions in clause 14.2.3.1.3.1

14.2.3.2.3.2 Test procedure sequence

Same as test procedure sequence in clause 14.2.3.1.3.2.

14.2.3.2.3.3 Specific message contents

Same as specific message contents in clause 14.2.3.1.3.3 with exception of Tables 14.2.3.1.3.3-6 and 14.2.3.1.3.3-11. Instead the Tables 14.2.3.2.3.3-6 and 14.2.3.2.3.3-11 below apply:

Table 14.2.3.2.3.3-6: PDCP-Config (Table 14.2.3.1.3.3-4, Table 14.2.3.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99, condition UM_MRB				
Information Element	Value/remark	Comment	Condition	
PDCP-Config ::= SEQUENCE {				
drb SEQUENCE {				
pdcp-SN-Size-UL	Not present			
pdcp-SN-Size-DL	len18bits			
}				
initialRX-DELIV-r17	262143			
}				

Table 14.2.3.2.3.3-11: PDCP-Config (Table 14.2.3.1.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99, condition UM_MRB			
Information Element	Value/remark	Comment	Condition
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
pdcp-SN-Size-UL	Not present		
pdcp-SN-Size-DL	len18bits		
}			
initialRX-DELIV-r17	262146		Step 15
	Not present		Step 26
}			

14.2.3.3 MBS Multicast / PDCP/ PDCP HFN and SN maintenance / Lossless handover/ PDCP status report / 12 bit SN

14.2.3.3.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and RLC-AM entity for PTP transmission and initialRX-DELIV-r17 in PDCP-Config for this
Multicast MRB is not zero and PDCP configured for 12 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and RLC-AM entity for PTP transmission and initialRX-DELIV-r17 in PDCP-Config for this
Multicast MRB is not zero and PDCP configured for 12 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }

then { UE delivers PDCP Data PDU to upper layers }



(3)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 12 bit SN }

ensure that {

when { UE is requested to make a lossless handover with pdcp data recovery }

then { UE creates a PDCP status report to SS }

```
}
```

(4)

with { UE is requested to make a lossless handover with pdcp data recovery and UE is configured with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 12 bit SN }

ensure that {

when { UE receives the retransmitted PDCP DATA PDU in RLC-AM entity for PTP transmission which failed in RLC-UM entity for PTM transmission before handover}

```
then { UE delivers PDCP Data PDU to upper layers }
}
```

(5)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 12 bit SN }

ensure that {

when { UE is requested to make a lossless handover with pdcp re-establishment }

```
then { UE creates a PDCP status report to SS }
```

```
}
```
(6)

with { UE is requested to make a lossless handover with pdcp re-establishment and UE is configured with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 12 bit SN }

ensure that {

when { UE receives the retransmitted PDCP DATA PDU in RLC-AM entity for PTP transmission which failed in RLC-UM entity for PTM transmission before handover}

```
then { UE delivers PDCP Data PDU to upper layers }
}
```

14.2.3.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in TS 38.300, clause 16.10.5.3.2; TS 38.323, clause 5.1.2, 5.2.2.1, 5.4.1,7.1; TS 38.331, clause 5.3.5.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38. 300, clause 16.10.5.3.2]

The source gNB may propose data forwarding for some MRBs to minimize data loss and may exchange the corresponding MRB PDCP Sequence Number with the target gNB during the handover preparation:

- The lossless handover for multicast service is supported for the handover between MBS supporting cells if the UE is configured with PTP RLC AM entity in target cell MRB of a UE, regardless of whether the UE is configured with PTP RLC AM entity in the source cell or not.
- In order to support lossless handover for multicast service, the network has to ensure DL PDCP COUNT value synchronization and continuity between the source cell and the target cell. Furthermore, data forwarding from the source gNB to the target gNB and/or PDCP status report provided by a UE for an MRB for multicast session can be used during lossless handover.

[TS 38. 323, clause 5.1.2]

When upper layers request a PDCP entity re-establishment, the receiving PDCP entity shall:

•••

- for SRBs and UM DRBs, set RX_NEXT and RX_DELIV to the initial value;
- for UM MRBs and AM MRBs, set RX_NEXT and RX_DELIV to the initial value if *initialRX-DELIV* is configured in TS 38.331 [3];

•••

```
[TS 38. 323, clause 5.2.2.1]
```

After determining the COUNT value of the received PDCP Data PDU = RCVD_COUNT, the receiving PDCP entity shall:

•••

- if RCVD_COUNT < RX_DELIV; or
- if the PDCP Data PDU with COUNT = RCVD_COUNT has been received before:

- discard the PDCP Data PDU;

If the received PDCP Data PDU with COUNT value = RCVD_COUNT is not discarded above, the receiving PDCP entity shall:

- store the resulting PDCP SDU in the reception buffer;
- if RCVD_COUNT >= RX_NEXT:
 - update RX_NEXT to RCVD_COUNT + 1.

•••

- if RCVD_COUNT = RX_DELIV:
 - deliver to upper layers in ascending order of the associated COUNT value after performing header decompression, if not decompressed before;
 - all stored PDCP SDU(s) with consecutively associated COUNT value(s) starting from COUNT = RX_DELIV;
- update RX_DELIV to the COUNT value of the first PDCP SDU which has not been delivered to upper layers, with COUNT value > RX_DELIV;

•••

[TS 38. 323, clause 5.4.1]

For AM MRBs configured by upper layers to send a PDCP status report in the uplink (*statusReportRequired* in TS 38.331 [3]), the receiving PDCP entity shall trigger a PDCP status report when:

- upper layer requests a PDCP entity re-establishment;
- upper layer requests a PDCP data recovery.

If a PDCP status report is triggered, the receiving PDCP entity shall:

- compile a PDCP status report as indicated below by:
 - setting the FMC field to RX_DELIV;
- if RX_DELIV < RX_NEXT:
 - allocating a Bitmap field of length in bits equal to the number of COUNTs from and not including the first missing PDCP SDU up to and including the last out-of-sequence PDCP SDUs, rounded up to the next multiple of 8, or up to and including a PDCP SDU for which the resulting PDCP Control PDU size is equal to 9000 bytes, whichever comes first;
 - setting in the bitmap field as '0' for all PDCP SDUs that have not been received, and optionally PDCP SDUs for which decompression have failed;
 - setting in the bitmap field as '1' for all PDCP SDUs that have been received;
- submit the PDCP status report to lower layers as the first PDCP PDU for transmission via the transmitting PDCP entity as specified in clause 5.2.1 for Uu interface and in clause 5.2.3 for PC5 interface.

[TS 38.323, clause 7.1]

The receiving PDCP entity shall maintain the following state variables:

a) RX_NEXT

This state variable indicates the COUNT value of the next PDCP SDU expected to be received. The initial value is 0, except for sidelink broadcast and groupcast, for SRBs configured with state variables continuation, and for broadcast MRBs.

•••

b) RX_DELIV

This state variable indicates the COUNT value of the first PDCP SDU not delivered to the upper layers, but still waited for. The initial value is 0, except for sidelink broadcast and groupcast, for SRBs configured with state variables continuation, and for MRBs. For NR sidelink communication for broadcast and groupcast or sidelink SRB4 for broadcast and groupcast based sidelink discovery, the initial value of the SN part of RX_DELIV is $(x - 0.5 \times 2^{[sl-PDCP-SN-Size-1]})$ modulo $(2^{[sl-PDCP-SN-Size]})$, where x is the SN of the first received PDCP Data PDU. For broadcast MRBs, the initial value of the SN part of RX_DELIV is set to $(x - 0.5 \times 2^{[PDCP-SN-SizeDL-1]})$ modulo $(2^{[PDCP-SN-SizeDL]})$, where x is the SN of the first received PDCP Data PDU. For multicast MRBs, the initial value of RX_DELIV is set, if provided, by *initialRXDELIV* in TS 38.331 [3].

[TS 38.331, clause 5.3.5.1]

RRC reconfiguration to perform reconfiguration with sync includes, but is not limited to, the following cases:

- reconfiguration with sync and security key refresh, involving RA to the PCell/PSCell, MAC reset, refresh of security and re-establishment of RLC and PDCP triggered by explicit L2 indicators;
- reconfiguration with sync but without security key refresh, involving RA to the PCell/PSCell, MAC reset and RLC re-establishment and PDCP data recovery (for AM DRB or AM MRB) triggered by explicit L2 indicators.

•••

14.2.3.3.3 Test description

14.2.3.3.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell and NR Cell 2 is a suitable neighbour intra-frequency cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 1 and NR Cell 2.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.3.3.3.2 Test procedure sequence

Table 14.2.3.3.3.2-1 for FR1 and table 14.2.3.3.3.2-2 for FR2 illustrate the downlink power levels to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" and "T2" are to be applied subsequently in the Main behaviour. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 14.2.3.3.3.2-1: Cell configuration changes over time for FR1

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-88	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.1-3
T1	SS/PBCH	dBm/SCS	-88	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-88	
	SSS				
	EPRE				

Table 14.2.3.3.3.2-2: Cell configuration changes over time for FR2

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-91	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.2-2
T1	SS/PBCH	dBm/SCS	-91	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-91	
	SSS				
	EPRE				

Table 14.2.3.3.3.2-3: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the generic procedures	-	-	-	-
-	described in TS 38.508-1 subclause 4.5.4.2-3				
2a2	are performed on NR Cell 1 with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	SS sets TX_NEXT = (K-1).	-	-	-	-
	UE sets RX_NEXT = 0 and sets RX_DELIV =				
	initialRXDELIV = K. (Note 1)				
4	The SS sends the PDCP Data PDU #0 via	<	MBS Packet (PDCP Data PDU	-	-
	RLC-UM for PTM transmission in MRB with		#0)		
	the following content to the UE:				
	D/C field = 1 (PDCP Data PDU) and PDCP SN				
	= (K-1).				
	After her ing east a DDU, the CC easts				
	After having sent a PDU, the SS sets				
	IX_NEXT= K. (Note 1)				
	After receiving the PDU, UE discards it				
	because RCVD_COUNT < RX_DELIV.				
5	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformation I ransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
6	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformation I ransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE	_	
1	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB in step 6 equal				
8	The SS sends the PDCP Data PDU #1 Via	<		-	-
	RLC-UM for PIM transmission in MRB with		<i>#</i> 1)		
	the following content to the UE:				
	D/C field = 1 (DDCD Data DDU) and DDCD CN				
	D/C lield = 1 (PDCP Data PDO) and PDCP SN				
	= K.				
	After baying cont a DDLL the SS cote				
	TY NEVT- $(K+1)$ (Note 1)				
	$1 \land N \supseteq \land 1 = (R + 1)$. (Note 1)				
	Aller receiving the PDO, OE delivers it to				
	upper layer and sets RX_NEXT to (K+1) and				
	SUS $KX_UELIV [0] (K+1).$		NP PPC: DL InformationTransfer		
9		<		-	-
	WIDINIS PACKET COUNTER REQUEST				
	message.				
10	LIE responds with LIE TEST LOOD MODE O		KEQUESI		
10		>		-	-
	WIDING PACKET COUNTER RESPONSE.				
			MIBNIS PACKET COUNTER		
11	Chook to the number of reported MDC		KESPONSE	2	
11	Check: is the number of reported MBS	-	-	2	P
	Packels received on the MRB in step 10 equal				
10	The SS erector a DDCD Data DDU#2 via				
<u>1</u> 2	I THE 33 GEALES A FUCF DAID FUU#2 VID		1 -		-

RLC-UM for PTM transmission in MRB (not		
transmitted).		
After having created a PDU, the SS sets		
TX_NEXT= (K+2). (Note 1)		

13	The SS sends the PDCP Data PDU #3 via	<	MBS Packet (PDCP Data PDU	-	-
	RLC-UM for PTM transmission in MRB with		#3)		
	the following content to the DE:				
	D/C field = 1 (PDCP Data PDU) and PDCP SN				
	= 1.				
	After having capt a DDLL the SS cate				
	TX NEXT= $(K+3)$ (Note 1)				
	After receiving the PDU, UE stores it but does				
	not deliver it to upper layer and UE sets				
	RX_NEXT to (K+3) and sets RX_DELIV to				
15	(K+1).		PPCP oconfiguration		
15	message to perform PCell change from NR		RRCReconnguration	-	-
	Cell1 to NR Cell2 without key change.				
-	EXCEPTION: Steps 16 and 17 can occur in	-	-	-	-
16	The UE transmits a NR	>	RRCReconfigurationComplete	-	-
	RRCReconfigurationComplete message.				
17	Check: Does the UE send PDCP Control	>	PDCP STATUS REPORT	3	Р
	PDUs via AM MRB with the following content				
	to the SS:				
	D/C field = 0 (PDCP control PDL) and PDL				
	Type =000. FMC field = $(K+1)$. Bitmap = 0x80				
	on NR Cell 2?				
18	The SS sends the PDCP Data PDU #2 via	<	MBS Packet (PDCP Data PDU	-	-
	RLC-AM for PTP transmission in MRB with the		#2)		
	D/C field = 1 (PDCP Data PDU) and PDCP SN				
	= 0.				
	After receiving the PDLL LIE delivers PDCP				
	Data PDU #2 and PDCP Data PDU #3 to				
	upper layer and sets RX_NEXT to (K+3) and				
	sets RX_DELIV to (K+3).				
19	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	message.		MBMS PACKET COUNTER		
			REQUEST		
20	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
21	Check: Is the number of reported MBS	-	-	4	Р
	Packets received on the MRB in step 20 equal				
	to 3?				
-	THE SS CREATES A PDCP DATA PDU#4 VIA	-	-	-	-
	transmitted).				
	After having created a PDU, the SS sets				
	TX_NEXT= (K+4). (Note 1)				
22	The SS sends the PDCP Data PDU #5 via	<	MBS Packet (PDCP Data PDU	-	-
	KLC-UM OF WIRE WITH THE FOLLOWING CONTENT TO		# ɔ)		

D/C field = 1 (PDCP Data PDU) and PDCP SN = 3. After having sent a PDU, the SS set TX_NEXT= (K+5). (Note 1) After receiving the PDU. UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+3). - - - - 23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row TTP: in table 14.2.3.3.2.2.1 (FR1) / 14.2.3.3.2.2 (FR2). - - - - 24 The SS transmits NR RRCReconfiguration message to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - RRCReconfigurationComplete - - 25 The UE transmits a NR RRCReconfigurationComplete message. > RRCReconfigurationComplete - - 26 Check: Does the UE send PDCP Control Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 12 > PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RtC-AM of MRB to retransmit it in PTP with the following content to the UE: > MBS Packet (PDCP Data PDU #4) - - - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER Response > NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE 29 UE responds with UE TEST LOO		the UE:				
DC (Hell = 1 (PDCP Data PDD) and PDCP SN = 3. - - - After having sent a PDU. UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+3). - - - 23 The SS changes NR Cell 1 and NR Cell 2 nessage to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - - - 24 The SS transmits NR RPCReconfiguration cell 2 to NR Cell 1 with key change. - - - - 25 The UE transmits a NR RPCReconfigurationComplete nessage. - - - - - 26 Check: Does the UE send PDCP Control PDUS via AM MRB with the following content to the SS: -> RRCReconfigurationComplete nessage. -> PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB with the following content to the SS: - - - - - 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PT with the following content to the UE: MBS Packet (PDCP Data PDU #4) - - - 28 The SS transmits a UE TEST LOOP MODE C message. NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - -		D/C field = 1 (DDCD Data DDL)) and DDCD CN				
= 3. After having sent a PDU, the SS set TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+3). - - - 23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row "T2" in table 14.2.3.3.3.2.1 (FR1) / 14.2.3.3.3.2.2 (FR2). - - - - 24 The SS transmits NR RRC/Reconfiguration message to perform PCell change from NR Cell 2 to NR Cell 1 with Key change. - RRCReconfigurationComplete nessage to perform PCell change from NR - - - 25 The Ut transmits a NR RCReconfigurationComplete message. -> RRCReconfigurationComplete nessage. - - - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: -> RRCReconfigurationComplete nessage. -> PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: - MBS Packet (PDCP Data PDU #4) - - - 28 The SS transmits a UE TEST LOOP MODE C message. - - MR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - - - 29 UE responds with UE TEST LOOP MODE C m		D/C lield = 1 (PDCP Data PDO) and PDCP SN				
After having sent a PDU, the SS set TX_NEXT= (K+5), (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+3). - - - - 23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row TZ* in table 14.2.33.2.1 (FR1)/14.2.33.2.2 (FR2). - - - - 24 The SS transmits NR <i>RRCReconfiguration</i> message to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - RRCReconfiguration - - 25 The UE transmits a R <i>RRCReconfigurationComplete</i> message. - - RRCReconfigurationComplete - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: -> PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RRC-AM of MR8 to retransmit it in PTP with the following content to the UE: <		- 3.				
TX_NEXT= (K+5). (Note 1) After receiving the PDU, UE delivers it to upper layer and sets RX_NEXT to (K+5) and 23 The SS changes NR Cell 1 and NR Cell 2 - power level according to the row 'T2' in table - 14.2.3.3.3.2.1 (FR1)/14.2.3.3.2.2 (FR2). - 24 The SS transmits NR RRCReconfiguration - message to perform PCell change from NR - Cell 2 to NR Cell 1 with key change. - 25 The UE transmits a NR RRCReconfigurationComplete message. > 26 Check: Does the UE send PDCP Control > PDUs via AM MRB with the following content > DY field = 0 (PDCP control PDU) and PDU > PDC STATUS REPORT 5 P PDC STATUS REPORT 5 D/C field = 0 (PDCP control PDU /2 via <		After having sent a PDU, the SS set				
After receiving the PDU, UE delivers it to upper layer and sets RX_INEXT to (K+5) and sets RX_DELIV to (K+5). - - - 23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row "T2" in table 14.2.3.3.3.2-1 (FR1)/ 14.2.3.3.3.2-2 (FR2). - - - - 24 The SS transmits NR RRCReconfiguration message to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - RRCReconfigurationComplete any order. - - - 25 The UE transmits A R RRCReconfigurationComplete message. - - - - - 26 Check: Does the UE sond PDCP Control PDUs via AM MRB with the following content to the SS: -> PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit ti in PTP with the following content to the UE: - MBS Packet (PDCP Data PDU #4) - - - 28 The SS transmits a UE TEST LOOP MODE C Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELLY to (K+5). <-		TX NEXT= $(K+5)$ (Note 1)				
Imper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+3). -		After receiving the PDU LIF delivers it to				
sets RX_DELIV to (K+3). - - - 23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row "T2" in table 14.2.3.3.3.2-1 (FR1) / 14.2.3.3.2-2 (FR2). - - - 24 The SS transmits NR RRCReconfiguration message to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - - - - EXCEPTION: Steps 25 and 26 can occur in any order. - - - - 25 The UE transmits a NR RRCReconfigurationComplete message. -> RRCReconfigurationComplete PDUS via AM MRB with the following content to the SS: -> RRCReconfigurationComplete PDUS via AM MRB with the following content to the SS: -> PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: - MBS Packet (PDCP Data PDU #4) - - - D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. - - NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - - - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. -> NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. -> NR RRC: ULInformationTransfer TC: UE TEST LOOP MO		upper laver and sets RX_NEXT to (K+5) and				
23 The SS changes NR Cell 1 and NR Cell 2 power level according to the row "T2" in table 14.2.33.32-1 (FR)/14.2.3.32-2 (FR2). - - - 24 The SS transmits NR <i>RRCReconfiguration</i> message to perform PCell change from NR Cell 12 to NR Cell 1 with key change. - - - 24 The SU NR Cell 1 with key change. - - - - 25 The UE transmits a NR <i>RRCReconfigurationComplete</i> message. - - - - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: - PDCP STATUS REPORT 5 P 27 The SS ends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <		sets RX_DELIV to (K+3).				
power level according to the row "T2" in table Image: Constraint of the co	23	The SS changes NR Cell 1 and NR Cell 2	-	-	-	-
14.2.3.3.3.2.1 (FR1) 14.2.3.3.3.2.2 (FR2).		power level according to the row "T2" in table				
24 The SS transmits NR RRCReconfiguration message to perform PCell change from NR Cell 12 to NR Cell 12 to NR Cell 12 to NR Cell 12 to NR Cell 21 to NR Cell 12 to NR Cell 12 transmits a NR mrcRcreconfigurationComplete message.		14.2.3.3.3.2-1 (FR1) / 14.2.3.3.3.2-2 (FR2).				
message to perform PCell change from NR Cell 2 to NR Cell 1 with key change. - - - EXCEPTION: Steps 25 and 26 can occur in any order. - - - - 25 The UE transmits a NR <i>RRCReconfigurationComplete</i> message. > <i>RRCReconfigurationComplete</i> - - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 12 > MBS Packet (PDCP Data PDU #4) - - 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. <	24	The SS transmits NR RRCReconfiguration	<	RRCReconfiguration	-	-
Cell 2 to NR Cell 1 with key change. - - - EXCEPTION: Steps 25 and 26 can occur in any order. - - - 25 The UE transmits a NR RCReconfigurationComplete message. > RRCReconfigurationComplete - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1? > MBS Packet (PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <td></td> <td>message to perform PCell change from NR</td> <td></td> <td></td> <td></td> <td></td>		message to perform PCell change from NR				
- EXCEPTION: Steps 25 and 26 can occur in any order. -		Cell 2 to NR Cell 1 with key change.				
any order. Image: Constraint of the co	-	EXCEPTION: Steps 25 and 26 can occur in	-	-	-	-
25 The UE transmits a NR RRCReconfigurationComplete message. > RRCReconfigurationComplete - - 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P 26 Check: Does the UE send PDCP control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P 27 The SS sends the PDCP bata PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <		any order.				
RRCReconfigurationComplete message. > PDCP STATUS REPORT 5 P 26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <	25	The UE transmits a NR	>	RRCReconfigurationComplete	-	-
26 Check: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P 26 Check: Does the UE send PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1? > MBS Packet (PDCP Data PDU #4) 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <		RRCReconfigurationComplete message.				
26 Check:: Does the UE send PDCP Control PDUs via AM MRB with the following content to the SS: > PDCP STATUS REPORT 5 P 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <						
PDUs via AM MRB with the following content to the SS: D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1? - MBS Packet (PDCP Data PDU - 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: <-	26	Check: Does the UE send PDCP Control	>	PDCP STATUS REPORT	5	Р
to the SS:D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1?MBS Packet (PDCP Data PDU #4)-27The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE:<		PDUs via AM MRB with the following content				
D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1?MBS Packet (PDCP Data PDU #4)-27The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE:-MBS Packet (PDCP Data PDU #4)D/C field = 1 (PDCP Data PDU) and PDCP SN = 2MBS Packet (PDCP Data PDU #4)After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5).<		to the SS:				
D/C field = 0 (PDCP control PDU) and PDU Type =000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1? MBS Packet (PDCP Data PDU - 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: MBS Packet (PDCP Data PDU - D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. #4) - After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST <						
1ype = J000, FMC field = K+3, Bitmap = 0x80 on NR Cell 1? MBS Packet (PDCP Data PDU - 27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: MBS Packet (PDCP Data PDU - D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. - #4) - After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). - NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST - 29 UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. - NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. - 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - 6 P 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - - - - 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - - 6 P 30<		D/C field = 0 (PDCP control PDU) and PDU				
27 The SS sends the PDCP Data PDU #2 via RLC-AM of MRB to retransmit it in PTP with the following content to the UE: MBS Packet (PDCP Data PDU - D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. - #4) - - After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). - NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. - - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. <		Type =000, FMC field = $K+3$, Bitmap = 0x80				
21 The SS sends the PDCP Data PDC #2 via S MBS Packet (PDCP Data PDC) - - RLC-AM of MRB to retransmit it in PTP with the following content to the UE: D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. #4) #4) #4) D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). - NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST - 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST <	27	ON NR Cell 1?		MRS Dookot (DDCD Doto DDU		
ACC-SMO OF WICE to rectain shift if if PTP with the following content to the UE: #*/ D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. #*/ After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). */ 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message. NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST - 29 UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. > NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. - 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - - 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - - 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? - - -	21	PLC-AM of MPR to retransmit it in PTP with			-	-
and it following content to the OL. D/C field = 1 (PDCP Data PDU) and PDCP SN = 2. After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5). NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST 28 The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST <		the following content to the LIE:		<i>#</i> + <i>)</i>		
D/C field = 1 (PDCP Data PDU) and PDCP SN = 2.Image: Second seco						
= 2. After receiving the PDU, UE delivers PDCP After receiving the PDU, UE delivers PDCP Image: Construction of the point of		D/C field = 1 (PDCP Data PDU) and PDCP SN				
After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5).Image: Constraint of the set		=2.				
After receiving the PDU, UE delivers PDCP Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5).Image: Constraint of the point of						
Data PDU #4 and PDCP Data PDU #5 to upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5).Image: Constraint of the set of		After receiving the PDU, UE delivers PDCP				
upper layer and sets RX_NEXT to (K+5) and sets RX_DELIV to (K+5).Image: Constraint of the sets RX_DELIV to (K+5).Image: Constra		Data PDU #4 and PDCP Data PDU #5 to				
sets RX_DELIV to (K+5).Image: Se		upper layer and sets RX_NEXT to (K+5) and				
28The SS transmits a UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST message.<NR RRC: DLInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST29UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE>NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE>NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE>30Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5?6Note 1:K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143		sets RX_DELIV to (K+5).				
28 The SS transmits a UE TEST LOOP MODE C <						
MBMS PACKET COUNTER REQUEST TC: UE TEST LOOP MODE C message. MBMS PACKET COUNTER 29 UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. > MBMS PACKET COUNTER RESPONSE. > MBMS PACKET COUNTER RESPONSE. TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. > MBMS PACKET COUNTER RESPONSE. TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. MBMS PACKET COUNTER 30 Check: Is the number of reported MBS - Packets received on the MRB in step 29 equal - to 5? - Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.	28	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
message. MBMS PACKET COUNTER 29 UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. > MBMS PACKET COUNTER > MBMS PACKET COUNTER > RESPONSE > 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal - to 5? - Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.		MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
29 UE responds with UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE. > NR RRC: ULInformationTransfer TC: UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? 6 P Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.		message.		MBMS PACKET COUNTER		
29 DE responds with DE LEST LOOP MODE C > NR RRC: OLIMONNAtion Transier - - MBMS PACKET COUNTER RESPONSE. TC: UE TEST LOOP MODE C MBMS PACKET COUNTER - - 30 Check: Is the number of reported MBS - - 6 P Packets received on the MRB in step 29 equal to 5? - - 6 P Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143. - -	20	LIE responds with LIE TEST LOOP MODE O		REQUEST		
30 Check: Is the number of reported MBS - - 6 P Packets received on the MRB in step 29 equal to 5? - - 6 P Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143. - - -	29		>	TO: LE TEST LOOD MODE O	-	-
Imbinis PACKET COUNTER RESPONSE 30 Check: Is the number of reported MBS Packets received on the MRB in step 29 equal to 5? Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.		IVIDIVIS PACKET COUNTER RESPONSE.				
30 Check: Is the number of reported MBS - - 6 P Packets received on the MRB in step 29 equal to 5? - - 6 P Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.						
Packets received on the MRB in step 29 equal to 5? Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.	30	Check: Is the number of reported MRS	_		6	P
to 5? Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.		Packets received on the MRR in sten 20 equal				•
Note 1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-SizeDL=12, K=4095. If PDCP-SN-SizeDL=18. K= 262143.		to 52				
	Note	1: K = (2^[PDCP-SN-SizeDL])-1. If PDCP-SN-S	SizeDL=1	2, K=4095. If PDCP-SN-SizeDL=18.	L K= 262	143.

14.2.3.3.3 Specific message contents

Table 14.2.3.3.3.1: ACTIVATE TEST MODE (preamble, Table 14.2.3.3.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.3.3.3.3-2: *RRCReconfiguration* (step 1a15, Table 14.2.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	Table 14.2.3.3.3.3-4			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	AMPTP_UMPTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.3.3.3.3-3: RRCReconfiguration (step 1b10, Table 14.2.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig	Table 14.2.3.3.3.3-5		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig with	n is set to the same		
	condition MRBm_DRBn	value as for the		
	and AMPTP_UMPTM	radioBearerConfig		
		IE above		
		m=1		
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message			
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}				
}				
}				
}				
}				

Table 14.2.3.3.3.4: RadioBearerConfig (Table 14.2.3.3.3.2-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132, condition MRBm (m=1)				
Information Element	Value/remark	Comment	Condition	
RadioBearerConfig ::= SEQUENCE {				
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry			
(1maxDRB)) OF MRB-ToAddMod-r17 {				
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1		
pdcp-Config-r17	PDCP-Config	Table 14.2.3.3.3.3-6		
}				
}				
}				

Table 14.2.3.3.3.3-5: RadioBearerConfig (Table 14.2.3.3.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132, condition DRBn and MRBm (Note 1)					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
pdcp-Config-r17	PDCP-Config	Table 14.2.3.3.3.3-6			
}					
}					
}					
Note 1: n is chosen as the next available number higher or equal to 2. m =1.					

Table 14.2.3.3.3.3-6: PDCP-Config (Table 14.2.3.3.3.3-4, Table 14.2.3.3.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99				
Information Element	Value/remark	Comment	Condition	
PDCP-Config ::= SEQUENCE {				
drb SEQUENCE {				
pdcp-SN-Size-UL	Not present			
pdcp-SN-Size-DL	len12bits			
}				
initialRX-DELIV-r17	4095			
}				

Table 14.2.3.3.3.3-7: CLOSE UE TEST LOOP (step 2a1, Table 14.2.3.3.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.3.3.3.3-8: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 5, step9,step 19 and step 28 Table 14.2.3.3.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.3.3.3.3-9: RRCReconfiguration (step 15 and step 24, Table 14.2.3.3.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig	Table 14.2.3.3.3.3-		
		10		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table 14.2.3.3.3.3-		
		12		
masterKeyUpdate	Not present		Step 15	
masterKeyUpdate SEQUENCE {			Step 24	
keySetChangeIndicator	false			
nextHopChainingCount	0			
nas-Container	Not present			
}				
}				
}				
}				
}				

Table 14.2.3.3.3.3-10: RadioBearerConfig (Table 14.2.3.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
srb-ToAddModList	Not present		Step 15
srb-ToAddModList SEQUENCE (SIZE (12)) OF	2 entries		Step 24
SRB-ToAddMod {			
SRB-ToAddMod[1] SEQUENCE {		entry 1	
SRB-Identity	SRB-Identity with		
	condition SRB1		
reestablishPDCP	true		
}			
SRB-ToAddMod[2] SEQUENCE {		entry 2	
SRB-Identity	SRB-Identity with		
	condition SRB2		
reestablishPDCP	true		Step 24
}			
}			
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of	
OF DRB-ToAddMod {		DRBs	
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}	¥		
drb-Identity	DRB-Identity with		
	condition DRBk		
reestablishPDCP	true		Step 24
	Not present		Step 15
recoverPDCP	true		Step 15
	Not present		Step 24
pdcp-Config	PDCP-Config		
}			
}			
securityConfig	Not present		Step 15
securityConfig SEQUENCE {			Step 24
securityAlgorithmConfig	SecurityAlgorithmConfig		
keyToUse	master		
}			
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxDRB)) OF MRB-ToAddMod-r17 {			
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI		
mrb-Identity-r17	MRB-Identity with	m=1	
	condition MRBm		
reestablishPDCP-r17	true		Step 24
	Not present		Step 15
recoverPDCP-r17	true		Step 15
	Not present		Step 24
pdcp-Config-r17	PDCP-Config	Table	
		14.2.3.3.3.3-11	
}			
}			
}			

Table 14.2.3.3.3.3-11: PDCP-Config (Table 14.2.3.3.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99			
Information Element	Value/remark	Comment	Condition
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
pdcp-SN-Size-UL	Not present		
pdcp-SN-Size-DL	len12bits		
}			
initialRX-DELIV-r17	Not present		
}			

Table 14.2.3.3.3.3-12: CellGroupConfig (Table 14.2.3.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19, condition PCell_change				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToAddModList SEQUENCE	3+n entries	n is the number of		
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established		
		before RRC re-		
		establishement		
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1		
	condition SRB1 and Re-			
	establish_RLC			
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2		
	condition SRB2 and Re-			
	establish_RLC			
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]		
	condition DRBk and Re-			
	establish_RLC			
RLC-BearerConfig[n+1]	RLC-BearerConfig with	entry n+1		
	conditions UM_DLonly	m=1		
	and PTM and MRBm and			
	Re-establish_RLC			
}				
mac-CellGroupConfig	MAC-CellGroupConfig			
	with condition			
	MBS_Multicast			
physicalCellGroupConfig	PhysicalCellGroupConfig			
spCellConfig SEQUENCE {				
spCellConfigDedicated	ServingCellConfig with			
	condition MBS_Multicast			
}				
}				

14.2.3.4 MBS Multicast / PDCP/ PDCP HFN and SN maintenance / Non-Lossless handover / 18 bit SN

14.2.3.4.1 Test Purpose (TP)

(1)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and RLC-AM entity for PTP transmission and initialRX-DELIV-r17 in PDCP-Config for this
Multicast MRB is not zero and PDCP configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT < initialRX-DELIV }</pre>

then { UE discards the PDCP DATA PDU with RCVD_COUNT }

}

(2)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM
transmission and RLC-AM entity for PTP transmission and initialRX-DELIV-r17 in PDCP-Config for this
Multicast MRB is not zero and PDCP configured for 18 bit SN }

ensure that {

when { UE receives a PDCP Data PDU with RCVD_COUNT = initialRX-DELIV }

then { UE delivers PDCP Data PDU to upper layers }



(3)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 18 bit SN }

ensure that {

when { UE is requested to make a lossless handover with pdcp data recovery }

then { UE creates a PDCP status report to SS }

```
}
```

(4)

with { UE is requested to make a lossless handover with pdcp data recovery and UE is configured with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 18 bit SN }

ensure that {

when { UE receives the retransmitted PDCP DATA PDU in RLC-AM entity for PTP transmission which failed in RLC-UM entity for PTM transmission before handover}

```
then { UE delivers PDCP Data PDU to upper layers }
}
```

(5)

with { UE in RRC_Connected state and Multicast MRB established with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 18 bit SN }

ensure that {

when { UE is requested to make a lossless handover with pdcp re-establishment }

```
then { UE creates a PDCP status report to SS }
```

```
}
```

(6)

with { UE is requested to make a lossless handover with pdcp re-establishment and UE is configured with DL only RLC-UM entity for PTM transmission and RLC-AM entity for PTP transmission and PDCP configured for 18 bit SN }

ensure that {

when { UE receives the retransmitted PDCP DATA PDU in RLC-AM entity for PTP transmission which failed in RLC-UM entity for PTM transmission before handover}

then { UE delivers PDCP Data PDU to upper layers }

}

14.2.3.4.2 Conformance requirements

Same as conformance requirements in clause 14.2.3.3.2

14.2.3.4.3 Test description

14.2.3.4.3.1 Pre-test conditions

Same as pre-test conditions in clause 14.2.3.3.1

14.2.3.4.3.2 Test procedure sequence

Same as test procedure sequence in clause 14.2.3.3.3.2.

14.2.3.4.3.3 Specific message contents

Same as specific message contents in clause 14.2.3.3.3.3 with exception of Tables 14.2.3.3.3.3-6 and 14.2.3.3.3-11. Instead the Tables 14.2.3.4.3.3-6 and 14.2.3.4.3.3-11 below apply:

Table 14.2.3.4.3.3-6: PDCP-Config (Table 14.2.3.3.3.3-4, Table 14.2.3.3.3.5-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99			
Information Element	Value/remark	Comment	Condition
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
pdcp-SN-Size-UL	Not present		
pdcp-SN-Size-DL	len18bits		
}			
initialRX-DELIV-r17	262143		
}			

Table 14.2.3.4.3.3-11: PDCP-Config (Table 14.2.3.3.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-99			
Information Element	Value/remark	Comment	Condition
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
pdcp-SN-Size-UL	Not present		
pdcp-SN-Size-DL	len18bits		
}			
initialRX-DELIV-r17	Not present		
}			

14.2.4 MBS Multicast/ RRC

14.2.4.1 MBS Multicast / RRC / Paging

14.2.4.1.1 MBS Multicast / RRC / Paging for group notification/ RRC IDLE

```
14.2.4.1.1.1 Test Purpose (TP)
```

(1)

```
with { UE in NR RRC_IDLE state and UE has joined one MBS multicast session }
```

ensure that {

when { UE receives a Paging message including TMGIs unmatched with MBS multicast session which the UE has joined, not including ue-Identity }

then { UE does not establish any RRC connection }

}

(2)

with { UE in NR RRC_IDLE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has joined, not including ue-Identity }

```
then { UE successfully establishes the RRC connection }
```

}

(3)

with { UE in NR RRC_IDLE state and UE has released MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has released, not including ue-Identity }

then { UE does not establish any RRC connection }

}

14.2.4.1.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.5.2; TS 38.331, clause 5.3.2.3; TS 24.501, clause 5.6.2.2.1, 5.6.1.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.5.2]

A UE can receive data of MBS multicast session only in RRC_CONNECTED state. If the UE which joined a multicast session is in RRC_CONNECTED state and when the multicast session is activated, the gNB sends *RRCReconfiguration* message with relevant MBS configuration for the multicast session to the UE.

When there is (temporarily) no data to be sent to the UEs for a multicast session, the gNB may move the UE to RRC IDLE/INACTIVE state. gNBs supporting MBS use a group notification mechanism to notify the UEs in RRC IDLE/INACTIVE state when a multicast session has been activated by the CN or the gNB has multicast session data to deliver. Upon reception of the group notification, the UEs reconnect to the network. The group notification is addressed with P-RNTI on PDCCH, and the paging channels are monitored by the UE as described in clause 9.2.5. Paging message for group notification contains MBS session ID which is utilized to page all UEs in RRC IDLE and RRC INACTIVE states that joined the associated MBS multicast session, i.e., UEs are not paged individually. The UE stops monitoring for group notifications related to a specific multicast session once the UE leaves this multicast session.

[TS 38.331, clause 5.3.2.3]

1> for each *TMGI* included in *pagingGroupList*, if any, included in the *Paging* message:

2> if the UE has joined an MBS session indicated by the *TMGI* included in the *pagingGroupList*:

3> forward the *TMGI* to the upper layers;

[TS 24.501, clause 5.6.2.2.1]

If TMGI is used as paging identity and the TMGI matches with MBS multicast session which the has UE joined, the UE shall respond to the paging. Otherwise, the UE shall not respond to the paging.

[TS 24.501, clause 5.6.1.1]

•••

The UE shall invoke the service request procedure when:

a) the UE, in 5GMM-IDLE mode over 3GPP access, receives a paging request from the network;

14.2.4.1.1.3 Test description

14.2.4.1.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service.
- 14.2.4.1.1.3.2 Test procedure sequence

Table 14.2.4.1.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2	The SS transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
3	The SS transmits a Paging message including	<	NR RRC: Paging	-	-
	TMGIs unmatched with MBS multicast session				
	which the UE has joined.				
4	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	1	F
	RRCSetupRequest message within 10s?				
5	The SS transmits a Paging message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session				
	which the UE has joined				
6	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	2	Р
	RRCSetupRequest message?				
7	The SS transmits an <i>RRCSetup</i> message.	<	NR RRC: RRCSetup	-	-
8	The UE transmit an RRCSetupComplete	>	NR RRC: RRCSetupComplete	-	-
	message including SERVICE REQUEST to		5GMM: SERVICE REQUEST		
	confirm the successful completion of the				
	connection establishment.				
9-	Steps 5 to 8 of the NR RRC_CONNECTED	-	-	-	-
12	procedure in TS 38.508-1 Table 4.5.4.2-3 to				
	complete service procedure.				
13	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to establish MRB.				
14	The UE transmit an	>	NR RRC:	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
15a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC_CONNECTED procedure in TS 38.508-1				
15a	Table 4.5.4.2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB.				
16	The SS transmits a MBS Packet.	<	MBS Packet.	-	-
17	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
	-		REQUEST		
18	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
19	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MRB in step 18 equal				
	to 1?				
20-	Steps 1 to 3 of the generic procedures	-	-	-	-
22	described in TS 38,508-1 subclause 4,9,37 are				
	performed on NR Cell 1 to release MRS				
	Multicast session				
23	The SS transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
24	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session				
	which the LIE has released				
25	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	3	F
	RRCSetupRequest message within 10s?				
L		1		1	1

Table 14.2.4.1.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.1.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.1.1.3.3-2: Paging (step 3, Table 14.2.4.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Value/remark Comment			
Paging ::= SEQUENCE {					
pagingRecordList	Not present				
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	3 entries				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the different value	entry 1			
	from the TMGI UE have				
	joined.				
TMGI-r17[2]	Set to the different value	entry 2			
	from the TMGI UE have				
	joined.				
TMGI-r17[3]	Set to the different value	entry 3			
	from the TMGI UE have				
	ioined.				
}					
}					
}					
}					

Table 14.2.4.1.1.3.3-3: Paging (step 5, Table 14.2.4.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Comment	Condition		
Paging ::= SEQUENCE {					
pagingRecordList	Not present				
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	3 entries				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the different value	entry 1			
	from the TMGI UE have				
	joined.				
TMGI-r17[2]	Set to the different value	entry 2			
	from the TMGI UE have				
	joined.				
TMGI-r17[3]	Set to the value of the	entry 3			
	TMGI UE have joined.				
}					
}					
}					
}					

Table 14.2.4.1.1.3.3-4: RRCSetupRequest (step 6, Table 14.2.4.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	mt-Access		
}			
}			

Table 14.2.4.1.1.3.3-5: RRCReconfiguration (step 13, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	UM_PTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	UM_PTM				
}					
}					
}					
}					

Table 14.2.4.1.1.3.3-6: CLOSE UE TEST LOOP (step 15a1, Table 14.2.4.1.1.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.4.1.1.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 17, Table 14.2.4.1.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.4.1.1.3.3-8: Paging (step 24, Table 14.2.4.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI						
Information Element Value/remark Comment Co						
Paging ::= SEQUENCE {						
pagingRecordList	Not present					
nonCriticalExtension SEQUENCE {						
pagingGroupList-r17 SEQUENCE	1 entries					
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {						
TMGI-r17[1]	Set to the value of the	entry 1				
	TMGI UE have released					
}						
}						
}						
}						

14.2.4.1.2 MBS Multicast / RRC / Paging for group notification / RRC_INACTIVE

14.2.4.1.2.1 Test Purpose (TP)

(1)

with { UE in NR RRC_INACTIVE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging message including TMGIs unmatched with MBS multicast session which the UE has joined, not including ue-Identity }

then { UE does not resume RRC connection }

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}

(2)

with { UE in NR RRC_INACTIVE state and UE has joined one MBS multicast session }

```
ensure that {
```

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has joined, not including ue-Identity }

then { UE successfully resumes the RRC connection with resumecause set to mt-Access }

}

(3)

with { UE in NR RRC_INACTIVE state and UE has released MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has released, not including ue-Identity }

then { UE does not resume RRC connection }

}

(4)

with { UE in NR RRC_INACTIVE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has joined, and including a matched identity fullI-RNTI }

then { UE successfully resumes the RRC connection with resumecause set to mt-Access}

}

(5)

with { UE in NR RRC_INACTIVE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has joined, and including a matched identity ng-5G-S-TMSI }

then { UE releases RRC connection with release cause 'other' and goes to NR RRC_IDLE state }

}

(6)

5179

with { UE in NR RRC_INACTIVE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging message including a TMGI matched with MBS multicast session which the UE has joined, and including a unmatched identity ng-5G-S-TMSI }

then { UE successfully resumes the RRC connection with resumecause set to mt-Access}

}

14.2.4.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.5.2; TS 38.331, clause 5.3.2.3; TS 24.501, clause 5.6.2.2.1 and 5.3.1.4. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.5.2]

When there is (temporarily) no data to be sent to the UEs for a multicast session, the gNB may move the UE to RRC IDLE/INACTIVE state. gNBs supporting MBS use a group notification mechanism to notify the UEs in RRC IDLE/INACTIVE state when a multicast session has been activated by the CN or the gNB has multicast session data to deliver. Upon reception of the group notification, the UEs reconnect to the network. The group notification is addressed with P-RNTI on PDCCH, and the paging channels are monitored by the UE as described in clause 9.2.5. Paging message for group notification contains MBS session ID which is utilized to page all UEs in RRC IDLE and RRC INACTIVE states that joined the associated MBS multicast session, i.e., UEs are not paged individually. The UE stops monitoring for group notifications related to a specific multicast session once the UE leaves this multicast session.

[TS 38.331, clause 5.3.2.3]

1> if in RRC_INACTIVE, for each of the PagingRecord, if any, included in the Paging message, or

•••

2> if the *ue-Identity* included in the *PagingRecord* matches the UE's stored *fullI-RNTI*:

•••

3> else:

4> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set to *mt*-Access;

•••

2> else if the *ue-Identity* included in the *PagingRecord* matches the UE identity allocated by upper layers:

3> if upper layers indicate the support of paging cause:

4> forward the *ue-Identity*, *accessType* (if present) and paging cause (if determined) to the upper layers;

3> else:

- 4> forward the *ue-Identity* and *accessType* (if present) to the upper layers;
- 3> perform the actions upon going to RRC_IDLE as specified in 5.3.11 with release cause 'other';
- 1> for each *TMGI* included in *pagingGroupList*, if any, included in the *Paging* message:
 - 2> if the UE has joined an MBS session indicated by the *TMGI* included in the *pagingGroupList*:

3> forward the *TMGI* to the upper layers;

- 1> if in RRC_INACTIVE and the UE has joined one or more MBS session(s) indicated by the *TMGI* included in the *pagingGroupList*; and
- 1> if none of the *ue-Identity* included in any of the *PagingRecord*, if included in the *Paging* message, matches the UE identity allocated by upper layers:
 - 2> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set as below:

•••

3> else:

4> *resumeCause* is set to *mt*-Access.

[TS 24.501, clause 5.6.2.2.1]

If TMGI is used as paging identity and the TMGI matches with MBS multicast session which the has UE joined, the UE shall respond to the paging. Otherwise, the UE shall not respond to the paging.

[TS 24.501, clause 5.3.1.4]

•••

Upon receiving AMF paging indication from the lower layers, the UE shall transition from 5GMM-CONNECTED mode with RRC inactive indication to 5GMM-IDLE mode over 3GPP access and handle the AMF paging same as the paging request received in the 5GMM-IDLE mode over 3GPP access as specified in clause 5.6.1.

14.2.4.1.2.3 Test description

14.2.4.1.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1.
- The SS configures the NR Cell 1 as the "Serving cell".
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- None.

Preamble:

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service.

14.2.4.1.2.3.2 Test procedure sequence

Table 14.2.4.1.2.3.2-1: Main behaviour

St	Procedure	Message Seguence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
	including suspendConfig.				
3	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	TMGIs unmatched with MBS multicast session				
	which the UE has joined.				
4	Check: Does the UE transmit an	>	NR RRC: RRCResumeRequest	1	F
	RRCResumeRequest message within 10s?				
5	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session				
	which the UE has joined				
6	Check: Does the UE transmit an	>	NR RRC: RRCResumeRequest	2	Р
	RRCResumeRequest message?				
7	The SS transmits an <i>RRCResume</i> message.	<	NR RRC: RRCResume	-	-
8	The UE transmits an RRCResumeComplete	>	NR RRC: RRCResumeComplete	-	-
	message.				
9a1	Steps 9a1 to 9a2 of the NR	-	-	-	-
-	RRC_CONNECTED procedure in TS 38.508-1				
9a2	Table 4.5.4.2-3 are executed with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
10	The SS transmits a MBS Packet.	<	MBS Packet	-	-
11	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
	5		REQUEST		
12	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
13	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MRB in step 12 equal				
	to 1?				
14	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
	including suspendConfig.				
15	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session		5 5		
	which the UE has joined and include a				
	matched fullI-RNTI.				
16	Check: Does the UE transmit an	>	NR RRC: RRCResumeRequest	4	Р
	RRCResumeRequest message?				
17	The SS transmits an <i>RRCResume</i> message.	<	NR RRC: RRCResume	-	-
18	The UE transmits an RRCResumeComplete	>	NR RRC: RRCResumeComplete	-	-
	message.				
19	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message.		TC: OPEN UE TEST LOOP		
20	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
21	Steps 9a1 to 9a2 of the NR	-	-	-	-
	RRC_CONNECTED procedure in TS 38.508-1				
	Table 4.5.4.2-3 are executed with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
22	The SS transmits a MBS Packet.	<	MBS Packet	-	-
23	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		

REQ	QUEST	

24	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
25	Check: Is the number of reported MBS	-	-	4	Р
	Packets received on the MRB in step 24 equal				
	to 1?				
26	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
	including suspendConfia.				
27	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session				
	which the LIE has joined and include a				
	matched full-RNTI				
28	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	5	Р
	RRCSetupRequest message?				-
29	The SS transmits an <i>RRCSetup</i> message.	<	NR RRC: RRCSetup	-	-
30	The UE transmit an <i>RRCSetupComplete</i>	>	NR RRC: RRCSetupComplete	-	-
	message including SERVICE REQUEST to		5GMM: SERVICE REQUEST		
	confirm the successful completion of the				
	connection establishment				
31-	Steps 5 to 8 of the NR BRC. CONNECTED	-	-	-	-
34	procedure in TS 38 508-1 Table $4542-3$ to				
54	complete service procedure				
35	The SS transmits an <i>RRCReconfiguration</i>	<	NR RRC: RRCReconfiguration	+	
	message to establish MPB		Nic Title: TitleTeeoninguration		
36	The LIF transmit an	>	NR RRC [.]	-	_
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
37	The SS transmits an OPEN LIE TEST LOOP	<	NR RRC: DI InformationTransfer	-	_
07	message				
38	The LIE transmits an OPEN LIE TEST LOOP	>	NR RRC: III InformationTransfer	<u> </u>	_
	COMPLETE message				
	COMILETE message.		COMPLETE		
30a	Steps 9a1 to 9a2 of the NR	-		<u> </u>	_
1_	PPC CONNECTED procedure in TS 38 508-1				
202	Table 4 5 4 2 2 are executed with condition LIE				
294	TEST LOOP MODE C and Multicast MPP				
40	The SS transmits a MBS Packet	6	MBS Packet	+	_
40	The SS transmits an LIE TEST LOOP MODE	<	NR RRC: DI InformationTransfer	-	_
	message				
	message.		DECLIEST		
12	LIE responds with LIE TEST LOOP MODE C	>	NR RRC: III InformationTransfer	<u> </u>	_
42	MBMS DACKET COUNTED DESPONSE				
	MBMS FACKET COUNTER RESPONSE.				
			MBMS PACKET COUNTER		
12	Chealt: Is the number of reported MRS		RESPONSE		
43	Deekste regeived en the MDD in sten 40 en the	-	-	5	r
	Fackets received on the MRB In Step 40 equal				
				+	
44	The SS transmits an RRCRelease message	<	NK KKU: KKUKElease	-	-
45	Including suspendConfig.	<u> </u>		+	
45	The SS transmits a Paging message including	<	INK KKC. Payiliy	-	-
	a INIGI MATCHED WITH MBS MULTICAST SESSION				
	which the UE has joined and include an				
- 10	unmatched identity ng-5G-S-TMSI.			<u> </u>	
46	Check: Does the UE transmit an	>	NR RRC: RRCResumeRequest	6	Р
	RRCResumeRequest message?			+	
47	The US transmits an <i>RRCResume</i> message.	<			-
48	The UE transmits an RRCResumeComplete	>	NK KKC: KKCKesumeComplete	-	-
40	The SSage.			+	
49		<		-	-
EO	The LIE transmite on ODEN LIE TEST LOOD		NP PPC: /// InformationTransfer	+	
50	THE UE TRANSMILS AN UPEN UE TEST LUUP		I NR RRC. ULINUINAUUNTAIISIEI	1 -	

	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
51a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC_CONNECTED procedure in TS 38.508-1				
51a	Table 4.5.4.2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB.				
52	The SS transmits a MBS Packet.	<	MBS Packet	-	-
53	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
54	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
55	Check: Is the number of reported MBS	-	-	6	Р
	Packets received on the MRB in step 52 equal				
	to 1?				
56-	Steps 1 to 3 of the generic procedures	-	-	-	-
58	described in TS 38.508-1 subclause 4.9.37 are				
	performed on NR Cell 1 to release MBS				
	Multicast session.				
59	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
	including suspendConfig.				
60	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session				
	which the UE has joined.				
61	Check: Does the UE transmit an	>	NR RRC: RRCResumeRequest	3	F
	RRCResumeRequest message within 10s?				

14.2.4.1.2.3.3 Specific message contents

Table 14.2.4.1.2.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.1.2.3.3-2: RRCRelease (step 2, step 14, step 26, step 44 and step 59, Table 14.2.4.1.2.3.2-

1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-16, condition NR_RRC_INACTIVE

Table 14.2.4.1.2.3.3-3: Paging (step 3, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI				
Information Element	Value/remark	Comment	Condition	
Paging ::= SEQUENCE {				
pagingRecordList	Not present			
nonCriticalExtension SEQUENCE {				
pagingGroupList-r17 SEQUENCE	3 entries			
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {				
TMGI-r17[1]	Set to the different value	entry 1		
	from the TMGI UE have			
	joined.			
TMGI-r17[2]	Set to the different value	entry 2		
	from the TMGI UE have			
	joined.			
TMGI-r17[3]	Set to the different value	entry 3		
	from the TMGI UE have			
	joined.			
}				
}				
}				
}				

Table 14.2.4.1.2.3.3-4: Paging (step 5, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Comment	Condition		
Paging ::= SEQUENCE {					
pagingRecordList	Not present				
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	3 entries				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the different value	entry 1			
	from the TMGI UE have				
	joined.				
TMGI-r17[2]	Set to the different value	entry 2			
	from the TMGI UE have				
	joined.				
TMGI-r17[3]	Set to the value of the	entry 3			
	TMGI UE have joined.				
}					
}					
}					
}					

Table 14.2.4.1.2.3.3-5: RRCResumeRequest (step 6, step16 and step46, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-19			
Information Element	Value/remark	Comment	Condition
RRCResumeRequest ::= SEQUENCE {			
rrcResumeRequest SEQUENCE {			
resumeCause	mt-Access		
}			
}			

Table 14.2.4.1.2.3.3-6: CLOSE UE TEST LOOP (step 9a1, step 21a1, step 39a1 and step 51a1, Table 14.2.4.1.2.3.2-1)

Derivation Path: 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB

Table 14.2.4.1.2.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 11, step23, step 41 and step53, Table 14.2.4.1.2.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.4.1.2.3.3-8: Paging (step 15, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Comment	Condition		
Paging ::= SEQUENCE {					
pagingRecordList SEQUENCE	1 entry				
(SIZE(1maxNrofPageRec)) OF PagingRecord {					
PagingRecord[1] SEQUENCE {		entry 1			
ue-Identity CHOICE {					
fullI-RNTI	Set to the value of the I-				
	RNTI-Value of the UE				
}					
}					
}					
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	1 entry				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the value of the	entry 1			
	TMGI UE have joined.				
}					
}					
}					
}					

Table 14.2.4.1.2.3.3-9: Paging (step 27, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI				
Information Element	Value/remark	Comment	Condition	
Paging ::= SEQUENCE {				
pagingRecordList SEQUENCE	1 entry			
(SIZE(1maxNrofPageRec)) OF PagingRecord {				
PagingRecord[1] SEQUENCE {		entry 1		
ue-Identity CHOICE {				
ng-5G-S-TMSI	Set to the value of the			
	NG-5G-S-TMSI of the UE			
}				
}				
}				
nonCriticalExtension SEQUENCE {				
pagingGroupList-r17 SEQUENCE	1 entry			
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {				
TMGI-r17[1]	Set to the value of the	entry 1		
	TMGI UE have joined.			
}				
}				
}				
}				

Table 14.2.4.1.2.3.3-10: RRCSetupRequest (step 28, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-23			
Information Element	Value/remark	Comment	Condition
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	mt-Access		
}			
}			

Table 14.2.4.1.2.3.3-11: RRCReconfiguration (step 35, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4],Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	UM_PTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	UM PTM				
}					
}					
}					
}					

Table 14.2.4.1.2.3.3-12: Paging (step 45, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Comment	Condition		
Paging ::= SEQUENCE {					
pagingRecordList SEQUENCE	1 entry				
(SIZE(1maxNrofPageRec)) OF PagingRecord {					
PagingRecord[1] SEQUENCE {		entry 1			
ue-Identity CHOICE {					
ng-5G-S-TMSI	Set to the different value				
	from the NG-5G-S-TMSI				
	of the UE				
}					
}					
}					
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	1 entry				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the value of the	entry 1			
	TMGI UE have joined.				
}					
}					
}					
}					

Table 14.2.4.1.2.3.3-13: Paging (step 60, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI					
Information Element	Value/remark	Comment	Condition		
Paging ::= SEQUENCE {					
pagingRecordList	Not present				
nonCriticalExtension SEQUENCE {					
pagingGroupList-r17 SEQUENCE	1 entries				
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {					
TMGI-r17[1]	Set to the value of the	entry 1			
	TMGI UE have released				
}					
}					
}					
}					

14.2.4.2 MBS Multicast / RRC / MRB Reconfiguration

14.2.4.2.1 MBS Multicast / RRC / MRB Reconfiguration / Establishment / Modification / Release / Success

14.2.4.2.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_IDLE state and UE has joined one MBS multicast session }

ensure that {

when { UE receives a Paging with matched TMGI and moves to RRC_CONNECTED state and receives RRCReconfiguration message including a MRB-ToAddModList to add an UM MRB with one UM RLC for PTM transmission as MRB-Identity 1 and an AM MRB with one AM RLC for PTP transmission as MRB-Identity 2 }

then { UE successfully establishes the MRBs }

}

(2)

with { UE in NR RRC_CONNECTED state and MRB-Identity 1 and MRB-Identity 2 have established }

ensure that {

when { UE receives RRCReconfiguration message including a MRB-ToReleaseList to release a MRB-Identity which is not part of current UE configuration }

then { UE does not consider the message as erroneous and replies RRCReconfigurationComplete }

}

(3)

with { UE in NR RRC_CONNECTED state and MRB-Identity 1 and MRB-Identity 2 have established }

ensure that {

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when { UE receives RRCReconfiguration message including a MRB-ToReleaseList to release MRB-Identity 2 and including rlc-BearerToaddModList to modify MRB-Identity 1 by adding a RLC-AM for PTP transmission }

then { UE releases PDCP entity for MRB-Identity 2 and MRB-Identity 2 and changes MRB-Identity 1 to AM MRB with one UM RLC for PTM transmission and one AM RLC for PTP transmission and could receives MBS data of MRB-Identity 1 with PTM transmission and PTP transmission }

}

(4)

with { UE in NR RRC_CONNECTED state and MRB-Identity 1 have established }

ensure that {

when { UE receives RRCReconfiguration message including a MRB-ToAddModList to update the MRB-Identity 1 to the MRB-Identity 3 by setting the value of MRB-IdentityNew to 3 }

then { UE updates the MRB-Identity to the value MRB-IdentityNew }

}

(5)

with { UE in NR RRC_CONNECTED state and MRB(s) have established }

ensure that {

when { UE receives RRCReconfiguration message including a MRB-ToReleaseList to release all the MRB
configured with same mbs-SessionId }

then { UE releases PDCP entity and the MRB-Identity and indicate release of the user plane
resources for mbs-SessionId to upper layers }

}

14.2.4.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clause 5.3.5.5.4, 5.3.5.6.6 and 5.3.5.6.7. Unless otherwise stated these are Rel-17 requirements.

[TS 38. 331, clause 5.3.5.5.4]

For each *RLC-BearerConfig* received in the *rlc-BearerToAddModList* IE the UE shall:

- 1> if the UE's current configuration contains an RLC bearer with the received *logicalChannelIdentity/LogicalChannelIdentityExt* within the same cell group:
 - 2> if the RLC bearer is associated with an DAPS bearer, or
 - 2> if any DAPS bearer is configured and the RLC bearer is associated with an SRB:

•••

2> else:

3> if *reestablishRLC* is received:

4> re-establish the RLC entity as specified in TS 38.322 [4];

- 3> reconfigure the RLC entity or entities in accordance with the received *rlc-Config*;
- 3> reconfigure the logical channel in accordance with the received *mac-LogicalChannelConfig*;
- 3> if servedMBS-RadioBearer is received:

4> associate this logical channel with the PDCP entity identified by *servedMBS-RadioBearer*;

NOTE 1: For DRB and SRB, the network does not re-associate an already configured logical channel with another radio bearer. Hence *servedRadioBearer* is not present in this case. For MRB, the network does not re-associate an already configured logical channel with DRB or SRB or another MRB (i.e. MRB with another PDCP entity). Hence *multicastRLC-BearerConfig* is not present in this case.

•••

- 1> else (a logical channel with the given *logicalChannelIdentity/LogicalChannelIdentityExt* is not configured within the same cell group, including the case when full configuration option is used):
 - 2> if the *servedRadioBearer* associates the logical channel with an SRB and *rlc-Config* is not included:
 - 3> establish an RLC entity in accordance with the default configuration defined in 9.2 for the corresponding SRB;

2> else:

- 3> establish an RLC entity in accordance with the received *rlc-Config*;
- 2> if the *servedRadioBearer* associates the logical channel with an SRB and if *mac-LogicalChannelConfig* is not included:
 - 3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;

2> else:

- 3> configure this MAC entity with a logical channel in accordance to the received *mac*-*LogicalChannelConfig*;
- 2> associate this logical channel with the PDCP entity identified by *servedRadioBearer* or *servedMBS-RadioBearer*.

[TS 38. 331, clause 5.3.5.6.6]

The UE shall:

- 1> for each *mrb-Identity* value included in the *mrb-ToReleaseList* that is part of the current UE configuration; or
- 1> for each *mrb-Identity* value that is to be released as the result of full configuration according to 5.3.5.11:
 - 2> release the PDCP entity and the *mrb-Identity*;
 - 2> if there is no other multicast MRB configured with the same *mbs-SessionId* as configured for the released multicast MRB:
 - 3> indicate the release of the user plane resources for the *mbs-SessionId* to upper layers.
- NOTE 1: The UE does not consider the message as erroneous if the *mrb-ToReleaseList* includes any *mrb-Identity* value that is not part of the current UE configuration.

NOTE 2: Whether or not the RLC and MAC entities associated with this PDCP entity are reset or released is determined by the *CellGroupConfig*.

- The UE shall for each element in the order of entry in the list *mrb-ToAddModList*:
 - 1> if *mrb-Identity* value included in the *mrb-ToAddModList* is part of the UE configuration:
 - 2> if *mrb-Identity* value included in the *mrb-ToAddModList* for which *mrb-IdentityNew* is included (i.e., multicast MRB ID change):
 - 3> update the *mrb-Identity* to the value *mrb-IdentityNew*;
 - •••
 - 2> if the *pdcp-Config* is included:
 - 3> reconfigure the PDCP entity in accordance with the received *pdcp-Config*;
 - 1> else if *mrb-Identity* value included in the *mrb-ToAddModList* is not part of the UE configuration (i.e., multicast MRB establishment including the case when full configuration option is used):
 - 2> establish a PDCP entity and configure it in accordance with the received *pdcp-Config*;
 - 2> associate the established multicast MRB with the corresponding *mbs-SessionId*;
 - 2> if an SDAP entity with the received *mbs-SessionId* does not exist:
 - 3> establish an SDAP entity as specified in TS 37.324 [24] clause 5.1.1;
 - 3> if an SDAP entity with the received *mbs-SessionId* did not exist prior to receiving this reconfiguration:

4> indicate the establishment of the user plane resources for the *mbs-SessionId* to upper layers.

- NOTE 1: When setting the *reestablishPDCP* flag for a radio bearer, the network ensures that the RLC receiver entities do not deliver old PDCP PDUs to the re-established PDCP entity. It does that e.g., by triggering a reconfiguration with sync of the cell group hosting the old RLC entity or by releasing the old RLC entity.
- NOTE 2: In this specification, UE configuration refers to the parameters configured by NR RRC unless otherwise stated.
- NOTE 3: When updating the mrb-Identity, the network ensures new MRBs are listed at the end of the mrb-ToAddModList if they have the same MRB ID as in the existing UE configuration.

14.2.4.2.1.3 Test description

14.2.4.2.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR Cell 1.

UE:

- None.

Preamble:

[[]TS 38.331, clause 5.3.5.6.7]

- The UE is in state 1N-A on NR Cell 1(serving cell) according to TS 38.508-1 [4] Table 4.4A.2-3 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

14.2.4.2.1.3.2 Test procedure sequence

Table 14.2.4.2.1.3.2-1 for FR1 and table 14.2.4.2.1.3.2-2 for FR2 illustrate the downlink power levels to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" and "T2" are to be applied subsequently in the Main behaviour. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 14.2.4.2.1.3.2-1: Cell configuration changes over time for FR1

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-88	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.1-3
T1	SS/PBCH	dBm/SCS	-88	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-88	
	SSS				
	EPRE				

Table 14.2.4.2.1.3.2-2: Cell configuration changes over time for FR2

	Parameter	Unit	NR Cell 1	NR Cell 2	Remarks
Т0	SS/PBCH	dBm/SCS	-91	"Off"	Power level "Off" is
	SSS				defined in TS 38.508-1
	EPRE				[4] Table 6.2.2.2-2
T1	SS/PBCH	dBm/SCS	-91	-82	
	SSS				
	EPRE				
T2	SS/PBCH	dBm/SCS	-82	-91	
	SSS				
	EPRE				
Table 14.2.4.2.1.3.2-3: Main behaviour

St	Procedure	Message Seguence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and ioin in MBS Multicast session.				
2	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
3	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	a TMGI matched with MBS multicast session		5 5		
	which the UE has joined				
4-	Steps 2 to 8 of the NR RRC CONNECTED	-	-	-	-
10	procedure in TS 38,508-1 [4] Table 4,5,4,2-3				
	to complete service procedure.				
11	The SS transmits an <i>RRCReconfiguration</i>	<	NR RRC: RRCReconfiguration	-	-
	message to establish MRB-Identity 1 and				
	MRB-Identity 2				
12	The UE transmit an	>	NR RRC [.]	-	-
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
13a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	BRC CONNECTED procedure in TS 38 508-1				
132	Table 4.5.4.2-3 are executed with condition LIE				
230	TEST LOOP MODE C and Multipact MDP				
14	The SS transmits a MPS Dacket via PLC LIM	-	MRS Dackat		
14	in MDB Identity 1		MDS Fackel.	-	-
15	The SS transmits on UE TEST LOOD MODE	-	ND DDC: DL InformationTransfor		
15		<		-	-
	C MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
10			REQUEST		
10	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULINformation Fransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
17	Check: Is the number of reported MBS	-	-	1	P
	Packets received on the MRB-Identity 1 in step				
	16 equal to 1?				
18	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message.		TC: OPEN UE TEST LOOP		
19	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
20a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC_CONNECTED procedure in TS 38.508-1				
20a	Table 4.5.4.2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB.				
21	The SS transmits a MBS Packet via RLC-AM	<	MBS Packet.	-	-
	in MRB-Identity 2.				
22	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
	-		REQUEST		
23	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
24	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB-Identity 2 in sten			-	
	23 equal to 1?				
25	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to release MRR-Identity 3				
26	The UE transmit an	>	NR RRC:	2	Р

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RRCReconfigurationComplete message

RRCReconfigurationComplete

27	The SS transmits an <i>RRCReconfiguration</i> message to release MRB-Identity 2 and modify MRB-Identity 1.	<	NR RRC: RRCReconfiguration	-	-
28	The UE transmit an	>	NR RRC [.]	3	Р
20	PRCPeconfigurationComplete message	-	RRCReconfigurationComplete	Ŭ	
20	The SS transmits an OPEN LIE TEST LOOP	٢	NR RRC [•] DI InformationTransfer	_	
25					_
20	The UE transmite on ODEN UE TEST I OOD		ND DDC: UL/InformationTransfor		
30		>		-	-
	COMPLETE message.		TC: OPEN DE TEST LOOP		
			COMPLETE		
31a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC_CONNECTED procedure in TS 38.508-1				
31a	Table 4.5.4.2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB.				
32	The SS transmits a MBS Packet via RLC-AM	<	MBS Packet.	-	-
	of MRB-Identity 1				
33	The SS transmits a MBS Packet via RI C-LIM	<	MBS Packet	-	-
	of MPR Identity 1				
24	The SS transmite on UE TEST LOOD MODE		ND DDC: DL InformationTransfor		
54				-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
35	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
36	Check: Is the number of reported MBS	-	-	3	Р
	Packets received on the MRR-Identity 1 in sten				
	25 equal to 22				
27	The SS transmits on DDCD coonfiguration				
31		<	NR RRC. RRCReconinguration	-	-
	message to change MRB-identity 1 to MRB-				
	Identity 3.				
38	The UE transmit an	>	NR RRC:	4	Р
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
39	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message.		TC: OPEN UE TEST LOOP		
40	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
41a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC CONNECTED procedure in TS 38.508-1				
41a	Table 4 5 4 2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB				
42	The SS transmits a MBS Packet via RI C-AM	<	MBS Packet	-	_
	of MDB Identity 2		WEST devet.		
12	The SS transmite a MPS Dacket via PLC LIM	/	MPS Packet		
43	of MDD Identify 2		MBS Fackel.	-	-
4.4	OF MRB-IDENIIIY 3.				
44	The SS transmits an OE TEST LOOP MODE	<	NR RRC: DLINIONNalion Transfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
45	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC: UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
46	Check: Is the number of reported MBS	_	-	4	Р
	Dackets received on the MDR-Identity 3 in ston			- T	
	AE aqual to 22				
47	45 equal 10 2?				
41	The SS transmits an RRCReconfiguration	<		-	-
	message to release MRB-Identity 3 a PDU		5GMM: DL NAS TRANSPORT		
		1		1	1

			MODIFICATION COMMAND		
48	The UE transmit an	>	NR RRC:	5	Р
	RRCReconfigurationComplete message		RRCReconfigurationComplete		
49	The UE transmits an ULInformationTransfer	>	NR RRC: ULInformationTransfer	-	-
	message and a PDU SESSION		5GMM: UL NAS TRANSPORT		
	MODIFICATION COMPLETE message.		5GSM: PDU SESSION		
			MODIFICATION COMPLETE		

14.2.4.2.1.3.3 Specific message contents

Table 14.2.4.2.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.2.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.2.1.3.3-2: Paging (step 3, Table 14.2.4.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9 with condition TMGI				
Information Element Value/remark Comment Cond				
Paging ::= SEQUENCE {				
pagingRecordList	Not present			
nonCriticalExtension SEQUENCE {				
pagingGroupList-r17 SEQUENCE	1 entry			
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {				
TMGI-r17[1]	Set to the value of the	entry 1		
	TMGI UE have joined.			
}				
}				
}				

Table 14.2.4.2.1.3.3-3: RRCReconfiguration (step 11, Table 14.2.4.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	Table			
		14.2.4.2.1.3.3-6			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.4.2.1.3.3-7			
}					
}					
}					
}					

Table 14.2.4.2.1.3.3-4: RadioBearerConfig (Table 14.2.4.2.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
mrb-ToAddModList-r17 SEQUENCE (SIZE	2 entries		
(1maxDRB)) OF MRB-ToAddMod-r17 {			
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI		
mrb-Identity-r17	MRB-Identity with	m=1	UM MRB
	condition MRBm		
pdcp-Config-r17	PDCP-Config with		
	condition		
	MRB Initialization and		
	UM_MRB		
}			
MRB-ToAddMod-r17 [2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI		
mrb-Identity-r17	MRB-Identity with	m=2	AM MRB
	condition MRBm		
pdcp-Config-r17	PDCP-Config with		
	condition		
	MRB_Initialization		
}			
}			
}			

Table 14.2.4.2.1.3.3-5: CellGroupConfig (Table 14.2.4.2.1.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	2 entries				
(SIZE(1maxLCH)) OF RLC-BearerConfig {					
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1			
	conditions UM_DLonly	m=1			
	and PTM and MRBm				
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2			
	conditions AM and PTP	m=2			
	and MRBm				
}					
mac-CellGroupConfig	MAC-CellGroupConfig				
	with condition				
	MBS_Multicast				
physicalCellGroupConfig	Not present				
spCellConfig SEQUENCE {					
servCellIndex	Not present				
reconfigurationWithSync	Not present				
rlf-TimersAndConstants	Not present				
rlmInSyncOutOfSyncThreshold	Not present				
spCellConfigDedicated	ServingCellConfig with				
	condition MBS_Multicast				
}					
}					

Table 14.2.4.2.1.3.3-6: CLOSE UE TEST LOOP (step 13a1, step 20a1, step 31a1 and step41a1 Table 14.2.4.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB				
Information Element	Value/remark	Comment	Condition	
UE test loop mode C LB setup				
MRB ID	·0000000	MRB-Identity is 1	Step 13a1,	
	0000000		Step 31a1	
	0000000'B			
	60000000	MRB-Identity is 2	Step 20a1	
	00000000			
	10000000'B			
	60000000	MRB-Identity is 3	Step 41a1	
	0000001			
	1000000'B			

Table 14.2.4.2.1.3.3-7: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 15, step22, step 34 and step 44, Table 14.2.4.2.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.4.2.1.3.3-8: RRCReconfiguration (step 25 and step 47, Table 14.2.4.2.1.3.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-3			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.2.1.3.3-9	
nonCriticalExtension	Not present		Step 25
nonCriticalExtension SEQUENCE {			Step 47
masterCellGroup	CellGroupConfig	Table	
		14.2.4.2.1.3.3-10	
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		Step 47
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			

Table 14.2.4.2.1.3.3-9: RadioBearerConfig (Table 14.2.4.2.1.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
mrb-ToReleaseList-r17 SEQUENCE (SIZE	1 entry		
(1maxMRB-r17)) OF MRB-ToAddMod-r17 {			
MRB-Identity-r17[1]	3	entry 1	
}			
}			

Table 14.2.4.2.1.3.3-10: CellGroupConfig (Table 14.2.4.2.1.3.3-8)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList	Not Present		
rlc-BearerToReleaseList SEQUENCE	2 entries		
(SIZE(1maxLC-ID)) OF			
LogicalChannelIdentity {			
logicalChannelIdentity[1]	LogicalChannelIdentit	entry 1	
	y with conditions PTM	m=1	
	and MRBm		
logicalChannelIdentity[2]	LogicalChannelIdentit	entry 2	
	y with conditions PTP	m=1	
	and MRBm		
}			
mac-CellGroupConfig	Not Present		
physicalCellGroupConfig	Not Present		
spCellConfig	Not Present		
}			

Table 14.2.4.2.1.3.3-11: RRCReconfiguration (Step 27, Table 14.2.4.2.1.3.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-3			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.2.1.3.3-12	
nonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.2.1.3.3-13	
}			
}			
}			
}			

Table 14.2.4.2.1.3.3-12: RadioBearerConfig (Table 14.2.4.2.1.3.3-11)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	TMGI				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
pdcp-Config-r17	PDCP-Config				
}					
mrb-ToReleaseList-r17 SEQUENCE (SIZE	1 entry				
(1maxMRB-r17)) OF MRB-ToAddMod-r17 {					
MRB-Identity-r17[1]	MRB-Identity with	m=2			
	condition MRBm				
}					
}					

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	2 entries				
(SIZE(1maxLCH)) OF RLC-BearerConfig {					
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1			
	conditions UM_DLonly	m=1			
	and PTM and MRBm				
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 2			
	conditions AM and PTP	m=1			
	and MRBm				
}					
rlc-BearerToReleaseList SEQUENCE	1 entry				
(SIZE(1maxLC-ID)) OF LogicalChannelIdentity {					
logicalChannelIdentity[1]	LogicalChannelIdentity	entry 1			
	with conditions MRBm	m=2			
	and PTP				
}					
mac-CellGroupConfig	Not Present				
physicalCellGroupConfig	Not Present				
spCellConfig	Not Present				
}					

Table 14.2.4.2.1.3.3-14: RRCReconfiguration (Step 37, Table 8.1.2.1.1.3.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-3			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.2.1.3.3-15	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.2.1.3.3-16	
}			
}			
}			
}			

Table 14.2.4.2.1.3.3-15: RadioBearerConfig (Table 14.2.4.2.1.3.3-14)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	Not present				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
mrb-IdentityNew-r17	3				
reestablishPDCP-r17	Not present				
recoverPDCP-r17	Not present				
pdcp-Config-r17	Not present				
}					
}					
}					

Table 14.2.4.2.1.3.3-16: CellGroupConfig (Table 14.2.4.2.1.3.3-14)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	1 entry				
(SIZE(1maxLCH)) OF RLC-BearerConfig {					
RLC-BearerConfig[1]	RLC-BearerConfig	entry 1			
		Table			
		14.2.4.2.1.3.3-17			
RLC-BearerConfig[2]	RLC-BearerConfig	entry 2			
		Table			
		14.2.4.2.1.3.3-18			
}					
mac-CellGroupConfig	Not Present				
physicalCellGroupConfig	Not Present				
spCellConfig	Not Present				
}					

Table 14.2.4.2.1.3.3-17: RLC-BearerConfig (Table 14.2.4.2.1.3.3-16)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-148, conditions UM_DLonly and PTM and MRBm (m=1)						
Information Element Value/remark Comment Co						
RLC-BearerConfig ::= SEQUENCE {						
multicastRLC-BearerConfig-r17 SEQUENCE {						
servedMBS-RadioBearer-r17	3					
}						

Table 14.2.4.2.1.3.3-18: RLC-BearerConfig (Table 14.2.4.2.1.3.3-16)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-148, conditions AM and PTP and MRBm (m=1)					
Information Element	Comment	Condition			
RLC-BearerConfig ::= SEQUENCE {					
multicastRLC-BearerConfig-r17 SEQUENCE {					
servedMBS-RadioBearer-r17	3				
}					
}					

Table 14.2.4.2.1.3.3-19: PDU SESSION MODIFICATION COMMAND (step 47, Table 8.1.2.1.1.3.2-1)

Derivation Path: Table 4.7.2-9.					
Information Element	Value/remark	Comment	Condition		
Received MBS container					
Received MBS information					
Rejection cause	'110'B	MBS session is			
		released			
MSAI	'00'B	MBS service area			
		not included			
MD	'100'B	Remove UE from			
		MBS session			
MSCI	'0'B	MBS security			
		container not			
		included			
MTI	'00'B	No MBS timers			
		included			
IPAE	'0'B	Source and			
		destination IP			
		address			
		information not			
		included			
TMGI					
MBMS Service ID	'000101'B				
MCC	See table 4.4.2-3				
MNC	See table 4.4.2-3				
Source IP address information	Not present				
Destination IP address information	Not present				
MBS service area	Not present				
MBS timers	Not present				
MBS security container	Not present				

14.2.4.3 MBS Multicast/ RRC/ Handover

14.2.4.3.1 MBS Multicast/ RRC/ Handover between multicast supporting cell / Success

14.2.4.3.1.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and receives MBS
data in MRB }

ensure that {

when { UE receives an RRCReconfiguration message including a reconfigurationWithSync for handover to a multicast supporting cell and not updating the mrb-Identity}

then { UE performs handover to the target cell and transmits an RRCReconfigurationComplete
message and receives MBS data in MRB }

}

(2)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and receives MBS data in MRB }

ensure that {

when { UE receives an RRCReconfiguration message including a reconfigurationWithSync for handover to a multicast supporting cell and updating the mrb-Identity to the value mrb-IdentityNew }

then { UE performs handover to the target cell and transmits an RRCReconfigurationComplete
message and receives MBS data in the updated MRB }

}

14.2.4.3.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.5.3.2; TS 38.331, clause 5.3.5. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.5.3.2]

Mobility procedures for multicast reception allow the UE to continue receiving multicast service(s) via PTM or PTP in a new cell after handover.

During handover preparation phase, the source gNB transfers to the target gNB about the MBS multicast sessions the UE has joined in the UE context information. To support provision of local multicast service with location dependent content as specified in TS 23.247 [45], for each active multicast session, service area information per Area Session ID may be provided to the target gNB.

•••

During handover execution, the MBS configuration decided at target gNB is sent to the UE via the source gNB within an RRC container as specified in TS 38.331 [12]. The PDCP entities for multicast MRBs in the UE can either be reestablished or remain as it is. When the UE connects to the target gNB, the target gNB sends an indication that it is an MBS-supporting node to the SMF in the Path Switch Request message (Xn handover) or Handover Request Acknowledge message (NG handover).

[TS 23.247, clause 7.2.3.2]

This clause describes an Xn based handover with MBS traffic delivered to the UE at the source NG-RAN node supporting MBS.



Figure 7.2.3.2-1: Xn based handover with MBS Session

The following additions apply compared to clause 4.9.1.2 of TS 23.502 [6]:

Before Handover:

The source NG RAN has been provided with MBS Session Resource information (including the MBS Session ID and multicast QoS flow information) and the UE Context information contains a mapping information within the PDU Session Resource associated with the MBS Session Resource, e.g. including mapped unicast QoS Flows associated with the multicast QoS flow(s) of the MBS Session Resource.

Handover Preparation Phase:

At Xn handover, the target NG-RAN is provided with MBS session information by the source NG-RAN which causes:

•••

- an MBS supporting target NG-RAN node to allocate to the UE shared NG-RAN resources according to the MBS session information. If the 5GC Shared MBS traffic delivery for the indicated multicast MBS Session has not been established in target NG-RAN, target NG-RAN triggers setup of the resources for the 5GC Shared MBS traffic delivery, see clause 7.2.1.4 for details.
- 1. Target NG-RAN to AMF: the target NG-RAN sends N2 Path Switch Request to AMF.

The target NG-RAN node, if MBS-capable, indicates it supports of MBS to SMF in N2 SM information. Per the received N2 SM information, the SMF knows whether the target NG-RAN node supports MBS and determines the delivery method, i.e. whether the 5GC Shared MBS traffic delivery or 5GC Individual MBS traffic delivery is used for MBS data transferring.

The SMF differentiates two cases:

Case A) The target NG-RAN supports MBS. Step 3 applies and step 4 is skipped.

3. SMF to UPF: The SMF invokes N4 Session Modification procedure with the UPF (PSA) only for unicast PDU Session.

The details of how to perform data forwarding refers to clause 7.2.3.5.

- 5. SMF to AMF: The SMF responds to AMF through Nsmf_PDUSession_UpdateSMContext response.
- 6. AMF to target NG-RAN: The AMF sends the path switch Ack to target NG-RAN.

[TS 38.331, clause 5.3.5.6.7]

The UE shall for each element in the order of entry in the list *mrb-ToAddModList*:

- 1> if *mrb-Identity* value included in the *mrb-ToAddModList* is part of the UE configuration:
 - 2> if *mrb-Identity* value included in the *mrb-ToAddModList* for which *mrb-IdentityNew* is included (i.e., multicast MRB ID change):
 - 3> update the *mrb-Identity* to the value *mrb-IdentityNew*;

14.2.4.3.1.3 Test description

14.2.4.3.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving cell and NR Cell 2 is the intra-frequency neighbour cell of NR Cell 1.
- NR Cell 1 and NR Cell 2 are Multicast-supporting cells.
- System information combination NR-2 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.4.3.1.3.2 Test procedure sequence

Tables 14.2.4.3.1.3.2-1 and 14.2.4.3.1.3.2-2 illustrate the downlink power levels to be applied for NR Cell 1 and NR Cell 3 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1", are applied at the point indicated in the Main behaviour description in Table 14.2.4.3.1.3.2-3.

Table 14.2.4.3.1.3.2-1: Power levels in FR1

	Parameter	Unit	NR Cell 1	NR Cell 3	Remark
то	SS/PBCH	dDm/CCC	00	01	
10	SSS EPRE	UBIII/SCS	-88	-91	
T 1	SS/PBCH	dDm/CCC	01	00	
'1	SSS EPRE	UBIII/SCS	-91	-88	

^{•••}

	Parameter	Unit	NR	NR	Remark
			Cell 1	Cell 3	
т0	SS/PBCH SSS EPRE	dBm/ SCS	FFS	FFS	
T1	SS/PBCH SSS EPRE	dBm/ SCS	FFS	FFS	

Table 14.2.4.3.1.3.2-3: Main behaviour

St	Procedure	Message Sequence			Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the NR	-	-	-	-
-	RRC_CONNECTED procedure in TS 38.508-1				
2a2	Table 4.5.4.2-3 are executed with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS changes the power level setting	-	-	-	-
	according to the row "T1".				
4	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to order the UE to perform intra-				
	frequency handover to NR Cell 2				
5	Check: Does the UE transmit	>	NR RRC:	1	P
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 2?				
6	The SS transmits an MBS Packet on Multicast	<	MBS Packet.	-	-
<u> </u>	MRB ID 1.				
	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformation I ransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
8	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULINformation I ransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
9	Check: Is the number of reported MBS	-	-	1	Р
	Packets received on the MRB in step 8 equal				
10	The SS changes the newer level setting				
10	The SS changes the power level setting	-	-	-	-
11	The SS transmits an <i>RRCReconfiguration</i>	<i><</i>	NR RRC ¹ RRCReconfiguration		
1 11	message to order the LIE to perform intra-		INK KKC. KKCKeconinguration	-	_
	frequency handover to NR Cell 1 and undate				
	the mrh-Identity to the value mrh-IdentityNew				
12	Check: Does the LIE transmit	>	NR RRC:	2	P
12	BRCReconfigurationComplete message in NR		RRCReconfigurationComplete	-	
			n concessinguration complete		
13	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DI InformationTransfer	-	-
	message		TC: OPEN UE TEST LOOP		
14	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
	3		COMPLETE		
15a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC_CONNECTED procedure in TS 38.508-1				
15a	Table 4.5.4.2-3 are executed with condition UE				
2	TEST LOOP MODE C and Multicast MRB.				
16	The SS transmits an MBS Packet on Multicast	<	MBS Packet.	-	-
	MRB ID 2.				
17	The SS transmits a UE TEST LOOP MODE C	<	NR RRC: DLInformationTransfer	-	-
	MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
18	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
19	Check: Is the number of reported MBS		-	2	P

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Packets received on the MRB in step 18 equal		
to 1?		

14.2.4.3.1.3.3 Specific message contents

Table 14.2.4.3.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.3.1.3.2-3)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.3.1.3.3-2: RRCReconfiguration (step 4, Table 14.2.4.3.1.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange						
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration ::= SEQUENCE {						
radioBearerConfig	RadioBearerConfig	Table				
		14.2.4.3.1.3.3-3				
nonCriticalExtension SEQUENCE {						
masterCellGroup	CellGroupConfig	Table				
		14.2.4.3.1.3.3-4				
}						
}						
}						
}						

Table 14.2.4.3.1.3.3-3: RadioBearerConfig (Table 14.2.4.3.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB_NR_PDCP and Re-establish_PDCP					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of			
OF DRB-ToAddMod {		DRBs established			
		before handover			
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]			
cnAssociation	Not present				
drb-Identity	DRB-Identity with				
	condition DRBk				
reestablishPDCP	true				
pdcp-Config	Not present				
}					
}					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	Not present				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
reestablishPDCP-r17	true				
pdcp-Config-r17	Not present				
}					
}					
}					

Table 14.2.4.3.1.3.3-4: CellGroupConfig (Table 14.2.4.3.1.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change and UM_PTM				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToAddModList SEQUENCE	n+3 entries	n is the number of		
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established		
		before re-		
		establishment		
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1		
	condition SRB1 and Re-			
	establish RLC			
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2		
	condition SRB2 and Re-			
	establish_RLC			
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]		
	condition DRBk and Re-			
	establish_RLC			
RLC-BearerConfig[n+3]	RLC-BearerConfig with	entry n+3		
	conditions UM_DLonly	m=1		
	and PTM and MRBm and			
	Re-establish RLC			
}				
}				

Table 14.2.4.3.1.3.3-5: CLOSE UE TEST LOOP (step 15a1, Table 14.2.4.3.1.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB						
Information Element	Value/remark	Comment	Condition			
UE test loop mode C LB setup						
MRB ID	·0000000	MRB-Identity is 2				
	0000000					
	1000000'B					

Table 14.2.4.3.1.3.3-6: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 7 and step12, Table 14.2.4.3.1.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.4.3.1.3.3-7: RRCReconfiguration (step 11, Table 14.2.4.3.1.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange						
Information Element	Value/remark	Comment	Condition			
RRCReconfiguration ::= SEQUENCE {						
criticalExtensions CHOICE {						
rrcReconfiguration ::= SEQUENCE {						
radioBearerConfig	RadioBearerConfig	Table				
		14.2.4.3.1.3.3-8				
nonCriticalExtension SEQUENCE {						
masterCellGroup	CellGroupConfig	Table				
		14.2.4.3.1.3.3-9				
}						
}						
}						
}						

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB_NR_PDCP and Re-establish_PDCP					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of			
OF DRB-ToAddMod {		DRBs established			
		before handover			
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]			
cnAssociation	Not present				
drb-Identity	DRB-Identity with				
	condition DRBk				
reestablishPDCP	true				
pdcp-Config	Not present				
}					
}					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	Not present				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
mrb-IdentityNew-r17	MRB-Identity with	m=2			
	condition MRBm				
reestablishPDCP-r17	true				
pdcp-Config-r17	Not present				
}					
}					
}					

Table 14.2.4.3.1.3.3-9: CellGroupConfig (Table 14.2.4.3.1.3.3-7)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change and UM_PTM				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToAddModList SEQUENCE	n+3 entries	n is the number of		
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established		
		before re-		
		establishment		
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1		
	condition SRB1 and Re-			
	establish_RLC			
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2		
	condition SRB2 and Re-			
	establish_RLC			
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]		
	condition DRBk and Re-			
	establish_RLC			
RLC-BearerConfig[n+3]	RLC-BearerConfig with	entry n+3		
	conditions UM_DLonly	m=2		
	and PTM and MRBm			
}				
}				

14.2.4.3.2 MBS Multicast / RRC / Handover between multicast supporting cell / Failure/ Reestablishment successful

14.2.4.3.2.1 Test Purpose (TP)

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(1)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and having received
an RRCReconfiguration message including a reconfigurationWithSync for handover to the target cell }

```
ensure that {
```

when { UE detects handover failure and the initial cell is selectable }

then { UE performs an RRCReestablishment procedure on the source cell }

}

(2)

with { UE detects handover failure and having performed an RRCReestablishment procedure }

ensure that {

when { UE receives first RRCReconfiguration message }

then { UE transmits an RRCReconfigurationComplete message and resumes multicast MRB }

}

14.2.4.3.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.331, clauses 5.3.5.3, 5.3.5.8.3 and 5.3.7.1. Unless otherwise stated these are Rel-17 requirements.

[TS 38.331, clause 5.3.5.3]

1> else (*RRCReconfiguration* was received via SRB1):

•••

- 2> if this is the first *RRCReconfiguration* message after successful completion of the RRC re-establishment procedure:
 - 3> resume SRB2, SRB4, DRBs, multicast MRB, and BH RLC channels for IAB-MT, and Uu Relay RLC channels for L2 U2N Relay UE, that are suspended;

[TS 38.331, clause 5.3.5.8.3]

The UE shall:

- 1> if T304 of the MCG expires; or
- 1> if T420 expires; or,
- 1> if the target L2 U2N Relay UE (i.e., the UE indicated by *targetRelayUE-Identity* in the received *RRCReconfiguration* message containing *reconfigurationWithSync* indicating path switch as specified in 5.3.5.5.2) changes its serving PCell before path switch:
 - 2> release dedicated preambles provided in *rach-ConfigDedicated* if configured;
 - 2> release dedicated msgA PUSCH resources provided in *rach-ConfigDedicated* if configured;
 - 2> if any DAPS bearer is configured, and radio link failure is not detected in the source PCell, according to clause 5.3.10.3:

•••

2> else:

- 3> revert back to the UE configuration used in the source PCell;
- 3> if the associated T304 was not initiated upon cell selection performed while timer T311 was running, as defined in clause 5.3.7.3:
 - 4> store the handover failure information in *VarRLF-Report* as described in the clause 5.3.10.5;
- 3> initiate the connection re-establishment procedure as specified in clause 5.3.7.
- NOTE 1: In the context above, "the UE configuration" includes state variables and parameters of each radio bearer.

[TS 38.331, clause 5.3.7.1]

Upon initiation of the procedure, the UE shall:

- 1> stop timer T310, if running;
- 1> stop timer T312, if running;
- 1> stop timer T304, if running;
- 1> start timer T311;
- 1> stop timer T316, if running;
- 1> if UE is not configured with *attemptCondReconfig*:
 - 2> reset MAC;
 - 2> release *spCellConfig*, if configured;
 - 2> suspend all RBs, and BH RLC channels for IAB-MT, and Uu Relay RLC channels for L2 U2N Relay UE, except SRB0 and broadcast MRBs;

14.2.4.3.2.3 Test description

14.2.4.3.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving cell and NR Cell 2 is the intra-frequency neighbour cell of NR Cell 1.
- NR Cell 1 and NR Cell 2 are Multicast-supporting cells.
- System information combination NR-2 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.
- 14.2.4.3.2.3.2 Test procedure sequence

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Tables 14.2.4.3.2.3.2-1 and 14.2.4.3.2.3.2-2 illustrate the downlink power levels to be applied for NR Cell 1 and NR Cell 2 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while the configuration marked "T1", are applied at the point indicated in the Main behaviour description in Table 14.2.4.3.2.3.2-3.

Table 14.2.4.3.2.3.2-1: Time instances of cell power level and parameter changes for FR1

	Parameter	Unit	NR Cell 1	NR Cell 2	Remark
то	SS/PBCH	dBm/	00	04	
	SSS EPRE	SCS	-88	-94	
т1	SS/PBCH	dBm/	00	00	
11	SSS EPRE	SCS	-88	-88	

Table 14.2.4.3.2.3.2-2: Time instances of cell power level and parameter changes for FR2

	Parameter	Unit	NR Cell 1	NR Cell 2	Remark
то	SS/PBCH	dBm/	FFC	FFC	
10	SSS EPRE	SCS	FF5	FF5	
T 1	SS/PBCH	dBm/	FFC	FFC	
11	SSS EPRE	SCS	FFS	FFS	

Table 14.2.4.3.2.3.2-3: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session.				
2a1	Steps 9a1 to 9a2 of the NR	-	-	-	-
-	RRC CONNECTED procedure in TS 38.508-1				
2a2	Table 4.5.4.2-3 are executed with condition UE				
	TEST LOOP MODE C and Multicast MRB.				
3	The SS changes the power level setting	-	-	-	-
	according to the row "T1"				
4	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to order the UE to perform inter-				
	frequency handover to NR Cell 2				
5	EXCEPTION: In parallel to the events	_	_	<u> </u>	
	described in step 6 the steps specified in Table				
	14.2.4.2.2.2.2.4 chould take place				
6	The SS changes the power level setting		_	<u> </u>	
0	according to the row "TO"	_	-	-	-
7	Check: Does the LIE transmit an	>		1	D
1	BBCBoostablichmontBoguest message on NB	>	RRCRoostablichmontDoguost	1 1	
			RRCREestablistimentRequest		
0	Cell 1?		ND DDC: DDCDaaatabliahmant	+	
0	measure to recume CDP1 exercises on ND	<	NR RRC. RRCReestablishinent	-	-
	message to resume SRB1 operation on NR				
	Cell 1.			+	
9		>	NR RRC.	-	-
	RRCReestabilsnmentComplete message		RRCReestablishmentComplete		
	using the security key derived from the				
10	nextHopChainingCount on NR Cell 1?				
10	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to resume suspended MRB on NR				
	Cell 1.			<u> </u>	
11	Check: Does the UE transmit an	>	NR RRC:	2	P
	RRCReconfigurationComplete message on		RRCReconfigurationComplete		
	NR Cell 1?				
12	The SS transmits a MBS Packet on Multicast	<	MBS Packet.	-	-
	MRB.				
13	The SS transmits an UE TEST LOOP MODE	<	NR RRC: DLInformationTransfer	-	-
	C MBMS PACKET COUNTER REQUEST		TC: UE TEST LOOP MODE C		
	message.		MBMS PACKET COUNTER		
			REQUEST		
14	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
15	Check: Is the number of reported MBS	-	-	2	Р
	Packets received on the MRB in step 14 equal				
	to 1?				

Table 14.2.4.3.2.3.2-4: Parallel behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
-	EXCEPTION: The steps 1 and 2 below are	-	-	-	-
	repeated for the duration of T304.				
1	The UE attempts to perform the handover	-	-	-	-
	using MAC Random Access Preamble on NR				
	Cell 2.				
2	The SS does not respond.	-	-	-	-

14.2.4.3.2.3.3 Specific message contents

Table 14.2.4.3.2.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.3.2.3.2-3)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.3.2.3.3-2: RRCReconfiguration (step 4, Table 14.2.4.3.2.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	Table			
		14.2.4.3.2.3.3-3			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.4.3.2.3.3-4			
}					
}					
}					
}					

Table 14.2.4.3.2.3.3-3: RadioBearerConfig (Table 14.2.4.3.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB_NR_PDCP and Re-establish_PDCP					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of			
OF DRB-ToAddMod {		DRBs established			
		before handover			
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]			
cnAssociation	Not present				
drb-Identity	DRB-Identity with				
	condition DRBk				
reestablishPDCP	true				
pdcp-Config	Not present				
}					
}					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	Not present				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
reestablishPDCP-r17	true				
pdcp-Config-r17	Not present				
}					
}					
}					

Table 14.2.4.3.2.3.3-4: CellGroupConfig (Table 14.2.4.3.2.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change and UM_PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	n+3 entries	n is the number of			
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established			
		before re-			
		establishment			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1			
	condition SRB1 and Re-				
	establish_RLC				
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2			
	condition SRB2 and Re-				
	establish_RLC				
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]			
	condition DRBk and Re-				
	establish_RLC				
RLC-BearerConfig[n+3]	RLC-BearerConfig with	entry n+3			
	conditions UM_DLonly	m=1			
	and PTM and MRBm and				
	Re-establish_RLC				
}					
}					

Table 14.2.4.3.2.3.3-5: RRCReestablishmentRequest (step 7, Table 14.2.4.3.2.3.3-2)

Derivation Path: TS 38.508-1, Table 4.6.1-12			
Information Element	Value/remark	Comment	Condition
RRCReestablishmentRequest ::= SEQUENCE {			
ue-Identity SEQUENCE {			
c-RNTI	the value of the C-RNTI		
	of the UE		
physCellId	PhysicalCellIdentity of		
	NR Cell 1		
shortMAC-I	The same value as the		
	16 least significant bits of		
	the MAC-I value		
	calculated by SS.		
}			
reestablishmentCause	handoverFailure		
}			

Table 14.2.4.3.2.3.3-6: RRCReestablishment (step 8, Table 14.2.4.3.2.3.3-2)

Derivation Path: TS 38.508-1, Table 4.6.1-10			
Information Element	Value/remark	Comment	Condition
RRCReestablishment ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReestablishment SEQUENCE {			
nextHopChainingCount	2		
}			
}			
}			

Table 14.2.4.3.2.3.3-7: RRCReconfiguration (step 10, Table 14.2.4.3.2.3.3-2)

Derivation Path: TS 38.508-1[4], table 4.6.1-13 with condition REEST					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig	Table			
		14.2.4.3.2.3.3-8			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig	Table			
		14.2.4.3.2.3.3-9			
}					
}					
}					
}					

Table 14.2.4.3.2.3.3-8: RadioBearerConfig (Table 14.2.4.3.2.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions REEST					
Information Element	Value/remark	Comment	Condition		
RadioBearerConfig ::= SEQUENCE {					
srb-ToAddModList SEQUENCE (SIZE (12)) OF	1 entry				
SRB-ToAddMod {					
SRB-ToAddMod[1] SEQUENCE {		entry 1			
srb-Identity	SRB-Identity with				
	condition SRB2				
reestablishPDCP	true				
}					
}					
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of			
OF DRB-ToAddMod {		DRBs established			
		before re-			
		establishment			
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]			
cnAssociation	Not present				
drb-Identity	DRB-Identity with				
	condition DRBk				
reestablishPDCP	true				
pdcp-Config	Not present				
}					
}					
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry				
(1maxDRB)) OF MRB-ToAddMod-r17 {					
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1			
mbs-SessionId-r17	Not present				
mrb-Identity-r17	MRB-Identity with	m=1			
	condition MRBm				
reestablishPDCP-r17	true				
pdcp-Config-r17	Not present				
}					
}					
}					

Table 14.2.4.3.2.3.3-9: CellGroupConfig (Table 14.2.4.3.2.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition UM_PTM					
Information Element	Value/remark	Comment	Condition		
CellGroupConfig ::= SEQUENCE {					
rlc-BearerToAddModList SEQUENCE	n+3 entries	n is the number of			
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established			
		before re-			
		establishment			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1			
	condition SRB1				
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2			
	condition SRB2 and Re-				
	establish_RLC				
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]			
	condition DRBk and Re-				
	establish_RLC				
RLC-BearerConfig[n+3]	RLC-BearerConfig with	entry n+3			
	conditions UM_DLonly	m=1			
	and PTM and MRBm and				
	Re-establish_RLC				
}					
}					

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14.2.4.3.3 MBS Multicast/ RRC/ Handover between Multicast-supporting cell and Multicast nonsupporting cell / Success

14.2.4.3.3.1 Test Purpose (TP)

(1)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and receives MBS data in MRB }

ensure that {

when { UE receives an RRCReconfiguration message to switch the MBS data transmission from the MRB to DRB }

then { UE transmits an RRCReconfigurationComplete }

```
}
```

(2)

with { UE in NR RRC_CONNECTED state and UE has switched to receive MBS data in DRB }

ensure that {

when { UE receives an RRCReconfiguration message including a reconfigurationWithSync for handover
to a multicast non-supporting cell }

then { UE performs handover to the target cell and transmits an RRCReconfigurationComplete message }

}

(3)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and configured to receive MBS data in DRB }

ensure that {

when { UE receives an RRCReconfiguration message including a reconfigurationWithSync for handover
to a multicast supporting cell }

then { UE performs handover to the target cell and transmits an RRCReconfigurationComplete message and successfully established MRB and receives MBS data in MRB }

}

(4)

with { UE in NR RRC_CONNECTED state and UE has joined one MBS multicast session and receives MBS data in MRB }

ensure that {

when { UE receives an RRCReconfiguration message including a reconfigurationWithSync and full
configuration for handover to a multicast non-supporting cell }

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then { UE performs handover to the target cell and transmits an RRCReconfigurationComplete
message }

}

14.2.4.3.3.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 38.300, clause 16.10.5.3.3; TS 38.331, clause 5.3.5.11; TS 23.247, clauses 7.2.3.2, 7.2.3.4 and 7.2.3.5. Unless otherwise stated these are Rel-17 requirements.

[TS 38.300, clause 16.10.5.3.3]

During an MBS multicast session, at mobility from an MBS-supporting cell to an MBS non-supporting cell, the target gNB sets up PDU Session Resources mapped to the MBS multicast Session. The 5GC infers from the absence of an "MBS-support" indication from gNB in the Path Switch Request message (Xn handover) or Handover Request Acknowledge message (NG handover) that MBS multicast data packets delivery has to be switched to 5GC individual MBS traffic delivery as specified in TS 23.247 [45]. If data forwarding is applied, the source gNB infers from the handover preparation response message that the target gNB does not support MBS and changes the QFI(s) in the forwarded packets to the associated PDU Session QFI(s) if respective mapping information is available. The source gNB may be aware that the target gNB is non-MBS supporting already before Handover Preparation.

For mobility from MBS non-supporting cell to MBS-supporting cell, the existing Xn/NG handover procedures apply. The 5GC infers from the presence of the "MBS-support" indicator from gNB in the Path Switch Request message (Xn handover) or in the Handover Request Acknowledge message (NG handover) that MBS multicast data packets delivery can be switched from 5GC Individual MBS traffic delivery to 5GC Shared MBS traffic delivery. After Xn handover, the SMF triggers switching MBS multicast data packets delivery from 5GC Individual to 5GC Shared MBS traffic delivery by providing MBS Session IDs joined by the UE to the target gNB by means of the PDU Session Resource Modification procedure. And for NG handover, the SMF provides the MBS Session IDs joined by the UE to the target gNB by means of NGAP Handover Request. Minimization of data loss and duplication avoidance may be applied by means of identical MBS QFI SNs received over the shared NG-U tunnel against those received over unicast NG-U tunnels or forwarding tunnels.

Mobility from a multicast-supporting cell to a multicast non-supporting cell can be achieved by switching the MRB to a DRB in the source gNB before a handover.

NOTE: A UE may be handed over to a target gNB not supporting MBS without prior reconfiguration from MRB to the DRB in the source gNB. In this case, the AS configuration may not be comprehended by the target gNB causing full configuration.

[TS 38.331, clause 5.3.5.11]

The UE shall:

1> release/ clear all current dedicated radio configurations except for the following:

- the MCG C-RNTI;
- the AS security configurations associated with the master key;
- the SRB1/SRB2 configurations and DRB/multicast MRB configurations as configured by radioBearerConfig or radioBearerConfig2.

•••

NOTE 1b: To establish the RLC bearer of SRB(s) after release due to *fullConfig*, the network can include the *srb-Identity* within *srb-ToAddModList* (i.e. the UE applies RLC default configuration) and/or provide *rlc-BearerToAddModList* of concerned SRB(s) explicitly.

- the logged measurement configuration;

1> if the *spCellConfig* in the *masterCellGroup* includes the *reconfigurationWithSync*:

2> release/ clear all current common radio configurations;

2> if *sl-PathSwitchConfig* was included in *reconfigurationWithSync*:

•••

2> else:

3> use the default values specified in 9.2.3 for timers T310, T311 and constants N310, N311;

1> else (full configuration after re-establishment or during RRC resume):

•••

1> if the UE is acting as L2 U2N Remote UE at the target side during reconfiguration with sync, or after reestablishment, or during RRC resume:

•••

1> else:

- 2> apply the default L1 parameter values as specified in corresponding physical layer specifications except for the following:
 - parameters for which values are provided in *SIB1*;
- 2> apply the default MAC Cell Group configuration as specified in 9.2.2;
- 2> for each *srb-Identity* value included in the *srb-ToAddModList* (SRB reconfiguration):
 - 3> establish an RLC entity for the corresponding SRB;
 - 3> apply the default SRB configuration defined in 9.2.1 for the corresponding SRB;
- NOTE 2: This is to get the SRBs (SRB1 and SRB2 for reconfiguration with sync and SRB2 for resume and reconfiguration after re-establishment) to a known state from which the reconfiguration message can do further configuration.
- 1> for each *pdu-Session* that is part of the current UE configuration:

2> release the SDAP entity (clause 5.1.2 in TS 37.324 [24]);

2> release each DRB associated to the *pdu-Session* as specified in 5.3.5.6.4;

- NOTE 3: This will retain the *pdu-Session* but remove the DRBs including *drb-identity* of these bearers from the current UE configuration. Setup of the DRBs within the AS is described in clause 5.3.5.6.5 using the new configuration. The *pdu-Session* acts as the anchor for associating the released and re-setup DRB. In the AS the DRB re-setup is equivalent with a new DRB setup (including new PDCP and logical channel configurations).
- 1> for each *mbs-SessionId* that is part of the current UE configuration and associated to a multicast MRB:

2> release the SDAP entity (clause 5.1.2 in TS 37.324 [24]);

2> release each multicast MRB associated to the *mbs-SessionId* as specified in 5.3.5.6.6;

- NOTE 4: This will retain the *mbs-SessionId* but remove the multicast MRBs including *mrb-identity* of these bearers from the current UE configuration. Setup of the multicast MRBs within the AS is described in clause 5.3.5.6.7 using the new configuration. The *mbs-SessionId* acts as the anchor for associating the released and re-setup multicast MRB. In the AS the multicast MRB re-setup is equivalent with a new multicast MRB setup (including new PDCP and logical channel configurations).
- 1> for each *pdu-Session* that is part of the current UE configuration but not added with same *pdu-Session* in the *drb-ToAddModList*:
 - 2> if the procedure was triggered due to reconfiguration with sync:
 - 3> indicate the release of the user plane resources for the *pdu-Session* to upper layers after successful reconfiguration with sync;

2> else:

- 3> indicate the release of the user plane resources for the *pdu-Session* to upper layers immediately;
- 1> for each *mbs-SessionId* that is part of the current UE configuration but not added with the same *mbs-SessionId* in the *mrb-ToAddModList*:
 - 2> if the procedure was triggered due to reconfiguration with sync:
 - 3> indicate the release of the user plane resources for the *mbs-SessionId* to upper layers after successful reconfiguration with sync;

2> else:

3> indicate the release of the user plane resources for the *mbs-SessionId* to upper layers immediately.

[TS 23.247, clause 7.2.3.2]

This clause describes an Xn based handover with MBS traffic delivered to the UE at the source NG-RAN node supporting MBS.



Figure 7.2.3.2-1: Xn based handover with MBS Session

The following additions apply compared to clause 4.9.1.2 of TS 23.502 [6]:

Before Handover:

The source NG RAN has been provided with MBS Session Resource information (including the MBS Session ID and multicast QoS flow information) and the UE Context information contains a mapping information within the PDU Session Resource associated with the MBS Session Resource, e.g. including mapped unicast QoS Flows associated with the multicast QoS flow(s) of the MBS Session Resource.

Handover Preparation Phase:

At Xn handover, the target NG-RAN is provided with MBS session information by the source NG-RAN which causes:

- an MBS non-supporting target NG-RAN node to prepare the unicast resources according to associated QoS flow(s) information.

•••

1. Target NG-RAN to AMF: the target NG-RAN sends N2 Path Switch Request to AMF.

The target NG-RAN node, if MBS-capable, indicates it supports of MBS to SMF in N2 SM information. Per the received N2 SM information, the SMF knows whether the target NG-RAN node supports MBS and determines the delivery method, i.e. whether the 5GC Shared MBS traffic delivery or 5GC Individual MBS traffic delivery is used for MBS data transferring.

The SMF differentiates two cases:

•••

Case B) The target NG-RAN does not support MBS. Step 3 is skipped, step 4 applies.

4. This steps is same as described in step 11 of clause 7.2.1.3.

The details of how to perform data forwarding refers to clause 7.2.3.5.

5. SMF to AMF: The SMF responds to AMF through Nsmf_PDUSession_UpdateSMContext response.

6. AMF to target NG-RAN: The AMF sends the path switch Ack to target NG-RAN.

[TS 23.247, clause 7.2.3.4]

When the UE has joined the multicast MBS session and the source NG-RAN node does not support MBS, the 5GC Individual MBS traffic delivery method is used for the multicast MBS session data delivery. When the Xn/N2 based handover procedure is triggered, the UE is handed over to the target NG-RAN node per existing Xn /N2 based handover procedure defined in TS 23.502 [6].

[TS 23.247, clause 7.2.3.5]

To minimize data loss of a multicast MBS session during the handover procedure the following functions apply:

•••

- If source NG-RAN node supports MBS and target NG-RAN node does not support MBS, the multicast MBS session data is forwarded from source NG-RAN node to target NG-RAN node via data forwarding tunnels allocated by the target NG-RAN node associated with the mapped unicast QoS flows within the associated PDU session according to the data forwarding mechanism defined in TS 23.502 [6].
- If source NG-RAN node does not support MBS and target NG-RAN node supports MBS, for Xn/N2 handover, the multicast MBS session data is forwarded to the target NG-RAN node as the data forwarding mechanism defined in TS 23.502 [6]. Directly after the handover the target NG-RAN node thus still receives MBS session data via individual delivery. The UPF forwards multicast MBS session data within the associated PDU session which includes the sequence number received from the MB-UPF to the target NG-RAN node. Shared delivery of MBS data towards the target RAN node is being established as described in clause 7.2.1.4 and the target RAN node receives sequence numbers as part of the MBS data with sequence numbers via shared delivery.

14.2.4.3.3.3 Test description

14.2.4.3.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving cell and NR Cell 3 is the inter-frequency neighbour cell of NR Cell 1.
- NR Cell 1 is a Multicast-supporting cell and NR Cell 3 is a Multicast non-supporting cell.
- System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cells.

UE:

- The UE is made interested in receiving MBS Multicast service with MBS service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.4.3.3.3.2 Test procedure sequence

Tables 14.2.4.3.3.3.2-1 and 14.2.4.3.3.3.2-2 illustrate the downlink power levels to be applied for NR Cell 1 and NR Cell 3 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while

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the configuration marked "T1", are applied at the point indicated in the Main behaviour description in Table 14.2.4.3.3.2-3.

Table 14.2.4.3.3.3.2-1: Power levels in FR1

	Parameter	Unit	NR Cell 1	NR Cell 3	Remark
то	SS/PBCH	dDm/CCC	00	01	
10	SSS EPRE	UBIII/SCS	-92 -91		
T 1	SS/PBCH	dDm/CCC	01	00	
11	SSS EPRE	ubiii/SCS	-91	-88	

Table 14.2.4.3.3.3.2-2: Power levels in FR2

	Parameter	Unit	NR Cell 1	NR Cell 3	Remark
то	SS/PBCH SSS EPRE	dBm/ SCS	FFS	FFS	
T1	SS/PBCH SSS EPRE	dBm/ SCS	FFS	FFS	

Table 14.2.4.3.3.3.2-3: Main behaviour

St	Procedure	Message Sequence			Verdict
		U - S	Message	1	
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in MBS Multicast session				
2	The SS changes the power level setting	_	-	-	_
	according to the row "T1"				
3	The SS transmits an <i>RRCReconfiguration</i>	<	NR RRC: PRCReconfiguration		
	mossage to switch MPP to DPP		Nix Nixe. NixeReconingulation		
1	Check: Does the LIE transmit	>		1	D
4	BBCBacanfigurationComplete maccage in NB	>	RRCRoconfigurationComplete	1 ¹	
			RRCReconnigurationComplete		
F	Cell 1?				
5		<	NR RRC. RRCReconiiguration	-	-
	message to order the UE to perform inter-				
	frequency handover to NR Cell 3			-	
6	Check: Does the UE transmit	>	NR RRC:	2	
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 3?				
7	The SS changes the power level setting	-	-	-	-
	according to the row "T0".				
8	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to order the UE to perform inter-				
	frequency handover to NR Cell 1.				
9	Check: Does the UE transmit	>	NR RRC:	3	Р
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 1?				
10	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message to release the DRB used to receive				
	MBS packet.				
11	Check: Does the UE transmit	>	NR RRC:	3	Р
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 12		·····g-·····		
12a	Steps 9a1 to 9a2 of the NR	-	-	-	-
1-	RRC CONNECTED procedure in TS 38 508-1				
12a	Table 4 5 4 2-3 are executed with condition LIE				
2	TEST LOOP MODE C and Multicast MPR				
13	The SS transmits a MBS Packet on Multicast	<	MBS Packet	-	_
13			MDS Facket.	-	_
14	MRB.		NR RRC: DLInformationTransfor		
14				-	-
	MBMS PACKET COUNTER REQUEST				
	message.		MBMS PACKET COUNTER		
15			REQUEST		
15	UE responds with UE TEST LOOP MODE C	>	NR RRC: ULInformationTransfer	-	-
	MBMS PACKET COUNTER RESPONSE.		TC:UE TEST LOOP MODE C		
			MBMS PACKET COUNTER		
			RESPONSE		
16	Check: Is the number of reported MBS	-	-	3	P
	Packets received on the MRB in step 15 equal				
	to 1?				
17	The SS changes the power level setting	-	-	-	-
	according to the row "T1".				
18	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message including full configuration to order				
	the UE to perform inter-frequency handover to				
	NR Cell 3.				
19	Check: Does the UE transmit	>	NR RRC:	4	Р
	RRCReconfigurationComplete message in NR		RRCReconfigurationComplete		
	Cell 3?				
14.2.4.3.3.3.3 Specific message contents

Table 14.2.4.3.3.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.4.3.3.3.3-2: RRCReconfiguration (step 3, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.3.3.3.3-3	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.3.3.3.3-5	
}			
}			
}			
}			

Table 14.2.4.3.3.3.3-3: RadioBearerConfig (Table 14.2.4.3.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	1 entry		
OF DRB-ToAddMod {			
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config	Table	
		14.2.4.3.3.3.3-4	
}			
drb-Identity	DRB-Identity using	n is chosen as the	
	condition DRBn	next available	
		number higher	
		than the number	
		of DRB	
		ostablished in	
		Stop 1o10 or Stop	
		Step 1a10 or Step	
		1010.	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		
}			
}	-		
mrb-ToReleaseList-r17 SEQUENCE (SIZE	1 entry		
(1maxMRB-r17)) OF MRB-ToAddMod-r17 {			
MRB-Identity-r17[1]	MRB-Identity with	entry 1	
	condition MRBm	m=1	
}			
}			

Table 14.2.4.3.3.3.3-4: SDAP-Config (Table 14.2.4.3.3.3.3-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-161			
Information Element	Value/remark	Comment	Condition
SDAP-Config ::= SEQUENCE {			
pdu-Session	The same value as the	PDU session ID	
	PDU session ID IE in	for the PDU	
	PDU SESSION	session	
	ESTABLISHMENT	associated with	
	ACCEPT in step 1a10 or	MBS session.	
	step 1b10		
sdap-HeaderDL	absent		
sdap-HeaderUL	absent		
defaultDRB	false		
mappedQoS-FlowsToAdd	Not present	UL is not needed	
}			

Table 14.2.4.3.3.3.3-5: CellGroupConfig (Table 14.2.4.3.3.3.3-2)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	1 entry		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions AM and	n is set to the same	
	DRBn	value as for the	
		radioBearerConfig in	
		Table 14 2 4 3 3 3 3-3	
}			
rlc-BearerToReleaseList SEOUENCE	1 entry		
(SIZE(1 maxl C-ID)) OF Logical Channel Identity			
logicalChannelldentity[1]	LogicalChannelIdentity	entry 1	
	with conditions PTM	m=1	
	and MRBm		
}			
mac-CellGroupConfig	Not Present		
physicalCellGroupConfig	Not Present		
spCellConfig	Not Present		
}			

Table 14.2.4.3.3.3.3-6: RRCReconfiguration (step 5, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.3.3.3.3-7	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.3.3.3.3-8	
}			
}			
}			
}			

Table 14.2.4.3.3.3.3-7: RadioBearerConfig (Table 14.2.4.3.3.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB NR PDCP and Re-establish PDCP			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of	
OF DRB-ToAddMod {		DRBs established	
		before handover	
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]	
cnAssociation	Not present		
drb-Identity	DRB-Identity with		
	condition DRBk		
reestablishPDCP	true		
pdcp-Config	Not present		
}			
}			
}			

Table 14.2.4.3.3.3.3-8: CellGroupConfig (Table 14.2.4.3.3.3.3-6)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	n+2 entries	n is the number of	
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established	
		before handover	
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	condition SRB1 and Re-		
	establish_RLC		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	condition SRB2 and Re-		
	establish_RLC		
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]	
	condition DRBk and Re-		
	establish_RLC		
}			
}			

Table 14.2.4.3.3.3.3-9: RRCReconfiguration (step 8, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange				
Information Element	Value/remark	Comment	Condition	
RRCReconfiguration ::= SEQUENCE {				
criticalExtensions CHOICE {				
rrcReconfiguration ::= SEQUENCE {				
radioBearerConfig	RadioBearerConfig	Table		
		14.2.4.3.3.3.3-10		
nonCriticalExtension SEQUENCE {				
masterCellGroup	CellGroupConfig	Table		
		14.2.4.3.3.3.3-11		
}				
}				
}				
}				

Table 14.2.4.3.3.3.3-10: RadioBearerConfig (Table 14.2.4.3.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB_NR_PDCP and Re-establish_PDCP			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	n entries	n is the number of	
OF DRB-ToAddMod {		DRBs established	
		before handover	
DRB-ToAddMod[k, k=1n] SEQUENCE {		entry [k, k=1n]	
cnAssociation	Not present		
drb-Identity	DRB-Identity with		
	condition DRBk		
reestablishPDCP	true		
pdcp-Config	Not present		
}			
}			
mrb-ToAddModList-r17 SEQUENCE (SIZE	1 entry		
(1maxDRB)) OF MRB-ToAddMod-r17 {			
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI		
mrb-Identity-r17	MRB-Identity with	m=2	
	condition MRBm		
pdcp-Config-r17	PDCP-Config with	m=2	
	condition		
	MRB_Initialization and		
	UM_MRB and MRBm		
}			
}			
}			

Table 14.2.4.3.3.3.3-11: CellGroupConfig (Table 14.2.4.3.3.3.3-9)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToAddModList SEQUENCE	n+3 entries	n is the number of		
(SIZE(1maxLCH)) OF RLC-BearerConfig {		DRBs established		
		before handover		
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1		
	condition SRB1 and Re-			
	establish_RLC			
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2		
	condition SRB2 and Re-			
	establish_RLC			
RLC-BearerConfig[k+2, k=1n]	RLC-BearerConfig with	entry [k+2, k=1n]		
	condition DRBk and Re-			
	establish_RLC			
RLC-BearerConfig[n+3]	RLC-BearerConfig with	entry n+3		
	conditions UM_DLonly	m=2		
	and PTM and MRBm			
}				
mac-CellGroupConfig	MAC-CellGroupConfig			
	with condition			
	MBS Multicast			
physicalCellGroupConfig	PhysicalCellGroupConfig			
spCellConfig SEQUENCE {				
spCellConfigDedicated	ServingCellConfig with			
	condition MBS_Multicast			
}				
}				

Table 14.2.4.3.3.3.3-12: RRCReconfiguration (step 10, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.3.3.3.3-13	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.3.3.3.3-14	
}			
}			
}			
}			

Table 14.2.4.3.3.3.3-13: RadioBearerConfig (Table 14.2.4.3.3.3.3-12)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions MRBm (m=2) and UM_PTM				
Information Element	Value/remark	Comment	Condition	
RadioBearerConfig ::= SEQUENCE {				
drb-ToReleaseList SEQUENCE (SIZE (1maxDRB))	1 entry			
OF DRB-Identity {				
DRB-Identity[1]	DRB-Identity of DRBn	entry 1		
		DRBn is the DRB		
		established in Table		
		14.2.4.3.3.3.3-3		
}				
}				

Table 14.2.4.3.3.3.3-14: CellGroupConfig (Table 14.2.4.3.3.3.3-12)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with conditions MRBm (m=2) and UM_PTM				
Information Element	Value/remark	Comment	Condition	
CellGroupConfig ::= SEQUENCE {				
rlc-BearerToReleaseList SEQUENCE	1 entry			
(SIZE(1maxLC-ID)) OF LogicalChannelIdentity {				
LogicalChannelIdentity [1]	LogicalChannelIdentity	entry 1		
	with condition DRBn	DRBn is the DRB		
		established in Table		
		14.2.4.3.3.3.3-3		
}				
}				

Table 14.2.4.3.3.3.3-15: CLOSE UE TEST LOOP (step 10a1, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB			
Information Element	Value/remark	Comment	Condition
UE test loop mode C LB setup			
MRB ID	,0000000	MRB-Identity is 2	
	0000000		
	1000000'B		

Table 14.2.4.3.3.3.3-16: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 12, Table14.2.4.3.3.3.2-3)

Derivation Path: 36.508 [6], Table 4.7A-9

Table 14.2.4.3.3.3.3-17: RRCReconfiguration (step 16, Table 14.2.4.3.3.3.2-3)

Derivation Path: TS 38.508-1 [4] Table 4.8.1-1A with condition RBConfig_KeyChange			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.4.3.3.3.3-18	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.4.3.3.3.3-19	
fullConfig	true		
}			
}			
}			
}			

Table 14.2.4.3.3.3.3-18: RadioBearerConfig (Table 14.2.4.3.3.3.3-17)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with conditions SRB_NR_PDCP and Re-establish_PDCP			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1maxDRB))	2 entries		
OF DRB-ToAddMod {			
DRB-ToAddMod[1] SEQUENCE {		entry 1	
		Default DRB in the PDU	
		session associated with	
		MBS session. This DRB	
		is established in sten	
		1a10 or step 1b10	
cnAssociation CHOICE {			
sdan-Config	SDAP-Config		
}	OD/ W Coning		
drb-Identity	DRB-Identity using	n is same as the number	
	condition DRBn	of DRB established in	
		sten 1a10 or sten 1b10	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		
}			
DRB-ToAddMod[2] SEQUENCE {		entry 2	
		Non-default DRB for the	
		associated Oos flow	
		manned to MBS Oos	
		flow	
cnAssociation CHOICE {		now.	
sdap-Config	SDAP-Config	Table 14,2,4,3,3,3,3,4	
}	CD1 Comig		
drb-Identity	DRB-Identity using	n is chosen as the next	
	condition DRBn	available number higher	
		than the number of DRB	
		established in step 1a10	
		established in step 1410	
reactablichDDCD	Not procept		
	Not present		
nden-Config	PDCP_Config		
3			
	1	1	

Table 14.2.4.3.3.3.3-19: CellGroupConfig (Table 14.2.4.3.3.3.3-17)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition PCell_change			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	4 entries		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions SRB1		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	conditions SRB2		
RLC-BearerConfig[3]	RLC-BearerConfig with	entry 3	
	conditions AM and DRBn	n is set to the same	
		value as for DRB-	
		ToAddMod[1] in Table	
		14.2.4.3.3.3.3-18	
RLC-BearerConfig[4]	RLC-BearerConfig with	entry 4	
	conditions AM and DRBn	n is set to the same	
		value as for DRB-	
		ToAddMod[2] in Table	
		14.2.4.3.3.3.3-18	
}			
mac-CellGroupConfig	MAC-CellGroupConfig		
physicalCellGroupConfig	PhysicalCellGroupConfig		
}			

14.2.5 MBS Multicast/ Session management

14.2.5.1 MBS Multicast/ Session management / Network-requested PDU session modification

14.2.5.1.1 MBS Multicast/ Session management / Network-requested PDU session modification / Remove UE from multicast MBS session14.2.5.1.11 Test Purpose (TP)

(1)

with { UE is in 5GMM-REGISTERED state and has joined two MBS multicast session associated with a PDU
session. One MBS session Id is TMGI-1, and another MBS session Id is TMGI-2.}

ensure that {

when { UE receives PDU SESSION MODIFICATION COMMAND message including Received MBS container IE
with MBS decision setting to " Remove UE from multicast MBS session" and Rejection cause setting to
"MBS session is released" for TMGI-1. }

then { UE sends PDU SESSION MODIFICATION COMPLETE and UE shall consider the MBS session for TMGI-1 as released and MBS session for TMGI-2 is not released. }

}

14.2.5.1.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.501, clauses 5.6.2.2.1, 6.3.2.2 and 6.3.2.3. Unless otherwise stated these are Rel-17 requirements.

[TS 24.501, clause 6.3.2.2]

If:

- a) the SMF wants to remove joined UE from one or more multicast MBS sessions; or
- b) the network-requested PDU session modification procedure is triggered by a UE-requested PDU session modification procedure and the UE has included the Requested MBS container IE in the PDU SESSION MODIFICATION REQUEST message with the MBS operation set to "Leave multicast MBS session",

the SMF shall include the multicast MBS session IDs that the UE is removed from, if any, in the Received MBS container IE in the PDU SESSION MODIFICATION COMMAND message and shall set the MBS decision to "Remove UE from multicast MBS session" for each of those Received MBS information. The SMF may include the updated MBS service area in each of the Received MBS information, if any. The SMF may delete the QoS flows associated for the multicast by including the Authorized QoS flow descriptions IE in the PDU SESSION MODIFICATION COMMAND message. If the UE is removed from multicast MBS session due to the multicast MBS session release, the SMF shall set the Rejection cause to "MBS session is released". The SMF shall include the Rejection cause for each of the Received MBS information, if any, and set its value with the reason of removing the UE from the corresponding multicast MBS session.

[TS 24.501, clause 6.3.2.3]

If the PDU SESSION MODIFICATION COMMAND message includes the Received MBS container IE, for each of the Received MBS information:

•••

c) if the MBS decision is set to "Remove UE from multicast MBS session", the UE shall consider that it has successfully left the multicast MBS session, and if the received Rejection cause is set to "multicast MBS session is released", the UE shall consider the multicast MBS session as released. Then the UE shall indicate to lower layers to delete the stored TMGI;

[TS 24.501, clause 5.6.2.2.1]

If TMGI is used as paging identity and the TMGI matches with multicast MBS session which the has UE joined, the UE shall respond to the paging. Otherwise, the UE shall not respond to the paging.

14.2.5.1.1.3 Test description

14.2.5.1.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving Cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- UE is made interested in receiving MBS Multicast service with MBS Service ID '000101'H and '000102'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.5.1.1.3.2 Test procedure sequence

Table 14.2.5.1.1.3.2-1: Main behaviour

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1a1	Steps 1a1 to 1b12a1 of the generic	-	-	-	-
-	procedures described in TS 38.508-1				
1b1	subclause 4.9.34 are performed on NR Cell 1				
2a1	to establish an associated PDU Session to the				
	MBS DNN and join in two MBS Multicast				
	session. One MBS session Id is TMGI-1, and				
	another MBS session Id is TMGI-2.				
2	The SS transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
3-	Check: Does UE respond to paging with	-	-	1	-
17	TMGI-1 and receive the MRB associated with				
	TMGI-1 as specified in steps 1 to 15 of the				
	procedure in TS 38.508-1[4] Table 4.9.38.2.2-				
	1?				
18	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message.		TC: OPEN UE TEST LOOP		
19	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
20	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message and a PDU SESSION		5GMM: DL NAS TRANSPORT		
	MODIFICATION COMMAND to release MBS		5GSM: PDU SESSION		
	Session associated with TMGI-1.		MODIFICATION COMMAND		
-	EXCEPTION: Depending upon UE	-	-	-	-
	implementation, step 21 and 22 can occur in				
	any order				
21	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message.		RRCReconfigurationComplete		
22	The UE transmits a PDU SESSION	>	NR RRC: ULInformationTransfer	1	P
	MODIFICATION COMPLETE message.		5GMM: UL NAS TRANSPORT		
			5GSM: PDU SESSION		
			MODIFICATION COMPLETE		
23	The SS transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
24	The SS transmits a <i>Paging</i> message including	<	NR RRC: Paging	-	-
	TMGI-1.				
25	Check: Does the UE transmit an	>	NR RRC: RRCSetupRequest	1	F
	RRCSetupRequest message within 10s?				
26-	Check: Does UE respond to paging with	-	-	1	-
40	TMGI-2 and receive the MRB associated with				
	TMGI-2 as specified in steps 1 to 15 of the				
	procedure in TS 38.508-1[4] Table 4.9.38.2.2-				
	1?				

14.2.5.1.1.3.3 Specific message contents

Table 14.2.5.1.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.5.1.1.3.3-2: PDU SESSION MODIFICATION REQUEST (step 1a14, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-7.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-2	
MBMS Service ID	'000102'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		

Table 14.2.5.1.1.3.3-3: PDU SESSION MODIFICATION COMMAND (step 1a15, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2	-9		
Information Element	Value/remark	Comment	Condition
Received MBS container			
Received MBS information			
Rejection cause	'000'B	No additional	
		information provided	
MSAI	'00'B	MBS service area not	
		included	
MD	'010'B	MBS join is accepted	
MSCI	'0'B	MBS security container	
		not included	
MTI	'00'B	No MBS timers	
		included	
IPAE	'0'B	Source and destination	
		IP address information	
		not included	
TMGI		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38,508-1[4] table 4,4,2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area	Not present		
MBS timers	Not present		
MBS security container	Not present		
Received MBS information			
Rejection cause	'000'B	No additional	
		information provided	
MSAI	'00'B	MBS service area not	
		included	
MD	'010'B	MBS join is accepted	
MSCI	'0'B	MBS security container	
		not included	
MTI	'00'B	No MBS timers	
		included	
IPAE	'0'B	Source and destination	
		IP address information	
		not included	
TMGI		TMGI-2	
MBMS Service ID	'000102'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area	Not present		
MBS timers	Not present		
MBS security container	Not present		

Table 14.2.5.1.1.3.3-4: RRCReconfiguration (step 1a15, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	m=1	
		Table	
		14.2.5.1.1.3.3-5	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	m=1	
		Table	
		14.2.5.1.1.3.3-6	
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			
}			

Table 14.2.5.1.1.3.3-5: RadioBearerConfig (Table 14.2.5.1.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
mrb-ToAddModList-r17 SEQUENCE (SIZE	2 entries		
(1maxDRB)) OF MRB-ToAddMod-r17 {			
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI with condition TMGI-1	Table	
		14.2.5.1.1.3.3-7	
mrb-Identity-r17	MRB-Identity with condition	m=1	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=1	
	MRB Initialization and		
	UM MRB and MRBm		
}			
MRB-ToAddMod-r17 [2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI with condition TMGI-2	Table	
		14.2.5.1.1.3.3-7	
mrb-Identity-r17	MRB-Identity with condition	m=2	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=2	
	MRB Initialization and		
	UM MRB and MRBm		
}			
}			
}			

Table 14.2.5.1.1.3.3-6: CellGroupConfig (Table 14.2.5.1.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	2 entries		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions UM_DLonly and	m=1	
	PTM and MRBm		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	conditions UM_DLonly and	m=2	
	PTM and MRBm		
}			
mac-CellGroupConfig	MAC-CellGroupConfig with		
	condition MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig with		
	condition MBS_Multicast		
}			
}			

Table 14.2.5.1.1.3.3-7: TMGI (Table 14.2.5.1.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-9			
Information Element	Value/remark	Comment	Condition
TMGI-r17 ::= SEQUENCE {			
plmn-Id-r17 CHOICE {			
plmn-Index-r17	1		
}			
serviceId-r17	'000101'H	OCTET STRING	TMGI-1
		(SIZE (3))	
	'000102'H	OCTET STRING	TMGI-2
		(SIZE (3))	
}			

Table 14.2.5.1.1.3.3-8: PDU SESSION ESTABLISHMENT REQUEST (step 1b9, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-1.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID			
MBMS Service ID	'000101'H	TMGI-2	
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		

Table 14.2.5.1.1.3.3-9: PDU SESSION ESTABLISHMENT ACCEPT (step 1b10, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-2.			
Information Element	Value/remark	Comment	Condition
Received MBS container			
Received MBS information			
Rejection cause	'000'B	No additional	
		information provided	
MSAI	'00'B	MBS service area not	
		included	
MD	'010'B	MBS join is accepted	
MSCI	'0'B	MBS security	
		container not included	
MTI	'00'B	No MBS timers	
		included	
IPAF	'0'B	Source and	
		destination IP address	
		information not	
		included	
TMC			
MDMC Service ID	(000101)	TMGI-1	
	500 28 E08 1[4] toblo 4 4 2 2		
MNC	See 30.506-1[4] table 4.4.2-3		
MINC Source ID address information	See 30.506-1[4] table 4.4.2-5		
Destination IP address information	Not present		
MPS convice area	Not present		
MBS timers	Not present		
MBS security container	Not present		
Received MBS information			
Rejection cause	'000'B	No additional	
		information provided	
MSAL	(00)B	MBS service area not	
		included	
MD	(010'B	MBS join is accented	
MSCI	010 B	MBS socurity	
	08	approximation	
	(00'B	No MPS timoro	
	00 B		
	(0'P		
IPAE	UB	Source and	
		destination IP address	
		information not	
		included	
TMGI		TMGI-2	
MBMS Service ID	'000102'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area	Not present		
MBS timers	Not present		
MBS security container	Not present		

Table 14.2.5.1.1.3.3-10: RRCReconfiguration (step 1b10, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	Table	
		14.2.5.1.1.3.3-11	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig	Table	
		14.2.5.1.1.3.3-12	
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			
}			

Table 14.2.5.1.1.3.3-11: RadioBearerConfig (Table 14.2.5.1.1.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE	1 entry		
(1maxDRB)) OF DRB-ToAddMod {			
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}	-		
drb-Identity	DRB-Identity with condition	n is chosen as	
	DRBn	the next	
		available	
		number higher	
		or equal to 2	
reestablishPDCP	Not present		
recoverPDCP	Not present		
ndcn-Config	PDCP-Config		
ې او د د د د د د د د د د د د د د د د د د			
}			
mrb-ToAddModList-r17 SEQUENCE (SIZE	2 entries		
$(1 \text{ maxDRB})) \cap E \text{ MRB-ToAddMod-r17}$	2 churco		
MBB-ToAddMod-r17 [1] SEOUENCE {		entry 1	
mhs-SessionId-r17	TMGI with condition TMGI-1		
mrb-Identity-r17	MRB-Identity with condition	m=1	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=1	
	MRB Initialization and		
	UM MRB and MRBm		
}			
MRB-ToAddMod-r17 [2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI with condition TMGI-2		
mrb-Identity-r17	MRB-Identity with condition	m=2	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=2	
	MRB Initialization and		
	LIM MRB and MRBm		
}			
}			
}			
J		1	1

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	3 entries		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions UM_DLonly	m=1	
	and PTM and MRBm		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	conditions UM_DLonly	m=2	
	and PTM and MRBm		
RLC-BearerConfig[3]	RLC-BearerConfig with	entry 3	
	conditions AM and DRBn	n is set to the	
		same value as for	
		the	
		radioBearerConfig	
		IE in Table	
		14.2.5.1.1.3.3-11	
}			
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig with		
	condition MBS_Multicast		
}			
}			

Table 14.2.5.1.1.3.3-13: Paging (step 3, step 24 and step 26, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI				
Information Element	Value/remark	Comment	Condition	
Paging ::= SEQUENCE {				
pagingRecordList	Not present			
nonCriticalExtension SEQUENCE {				
pagingGroupList-r17 SEQUENCE	1 entry			
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {				
TMGI-r17[1]	TMGI-1	entry 1	Step 3, Step 24	
	TMGI-2	entry 1	Step 26	
}				
}				
}				
}				

Table 14.2.5.1.1.3.3-14: RRCReconfiguration (step 11 and step 34, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with	m=1	Step 11
	condition MRBm		
	RadioBearerConfig with	m=2	Step 34
	condition MRBm		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with	m=1	Step 11
	condition MRBm and		
	UM PTM		
	CellGroupConfig with	m=2	Step 34
	condition MRBm and		
	UM PTM		
}			
}			
}			
}			

Table 14.2.5.1.1.3.3-15: CLOSE UE TEST LOOP (step 13a1 and step 36a1, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB			
Information Element	Value/remark	Comment	Condition
UE test loop mode C LB setup			
MRB ID	'00000000	MRB-Identity is 1	
	00000000		
	0000000'B		
	,00000000	MRB-Identity is 2	
	00000000		
	1000000'B		

Table 14.2.5.1.1.3.3-16: UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST (step 15 and step 38, Table 14.2.5.1.1.3.2-1)

Derivation Path: 36.508 [6], Table 4.7A-9	

Table 14.2.5.1.1.3.3-17: RRCReconfiguration (step 20, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13.			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
mrb-ToReleaseList-r17 SEQUENCE (SIZE	1 entry		
(1maxMRB-r17)) OF MRB-Identity-r17			
MRB-Identity[1]	MRB-Identity linked to the	entry 1	
	MBS Session ID TMGI-1		
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE	1 entry		
(1maxLC-ID)) OF LogicalChannelIdentity {			
logicalChannelIdentity[1]	logicalChannelIdentity	entry 1	
	linked to MRB-Identity [1]		
}			
}			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			
}			

Table 14.2.5.1.1.3.3-18: PDU SESSION MODIFICATION COMMAND (step 20, Table 14.2.5.1.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-9.			
Information Element	Value/remark	Comment	Condition
Received MBS container			
Received MBS information			
Rejection cause	'110'B	MBS session is	
		released	
MSAI	'00'B	MBS service area	
		not included	
MD	'100'B	Remove UE from	
		MBS session	
MSCI	'0'B	MBS security	
		container not	
		included	
MTI	'00'B	No MBS timers	
		included	
IPAE	'0'B	Source and	
		destination IP	
		address	
		information not	
		included	
TMGI		TMGI-1	
MBMS Service ID	'000101'B		
MCC	See table 4.4.2-3		
MNC	See table 4.4.2-3		
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area	Not present		
MBS timers	Not present		
MBS security container	Not present		

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14.2.5.1.2 MBS Multicast/ Session management / Network-requested PDU session modification / MBS service area update14.2.5.1.2.1 Test Purpose (TP)

(1)

with { UE is in 5GMM-REGISTERED state and UE is camping on a cell that is outside the received MBS
service area }

ensure that {

when { UE receives PDU SESSION MODIFICATION COMMAND message including Received MBS container IE
with MBS decision setting to "MBS service area update" for including the current cell into MBS
servce area }

then { UE sends PDU SESSION MODIFICATION COMPLETE and UE shall store the received MBS service area associated with the received TMGI and replace the current MBS service area with the received one }

}

(2)

with { UE is in 5GMM-REGISTERED state and UE updates MBS service area associated with TMGI based on received MBS service area in PDU SESSION MODIFICATION COMMAND message }

ensure that {

when { UE is camping on a cell that is inside the received MBS service area associated with one TMGI and join MBS session with this TMGI is still needed }

then { UE sends PDU SESSION MODIFICATION REQUEST message to join MBS session with this TMGI }



14.2.5.1.2.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.501, clauses 6.4.1.3 and 6.3.2.3. Unless otherwise stated these are Rel-17 requirements.

[TS 24.501, clause 6.3.2.2]

If the SMF wants to update the MBS service area of an multicast MBS session that the UE has joined, the SMF shall include the corresponding multicast MBS session ID and the updated MBS service area in the Received MBS container IE in the PDU SESSION MODIFICATION COMMAND message, and shall set the MBS decision to "MBS service area update" in the Received MBS information.

[TS 24.501, clause 6.3.2.3]

If the PDU SESSION MODIFICATION COMMAND message includes the Received MBS container IE, for each of the Received MBS information:

•••

d) if the MBS decision is set to "MBS service area update", the UE shall store the received MBS service area associated with the received TMGI and replace the current MBS service area with the received one. Or

•••

14.2.5.1.2.3 Test description

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14.2.5.1.2.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving Cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- UE is made interested in receiving MBS Multicast service with MBS Service ID '000101'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.5.1.2.3.2 Test procedure sequence

Table 14.2.5.1.2.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
-	EXCEPTION: Step 1a1 to 1b12a1 describe	-	-	-	-
	behaviour that depends on the UE capability				
	the "lower case letter" identifies a step				
	sequence that take place.				
1a1	IF pc_Join_MBS_by_PDU_Modification (UE	-	-	-	-
-	firstly establishes an associated PDU session				
1a1	and then joins MBS Multicast by PDU session				
4	modification procedure) THEN				
	steps 1a1 to 1a14 of the generic procedures				
	described in TS 38.508-1[4] subclause 4.9.34				
	are performed on NR Cell 1 to establish an				
	associated PDU Session to the MBS DNN and				
	request to join an MBS Multicast session with				
	TMGI-1.				
1a1	The SS transmits a PDU SESSION	<	NR RRC: DLInformationTransfer	-	-
5	MODIFICATION COMMAND to reject MBS		5GMM: DL NAS TRANSPORT		
	Multicast session UE requested to join.		5GSM: PDU SESSION		
	The reject cause is "User is outside of local		MODIFICATION COMMAND		
	MBS service area".				
1a1	The UE transmits an ULInformationTransfer	>	NR RRC: ULInformationTransfer	-	-
6	message and a PDU SESSION		5GMM: UL NAS TRANSPORT		
	MODIFICATION COMPLETE message.		5GSM: PDU SESSION		
	5		MODIFICATION COMPLETE		
1b1	ELSE (UE establishes an associated PDU	-	-	-	-
-	session and joins MBS Multicast at the same				
1b1	time)				
2a1	steps 1b1 to 1b12a1 of the generic procedures				
	described in TS 38.508-1[4] subclause 4.9.34				
	are performed on NR Cell 1 to establish an				
	associated PDU Session to the MBS DNN and				
	request to join an MBS Multicast session with				
	TMGI-1.				
	MBS Multicast session is rejected with cause				
	"User is outside of local MBS service area".				
2	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
3-	Steps 1 to 8 of the procedure in TS 38.508-	-	-	-	-
10	1[4] Table 4.5.4.2-3 to trigger UE move to				
	RRC CONNECTED mode with CN paging.				
11	The SS transmits a PDU SESSION	<	NR RRC: DLInformationTransfer	-	-
	MODIFICATION COMMAND to update MBS		5GMM: DL NAS TRANSPORT		
	service area.		5GSM: PDU SESSION		
			MODIFICATION COMMAND		
12	The UE transmits a PDU SESSION	>	NR RRC: ULInformationTransfer	1	Р
	MODIFICATION COMPLETE message.		5GMM: UL NAS TRANSPORT		
			5GSM: PDU SESSION		
			MODIFICATION COMPLETE		
13	Start Timer = 5 sec.	-	-	-	-
-	EXCEPTION: Steps 14a1-14b3 describe	-	-	-	-
	optional behaviour that depends on the UE				
	implementation.				
14a	Check: Does the UE transmit a PDU	>	NR RRC: ULInformationTransfer	2	P
1	SESSION MODIFICATION REQUEST		5GMM: UL NAS TRANSPORT		
	message to join MBS Multicast session with		5GSM: PDU SESSION		
	TMGI-1?		MODIFICATION REQUEST		
14a	Stop Timer = 5 sec.	-	-	-	-
2					
140	nmer =5 sec expires.	-	-	-	-
14h	Cause the LIE to join MRS session with TMCL	-	-	-	-
1 1 1 0		-			-

2	1. (NOTE 1)				
14b	Check: Does the UE transmit a PDU	>	NR RRC: ULInformationTransfer	2	Р
3	SESSION MODIFICATION REQUEST		5GMM: UL NAS TRANSPORT		
	message to join MBS Multicast session with		5GSM: PDU SESSION		
	TMGI-1?		MODIFICATION REQUEST		
15	The SS transmits an RRCReconfiguration	<	NR RRC: RRCReconfiguration	-	-
	message and a PDU SESSION		5GMM: DL NAS TRANSPORT		
	MODIFICATION COMMAND to accept MBS		5GSM: PDU SESSION		
	Multicast session join request.		MODIFICATION COMMAND		
-	EXCEPTION: Depending upon UE	-	-	-	-
	implementation, step 16 and 17 can occur in				
	any order				
16	The UE transmits an	>	NR RRC:	-	-
	RRCReconfigurationComplete message.		RRCReconfigurationComplete		
17	The UE transmits a PDU SESSION	>	NR RRC: ULInformationTransfer	-	-
	MODIFICATION COMPLETE message.		5GMM: UL NAS TRANSPORT		
			5GSM: PDU SESSION		
			MODIFICATION COMPLETE		
18	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
19-	Check: Does UE respond to paging with	-	-	2	-
33	TMGI-1 and receive the MRB associated with				
	TMGI-1 as specified in steps 1 to 15 of the				
	procedure in TS 38.508-1[4] Table 4.9.38.2.2-				
	1?				
NOT	E 1: This could be done by e.g. MMI or AT comm	nand.			

14.2.5.1.2.3.3 Specific message contents

Table 14.2.5.1.2.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.5.1.2.3.3-2: PDU SESSION MODIFICATION REQUEST (step 1a14, step 14a1 and 14b3, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-7.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1	
MNC	See 38.508-1[4] table 4.4.2-3	MNC for NR Cell 1	

Table 14.2.5.1.2.3.3-3: PDU SESSION MODIFICATION COMMAND (step 1a15, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-	-9		
Information Element	Value/remark	Comment	Condition
Received MBS container			
Received MBS information			
Rejection cause	'100'B	User is outside of local	
		MBS service area	
MSAI	'01'B	MBS service area	
		included as MBS TAI	
		list	
MD	'011'B	MBS join is rejected	
MSCI	'0'B	MBS security container	
		not included	
MTI	'00'B	No MBS timers	
		included	
IPAE	'0'B	Source and destination	
		IP address information	
		not included	
TMGI		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1	
MNC	See 38.508-1[4] table 4.4.2-3	MNC for NR Cell 1	
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area			
Length of 5GS tracking area identity list			
contents			
Partial tracking area identity list 1			
Number of elements	'0 0000'B	1 element	
Type of list	'00'B	list of TACs belonging	
		to one PLMN, with non-	
		consecutive TAC	
		values	
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 11	
MNC	See 38.508-1[4] table 4.4.2-3	MNC for NR Cell 11	
TAC 1	See 38.508-1[4] table 4.4.2-3	TAC for NR Cell 11	
MBS timers	Not present		
MBS security container	Not present		

Table 14.2.5.1.2.3.3-4: PDU SESSION ESTABLISHMENT REQUEST (step 1b9, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-1.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		

Table 14.2.5.1.2.3.3-5: PDU SESSION ESTABLISHMENT ACCEPT (step 1b10, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-2.					
Information Element	Value/remark	Comment	Condition		
Received MBS container					
Received MBS information					
Rejection cause	'100'B	User is outside of			
		local MBS service			
		area			
MSAI	'01'B	MBS service area			
		included as MBS TAI			
		list			
MD	'011'B	MBS join is rejected			
MSCI	'0'B	MBS security			
		container not included			
MTI	'00'B	No MBS timers			
		included			
IPAE	'0'B	Source and			
		destination IP address			
		information not			
		included			
TMGI		TMGI-1			
MBMS Service ID	'000101'H				
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1			
MNC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1			
Source IP address information	Not present				
Destination IP address information	Not present				
MBS service area					
Length of 5GS tracking area identity list					
contents					
Partial tracking area identity list 1					
Number of elements	'0 0000'B	1 element			
Type of list	'00'B	list of TACs belonging			
		to one PLMN, with			
		non-consecutive TAC			
		values			
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 11			
MNC	See 38.508-1[4] table 4.4.2-3	MNC for NR Cell 11			
TAC 1	See 38.508-1[4] table 4.4.2-3	TAC for NR Cell 11			
MBS timers	Not present				
MBS security container	Not present				

Table 14.2.5.1.2.3.3-6: RRCReconfiguration (step 1b10, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	n is chosen as the			
	condition DRBn	next available			
		number higher or			
		equal to 2			
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	n is set to the same			
	condition DRBn	value as for the			
		radioBearerConfig			
		IE			
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.5.1.2.3.3-7: PDU SESSION MODIFICATION COMMAND (step 11, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-	9		
Information Element	Value/remark	Comment	Condition
Received MBS container			
Received MBS information			
Rejection cause	'000'B	No additional	
		information provided	
MSAI	'01'B	MBS service area	
		included as MBS TAI	
		list	
MD	'001'B	MBS service area	
		update	
MSCI	'0'B	MBS security container	
		not included	
MTI	'00'B	No MBS timers	
		included	
IPAE	'0'B	Source and destination	
		IP address information	
		not included	
TMGI		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1	
MNC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1	
Source IP address information	Not present		
Destination IP address information	Not present		
MBS service area			
Length of 5GS tracking area identity list			
contents			
Partial tracking area identity list 1			
Number of elements	'0 0000'B	1 element	
Type of list	'00'B	list of TACs belonging	
		to one PLMN, with non-	
		consecutive TAC	
		values	
MCC	See 38.508-1[4] table 4.4.2-3	MCC for NR Cell 1	
MNC	See 38.508-1[4] table 4.4.2-3	MNC for NR Cell 1	
TAC 1	See 38.508-1[4] table 4.4.2-3	TAC for NR Cell 1	
MBS timers	Not present		
MBS security container	Not present		

Table 14.2.5.1.2.3.3-8: RRCReconfiguration (step 15, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR					
Information Element	Value/remark	Comment	Condition		
RRCReconfiguration ::= SEQUENCE {					
criticalExtensions CHOICE {					
rrcReconfiguration ::= SEQUENCE {					
radioBearerConfig	RadioBearerConfig with	m=1			
	condition MRBm and				
	UM PTM				
nonCriticalExtension SEQUENCE {					
masterCellGroup	CellGroupConfig with	m=1			
	condition MRBm and				
	UM PTM				
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message				
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}					
}					
}					
}					
}					

Table 14.2.5.1.2.3.3-9: PDU SESSION MODIFICATION COMMAND (step 15, Table 14.2.5.1.2.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-9					
Information Element	Value/remark	Comment	Condition		
Received MBS container					
Received MBS information					
Rejection cause	'000'B	No additional			
		information provided			
MSAI	'00'B	MBS service area not			
		included			
MD	'010'B	MBS join is accepted			
MSCI	'0'B	MBS security container			
		not included			
MTI	'00'B	No MBS timers			
		included			
IPAE	'0'B	Source and destination			
		IP address information			
		not included			
TMGI		TMGI-1			
MBMS Service ID	'000101'H				
MCC	See 38.508-1[4] table 4.4.2-3				
MNC	See 38.508-1[4] table 4.4.2-3				
Source IP address information	Not present				
Destination IP address information	Not present				
MBS service area	Not present				
MBS timers	Not present				

14.2.5.2 MBS Multicast/ Session management / UE-requested PDU session establishment / UE-requested PDU session modification

14.2.5.2.1 MBS Multicast/ Session management / UE-requested PDU session establishment / UErequested PDU session modification / Join MBS multicast session / Accepted14.2.5.2.1.1 Test Purpose (TP)

(1)

with { UE is in 5GMM-REGISTERED state}

ensure that {

when { UE requests to establish a new PDU session associated with MBS multicast sessions and the
UE at the same time intends to join two MBS multicast sessions }

then { UE sends PDU SESSION ESTABLISHMENT REQUEST or PDU SESSION MODIFICATION REQUEST including
the Requested MBS container IE with MBS operation setting to "Join MBS session" }

}

(2)

with { UE is in 5GMM-REGISTERED state and has sent PDU SESSION ESTABLISHMENT REQUEST or PDU SESSION
MODIFICATION REQUEST including the Requested MBS container IE with MBS operation setting to "Join
MBS session"}

ensure that {

when { UE receives PDU SESSION ESTABLISHMENT ACCEPT or PDU SESSION MODIFICATION COMMAND message
including Received MBS container IE with MBS decision setting to "MBS join is accepted" }

then { UE shall consider that it has successfully joined the MBS session and shall store the received TMGI}

}

14.2.5.2.1.2 Conformance requirements

References: The conformance requirements covered in the present TC are specified in: TS 24.501, clauses 6.4.1.2, 6.4.1.3, 6.4.2.2 and 6.3.2.2. Unless otherwise stated these are Rel-17 requirements.

[TS 24.501, clause 6.4.1.2]

If the UE requests to:

- a) establish a new PDU session;
- b) perform handover of an existing PDU session from non-3GPP access to 3GPP access;
- c) transfer an existing PDN connection in the EPS to the 5GS according to subclause 4.8.2.3.1;
- d) transfer an existing PDN connection in untrusted non-3GPP access connected to the EPC to the 5GS; or
- e) establish user plane resources over 3GPP access of an MA PDU session established over non-3GPP access only;

and the UE at the same time intends to join one or more multicast MBS sessions that is associated to the PDU session, the UE should include the Requested MBS container IE in the PDU SESSION ESTABLISHMENT REQUEST message. In that case, the UE shall set the MBS operation to "Join multicast MBS session" and include the multicast MBS session information(s) and shall set the Type of multicast MBS session ID for each of the multicast MBS session information to either "Temporary Mobile Group Identity (TMGI)" or "Source specific IP multicast address" depending on the type of the multicast MBS session ID available in the UE. Then the remaining values of each of the multicast MBS session information shall be set as following:

- a) if the Type of multicast MBS session ID is set to "Temporary Mobile Group Identity (TMGI)", the UE shall set the multicast MBS session ID to the TMGI; or
- b) if the Type of multicast MBS session ID is set to "Source specific IP multicast address for IPv4" or " Source specific IP multicast address for IPv6", the UE shall set the Source IP address information and the Destination IP address information to the corresponding values.

[TS 24.501, clause 6.4.1.3]

If the PDU SESSION ESTABLISHMENT REQUEST included the Requested MBS container IE with the MBS operation set to "Join multicast MBS session", the SMF:

a) shall include the TMGI for the multicast MBS session IDs that the UE is allowed to join, if any, in the Received MBS container IE, shall set the MBS decision to "MBS join is accepted" for each of those Received MBS information, may include the MBS start time to indicate the time when the multicast MBS session starts and shall include the MBS security container in each of those Received MBS information if security protection is applied for that multicast MBS session and the control plane security procedure is used as specified in annex W.4.1.2 in 3GPP TS 33.501 [24], and shall use separate QoS flows dedicated for multicast exist or if the SMF wants to establish new QoS flows dedicated for multicast;

[TS 24.501, clause 6.4.2.2]

If the UE requests to join or leave one or more multicast MBS sessions associated with a PDU session, the UE shall include the Requested MBS container IE in the PDU SESSION MODIFICATION REQUEST message and shall set the MBS operation to "Join multicast MBS session" for the join case or to "Leave multicast MBS session" for the leave

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case. The UE shall include the multicast MBS session information(s) and shall set the Type of multicast MBS session ID for each of the multicast MBS session information to either "Temporary Mobile Group Identity (TMGI)" or "Source specific IP multicast address" depending on the type of the multicast MBS session ID available in the UE. Then the remaining values of each of the multicast MBS session information shall be set as following:

- a) if the Type of multicast MBS session ID is set to "Temporary Mobile Group Identity (TMGI)", the UE shall set the multicast MBS session ID to the TMGI; or
- b) if the Type of multicast MBS session ID is set to "Source specific IP multicast address for IPv4" or " Source specific IP multicast address for IPv6", the UE shall set the Source IP address information and the Destination IP address information to the corresponding values.

[TS 24.501, clause 6.3.2.2]

If the network-requested PDU session modification procedure is triggered by a UE-requested PDU session modification procedure and the UE has included the Requested MBS container IE in the PDU SESSION MODIFICATION REQUEST message with the MBS operation set to "Join multicast MBS session", the SMF:

a) shall include the TMGI for the multicast MBS session IDs that the UE is allowed to join, if any, in the Received MBS container IE, shall set the MBS decision to "MBS join is accepted" for each of those Received MBS information, may include the MBS start time to indicate the time when the multicast MBS session starts, and shall include the MBS security container in each of those Received MBS information if security protection is applied for that multicast MBS session and the control plane security procedure is used as specified in annex W.4.1.2 in 3GPP TS 33.501 [24], and shall use separate QoS flows dedicated for multicast exist or if the SMF wants to establish new QoS flows dedicated for multicast;

14.2.5.2.1.3 Test description

14.2.5.2.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the Serving cell.
- System information combination NR-1 as defined in TS 38.508-1 [4] clause 4.4.3.1.2 is used in NR cell 1.

UE:

- UE is made interested in receiving MBS Multicast service with MBS Service ID '000101'H and '000102'H.

Preamble:

- The UE is in state 1N-A on NR Cell 1 (serving cell) according to TS 38.508-1 [4] Table 4.4A.2-1 with Test Mode = on to activate UE TEST MODE C and Test Loop Function = off.

14.2.5.2.1.3.2 Test procedure sequence

Table 14.2.5.2.1.3.2-1: Main behaviour

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message	1	
1a1	Check: Does steps 1a1 to 1b12a1 of the	-	-	1	-
-	generic procedures described in TS 38.508-1				
1b1	subclause 4.9.34 perform on NR Cell 1 to				
2a1	establish an associated PDU Session to the				
	MBS DNN and join in two MBS Multicast				
	session?				
	Note: One MBS session Id is TMGI-1, and				
	another MBS session Id is TMGI-2.				
2	The SS transmits an RRCRelease message	<	NR RRC: RRCRelease	-	-
3-	Check: Does UE respond to paging with	-	-	2	-
17	TMGI-1 and receive the MRB associated with				
	TMGI-1 as specified in steps 1 to 15 of the				
	procedure in TS 38.508-1[4] Table 4.9.38.2.2-				
	1?				
18	The SS transmits an OPEN UE TEST LOOP	<	NR RRC: DLInformationTransfer	-	-
	message.		TC: OPEN UE TEST LOOP		
19	The UE transmits an OPEN UE TEST LOOP	>	NR RRC: ULInformationTransfer	-	-
	COMPLETE message.		TC: OPEN UE TEST LOOP		
			COMPLETE		
20	The SS transmits an <i>RRCRelease</i> message	<	NR RRC: RRCRelease	-	-
21-	Check: Does UE respond to paging with	-	-	2	-
35	TMGI-2 and receive the MRB associated with				
	TMGI-2 as specified in steps 1 to 15 of the				
	procedure in TS 38.508-1[4] Table 4.9.38.2.2-				
	1?				

14.2.5.2.1.3.3 Specific message contents

Table 14.2.5.2.1.3.3-1: ACTIVATE TEST MODE (preamble, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 36.508 [6], Table 4.7A-1, condition UE TEST LOOP MODE C

Table 14.2.5.2.1.3.3-2: PDU SESSION MODIFICATION REQUEST (step 1a14, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-7.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-2	
MBMS Service ID	'000102'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		

Table 14.2.5.2.1.3.3-3: PDU SESSION MODIFICATION COMMAND (step 1a15, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-9				
Information Element	Value/remark	Comment	Condition	
Received MBS container				
Received MBS information				
Rejection cause	'000'B	No additional		
		information provided		
MSAI	'00'B	MBS service area not		
		included		
MD	'010'B	MBS join is accepted		
MSCI	'0'B	MBS security container		
		not included		
MTI	'00'B	No MBS timers		
		included		
IPAE	'0'B	Source and destination		
		IP address information		
		not included		
TMGI		TMGI-1		
MBMS Service ID	'000101'H			
MCC	See 38.508-1[4] table 4.4.2-3			
MNC	See 38.508-1[4] table 4.4.2-3			
Source IP address information	Not present			
Destination IP address information	Not present			
MBS service area	Not present			
MBS timers	Not present			
MBS security container	Not present			
Received MBS information				
Rejection cause	'000'B	No additional		
		information provided		
MSAI	'00'B	MBS service area not		
		included		
MD	'010'B	MBS join is accepted		
MSCI	'0'B	MBS security container		
		not included		
MTI	'00'B	No MBS timers		
		included		
IPAE	'0'B	Source and destination		
		IP address information		
		not included		
TMGI		TMGI-2		
MBMS Service ID	'000102'H			
MCC	See 38.508-1[4] table 4.4.2-3			
MNC	See 38.508-1[4] table 4.4.2-3			
Source IP address information	Not present			
Destination IP address information	Not present			
MBS service area	Not present			
MBS timers	Not present			
MBS security container	Not present			

Table 14.2.5.2.1.3.3-4: RRCReconfiguration (step 1a15, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR			
Information Element	Value/remark	Comment	Condition
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig	m=1	
		Table	
		14.2.4.1.1.3.3-5	
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with	m=1	
	condition MRBm and	Table	
	UM_PTM	14.2.4.1.1.3.3-6	
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message		
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}			
}			
}			
}			
}			

Table 14.2.5.2.1.3.3-5: RadioBearerConfig (Table 14.2.5.2.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132 with condition MRBm and UM_PTM (m=1)			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
mrb-ToAddModList-r17 SEQUENCE (SIZE	2 entries		
(1maxDRB)) OF MRB-ToAddMod-r17 {			
MRB-ToAddMod-r17 [1] SEQUENCE {		entry 1	
mbs-SessionId-r17	TMGI with condition TMGI-1	Table	
		14.2.5.2.1.3.3-7	
mrb-Identity-r17	MRB-Identity with condition	m=1	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=1	
	MRB_Initialization and		
	UM MRB and MRBm		
}	-		
MRB-ToAddMod-r17 [2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI with condition TMGI-2	Table	
		14.2.5.2.1.3.3-7	
mrb-Identity-r17	MRB-Identity with condition	m=2	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=2	
	MRB Initialization and		
	UM_MRB and MRBm		
}			
}			
}			

Table 14.2.5.2.1.3.3-6: CellGroupConfig (Table 14.2.5.2.1.3.3-4)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition MRBm and UM_PTM (m=1)			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	2 entries		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions UM_DLonly and	m=1	
	PTM and MRBm		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	conditions UM_DLonly and	m=2	
	PTM and MRBm		
}			
mac-CellGroupConfig	MAC-CellGroupConfig with		
	condition MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig with		
	condition MBS_Multicast		
}			
}			

Table 14.2.5.2.1.3.3-7: TMGI (Table 14.2.5.2.1.3.3-5)

Derivation Path: TS 38.508-1 [4], Table 4.6.7-9			
Information Element	Value/remark	Comment	Condition
TMGI-r17 ::= SEQUENCE {			
plmn-Id-r17 CHOICE {			
plmn-Index-r17	1		
}			
serviceId-r17	'000101'H	OCTET STRING	TMGI-1
		(SIZE (3))	
	'000102'H	OCTET STRING	TMGI-2
		(SIZE (3))	
}			

Table 14.2.5.2.1.3.3-8: PDU SESSION ESTABLISHMENT REQUEST (step 1b9, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-1.			
Information Element	Value/remark	Comment	Condition
Requested MBS container			
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID		TMGI-1	
MBMS Service ID	'000101'H		
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		
MBS session information			
MBS operation	'01'B	Join MBS session	
Type of MBS session ID	Not checked		
MBS session ID			
MBMS Service ID	'000101'H	TMGI-2	
MCC	See 38.508-1[4] table 4.4.2-3		
MNC	See 38.508-1[4] table 4.4.2-3		

Table 14.2.5.2.1.3.3-9: PDU SESSION ESTABLISHMENT ACCEPT (step 1b10, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.2-2.				
Information Element	Value/remark	Comment	Condition	
Received MBS container				
Received MBS information				
Rejection cause	'000'B	No additional		
		information provided		
MSAI	'00'B	MBS service area not		
		included		
MD	'010'B	MBS join is accepted		
MSCI	'0'В	MBS security		
		container not included		
MTI	'00'B	No MBS timers		
		included		
IPAE	'0'B	Source and		
		destination IP address		
		information not		
		information not		
TMC				
IMGI MRMO Comise ID	(000101)	IMGI-1		
MBMS Service ID	000101/H			
MCC	See 38.508-1[4] table 4.4.2-3			
	See 38.508-1[4] table 4.4.2-3			
Source IP address information	Not present			
Destination IP address mormation	Not present			
MBS Service area	Not present			
MBS units	Not present			
MBS Security container				
Received MBS Information	(000'B	No additional		
Rejection cause	000 B	information provided		
MCAL	(00'P	MBS convice area not		
MISAI	00 B	MBS Service area not		
ND	(010)D			
MD	1010 B	MBS Join is accepted		
MSCI	-0.B	MBS security		
	(2017	container not included		
MII	.00/B	No MBS timers		
	(2)2	included		
IPAE	'0'B	Source and		
		destination IP address		
		information not		
		included		
TMGI		TMGI-2		
MBMS Service ID	'000102'H			
MCC	See 38.508-1[4] table 4.4.2-3			
MNC	See 38.508-1[4] table 4.4.2-3			
Source IP address information	Not present			
Destination IP address information	Not present			
MBS service area	Not present			
MBS timers	Not present			
MBS security container	Not present			
Table 14.2.5.2.1.3.3-10: RRCReconfiguration (step 1b10, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR										
Information Element	Value/remark	Comment	Condition							
RRCReconfiguration ::= SEQUENCE {										
criticalExtensions CHOICE {										
rrcReconfiguration ::= SEQUENCE {										
radioBearerConfig	RadioBearerConfig	Table								
		14.2.5.2.1.3.3-11								
nonCriticalExtension SEQUENCE {										
masterCellGroup	CellGroupConfig	Table								
		14.2.5.2.1.3.3-12								
dedicatedNAS-MessageList SEQUENCE	DedicatedNAS-Message									
(SIZE(1maxDRB)) OF DedicatedNAS-Message {}										
}										
}										
}										
}										

Table 14.2.5.2.1.3.3-11: RadioBearerConfig (Table 14.2.5.2.1.3.3-10)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-132			
Information Element	Value/remark	Comment	Condition
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE	1 entry		
(1maxDRB)) OF DRB-ToAddMod {			
DRB-ToAddMod[1] SEQUENCE {		entry 1	
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}			
drb-Identity	DRB-Identity with condition	n is chosen as	
	DRBn	the next	
		available	
		number higher	
		or equal to 2	
reestablishPDCP	Not present		
recoverPDCP	Not present		
nden-Config			
	FDCF-Coning		
mrb-ToAddModList-r17 SEOLIENICE (SIZE	2 ontrios		
(1 maxDDD)) OF MDD TaAddMad r17 (2 entites		
		optry 1	
MRB-TOAUUMOU-F17 [1] SEQUENCE {	TMCI with condition TMCI 1		
mrb.Idontity r17	MDB Identity with condition	m-1	
		III=1	
nden Config r17	MRDIII	m=1	
	PDCP-Coning with condition	III=T	
	MRB_Initialization and		
	UM_MRB and MRBm		
}			
MRB-ToAddMod-r17 [2] SEQUENCE {		entry 2	
mbs-SessionId-r17	TMGI with condition TMGI-2		
mrb-Identity-r17	MRB-Identity with condition	m=2	
	MRBm		
pdcp-Config-r17	PDCP-Config with condition	m=2	
	MRB_Initialization and		
	UM_MRB and MRBm		
}			
}			
}			

Table 14.2.5.2.1.3.3-12: CellGroupConfig (Table 14.2.5.2.1.3.3-11)

Derivation Path: TS 38.508-1 [4], Table 4.6.3-19			
Information Element	Value/remark	Comment	Condition
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE	3 entries		
(SIZE(1maxLCH)) OF RLC-BearerConfig {			
RLC-BearerConfig[1]	RLC-BearerConfig with	entry 1	
	conditions UM_DLonly	m=1	
	and PTM and MRBm		
RLC-BearerConfig[2]	RLC-BearerConfig with	entry 2	
	conditions UM_DLonly	m=2	
	and PTM and MRBm		
RLC-BearerConfig[3]	RLC-BearerConfig with	entry 3	
	conditions AM and DRBn	n is set to the	
		same value as for	
		the	
		radioBearerConfig	
		IE in Table	
		14.2.5.2.1.3.3-11	
}			
mac-CellGroupConfig	MAC-CellGroupConfig		
	with condition		
	MBS_Multicast		
physicalCellGroupConfig	Not present		
spCellConfig SEQUENCE {			
spCellConfigDedicated	ServingCellConfig with		
	condition MBS_Multicast		
}			
}			

Table 14.2.5.2.1.3.3-13: Paging (step 3, step 21, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-9, condition TMGI										
Information Element	Value/remark	Comment	Condition							
Paging ::= SEQUENCE {										
pagingRecordList	Not present									
nonCriticalExtension SEQUENCE {										
pagingGroupList-r17 SEQUENCE	1 entry									
(SIZE(1maxNrofPageGroup-r17)) OF TMGI-r17 {										
TMGI-r17[1]	TMGI with condition	entry 1	Step 3							
	TMGI-1	Table								
		14.2.5.2.1.3.								
		3-7								
	TMGI with condition	entry 1	Step 21							
	TMGI-2	Table								
		14.2.5.2.1.3.								
		3-7								
}										
}										
}										
}										

Table 14.2.5.2.1.3.3-14: *RRCReconfiguration* (step 11 and step 29, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.6.1-13 and condition NR								
Information Element	Value/remark	Comment	Condition					
RRCReconfiguration ::= SEQUENCE {								
criticalExtensions CHOICE {								
rrcReconfiguration ::= SEQUENCE {								
radioBearerConfig	RadioBearerConfig with	m=1	Step 11					
	condition MRBm							
	RadioBearerConfig with	m=2	Step 29					
	condition MRBm							
nonCriticalExtension SEQUENCE {								
masterCellGroup	CellGroupConfig with	m=1	Step 11					
	condition MRBm and							
	UM PTM							
	CellGroupConfig with	m=2	Step 29					
	condition MRBm and							
	UM PTM							
}								
}								
}								
}								

Table 14.2.5.2.1.3.3-15: CLOSE UE TEST LOOP (step 13 and step 31, Table 14.2.5.2.1.3.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7A-3, condition UE TEST LOOP MODE C and Multicast MRB										
Information Element	Value/remark	Comment	Condition							
UE test loop mode C LB setup										
MRB ID	·0000000	MRB-Identity is 1	Step 13							
	0000000									
	0000000'B									
	·0000000	MRB-Identity is 2	Step 31							
	0000000									
	1000000'B									

Annex A (informative): Change history

Change history								
Date	Meeting	TDoc	CR	R	Cat	Subject/Comment	New	
2017-08	RAN5#76	R5-174427	-	-	-	Introduction of TS 38.523-1.	0.0.1	
2017-12	RAN5#77	R5-176926	-	-	-	Addition of new NR PDCP test case 7.3.1.2	0.1.0	
2017-12	RAN5#77	R5-176928	-	-	-	Addition of new NR MAC test case 7.1.3.1	0.1.0	
2017-12	RAN5#77	R5-177072	-	-	-	Addition of new NR RI C UM test case 7.2.2.1	0.1.0	
2017-12	RAN5#77	R5-177073	-	-	-	Addition of new NR RI C UM test case 7.2.2.2	0.1.0	
2017-12	RAN5#77	R5-177074	-	-	-	Addition of new NR PDCP test case 7.3.1.1	0.1.0	
2017-12	RAN5#77	R5-177075	-	-	-	Addition of new NR MAC test case 7 1 2 1	010	
2018-03	RAN5#77	R5-181171	-	-	-	5GS RRC TC 8.2.2.1	0.2.0	
2018-03	RAN5#77	R5-181172	-	-	-	5GS RBC TC 8.2.2.6	0.2.0	
2018-03	RAN5#77	R5-181173	-	-	-	5GS RBC TC 8.2.3.1	0.2.0	
2018-03	RAN5#77	R5-181174	-	-	-	5GS RBC TC 8 2 3 16	020	
2018-03	RAN5#77	R5-181175	-	-	-	5GS BBC TC 8 2 5 1	020	
2018-03	RAN5#77	R5-181176	_	-	-	5GS MAC Test case 7 1 1 2	020	
2018-03	RAN5#77	R5-181177	-	-	-	Addition of new NR MAC, test case 7 1 3 2	020	
2018-03	RAN5#77	R5-181178	-	-	-	Addition of new NR MAC test case 7 1.3.3	020	
2018-03	RAN5#77	R5-181179	-	-	-	Addition of new NR MAC test case 7.1.3.4	0.2.0	
2018-03	RAN5#77	R5-181180	-	-	-	Addition of new NR MAC test case 7.1.3.5	0.2.0	
2018-03	RAN5#77	R5-181181	-	-	-	Addition of new NR MAC test case 7.1.3.6	0.2.0	
2010-00	RAN5#77	R5-181182	_	-	_	Addition of new NR RI C test case 7.2.3.1	0.2.0	
2010-00	RAN5#77	R5-181183	_	-	_	Addition of new NR RLC test case 7.2.3.1	0.2.0	
2010-00	RAN5#77	R5-181184	_	-	_	Addition of new NR PDCP test case 7.3.2.1	0.2.0	
2010-03	PAN5#77	R5-181185			_	Addition of new NR PDCP test case 7.3.2.1	0.2.0	
2010-03	PAN5#77	R5-181186				Addition of new NR PDCP test case 7.3.2.2	0.2.0	
2010-03	PAN5#77	R5-181187			_	Addition of new NR PDCP test case 7.3.2.3	0.2.0	
2010-03	PAN5#77	R5-181188				Addition of new NR PDCP test case 7.3.3.1	0.2.0	
2010-00	RAN5#77	R5-181189	_	-	_	Addition of new NR PDCP test case 7.3.3.3	0.2.0	
2010-00	RAN5#77	R5-181201	_	-	_	Addition of new NR MAC, test case 7.1.5.1	0.2.0	
2010-00	RAN5#77	R5-181202	-	-	_	Addition of new NR MAC, test case 7.1.5.1	0.2.0	
2010-00	RAN5#77	R5-181202	_	-	_	Addition of new NR PDCP, test case 7.3.5.1	0.2.0	
2010-00	RAN5#77	R5-181204	_	-	_	Addition of new NR RRC test case 8.2.2.2.5	0.2.0	
2010-00	RAN5#77	R5-181205	_	-	_	Addition of new NR RRC test case 8.2.3.5	0.2.0	
2010-00	RAN5#77	R5-181206	_	-	_	Indate of NR MAC test cases	0.2.0	
2010-00	RAN5#77	R5-181207	_	-	_	Undate of NR RI C test cases	0.2.0	
2010-03	PAN5#77	R5-181207				Undate of NR RDCP test cases	0.2.0	
2010-03	PAN5#77	R5-181200				5GS MAC Test case 7.1.5.3	0.2.0	
2010-03	PAN5#77	R5-181203				Addition of new NR PDCP, test case 7.3.5.2	0.2.0	
2010-03	PAN5#77	R5-181337				Addition of new NR PDCP test case 7.3.4.2	0.2.0	
2010-03	RΔNI5#2-	R5-181805				Corrections to RRC TC 8 2 3 1 Measurement configuration	0.2.0	
2010-04	5G-NR					control and reporting / Inter-RAT measurements / Event B1 /	0.5.0	
	Adhoc					Measurement of NR cells		
2018-04	RAN5#2-	R5-181806	-	-	-	5GS RRC TC 8.2.1.2	0.3.0	
	5G-NR							
	Adhoc							
2018-04	RAN5#2-	R5-181914	-	-	-	Addition of 5GS NR RRC test case 8.2.3.6	0.3.0	
	5G-NR							
0010 5	Adhoc						0.0.5	
2018-04	RAN5#2-	R5-181951	-	-	-	Correction to RLC UM Test cases	0.3.0	
	5G-NR							
2018.04		D5-191052		_	_	Correction to RLC AM Test cases	030	
2010-04	5G-ND	142-101935	-	-	-		0.3.0	
	Adhor							
2018-04	RAN5#2-	R5-181967	-	-	-	Correction to PDCP ciphering test cases	0.3.0	
	5G-NR						-	

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Adhoc

2018-04	RAN5#2-	R5-181980	-	-	-	5GS RRC TC 8.2.2.2.9	0.3.0
	5G-NR						0.0.0
0010.01	Adrioc	DE 404004					0.0.0
2018-04	RAN5#2-	R5-181981	-	-	-	Corrections to RRC TC 8.2.3.16 Handover with PSCell	0.3.0
	5G-NR					release / SCG DRB	
	Adhoc						
2018-04	RAN5#2-	R5-181982	-	-	-	5GS RRC TC 8.2.3.2	0.3.0
	5G-NR						
	Adhoc						
2010.04		DE 101002					0.2.0
2018-04	RAN5#2-	K2-191993	-	-	-	5GS RRC 1C 8.2.3.3	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-181984	-	-	-	5GS RRC TC 8.2.3.4	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-181986	-	-	-	Addition of new NR RRC test case 8 2 2 2 4	030
2010 04		101000					0.0.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-181988	-	-	-	Addition of new NR NAS test case for dedicated EPS bearer	0.3.0
	5G-NR					context activation	
	Adhoc						
2018-04	RAN5#2-	R5-181991	-	-	-	Addition of text to clarify that 5GS requirements may be	030
2010 04		101010				implicitly tested in other space	0.0.0
	SG-INR						
	Adhoc						
2018-04	RAN5#2-	R5-181992	-	-	-	New NAS test case EPS bearer resource allocation / New	0.3.0
	5G-NR					EPS bearer context	
	Adhoc						
2018-04	RAN5#2-	R5-181994	-	-	-	Addition of new NR MAC test case 7.1.4.1.1	0.3.0
	5G-NR						
	Adhaa						
2010.04						Addition of now ND MAC toot append 7.1.4.1.0	0.00
2018-04	RAN5#2-	R2-181882	-	-	-	Addition of new NR MAC lest case 7.1.4.1.2	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-181996	-	-	-	Addition of new NR MAC test case 7.1.4.1.3	0.3.0
	5G-NR						
	Adhoc						
2019.04		DE 101007				Addition of now ND MAC tost appa 7.1.4.1.4	0.2.0
2010-04	RANS#2-	K2-101997	-	-	-	AUDITION OF NEW INR MAC LEST CASE 7.1.4.1.4	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-181998	-	-	-	Addition of new NR RLC test case 7.2.2.6	0.3.0
	5G-NR						
	Adhoc						
2018-04	RΔN5#2-	R5-181000		-	-	Addition of new NR RI C test case 7.2.3.5	030
2010-04		1.2-101333	_	<u> </u>	⁻		0.5.0
	DG-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182050	-	-	-	Addition of new NR RLC test case 7.2.2.5	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182051	-	-	-	Addition of new NR RLC test case 7.2.3.6	030
2010-04							0.0.0
	Adhoc						
2018-04	RAN5#2-	R5-182052	-	-	-	Addition of new NR RLC test case 7.2.3.7	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182053	-	-	-	Addition of new NR RLC test case 7.2.3.8	0.3.0
	5G-NP						
0010.5	Adnoc			<u> </u>			0.0.5
2018-04	RAN5#2-	R5-182054	-	-	-	Addition of new NR RLC test case 7.2.3.3	0.3.0
	5G-NR						
1	Adhoc						

2018-04	RAN5#2-	R5-182055	-	-	-	Addition of new NR RLC test case 7.2.3.4	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182056	-	-	-	Addition of new NR RRC test case 8.2.3.9	0.3.0
	5G-NR						
2010.04	Adhoc	DE 1020E7				Addition of now ND DDC toot agon 8.2.2.10	0.2.0
2018-04		R5-182057	-	-	-	Addition of new NR RRC lest case 8.2.3.10	0.3.0
	5G-NR Adhaa						
2019 04		DE 1020E0		-		Addition of now NR RRC tost case 9.2.2.11	0.2.0
2010-04	5C-ND	K3-102030	-	-	-		0.3.0
	Adhoc						
2018-04	RAN5#2-	R5-182059	-	+_	-	Addition of new NR RRC test case 8 2 3 12	030
2010 04	5G-NR	102000					0.0.0
2018-04	RAN5#2-	R5-182060	-	- 1	-	Correction to MAC test case 7.1.2.1	0.3.0
2010 04	5G-NR	10 102000					0.0.0
	Adhoc						
2018-04	RAN5#2-	R5-182061	-	-	-	Addition of new NR RRC test case 8.2.3.19	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182076	-	- 1	-	5GS PDCP Test case 7.3.4.1	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182077	-	-	-	5GS PDCP Test case 7.3.5.4	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182078	-	-	-	5GS RLC test case 7.2.3.11	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182079	-	-	-	5GS RLC test case 7.2.3.12	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182080	-	-	-	Addition of new NR RRC test case 8.2.3.7	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182081	-	-	-	Addition of new NR RLC test case 7.2.2.3	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182082	-	-	-	Addition of new NR RLC test case 7.2.2.4	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182083	-	-	-	Addition of new NR RRC test case 8.2.3.17	0.3.0
	5G-NR						
	Adhoc						
2018-04	RAN5#2-	R5-182085	-	-	-	Correction to PDCP integrity protection test cases	0.3.0
	5G-NR			1			
0010.5	Adhoc			<u> </u>			
2018-04	RAN5#2-	R5-182089	-	-	-	5GS RRC TC 8.2.5.5	0.3.0
	5G-NR						
2010.01	Adhoc						
2018-04	RAN5#2-	R5-182100	-	-	-	1000 KKU IU 8.2.5.0	0.3.0
	5G-NR			1			
2010.04		DE 100101					
2018-04	KAN5#2-	K0-182101	-	-	-	1000 KKU IU 0.2.0.1	0.3.0
	DG-NR			1			
2019.04		DE 102102					0.20
2010-04		173-102102	-	-	-		0.3.0
	Adhaa			1			
1	AULIOC	1		1	1		1

2018-04	RAN5#2- 5G-NR Adhoc	R5-182103	-	-	-	Corrections to RRC TC 8.2.5.1 RRC connection reconfiguration / PSCell addition failure	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182104	-	-	-	Corrections to RRC TC 8.2.2.2.1 PSCell addition, modification and release / SCG DRB	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182105	-	-	-	Corrections to RRC TC 8.2.2.2.6 Bearer Modification / SCG DRB / Split DRB Reconfiguration	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182106	-	-	-	Addition of new NR RRC test case 8.2.2.1.2	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182115	-	-	-	Introduction of 5GS RRC TC 8.2.4.3.1	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182116	-	-	-	Adding NR test case 8.2.2.1.1	0.3.0
2018-04	RAN5#2- 5G-NR Adhoc	R5-182117	-	-	-	Adding NR test case 8.2.2.1.3	0.3.0
2018-04	post RAN5#2- 5G-NR Adhoc	-	-	-	-	Editorial update to apply with the 3GPP drafting rules (styles)	0.3.1
2018-05	RAN5#79	R5-183094	-	-	-	Addition of UE power headroom reporting test case 7.1.1.3.7	1.0.0
2018-05	RAN5#79	R5-183101	-	-	-	Addition of DRX Operation test case 7.1.1.5.4	1.0.0
2018-05	RAN5#79	R5-183102	-	-	-	Addition of Correct handling of DL assignment/Semi- persistent test case 7.1.1.6.1	1.0.0
2018-05	RAN5#79	R5-183103	-	-	-	Addition of AM RLC test case 7.1.2.3.10	1.0.0
2018-05	RAN5#79	R5-183227	-	-	-	Editorial updates to 38.523-1	1.0.0
2018-05	RAN5#79	R5-183229	-	-	-	Correction to PDCP Test case - PDCP reordering/Maximum re-ordering delay below t-Reordering/ t-Reordering timer operations	1.0.0
2018-05	RAN5#79	R5-183109	-	-	-	Update to MAC Test case - Random access procedure / Successful/ C-RNTI Based/Preamble selected by MAC itself	1.0.0
2018-05	RAN5#79	R5-183111	-	-	-	Update RLC test case - AM RLC / Re-transmission of RLC PDU with and without re-segmentation	1.0.0
2018-05	RAN5#79	R5-183112	-	-	-	Correction to MAC Test case - DRX operation / Short cycle configured / Parameters configured by RRC	1.0.0
2018-05	RAN5#79	R5-183113	-	-	-	Correction to PDCP Test case - PDCP handover / Lossless handover / PDCP sequence number maintenance/PDCP status report to convey the information on missing or acknowledged PDCP SDUs at handover/ In-order delivery and duplicate elimination in the downlink	1.0.0
2018-05	RAN5#79	R5-182497	-	-	-	Corrections to RRC TC - BandwidthPart Configuration / SCG	1.0.0
2018-05	RAN5#79	R5-183230	-	-	-	release / SCG DRB	1.0.0
2018-05	RAN5#79	R5-183114	-	-	-	Corrections to RRC I C - Bearer Modification / Handling for bearer type change with security key change	1.0.0
2018-05	RAN5#79	K2-183112	-	-	-	path / Split DRB Reconfiguration	1.0.0
2018-05	RAN5#79	R5-183117	-	-	-	Corrections to RRC TC - Measurement configuration control and reporting / Inter-RAT measurements / Event B1 / Measurement of NR cells	1.0.0
2018-05	RAN5#79	R5-183116	-	-	-	Corrections to RRC TC - RRC connection reconfiguration / PSCell addition failure	1.0.0
2018-05	RAN5#79	R5-183231	-	-	-	Corrections to RRC TC - NR SCG Failure Information / RLC- MaxNumRetx	1.0.0
2018-05	RAN5#79	R5-183118	-	-	-	Corrections to RRC TC - SCG Reconfiguration Failure / SRB3	1.0.0

2018-05	RAN5#79	R5-183119	-	-	-	Corrections to RRC TC - SCG Reconfiguration Failure /	1.0.0
2018-05	PANI5#70	R5-182508		-		Void PRC TC - Handover with PSCell release / SCG DRB	100
2010-05		R5-182500	-	-	-	Void PRC TC Popror Modification / SCC DRP / Split DPP	1.0.0
2010-05	RANJ#19	102000	-	-	-	Reconfiguration	1.0.0
2018-05	RAN5#79	R5-183120	-	-	-	Correction to NR RRC test case 8.2.3.17	1.0.0
2018-05	RAN5#79	R5-183121	-	-	-	Correction to NR RRC test case 8.2.3.19	1.0.0
2018-05	RAN5#79	R5-183228	-	-	-	Correction to NR MAC test case 7.1.1.3.2	1.0.0
2018-05	RAN5#79	R5-183122	-	-	-	Correction to NR PDCP test case 7.1.3.4.2	1.0.0
2018-05	RAN5#79	R5-183123	-	-	-	Addition of new NR RRC test case 8.2.5.2.1	1.0.0
2018-05	RAN5#79	R5-183124	-	-	-	Addition of new NR RRC test case 8.2.5.4.1	1.0.0
2018-05	RAN5#79	R5-182601	-	-	-	Removal of NR RRC, test case 8 2 2 2 5	100
2018-05	RAN5#79	R5-183126	-	-	-	Addition of new 5GS RRC TC 8 2 4 3 1 1	100
2018-05	RAN5#79	R5-183127	-	-	-	Addition of new NR RRC, test case - Bearer Modification /	100
2010 00						Handling for bearer type change without security key change	1.0.0
						/ EN-DC	
2018-05	RAN5#79	R5-182652	-	-	-	Void RRC TC - Bearer Modification / MCG DRB / SCG DRB	1.0.0
						Reconfiguration	
2018-05	RAN5#79	R5-182774	-	-	-	Addition of 5GS NR RRC test case 8.2.3.8.1	1.0.0
2018-05	RAN5#79	R5-183130	-	-	-	Removal of RRC TC 8.2.4.3.1	1.0.0
2018-05	RAN5#79	R5-182798	-	-	-	Update of 5GS NR RRC test case 8.2.3.6	1.0.0
2018-05	RAN5#79	R5-183232	-	-	-	Addition of 5GS NR RRC test case 8.2.2.6.1	1.0.0
2018-05	RAN5#79	R5-183233	-	-	-	Addition of 5GS NR PDCP test case 7.1.3.5.3	1.0.0
2018-05	RAN5#79	R5-183132	-	-	-	Update of NR RRC TC - Measurement configuration control	1.0.0
						and reporting / Inter-RAT measurements / Event B1 /	
						Measurement of NR cells / RSRQ based measurements	
2018-05	RAN5#79	R5-183133	-	-	-	Update of NR RRC TC - Measurement configuration control	1.0.0
						and reporting / Inter-RAT measurements / Periodic	
						reporting / Measurement of NR cells	
2018-05	RAN5#79	R5-183134	-	-	-	Update of NR RRC TC - Measurement configuration control	1.0.0
2010.05		DE 10010E				and reporting / Event A1 / Measurement of NR PSCell	1.0.0
2018-05	RAN5#79	K2-193132	-	-	-	Addition of NR RRC TC - PSCell addition, modification and	1.0.0
2018-05	PAN5#70	R5-183137		-	_	Addition of 5GS NR RRC test case 8.2.1.1.1	100
2010-05	RAN5#73 ΡΔΝΙ5#70	R5-183138	_	_		Addition of new NR MAC LIL TRS test case 7.1.1.1	1.0.0
2010-05	DANI5#79	R5-183139	-	-	-	Addition of new NR MAC UL TRS test case 7.1.1.4.2.1	1.0.0
2010-05		R5-1831/0	-	-	-	Addition of new NR MAC UL TRS test case 7.1.1.4.2.2	1.0.0
2010-05		R5-1831/1	-	-	-	Addition of new NR MAC UL TRS test case 7.1.1.4.2.5	1.0.0
2010-05		D5-1831/12	-	-	-	Addition of Layer 2 test apps specific parameters	1.0.0
2010-05		DE 102142	-	-	-	Addition of Layer 2 lest case specific parameters	1.0.0
2018-05	RANS#79	DE 102143	-	-	-	Correction to MAC Pre-lest conditions	1.0.0
2018-05		DE 100144	-	-	-	Correction to RLC Pre-lest conditions	1.0.0
2018-05	RAN5#79	R0-100140	-	-	-		1.0.0
2018-05	RAN5#79	R5-183140	-	-	-	Correction to MAC RACH Test Cases	1.0.0
2018-05	RAN5#79	R5-182940	-	-	-	Correction to MAC DL Data Transfer test cases	1.0.0
2018-05	RAN5#79	R5-183147	-	-	-	Correction to MAC UL Data Transfer test cases	1.0.0
2018-05	RAN5#79	R5-183148	-	-	-	Correction to MAC DL-SCH TBS test cases	1.0.0
2018-05	RAN5#79	R5-183149	-	-	-	Correction to RLC UM Test cases	1.0.0
2018-05	RAN5#79	R5-183150	-	-	-	Correction to RLC AM Test cases	1.0.0
2018-05	RAN5#79	R5-182945	-	-	-	Corrections to PDCP sequence number test cases	1.0.0
2018-05	RAN5#79	R5-183151	-	-	-	Correction to PDCP integrity protection test cases	1.0.0
2018-05	RAN5#79	R5-182947	-	-	-	Correction to PDCP Ciphering test cases	1.0.0
2018-05	RAN5#79	R5-183152	-	-	-	Corrections to PDCP other test cases	1.0.0
2018-05	RAN5#79	R5-183153	-	-	-	Addition of new NR RACH test case 7.1.1.1.1	1.0.0
2018-05	RAN5#79	R5-182966	-	-	-	Correction to NR RLC test case 7.1.2.3.4	1.0.0
2018-05	RAN5#79	R5-183154	-	-	-	Correction to PDCP test case 7.1.3.5.2	1.0.0
2018-05	RAN5#79	R5-183155	-	-	-	Correction to NR MAC DRX Test cases	1.0.0

2018-05	RAN5#79	R5-183156	-	-	-	Correction to NR RRC intra frequency measurement Test	1.0.0
2018-05		R5-183157				Case 6.2.3.9	100
2010-05	RANJ#19		-	-	-	case 8.2.3.10	1.0.0
2018-05	RAN5#79	R5-183016	-	-	-	Removal of NR RRC test case 8 2 3 11	100
2018-05	RAN5#79	R5-183017		-	-	Removal of NR RRC test case 8.2.3.12	100
2018-05	PAN5#79	R5-183129				Addition of new 5GS PRC TC 8 2 3 13 1	1.0.0
2010-05		DE 102126	-	-	-	Correction to ND DDC, test page 9.2.2.5	1.0.0
2010-05		R5-103130	-	-	-	Confection to NR RRC lesi case 0.2.3.5	1.0.0
2018-05	RAN5#79	K2-183203	-	-	-	Addition of new NR NAS lest case Default EPS bearer	1.0.0
2018-05	RAN5#79	R5-183265	-	-	-	Undates to session management TC 10 2 2 1	100
2018-06	RAN#80	RP-	-	-	-	put under revision control as v15 0.0 with small editorial	15.0.0
2010 00	10 11 00	181210				changes	10.0.0
2018-09	RAN#81	R5-184226	0010	-	F	Addition of Correct handling of Configured UL grant Type 1	15.1.0
						test case 7.1.1.6.2	
2018-09	RAN#81	R5-184227	0011	-	F	Addition of Correct handling of Configured UL grant Type 2	15.1.0
						test case 7.1.1.6.3	
2018-09	RAN#81	R5-184228	0012	-	F	CR of Correct handling of DL assignment Semi persistent	15.1.0
						test case 7.1.1.6.1	
2018-09	RAN#81	R5-184229	0013	-	F	CR of UE power headroom reporting test case 7.1.1.3.7	15.1.0
2018-09	RAN#81	R5-184343	0020	-	F	Correction to 5GS PDCP Test case 7.1.3.4.1 PDCP	15.1.0
						handover / Lossless handover / PDCP sequence number	
						maintenance / PDCP status report to convey the information	
						on missing or acknowledged PDCP SDUs at handover / In-	
0010.00	D N 1//04	55 40 40 44	0001			order delivery and duplicate elimination in the downlink	1510
2018-09	RAN#81	R5-184344	0021	-	F	Correction to 5GS PDCP Test case 7.1.3.5.4 PDCP	15.1.0
						reordering / Maximum re-ordering delay below t-Reordering /	
2010.00			0000		-	t-Reordering timer operations	1510
2018-09	RAN#81	R5-184353	0023	-		/ EN-DC	15.1.0
2018-09	RAN#81	R5-184500	0031	-	F	Addition of new 5GS RRC TC 8.2.4.3.1.3	15.1.0
2018-09	RAN#81	R5-184517	0032	-	F	Correction to NR PDCP test case 7.1.3.4.2	15.1.0
2018-09	RAN#81	R5-184523	0036	-	F	Corrections to MAC TBS test cases	15.1.0
2018-09	RAN#81	R5-184527	0040	-	F	Addition of new MAC test case for Reset	15.1.0
2018-09	RAN#81	R5-184680	0055	-	F	Update of RRC SCG failure TC 8.2.5.5.1	15.1.0
2018-09	RAN#81	R5-184681	0056	-	F	Update of RRC SCG failure TC 8.2.5.6.1	15.1.0
2018-09	RAN#81	R5-184760	0059	-	F	Correction to RRC TC - PSCell addition, modification and	15.1.0
						release / Split DRB / EN-DC	
2018-09	RAN#81	R5-184761	0060	-	F	Correction to RRC TC - Measurement configuration control	15.1.0
						and reporting / Inter-RAT measurements / Periodic	
						reporting / Measurement of NR cells / EN-DC	
2018-09	RAN#81	R5-184763	0061	-	F	Correction to RRC TC - Measurement configuration control	15.1.0
						and reporting / Inter-RAT measurements / Event B1 /	
						Measurement of NR cells / RSRQ based measurements /	
0010.00	DANUUQA	DE 101700	0000		_		1510
2018-09	RAN#81	R5-184769	0063	-		Update of 5GS NR RRC test case 8.2.2.6.1	15.1.0
2018-09	RAN#81	R5-185059	0001	1	F	Correction to NR MAC test case 7.1.1.3.2	15.1.0
2018-09	RAN#81	R5-185060	0004	1	F	Addition of Correct Handling of DL HARQ process PDSCH	15.1.0
2018-09	RAN#81	R5-185061	0005	1	F	Addition of NR CA reconfiguration test case 8.2.4.2.1.1	15.1.0
2018-09	RAN#81	R5-185062	0006	1	F	Addition of NR CA reconfiguration test case 8 2 4 2 1 2	1510
2018-09	RAN#81	R5-185064	0015	1	F	Addition of 5GS NR SDAP test case 7 1 4 1	15.1.0
2018-00	RΔN#91	R5-185065	0016	1		Correction to 5GS MAC Test case 7.1.1.1.2 Pandom access	1510
2010-09		1.0-100000	0010	-		procedure / Successful / C-RNTI Resed / Preamble selected	10.1.0
						hv MAC itself	
2018-09	RAN#81	R5-185066	0017	1	F	Correction to 5GS MAC Test case 7.1.1.5.3 DRX operation /	15.1.0
				<u> </u>		Short cycle configured / Parameters configured by RRC	
2018-09	RAN#81	R5-185067	0018	1	F	Correction to 5GS RLC Test case 7.1.2.3.10 AM RLC / Re-	15.1.0
						transmission of RLC PDU with and without re-segmentation	

2018-09	RAN#81	R5-185068	0019	1	F	Correction to 5GS RLC Test case 7.1.2.3.11 AM RLC / RLC	15.1.0
						re-establishment procedure	
2018-09	RAN#81	R5-185069	0022	1	F	Addition of NR CA / NR SCell addition / modification /	15.1.0
						release / Success test cases 8.2.4.1.1.1, 8.2.4.1.1.2 and	
						8.2.4.1.1.3	
2018-09	RAN#81	R5-185070	0027	1	F	Corrections to RRC TC - Measurement configuration control	15.1.0
						and reporting / Inter-RAT measurements / Event B1 /	
						Measurement of NR cells / EN-DC	
2018-09	RAN#81	R5-185071	0029	1	F	Correction to 5GS RRC TC 8.2.4.3.1.1	15.1.0
2018-09	RAN#81	R5-185072	0030	1	F	Addition of 5GS RRC TC 8.2.4.3.1.2	15.1.0
2018-09	RAN#81	R5-185073	0033	1	F	Corrections to Layer 2 test cases	15.1.0
2018-09	RAN#81	R5-185074	0034	1	F	Corrections to MAC test case 7.1.2.2.1	15.1.0
2018-09	RAN#81	R5-185075	0035	1	F	Corrections to MAC test case 7.1.2.3.1	15.1.0
2018-09	RAN#81	R5-185076	0037	1	F	Addition of new MAC RACH test case for PDCCH order	15.1.0
2018-09	RAN#81	R5-185077	0039	1	F	Addition of new MAC test case for Scell Activation	15.1.0
						Deactivation	
2018-09	RAN#81	R5-185078	0041	1	F	Addition of new MAC UL TBS test case with transform	15.1.0
0010.00	D A A U O A	DE 405070				precoding configured	1510
2018-09	RAN#81	R5-185079	0042	1	F	Correction to default pre-test conditions for UM RLC test	15.1.0
2019.00		DE 195090	0042	1	-	Cases	1510
2010-09	RAN#01	R5-105060	0043	1		Correction to ND DDCD toot coop 7.1.2.5.1	15.1.0
2018-09		R5-185082	0045			Correction to NR PDCP lest case 7.1.3.5.1	15.1.0
2018-09	RAN#81	R5-185083	0046			Correction to NR RLC test case 7.1.2.3.3 and 7.1.2.3.4	15.1.0
2018-09	RAN#81	R5-185089	0049	1	F	Corrections to RRC TC - Measurement configuration control	15.1.0
						And reporting / Inter-RAT measurements / Event B2 /	
2019 00	DANI#01	DE 195000	0050	1	Е	CP of AM PLC tost case 7.1.2.2.10	1510
2010-09	RAN#01	R5-165090	0050	1		Undets of DDC SCC failure TC 9.2 E 1.1	15.1.0
2018-09		R5-185091	0051			Update of RRC SCG failure TC 8.2.5.1.1	15.1.0
2018-09		R5-185092	0052			Update of RRC SCG failure TC 8.2.5.2.1	15.1.0
2018-09	RAN#81	R5-185093	0053	1	F	Update of RRC SCG failure TC 8.2.5.3.1	15.1.0
2018-09		R5-185094	0054			Opuale of RRC SCG failure TC 8.2.5.4.1	15.1.0
2018-09		R5-185095	0057	1	F	Addition of 5GS NR SDAP lest case 7.1.4.2	15.1.0
2018-09		R5-185096	0064			Update of 5GS NR RRC lest case 8.2.3.6.1	15.1.0
2018-09		R5-185097	0000	1	F	Update of 5GS NR RRC lest case 8.2.3.8.1	15.1.0
2018-09		R5-185098	0067			Upuale of 5GS NR RRC lest case 8.2.1.1.1	15.1.0
2018-09		R5-185099	0008	1	F	L2 Preamble Parameter Opdate for Multi-PDN configuration	15.1.0
2018-09	RAN#81	R5-185100	0069	1	-	Correction to NR RLC test cases 7.1.2.2.3 and 7.1.2.2.4	15.1.0
2018-09	RAN#81	R5-185101	0070		-	Correction to NR RRC test case 8.2.3.14.1	15.1.0
2018-09	RAN#81	R5-185148	0007	1	+	Addition of NR CA reconfiguration test case 8.2.4.2.1.3	15.1.0
2018-09	RAN#81	R5-185149	0024	1	F	Corrections to RRC TC - PSCell addition, modification and	15.1.0
2010.00		DE 105150	0025	1	-	release / SCG DRB / EN-DC	1510
2010-09	RAN#01	R5-105150	0025	1	Г	bearer type ehange with security key change / EN DC	15.1.0
2018-09		R5-185151	0026	1	F	Corrections to RRC TC - Bearer Modification / Unlink data	1510
2010 00	I W WWOI		0020	-		nath / Split DRB Reconfiguration / FN-DC	10.1.0
2018-09	RAN#81	R5-185152	0038	1	F	Addition of new MAC test case for Power Headroom report	15.1.0
2018-09	RAN#81	R5-185153	0047	1	F	Addition of RRC Default Pre-test conditions for NSA	15.1.0
2018-09	RAN#81	R5-185154	0058	1	F	Correction to RRC TC - Measurement configuration control	1510
2010 00	10 10 01			-		and reporting / Event A1 / Measurement of NR PSCell / EN-	10.1.0
2018-09	RAN#81	R5-185155	0062	1	F	Updates to NAS test case 10.2.1.2	15.1.0
2018-09	RAN#81	R5-185167	0071	1	F	Update to EPS SM Test case for Multi-PDN	15.1.0
2018-12	RAN#82	R5-186649	0157	-	F	Correction to NR PDCP test case 7.1.3.5.1	15.2.0
2018-12	RAN#82	R5-186650	0158	-	F	Correction to NR PDCP test case 7 1 3 5 2	15.2.0
2018-12	RAN#82	R5-186679	0163	-	F	Corrections to PDCP test case 7 1 3 5 3	1520
2018-12	RANI#82	R5-186725	0167	_	F	Correction to 5GS test case 7 1 2 2 5	1520
2018-12	RΔNI#92	R5-186901	0178	-	F	Undate RRC TC 8 2 2 2 1 - Solit SRR Establishment and	1520
2010-12						Release / FN-DC	10.2.0
		1	1	i			. 1

2018-12	RAN#82	R5-186802	0179	-	F	Update RRC TC 8.2.2.7.1 - Bearer Modification / Handling	15.2.0
						for bearer type change without security key change / EN-DC	
2018-12	RAN#82	R5-186803	0180	-	F	Update RRC TC8.2.3.7.1 - Measurement configuration	15.2.0
						control and reporting / Event A4 (intra-frequency, inter-	
						frequency and inter-band measurements) / Measurement of	
						Neighbour NR cell / EN-DC	
2018-12	RAN#82	R5-186872	0181	-	F	Removal of RRC SCG failure TC 8.2.5.5.1	15.2.0
2018-12	RAN#82	R5-186873	0182	-	F	Removal of RRC SCG failure TC 8.2.5.6.1	15.2.0
2018-12	RAN#82	R5-186890	0185	-	F	Correction to NR RRC test case 8.2.3.14.1	15.2.0
2018-12	RAN#82	R5-186891	0186	-	F	Correction to NR RRC test case 8.2.3.13.1	15.2.0
2018-12	RAN#82	R5-186892	0187	-	F	Correction to NR PDCP test case 7.1.3.4.2	15.2.0
2018-12	RAN#82	R5-186995	0228	-	F	CR of test case 8.2.4.2_NR CA release_Resubmission of	15.2.0
						186101	
2018-12	RAN#82	R5-187104	0229	-	F	Correction to MAC test cases	15.2.0
2018-12	RAN#82	R5-187105	0230	-	F	Correction to RLC UM test cases	15.2.0
2018-12	RAN#82	R5-187106	0231	-	F	Correction to RLC AM test cases	15.2.0
2018-12	RAN#82	R5-187236	0235	-	F	Update RRC TC 8.2.1.2.1 - BandwidthPart Configuration /	15.2.0
						SCG / EN-DC	
2018-12	RAN#82	R5-187237	0236	-	F	Update RRC TC 8.2.2.4.1 - PSCell addition, modification	15.2.0
						and release / SCG DRB / EN-DC	
2018-12	RAN#82	R5-187238	0237	-	F	Update RRC TC 8.2.2.8.1 - Bearer Modification / Handling	15.2.0
						for bearer type change with security key change / EN-DC	
2018-12	RAN#82	R5-187239	0238	-	F	Update RRC TC 8.2.2.9.1 - Bearer Modification / Uplink data	15.2.0
						path / Split DRB Reconfiguration / EN-DC	
2018-12	RAN#82	R5-187248	0247	-	F	Correction to MAC Test case 7.1.1.1.2 Random access	15.2.0
						procedure / Successful / C-RNTI Based / Preamble selected	
						by MAC itself	
2018-12	RAN#82	R5-187249	0248	-	F	Correction to MAC Test case 7.1.1.5.3 DRX operation /	15.2.0
0010.10	DAN//00	DE 107050	00.40			Short cycle configured / Parameters configured by RRC	45.0.0
2018-12	RAN#82	R5-187250	0249	-		Correction to RLC Test case 7.1.2.3.10 AM RLC / Re-	15.2.0
2010 12	DANI#02	DE 1972E1	0250			transmission of RLC PDU with and without re-segmentation	15 2 0
2010-12	RAN#02	R5-107251	0250	-		Confection to REC Test case 7.1.2.3.11 AM REC / REC Te-	15.2.0
2018-12	PAN#82	P5-187252	0251	-		Correction to PDCP Test case 7.1.3.4.1 PDCP handover /	1520
2010-12			0251		'	Lossless handover / PDCP sequence number maintenance /	10.2.0
						PDCP status report to convey the information on missing or	
						acknowledged PDCP SDLIs at handover / In-order delivery	
						and dunlicate elimination	
2018-12	RAN#82	R5-187254	0253	-	F	Update RRC TCs 8.2.4.1.1.1, 8.2.4.1.1.2 and 8.2.4.1.1.3 NR	15.2.0
						CA / NR SCell addition / modification / release / Success	
2018-12	RAN#82	R5-187255	0254	-	F	Correction to EN-DC NAS test case 10.2.1.1 - Default EPS	15.2.0
						bearer context activation	
2018-12	RAN#82	R5-187302	0260	-	F	Correction to test case 8.2.4.3.1.1	15.2.0
2018-12	RAN#82	R5-187410	0273	-	F	Update of 5GS NR RRC test case 8.2.2.6.1	15.2.0
2018-12	RAN#82	R5-187411	0274	-	F	Addition of 5GS NR MAC test case 7.1.1.3.9	15.2.0
2018-12	RAN#82	R5-187492	0278	-	F	Correction to test case 8.2.2.1.1	15.2.0
2018-12	RAN#82	R5-187497	0279	-	F	Correction to test case 8.2.2.3.1	15.2.0
2018-12	RAN#82	R5-187528	0285	-	F	Update to RRC TC - PSCell addition. modification and	15.2.0
						release / Split DRB / EN-DC	
2018-12	RAN#82	R5-187530	0286	-	F	Update to RRC TC - Measurement configuration control and	15.2.0
						reporting / Inter-RAT measurements / Event B1 /	
						Measurement of NR cells / RSRQ based measurements /	
						EN-DC	
2018-12	RAN#82	R5-187534	0287	-	F	Update to RRC TC - Measurement configuration control and	15.2.0
						reporting / Inter-RAT measurements / Periodic reporting /	
						Measurement of NR cells / EN-DC	
2018-12	RAN#82	R5-187540	0290	-	F	Update to 5G-NR RRC TCs for Multi-PDN support and	15.2.0
						specific message content IEs	
2018-12	RAN#82	R5-187611	0294	-	F	Correction to MAC TBS test cases	15.2.0
2018-12	RAN#82	R5-187686	0283	1	F	Adding test case 6.1.1.7	15.2.0

2018-12	RAN#82	R5-187688	0202	1	F	Addition of NR test case 7.1.1.1.3_SI Request	15.2.0
2018-12	RAN#82	R5-187689	0203	1	F	Addition of NR test case 7.1.1.1.6_Random access	15.2.0
2018-12	RAN#82	R5-187690	0204	1	F	Addition of NR test case 7.1.1.2.3_CCCH HARQ	15.2.0
2018-12	RAN#82	R5-187691	0213	1	F	CR of NR test case 7.1.2.3.9_RLC Reassembling	15.2.0
2018-12	RAN#82	R5-187692	0252	1	F	Correction to PDCP Test case 7.1.3.5.4 PDCP reordering /	15.2.0
						Maximum re-ordering delay below t-Reordering / t-	
						Reordering timer operations	
2018-12	RAN#82	R5-187693	0234	1	F	Correction to SDAP test cases	15.2.0
2018-12	RAN#82	R5-187695	0243	1	F	Addition of 5GS SA RRC TC 8.1.1.1.1	15.2.0
2018-12	RAN#82	R5-187696	0246	1	F	Addition of 5GS SA RRC TC 8.1.5.2.1	15.2.0
2018-12	RAN#82	R5-187698	0159	1	F	Correction to NR RRC test case 8.2.3.5.1	15.2.0
2018-12	RAN#82	R5-187699	0160	1	F	Correction to NR RRC test case 8.2.3.9.1 and 8.2.3.10.1	15.2.0
2018-12	RAN#82	R5-187700	0239	1	F	Update RRC TC 8.2.3.1.1 - Measurement configuration	15.2.0
						control and reporting / Inter-RAT measurements / Event B1 /	
0010.10	BAN //00	DE 107701	0070			Measurement of NR cells / EN-DC	15.0.0
2018-12	RAN#82	R5-187701	0272	1		Update RRC TC 8.2.3.12.1	15.2.0
2018-12	RAN#82	R5-187702	0276	1	F	Update of 5GS NR RRC test case 8.2.3.6.1	15.2.0
2018-12	RAN#82	R5-187703	0277	1	F	Update of 5GS NR RRC test case 8.2.3.8.1	15.2.0
2018-12	RAN#82	R5-187704	0288	1	F	Update to RRC TC - Measurement configuration control and	15.2.0
2010 12			0200	1		reporting / Event A1 / Measurement of NR PSCell / EN-DC	15.0.0
2018-12	RAN#82	R5-18//05	0289	1	F	ED1/ED2 coll power lovel	15.2.0
2018-12	PAN#82	R5-187706	0168	1	F	Indates to EN-DC TC 8 2 5 3 1	1520
2010-12		P5-187707	0140	1		Corrections to NAS test case 0.1.5.1.14	15.2.0
2010-12	DAN#02	D5-197778	0140	1		Adding test case 6.1.1.8	15.2.0
2010-12	DAN#02	DE 107770	0204	1		Addition of NP tost case 7.1.1.1.4 Poom Eailuro	15.2.0
2010-12	DAN#02	DE 107700	0220	1		Addition of NR test case 7.1.1.1.4_Dealth Failure	15.2.0
2010-12		R3-107700	0227	1		Addition of NR lest case 7.1.1.1.5 SOL	15.2.0
2010-12		R5-107701	0201	1		Addition of ECC ND MAC tost case 7.1.1.3.2	15.2.0
2010-12		RJ-107704	0291	1		Addition of SGS NR MAC lest case 7.1.1.0.1	15.2.0
2010-12	RAN#02	K5-10//04	0104	±	Г	PLC test cases	15.2.0
2018-12	RAN#82	R5-187785	0232	1	F	Correction to PDCP Ciphering test cases	15.2.0
2018-12	RAN#82	R5-187786	0233	1	F	Correction to PDCP Integrity test cases	1520
2018-12	RAN#82	R5-187787	0216	-	F	Addition of NR test case 8 1 1 2 3 T300 expiry	1520
2018-12	RAN#82	R5-187789	0245	-	F	Addition of 5GS SA RBC TC 8 1 1 2 5	1520
2018-12	RAN#82	R5-187790	0275	-	F	Addition of 5GS NR RRC test case 8.1.1.3.2	15.2.0
2018-12	RAN#82	R5-187792	0224	1	F	Addition of NR test case 8 2 3 11 1 gapER1	1520
2018-12	RAN#82	R5-187794	0221	1	F	Addition of NR test case 8 1 5 3 1 PWS notification	1520
2018-12	RAN#82	R5-187795	0240	1	F	Undate RRC SCG failure TC 8 2 5 1 1	1520
2010 12	RAN#82	R5-187797	0240	1	- F	Addition of new 5GC TC 91611	15.2.0
2018-12	RAN#82	R5-188159	0200	2	F	Addition of NR test case 91511 Registration Reguest	1520
2018-12	RAN#82	R5-188187	0222	-	F	Correction to NR MAC DRX test cases 7 1 1 5 1 and	1520
2010 12	10,114/02		0230			71152	10.2.0
2018-12	RAN#82	R5-188188	0217	2	F	Addition of NR test case 8.1.1.3.1 Redirection to NR	15.2.0
2018-12	RAN#82	R5-188190	0225	2	F	Addition of NR test case 8.2.3.11.2 gapER2	15.2.0
2019-01	RAN#82	R5-188192	0205	2	F	Addition of NR test case 7.1.1.2.4 BCCH HARO	15.2.1
2019-01	RAN#82	R5-188102	0205	2	F	Correction to Layer 2 Pre Test conditions	15.2.1
2019-01	RAN#82	R5-189104	0235	2	F	Addition of NR test case 8.1.3.1.1. Event A1	15.2.1
2019-01	RAN#82	DE 100194	0210	2	F	Addition of NK test case 0.1.3.1.1_EVent A1	1521
2019-01	RAN#82	R5-188202	0203	2	F	Undate of 5GS NR RRC test case 8.2.1.1.1	15.2.1
2019-03	RAN#83	R5-191197	0421	-	F	Correction to 5GS RI C Test case 7 1 2 2 5	15.3.0
2010-02	RAN#82	R5-101102	0422	-	F	Correction to 5GS RI C Test case 7.1.2.2.9	15 2 0
2010-02	RAN#03	R5-101100	0422	-		Correction to 5GS RI C Test case 7.1.2.3.0	15 2 0
2010-02	DVVIA	D5-101200	0423	_		Correction to ENLOC PPC test case 8.2.5.2.1	15 2 0
2010-02	RΔNI#03	R5-101202	0424	-		Correction to 5GS RI C Test case 7.1.2.2.10	15 2 0
2019-03	DANI#03	D5-101202	0420	-		Correction to ENLOC PPC test case 8.2.2.2.1	15 2 0
2019-03	DANI#03	D5-101252	0421	-			15.3.0
∠018-03	кнін#83	142-191323	∪43⊥	-		Conecting test case 1.1.1.3.1	1.2.2.0

2019-03	RAN#83	R5-191393	0445	-	F	Correction to NR test case 7.1.1.1.6-Random access	15.3.0
						procedure	
2019-03	RAN#83	R5-191397	0449	-	F	Correction to NR test case 7.1.2.3.9-RLC Reassembling	15.3.0
2019-03	RAN#83	R5-191403	0455	-	F	Correction to NR test case 8.1.3.1.1-Event A1 and A2	15.3.0
2019-03	RAN#83	R5-191405	0457	-	F	Correction to NR test case 8.2.3.11.2-ENDC measurement	15.3.0
						gap FR2	
2019-03	RAN#83	R5-191415	0466	-	F	Addition of TC 8.1.3.2.3-inter-RAT measurement B2 RSRQ	15.3.0
2019-03	RAN#83	R5-191426	0475	-	F	Addition of NR test case 6.1.2.4-Cell Reselection for	15.3.0
0010.00	DAN//00	DE 101 107	0.470			Interband operation	15.0.0
2019-03	RAN#83	R5-191427	0476	-		Addition of NR test case 6.1.2.5-Cell Reselection for	15.3.0
						Interband operation using Pcompensation Between FDD and	
2010-02	DAN#93	D5-101/20	0470			Addition of NP test case 6.1.2.21-Cell reselection Sintra	15 2 0
2013-03	11711#03	110-191400	0475		'	SearchO and SponIntraSearchO	13.3.0
2019-03	RAN#83	R5-191431	0480	-	F	Addition of NR test case 6.1.2.22-Inter-frequency cell	15.3.0
						reselection with parameters ThreshX, HighO, ThreshX,	
						LowO and ThreshServing, LowO	
2019-03	RAN#83	R5-191432	0481	-	F	Correction to NR test case 7.1.1.3.7-Power Headroom	15.3.0
						Reporting	
2019-03	RAN#83	R5-191433	0482	-	F	Correction to NR test case 7.1.1.6.1-Correct handling of DL	15.3.0
						assignment Semi persistent	
2019-03	RAN#83	R5-191434	0483	-	F	Addition of NR test case 8.1.1.1.2-Paging	15.3.0
2019-03	RAN#83	R5-191435	0484	-	F	Correction to NR test case 8.1.1.2.1-T300 expiry	15.3.0
2019-03	RAN#83	R5-191436	0485	-	F	Addition of NR test case 8.1.5.3.3-PWS notification	15.3.0
2019-03	RAN#83	R5-191445	0494	-	F	Correction to NR test case 9.1.5.1.1-Initial Registration	15.3.0
2019-03	RAN#83	R5-191447	0495	-	F	Addition of NR test case 8.1.3.1.5-Two event A3 RSRQ	15.3.0
2019-03	RAN#83	R5-191448	0496	-	F	Addition of NR test case 8.1.3.1.6 Two event A5 SINR	15.3.0
2019-03	RAN#83	R5-191449	0497	-	F	Correction to NR test case 8.1.5.3.1-ETWS	15.3.0
2019-03	RAN#83	R5-191509	0504	-	F	Addition of new RRC TC 8.1.5.3.2	15.3.0
2019-03	RAN#83	R5-191621	0514	-	F	Update of 5GS NR RRC test case 8.1.1.3.2	15.3.0
2019-03	RAN#83	R5-191641	0523	-	F	Undates to 5GS SA RRC TC - RRC / Paging for connection /	15.3.0
2010 00			0020		·	Multiple paging records	10.0.0
2019-03	RAN#83	R5-191642	0524	-	F	Updates to 5GS SA RRC TC - RRC connection	15.3.0
						establishment / RRC Reject with wait time	
2019-03	RAN#83	R5-191643	0525	-	F	Updates to 5GS SA RRC TC - SI change / Notification of	15.3.0
						BCCH modification / Short message for SI update	
2019-03	RAN#83	R5-191651	0530	-	F	Update EN-DC RRC TC 8.2.2.4.1	15.3.0
2019-03	RAN#83	R5-191652	0531	-	F	Update EN-DC RRC TC 8.2.2.8.1	15.3.0
2019-03	RAN#83	R5-191653	0532	-	F	Update EN-DC RRC TC 8.2.2.9.1	15.3.0
2019-03	RAN#83	R5-191654	0533	-	F	Update EN-DC RRC TC 8.2.4.1.1.1	15.3.0
2019-03	RAN#83	R5-191656	0535	-	F	Update EN-DC RRC TC 8.2.5.3.1	15.3.0
2019-03	RAN#83	R5-191660	0539	-	F	Addition of 5GC TC- PDU session authentication and	15.3.0
						authorization / during the UE-requested PDU session	
						procedure	
2019-03	RAN#83	R5-191661	0540	-	F	Addition of Idle Mode TC - Steering of UE in roaming during	15.3.0
						registration/security check successful using List Type 1	
2019-03	RAN#83	R5-191663	0542	-	F	Addition of Idle mode Test Case - PLMN selection of	15.3.0
						RPLMN, HPLMN/EHPLMN, UPLMN and OPLMN /	
						Automatic mode	
2019-03	RAN#83	R5-191733	0546	-	F	Update RRC TC 8.2.2.1.1 - SRB3 Establishment,	15.3.0
						Reconfiguration and Release / NR addition, modification and	
2010.00	DANUGO	DE 404701	0550		-	release / EN-DC	15.0.0
2019-03	RAN#83	R5-191/64	0550	-			15.3.0
2019-03	RAN#83	R5-191804	0552	-		Intel correction to MAC TC /.1.1./.1.1	15.3.0
2019-03	RAN#83	R5-191806	0553	-	F	Addition of new RRC IC 8.1.1.4.3	15.3.0
2019-03	RAN#83	R5-191810	0554	-	F	Addition of new 5GC TC 9.1.5.2.9	15.3.0
2019-03	RAN#83	R5-191823	0555	-	F	Addition of new 5GC TC 9.1.6.1.4	15.3.0
2019-03	RAN#83	R5-191827	0556	-	F	Addition of new RRC TC 8.1.1.4.2	15.3.0

2019-03	RAN#83	R5-191859	0559	-	F	Addition of new 5G-NR Idle Mode TC 6.1.1.6 - PLMN	15.3.0
						selection / Periodic reselection /	
						MinimumPeriodicSearchTimer	
2019-03	RAN#83	R5-191869	0561	-	F	Update to 5G-NR RRC Measurement configuration and	15.3.0
			0001		·	reporting TC 8 2 3 3 1	20.010
2019-03	RAN#83	R5-191877	0562	-	F	Undate to 5G-NR RRC Measurement configuration and	1530
2013 03	10/110/00		0302		'	roporting TC 9.2.2.4.1	10.0.0
2010-03	DANI#93	D5-101907	0570	_		Undate to TC 8 2 5 / 1 SCC change failure / ENLDC	1530
2019-03		R5-191097	0570	-		Editorial undete to TC 7.1.2.2.1	15.3.0
2019-03	RAN#83	R5-191898	0571	-			15.3.0
2019-03	RAN#83	R5-191911	0574	-	F	Correction to MAC TBS test cases	15.3.0
2019-03	RAN#83	R5-191916	0577	-	F	Introduction of Non 3GPP Access over WLAN test cases	15.3.0
2019-03	RAN#83	R5-192203	0587	-	F	Update to 5G-NR RRC Measurement configuration and	15.3.0
						reporting TCs 8.2.3.x.x	
2019-03	RAN#83	R5-192222	0589	-	F	Correction to NR RRC test case 8.2.3.5.1	15.3.0
2019-03	RAN#83	R5-192282	0429	1	F	Addition of new 5G-NR Idle Mode TC 6 1 2 19 - Speed-	1530
2010 00	10 11 100		0420	1	'	dependent cell reselection	10.0.0
2010-03	PAN#83	P5-102283	0440	1		Addition of NP test case 6.1.2.15-Cell reselection in shared	1530
2019-03		10-192203	0440	1		notwork onvironment	13.3.0
2010.02		DE 102204	0441	1		Addition of ND toot append 1.2.17 Coll resolution	15.2.0
2019-03	RAN#83	R5-192284	0441	1		Addition of NR test case 6.1.2.17-Cell reselection	15.3.0
2019-03	RAN#83	R5-192285	0541	1	F	Addition of Idle mode Test Case 6.1.2.7: Cell reselection /	15.3.0
						Equivalent PLMN	
2019-03	RAN#83	R5-192286	0446	1	F	Correction to NR test case 7.1.1.5.4-CDRX	15.3.0
2019-03	RAN#83	R5-192287	0447	1	F	Correction to NR test case 7.1.1.6.2-Configured grant Type	15.3.0
						1	
2019-03	RAN#83	R5-192288	0448	1	F	Correction to NR test case 7.1.1.6.3-Configured grant Type	15.3.0
						2	
2019-03	RAN#83	R5-192289	0548	1	F	Addition of a new test purpose to TC 7.1.1.2.1 and TC	15.3.0
						7 1 1 3 1 for a TDD-UI -DI -ConfigCommon including	
						Inattern?	
2010-03	PAN#83	R5-102201	0575	1	╞	Reduction of loops in MAC TRS test cases	1530
2010 02	DANI#03	DE 102202	0575	1	╞╴		15.0.0
2019-03	RAN#03	R5-192293	0505				15.3.0
2019-03	RAN#83	R5-192296	0536	1	⊢⊢	Correction to PDCP Test case 7.1.3.4.1 PDCP handover /	15.3.0
						Lossless handover / PDCP sequence number maintenance /	
						PDCP status report to convey the information on missing or	
						acknowledged PDCP SDUs at handover / In-order delivery	
						and duplicate elimination in th	
2019-03	RAN#83	R5-192297	0544	1	F	Correction to SDAP Test Cases	15.3.0
2019-03	RAN#83	R5-192298	0451	1	F	Addition of NR test case 8.1.1.3.4-RRCRelease with priority	15.3.0
						information of E-UTRA	
2019-03	RAN#83	R5-192299	0526	1	F	Addition of 5GS SA RRC TC - RRC connection release /	15.3.0
						With priority information / T320 expiry	
2019-03	RAN#83	R5-192300	0527	1	F	Addition of 5GS SA RRC TC - RRC connection release /	15.3.0
						With priority information / T320 expiry / E-UTRA	
2019-03	RAN#83	R5-192301	0528	1	F	Addition of 5GS SA BRC TC - BRC resume / Suspend-	1530
2010 00	10.00		0020	-	·		10.0.0
2019-02	Β ΔΝΙ#83	R5-192202	0588	1	F	Addition of 5GS SA REC TC - 81211	1530
2010.00		DE 102202	0500	1			15.0.0
2019-03		K2-195303	0590				15.3.0
2019-03	RAN#83	R5-192304	0591	1	F	Addition of 5GS SA RRC TC - 8.1.5.3.4	15.3.0
2019-03	RAN#83	R5-192307	0557	1	F	Update ENDC TC 8.2.2.3.1	15.3.0
2019-03	RAN#83	R5-192308	0420	1	F	Update to 5G-NR RRC Measurement configuration and	15.3.0
						reporting TC 8.2.3.2.1	
2019-03	RAN#83	R5-192329	0456	1	F	Correction to NR test case 8.2.3.11.1-ENDC measurement	15.3.0
						gap FR1	
2019-03	RAN#83	R5-192330	0428	1	F	Correction to NR RRC test case 8.2.3.13.1	15.3.0
2010-02	RANI#83	R5-102321	0570	1	F	Correction to NR RRC test case 8.2.3.12.1	1530
2010 00		DE 102222	0519	1		Correction to NR DDC test case 0.2.3.12.1	15.3.0
2019-03	RAN#83	RD-192332				CONTECTION TO INK KKC LEST CASE 8.2.3.14.1	15.3.0
2019-03	RAN#83	R5-192333	0582	1	F	Correction to NR RRC test case 8.2.3.1.1	15.3.0
2019-03	RAN#83	R5-192334	0596	1	F	Correction to NR RRC test case 8.2.3.9.1 and 8.2.3.10.1	15.3.0
2019-03	RAN#83	R5-192339	0534	1	F	Update EN-DC RRC TC 8.2.5.1.1	15.3.0

2019-03	RAN#83	R5-192340	0506	1	F	Update to 5G testcase 9.1.5.1.14	15.3.0
2019-03	RAN#83	R5-192341	0572	1	F	Update to 5G TC 9.1.5.2.1 TA registration update	15.3.0
2019-03	RAN#83	R5-192342	0543	1	F	Correction to EN-DC NAS test case 10.2.1.1 - Default EPS	15.3.0
						bearer context activation	
2019-03	RAN#83	R5-192343	0537	1	F	Addition of 5GC TC SMS over NAS service	15.3.0
2019-03	RAN#83	R5-192383	0459	1	F	Addition of NR test case 9.1.5.1.10-PLMN not allowed	15.3.0
2019-03	RAN#83	R5-192385	0498	1	F	Addition of new 5GC TC 9.1.7.1	15.3.0
2019-03	RAN#83	R5-192386	0502	1	F	Addition of new 5GC TC 9.1.5.1.11	15.3.0
2019-03	RAN#83	R5-192387	0503	1	F	Addition of new 5GC TC 9.1.5.1.12	15.3.0
2019-03	RAN#83	R5-192388	0507	1	F	Addition of 5G testcase 9.1.5.1.4	15.3.0
2019-03	RAN#83	R5-192389	0508	1	F	Addition of 5G testcase 9.1.3.1	15.3.0
2019-03	RAN#83	R5-192390	0538	1	F	Addition of 5GC TC - Initial registration / 5GS services /	15.3.0
						NSSAI handling	
2019-03	RAN#83	R5-192391	0545	1	F	Addition of new 5GC TC 9.1.5.1.5	15.3.0
2019-03	RAN#83	R5-192392	0547	1	F	Introduction of TC 9.1.1.1 EAP based primary authentication	15.3.0
						and key agreement	
2019-03	RAN#83	R5-192393	0549	1	F	Introduction of TC 9.1.1.3 EAP based primary authentication	15.3.0
0010.00	DAN //00	55 400004	0550			and key agreement	15.0.0
2019-03	RAN#83	R5-192394	0558	1	+	Addition of new 5GC TC 9.1.5.1.7	15.3.0
2019-03	RAN#83	R5-192396	0564	1	F	Addition of new 5GC TC 9.1.5.1.8	15.3.0
2019-03	RAN#83	R5-192397	0566	1	F	Update TC 9.1.6.1.1	15.3.0
2019-03	RAN#83	R5-192398	0573	1	F	Introduction of TC 9.1.5.2.4 Mobility registration update / The	15.3.0
0010.00	DAN//00	55 400000	0500		_	lower layer requests NAS signalling connection recovery	15.0.0
2019-03	RAN#83	R5-192399	0580	1	-	New 5GC test case 9.1.2.2	15.3.0
2019-03	RAN#83	R5-192700	0499	1	-	Addition of new 5GC TC 10.1.3.2	15.3.0
2019-03	RAN#83	R5-192701	0500	1	F	Addition of new 5GC TC 10.1.6.1	15.3.0
2019-03	RAN#83	R5-192702	0501	1	F	Addition of new 5GC TC 10.1.6.2	15.3.0
2019-03	RAN#83	R5-192703	0563	1	F	Addition of new 5GC TC 10.1.2.2	15.3.0
2019-03	RAN#83	R5-192749	0474	1	F	Addition of NR test case 6.1.2.2-Cell selection based on	15.3.0
2010.02		DE 1027E0	0422	1		Qqualmin	15.2.0
2019-03	RAN#83	R5-192750	0432			Correcting test case 6.1.1.7	15.3.0
2019-03	RAN#83	R5-192751	0433		-	Updating test case 6.1.1.8	15.3.0
2019-03	RAN#83	R5-192754	0599	-	F	Addition of NR test case 6.1.2.1-Cell selection based on	15.3.0
2019-03	PAN#83	P5-102756	0600	_	E	Addition of NR test case 6.1.2.3-Cell selection-Serving cell	1530
2019-03	NAN#03	13-192750	0000	-	Г	har	13.3.0
2019-03	RAN#83	R5-192757	0470	1	F	Addition of NR test case 6.1.1.2- PLMN selection of Other	15.3.0
			••	-	•	PLMN	201010
2019-03	RAN#83	R5-192758	0471	1	F	Addition of NR test case 6.1.1.3-Cell reselection of ePLMN	15.3.0
2019-03	RAN#83	R5-192759	0473	1	F	Addition of NR test case 6.1.1.5-PLMN selection	15.3.0
2019-03	RAN#83	R5-192760	0477	1	F	Addition of NR test case 6.1.2.9-Cell Reselection using	15.3.0
						Qhyst, Qoffset and Treselection	
2019-03	RAN#83	R5-192761	0478	1	F	Addition of NR test case 6.1.2.20-Inter-frequency cell	15.3.0
						reselection according to priority	
2019-03	RAN#83	R5-192762	0509	1	F	Adding test case 6.2.1.2	15.3.0
2019-03	RAN#83	R5-192763	0510	1	F	Adding test case 6.2.1.1	15.3.0
2019-03	RAN#83	R5-192764	0511	1	F	Adding test case 6.2.1.3	15.3.0
2019-03	RAN#83	R5-192765	0512	1	F	Adding test case 6.2.1.4	15.3.0
2019-03	RAN#83	R5-192766	0513	1	F	Adding test case 6.2.1.5	15.3.0
2019-03	RAN#83	R5-192767	0592	1	F	Addition of Idle Mode test case 6.1.2.8	15.3.0
2019-03	RAN#83	R5-192768	0472	1	F	Addition of NR test case 6.1.1.4-PLMN selection in shared	15.3.0
						network environment	
2019-03	RAN#83	R5-192769	0444	1	F	Correction to NR test case 7.1.1.1.3-SI request	15.3.0
2019-03	RAN#83	R5-192770	0585	1	F	Update to NR MAC Bandwidth Part operation TC 7.1.1.8.1	15.3.0
2019-03	RAN#83	R5-192771	0521	1	F	Correction to 5GS PDCP Test case 7.1.3.5.3 PDCP Data	15.3.0
						Recovery	
2019-03	RAN#83	R5-192772	0450	1	F	Addition of NR test case 8.1.1.3.3-RRC connection release-	15.3.0
		1				Success-With priority information	

2019-03	RAN#83	R5-192774	0453	1	F	Addition of NR test case 8.1.4.2.2.1-L2NR handover success	15.3.0
2019-03	RAN#83	R5-192776	0464	1	F	Addition of TC 8.1.3.2.1-Event B1 E-UTRA	15.3.0
2019-03	RAN#83	R5-192777	0465	1	F	Addition of TC 8.1.3.2.2-Event B2 E-UTRA	15.3.0
2019-03	RAN#83	R5-192782	0488	1	F	Addition of NR test case 8.1.3.1.11.1_intra-band Contiguous	15.3.0
						CA Event A6	
2019-03	RAN#83	R5-192783	0489	1	F	Addition of NR test case 8.1.3.1.11.2_inter-band CA Event A6	15.3.0
2019-03	RAN#83	R5-192784	0490	1	F	Addition of NR test case 8.1.3.1.11.3_intra-band non Contiguous CA Event A6	15.3.0
2019-03	RAN#83	R5-192785	0491	1	F	Addition of NR test case 8.1.3.1.12.1 Additional intra-band	15.3.0
2019-03	RAN#83	R5-192786	0492	1	F	Addition of NR test case 8.1.3.1.12.2_ Additional inter-band	15.3.0
2019-03	RAN#83	R5-192787	0493	1	F	Addition of NR test case 8.1.3.1.12.3 Additional intra-band	15.3.0
2019-03	RAN#83	R5-192794	0516	1	F	Addition of 5GS NR RRC test case 8.1.5.1.1	15.3.0
2019-03	RAN#83	R5-192795	0586	1	F	Addition of TC 8.1.4.2.1.1 Inter-RAT handover / From NR to	15.3.0
				-	•	E-UTRA	
2019-03	RAN#83	R5-192796	0598	1	F	New RRC test case 8.1.5.2.2 SI change / Notification of	15.3.0
						BCCH modification / Short message for SI update in NR	
						RRC_CONNECTED state	
2019-03	RAN#83	R5-192798	0425	1	F	Update to EN-DC test case 8.2.3.7.1	15.3.0
2019-03	RAN#83	R5-192800	0435	1	F	Addition of 5GC test case 9.1.1.2	15.3.0
2019-03	RAN#83	R5-192801	0458	1	F	Addition of NR test case 9.1.1.6-Authentication abnormal	15.3.0
2019-03	RAN#83	R5-192802	0460	1	F	Addition of NR test case 9.1.6.1.2-T3521 timeout	15.3.0
2019-03	RAN#83	R5-192803	0461	1	F	Addition of NR test case 9.1.6.2.1-Network-initiated	15.3.0
						deregistration-deregistration for 3GPP access-reregistration	
						required	
2019-03	RAN#83	R5-192805	0463	1	F	Addition of NR test case 9.1.7.2-Service request for user	15.3.0
0010.00	DANUGO	DE 400000	0500		_	data pending	45.0.0
2019-03	RAN#83	R5-192806	0568	1	-	Addition of new 5GC TC 9.1.5.2.2	15.3.0
2019-03	RAN#83	R5-192815	0567	1	+	Addition of new 5GC TC 9.1.2.1	15.3.0
2019-03	RAN#83	R5-192816	0569	1	+	Addition of 5GC Test case 10.1.5.1	15.3.0
2019-03	RAN#83	R5-192819	0576	2	-	Update of 5GS NR MAC test case 7.1.1.9.1	15.3.0
2019-03	RAN#83	R5-192824	0560	2	+	Addition of new 5GC TC 9.1.5.1.13	15.3.0
2019-03	RAN#83	R5-192829	0517	2	-	Update of 5GS NR RRC test case 8.2.1.1.1	15.3.0
2019-03	RAN#83	R5-192830	0595	2	-	Addition of 5GS PDCP TC 7.1.3.5.5	15.3.0
2019-03	RAN#83	R5-192838	0603	-	-	Addition of 5GS SA RRC TC - 8.1.3.1.13	15.3.0
2019-03	RAN#83	R5-192839	0604	-	-	Addition of 5GS SA RRC TC - 8.1.3.1.14	15.3.0
2019-03	RAN#83	R5-192852	0601	1	F	Addition of NR test case Event A4	15.3.0
2019-03	RAN#83	R5-192853	0602	1	F	Addition of NR test case Event A5	15.3.0
2019-03	RAN#83	R5-192854	0518	2	F	Update of 5GS NR RRC test case 8.2.3.6.1 and 8.2.3.8.1	15.3.0
2019-03	RAN#83	R5-192855	0462	2	F	Addition of NR test case 9.1.6.2.2-Reregistration not required	15.3.0
2019-03	RAN#83	-	-	-	-	Editorial update to align referenced to TS 38.508-1 table numbers	15.3.0
2019-06	RAN#84	R5-193861	0676	-	F	Correction to NR RLC test cases 7.1.2.2.3 and 7.1.2.2.4	15.4.0
2019-06	RAN#84	R5-193869	0677	-	F	Correction to 5GMM test case 9.1.5.2.4	15.4.0
2019-06	RAN#84	R5-193884	0681	-	F	Update of TC 9.1.5.1.13	15.4.0
2019-06	RAN#84	R5-193898	0687	-	F	Removal of TC 9.1.5.1.7	15.4.0
2019-06	RAN#84	R5-193984	0689	-	F	Clarification on DRB to use in MAC test cases	15.4.0
2019-06	RAN#84	R5-193986	0691	-	F	Clarification on DRB to use in RLC test cases	15.4.0
2019-06	RAN#84	R5-193987	0692	-	F	Correction to NR RLC test case 7.1.2.3.9	15.4.0
2019-06	RAN#84	R5-193988	0693	-	F	Clarification on DRB to use in PDCP test cases	15.4.0
2019-06	RAN#84	R5-194008	0698	-	F	Correction to EN-DC RRC test case 8.2.5.2.1	15.4.0
2019-06	RAN#84	R5-194031	0703	-	F	Correction to PDCP test case 7.1.3.5.1	15.4.0
2019-06	RAN#84	R5-194033	0705	-	F	Correction to 5GC NAS test case 9.1.8.1 - SMS over NAS /	15.4.0
						MO and MT SMS over NAS - Idle mode	

2019-06	RAN#84	R5-194045	0713	-	F	Updates to 5GS SA RRC TC 8.1.1.4.1	15.4.0
2019-06	RAN#84	R5-194046	0714	-	F	Updates to 5GS SA RRC TC 8.1.5.2.1	15.4.0
2019-06	RAN#84	R5-194050	0718	-	F	Addition of 5GS SA RRC TC - Intra NR handover / Success /	15.4.0
						Security key reconfiguration	
2019-06	RAN#84	R5-194051	0719	-	F	Addition of 5GS SA RRC TC - Intra NR handover / Failure /	15.4.0
						Security key reconfiguration	
2019-06	RAN#84	R5-194119	0730	-	F	Correction to EN-DC RRC measurement test cases	15.4.0
2019-06	RAN#84	R5-194266	0735	-	F	Correction to EN-DC RRC test case 8.2.5.1.1	15.4.0
2019-06	RAN#84	R5-194288	0742	-	F	Correction to EN-DC RRC test case 8.2.5.3.1	15.4.0
2019-06	RAN#84	R5-194296	0745	-	F	Correction to RLC test case - AM RLC / RLC re-	15.4.0
						establishment procedure	
2019-06	RAN#84	R5-194395	0751	-	F	Update of NR RRC TC 8.2.3.12.1	15.4.0
2019-06	RAN#84	R5-194396	0752	-	F	Addition of new RRC TC 8.1.5.6.5.1	15.4.0
2019-06	RAN#84	R5-194448	0759	-	F	Addition of new TC 9.1.5.1.6	15.4.0
2019-06	RAN#84	R5-194481	0764	-	F	Updates to 5GC NAS test case 9.1.2.2	15.4.0
2019-06	RAN#84	R5-194514	0776	-	F	Update of TC 9.1.5.2.4 Mobility registration update / The	15.4.0
						lower layer requests NAS signalling connection recovery	
2019-06	RAN#84	R5-194637	0786	-	F	Update to TC 8.1.4.2.1.1	15.4.0
2019-06	RAN#84	R5-194696	0791	-	F	Correction to NR RLC test case 7.1.2.3.1	15.4.0
2019-06	RAN#84	R5-194699	0793	-	F	Correction to NR PDCP test case 7.1.3.5.2	15.4.0
2019-06	RAN#84	R5-194787	0795	-	F	Correction to NR test case 6.1.2.3-Cell selection-Serving cell	15.4.0
						bar	
2019-06	RAN#84	R5-194788	0796	-	F	Correction to NR test case 6.1.2.9-Cell reselection using	15.4.0
						Qhyst, Qoffset and Treselection	
2019-06	RAN#84	R5-194792	0797	-	F	Update to IDLE mode test case 6.1.1.1	15.4.0
2019-06	RAN#84	R5-194819	0727	1	F	Correction to MAC test cases	15.4.0
2019-06	RAN#84	R5-194822	0629	1	F	Correction to NR test case 7.1.1.1.3-SI request	15.4.0
2019-06	RAN#84	R5-194823	0611	1	F	Addition of NR test case 6.1.2.12-Cell reselection	15.4.0
						CellReservedForOtherUse	
2019-06	RAN#84	R5-194833	0628	1	F	Correction to NR test case 6.1.2.1-Cell selection Qrxlevmin	15.4.0
2019-06	RAN#84	R5-194834	0746	1	F	Editorial Corrections to Test Cases 6.3.1.1, 6.1.1.1, 6.1.2.7,	15.4.0
						7.1.1.1.3, 8.1.1.3.1, 8.1.1.3.5, 9.1.5.2.4	
2019-06	RAN#84	R5-194835	0747	1	F	Corrections to Test Case 6.3.1.1	15.4.0
2019-06	RAN#84	R5-194836	0726	1	F	Correction to EN-DC RLC test cases 7.1.2.2.1, 7.1.2.2.2,	15.4.0
						7.1.2.3.1 and 7.1.2.3.2	
2019-06	RAN#84	R5-194837	0704	1	F	Correction to PDCP test case 7.1.3.5.4 - PDCP reordering /	15.4.0
						Maximum re-ordering delay below t-Reordering / t-	
						Reordering timer operations	
2019-06	RAN#84	R5-194838	0711	1	F	Updates to 5GS SA RRC TC 8.1.1.1.1	15.4.0
2019-06	RAN#84	R5-194839	0712	1	F	Updates to 5GS SA RRC TC 8.1.1.2.3	15.4.0
2019-06	RAN#84	R5-194840	0734	1	F	Correction of 5GC Test case 8.1.1.3.5	15.4.0
2019-06	RAN#84	R5-194841	0641	1	F	Correction of NR test case 8.1.3.1.5-Intra Freq Event A4	15.4.0
2019-06	RAN#84	R5-194842	0642	1	F	Correction of NR test case 8.1.3.1.8-Intra Freq Event A5	15.4.0
2019-06	RAN#84	R5-194843	0717	1	F	Removal of EN-DC RRC TC - BandwidthPart Configuration /	15.4.0
						SCG	
2019-06	RAN#84	R5-194844	0770	1	F	Update of 5GS NR RRC test case 8.2.1.1.1	15.4.0
2019-06	RAN#84	R5-194845	0657	1	F	Correction to NR test case 8.2.3.11.1-ENDC measurement	15.4.0
						gap FR1	
2019-06	RAN#84	R5-194846	0658	1	F	Correction to NR test case 8.2.3.11.2-ENDC measurement	15.4.0
						gap FR2	
2019-06	RAN#84	R5-194847	0661	1	F	Corrections to 5G-NR RRC Measurement configuration and	15.4.0
						reporting test cases	
2019-06	RAN#84	R5-194848	0673	1	F	Correction to EN-DC RRC test case 8.2.3.6.1	15.4.0
2019-06	RAN#84	R5-194849	0674	1	F	Correction to EN-DC RRC test case 8.2.3.7.1	15.4.0
2019-06	RAN#84	R5-194850	0675	1	F	Correction to EN-DC RRC test case 8.2.3.3.1	15.4.0
2019-06	RAN#84	R5-194851	0740	1	F	Correction to EN-DC RRC test case 8.2.3.8.1	15.4.0
2019-06	RAN#84	R5-194853	0741	1	F	Correction to EN-DC RRC test case 8.2.3.4.1 and 8.2.3.5.1	15.4.0

2019-06	RAN#84	R5-194855	0755	1	F	Correction to EN-DC RRC measurement test cases 8.2.3.9.1	15.4.0
						and 8.2.3.10.1	
						Editor's note: could not be implemented	
2019-06	RAN#84	R5-194856	0665	1	F	Update of RRC TC 8.2.5.4.1	15.4.0
2019-06	RAN#84	R5-194857	0679	1	F	Correction to 5GMM test case 9.1.2.1	15.4.0
2019-06	RAN#84	R5-194858	0756	1	F	Correction to NR5GC testcase 9.1.3.1	15.4.0
2019-06	RAN#84	R5-194859	0659	1	F	Correction to NR test case 9.1.5.1.1-Registration Request	15.4.0
2019-06	RAN#84	R5-194867	0668	1	F	Update of TC 9.1.6.1.1	15.4.0
2019-06	RAN#84	R5-194868	0758	1	F	Correction to NR5GC testcase 9.1.5.1.14	15.4.0
2019-06	RAN#84	R5-194869	0609	1	F	Correction to 5GC TC 9.1.7.1	15.4.0
2019-06	RAN#84	R5-194871	0610	1	F	Correction to 5GC TC 10.1.3.2	15.4.0
2019-06	RAN#84	R5-194872	0680	1	F	Correction on 5GC TC 10.1.2.2	15.4.0
2019-06	RAN#84	R5-194873	0607	1	F	Correction to 5GC TC 10.1.6.1	15.4.0
2019-06	RAN#84	R5-194874	0608	1	F	Correction to 5GC TC 10.1.6.2	15.4.0
2019-06	RAN#84	R5-194890	0728	1	F	Introduction of Non 3GPP Access over WI AN test cases	1540
2019-06	RAN#84	R5-195208	0765	1	F	Addition of new TC 9 1 5 1 9	1540
2019-06	RAN#84	R5-195209	0707	1	F	Addition of 5GC NAS Test Case - Generic LIE configuration	1540
2013 00				-		undate / New 5G-GLITL / NITZ / registration requested /	10.4.0
						Network slicing indication / New Allowed NSSAI /	
						acknowledgement from the UE	
2019-06	RAN#84	R5-195210	0708	1	F	Addition of 5GC NAS Test Case - UE-initiated de-registration	15.4.0
						/ Abnormal / Change of cell into a new tracking area	
2019-06	RAN#84	R5-195211	0757	1	F	Addition of NR5GC testcase 9.1.5.1.2	15.4.0
2019-06	RAN#84	R5-195212	0774	1	F	Introduction of TC 9.1.5.2.7 Mobility and periodic registration	15.4.0
						update / Rejected / UE identity cannot be derived by the	
						network	
2019-06	RAN#84	R5-195213	0775	1	F	Introduction of TC 9.1.5.2.8 Mobility and periodic registration	15.4.0
						update / Rejected / Implicitly de-registered	
2019-06	RAN#84	R5-195226	0794	1	F	Addition of 5GSM test case 10.1.1.2	15.4.0
2019-06	RAN#84	R5-195228	0777	1	F	Introduction of TC 9.3.1.1 Mobility registration update /	15.4.0
						Single-registration mode with N26 / 5GMM-IDLE / 5GC to	
0010.00	DANUUQA	DE 405000	0770		_		45.4.0
2019-06	RAN#84	R5-195229	0778	1	F	Introduction of TC 9.3.1.2 Mobility registration update /	15.4.0
						Single-registration mode with N26 / 5GMM-IDLE / EPC to	
2010-06		D5-105220	0770	1		DUC	1540
2019-00	RAN#04	R3-193230	0119	1	Г	undate / Rejected / Single-registration mode with N26 /	15.4.0
						Handling of EPS relevant narameters	
2019-06	RAN#84	R5-195231	0682	1	F	New multilayer test case 11.1.3	15.4.0
2019-06	RAN#84	R5-195238	0780	1	F	Introduction of new TC 11 1 7 Emergency call setup from NR	1540
2010 00				-		RRC. IDI E / Emergency Services Fallback to EPS with	10.110
						redirection / Single registration mode with N26 interface /	
						Success	
2019-06	RAN#84	R5-195243	0616	1	F	Addition of NR test case 6.2.3.3-Inter-RAT Cell reselection	15.4.0
						NR2L by priority Srxlev based	
2019-06	RAN#84	R5-195244	0612	1	F	Addition of NR test case 6.1.2.13-Cell reselection	15.4.0
						CellReservedForOperatorUse with Access Identity 1-2-12-	
						13-14	
2019-06	RAN#84	R5-195245	0613	1	F	Addition of NR test case 6.1.2.14-Cell reselection	15.4.0
						CellReservedForOperatorUse with Access Identity 11-15	1
2019-06	RAN#84	R5-195247	0618	1	F	Addition of NR test case 6.2.3.5-Inter-RAT Cell reselection	15.4.0
2010.00			00000		_	NR2L by priority from dedicated signalling	15 4 0
2018-00	KAN#84	K5-195249	0620	_		Audition of the test case 6.2.3.7-Inter-RAT Cell reselection	15.4.0
2010-06		R5-105252	0622	1			15/0
2019-00	117111#04	113-133232	0023	_	-	and Cell reselection	10.4.0
2019-06	RAN#84	R5-195256	0627	1	F	Addition of NR test case 6.4.1.2-Cell reselection of ePI MN	15.4.0
				-	.	lin manual mode	

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2019-06 RAN#84 R5-195259 0631 1 F Addition of NR test case 8.1.3.1.6-Inter Freq Event A4 15.4.0 2019-06 RAN#84 R5-195260 0633 1 F Addition of NR test case 8.1.3.1.7-Inter Band Event A4 15.4.0 2019-06 RAN#84 R5-195261 0633 1 F Addition of NR test case 8.1.3.1.0-Inter Band Event A5 15.4.0 2019-06 RAN#84 R5-195269 0643 1 F Addition of NR test case 8.1.3.1.11-Two Event A5 154.0 2019-06 RAN#84 R5-195269 0643 1 F Correction of NR test case 8.1.3.1.17-Two Event A5 SIRA 2019-06 RAN#84 R5-195270 0644 1 F Correction of NR test case 8.1.3.1.17.2-Inter Band Event A6 154.0 2019-06 RAN#84 R5-195273 0646 1 F Correction of NR test case 8.1.3.1.17.2-Inter Band Event A6 154.0 2019-06 RAN#84 R5-195273 0647 1 F Correction of NR test case 8.1.3.1.18.1-Additional Reporting 154.0 2019-06
2019-06 RAN#44 R5-195260 0632 1 F Addition of NR test case 8.1.3.1.7-Inter Band Event A4 15.4.0 2019-06 RAN#84 R5-195261 0633 1 F Addition of NR test case 8.1.3.1.9-Inter Freq Event A5 15.4.0 2019-06 RAN#84 R5-195262 0643 1 F Addition of NR test case 8.1.3.1.1-Two Event A3 RSRQ 15.4.0 2019-06 RAN#84 R5-195269 0643 1 F Correction of NR test case 8.1.3.1.1-Two Event A3 SIRQ 15.4.0 2019-06 RAN#84 R5-195270 0644 1 F Correction of NR test case 8.1.3.1.17.1-Intra Band Event A6 15.4.0 2019-06 RAN#84 R5-195271 0645 1 F Correction of NR test case 8.1.3.1.17.2-Inter Band Event A6 15.4.0 2019-06 RAN#84 R5-195273 0647 1 F Correction of NR test case 8.1.3.1.18.1-Additional Reporting 15.4.0 2019-06 RAN#84 R5-195275 0649 1 F Correction of NR test case 8.1.3.1.18.2-Additional Reporting 15.4.0
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Inter Band Inter Band 2019-06 RAN#84 R5-195276 0650 1 F Correction of NR test case 8.1.3.1.18.3-Additional Reporting 15.4.0 2019-06 RAN#84 R5-195277 0782 1 F Addition of 5GS NR RRC test case 8.1.3.1.2 15.4.0 2019-06 RAN#84 R5-195277 0782 1 F Addition of 5GS NR RRC test case 8.1.3.1.2 15.4.0 2019-06 RAN#84 R5-195279 0783 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84
2019-06 RAN#84 R5-195276 0650 1 F Correction of NR test case 8.1.3.1.18.3-Additional Reporting Intra Band non Contiguous 2019-06 RAN#84 R5-195277 0782 1 F Addition of 5GS NR RRC test case 8.1.3.1.2 15.4.0 2019-06 RAN#84 R5-195278 0783 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case 6.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case 6.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0
2019-06 RAN#84 R5-195277 0782 1 F Addition of 5GS NR RRC test case 8.1.3.1.2 15.4.0 2019-06 RAN#84 R5-195278 0783 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case 6.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR measurements / Blacklisting 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195
2019-06 RAN#84 R5-195277 0782 1 F Addition of 5GS NR RRC test case 8.1.3.1.2 15.4.0 2019-06 RAN#84 R5-195278 0783 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case 6.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2
2019-06 RAN#84 R5-195278 0783 1 F Addition of 5GS NR RRC test case 8.1.3.1.3 15.4.0 2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0
2019-06 RAN#84 R5-195279 0784 1 F Addition of 5GS NR RRC test case 8.1.3.1.4 15.4.0 2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0
2019-06 RAN#84 R5-195280 0790 1 F Addition of 5GS NR RRC test case for Intra NR 15.4.0 2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F New 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 E Addition of 5GS SA RRC TC - Intra NR handover / Failure / IS 4.0
2019-06 RAN#84 R5-195285 0699 1 F New 5GS SA RRC TC 8.1.4.1.9.1 15.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0
2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.1 10.4.0 2019-06 RAN#84 R5-195286 0700 1 F New 5GS SA RRC TC 8.1.4.1.9.2 15.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0
2019-06 RAN#84 R5-195286 0700 1 F New SGS SA RRC TC 8.1.4.1.9.2 10.4.0 2019-06 RAN#84 R5-195287 0701 1 F New 5GS SA RRC TC 8.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0
2019-06 RAN#84 R5-195287 0701 1 F New SGS SA RRC TC 6.1.4.1.9.3 15.4.0 2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0 2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / Re-establishment successful 15.4.0
2019-06 RAN#84 R5-195288 0724 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0 Re-establishment successful
2019-06 RAN#84 R5-195289 0725 1 F Addition of 5GS SA RRC TC - Intra NR handover / Failure / 15.4.0
Re-establishment failure
2019-06 RAN#84 R5-195290 0731 1 F Addition of Intra-NR intra-frequency handover test case 15.4.0
8.1.4.1.1
2019-06 RAN#84 R5-195291 0732 1 F Addition of Intra-NR inter-frequency handover test case 15.4.0
2019-06 RAN#84 R5-195292 0720 1 F Addition of 5GS SA RRC TC - Redirection to NR / From E- 15.4.0
UTRA / Success
2019-06 RAN#84 R5-195293 0736 1 F New 5G Radio link failure test case 8.1.5.6.1 15.4.0
2019-06 RAN#84 R5-195294 0753 1 F Addition of new RRC TC 8.1.5.6.5.2 15.4.0
2019-06 RAN#84 R5-195295 0754 1 F Addition of new RRC TC 8.1.5.6.5.3 15.4.0
Editor's note: could not be implemented
2019-06 RAN#84 R5-195296 0768 1 F Addition of 5GS NR RRC test case 8.1.5.4.1 15.4.0
2019-06 RAN#84 R5-195297 0771 1 F New 5G Radio link failure test case 8.1.5.6.2 15.4.0
2019-06 RAN#84 R5-195298 0772 1 F New 5G Radio link failure test case 8.1.5.6.3 15.4.0
2019-06 RAN#84 R5-195299 0773 1 F New 5G Radio link failure test case 8.1.5.6.4 15.4.0
2019-06 RAN#84 R5-195300 0696 1 F Correction to RRC test case 8.2.3.13.1 15.4.0
2019-06 RAN#84 R5-195301 0697 1 F Correction to RRC test case 8.2.3.14.1 15.4.0
2019-06 RAN#84 R5-195302 0722 1 F Addition of new EN-DC RRC TC - Measurement 15.4.0
Configuration Control and reporting / Event A4 /
Invieasuremente / EN DC
2010-06 PANI#84 P5-105303 0723 1 E Addition of new EN-DC PPC TC - Measurement 15.4.0
configuration control and reporting / Event A4 /
Measurement of Neighbour NR cell / Inter-band
measurements / EN-DC
2019-06 RAN#84 R5-195336 0690 1 F Correction to NR MAC test case 7.1.1.1.1 15.4.0
2019-06 RAN#84 R5-195338 0694 1 F Correction to NR PDCP test case 7.1.3.4.1 15.4.0

2019-06	RAN#84	R5-195339	0715	1	F	Updates to PDCP Integrity Protection TCs 7.1.3.2.x	15.4.0
2019-06	RAN#84	R5-195340	0716	1	F	Updates to PDCP Ciphering and Deciphering TCs 7.1.3.3.x	15.4.0
2019-06	RAN#84	R5-195341	0662	1	F	Update of RRC TC 8.1.1.4.2	15.4.0
2019-06	RAN#84	R5-195342	0743	1	F	Correction to RRC test case 8.1.2.1.3	15.4.0
2019-06	RAN#84	R5-195343	0744	1	F	Correction to 5GS SA RRC TC - 8.1.2.1.1	15.4.0
2019-06	RAN#84	R5-195344	0669	1	F	Correction of NR test case 8.1.3.1.1-Intra Freq Event A1 A2	15.4.0
2019-06	RAN#84	R5-195345	0670	1	F	Correction of NR test case 8.1.3.2.1-Event B1	15.4.0
2019-06	RAN#84	R5-195346	0671	1	F	Correction of NR test case 8.1.3.2.2-Event B2	15.4.0
2019-06	RAN#84	R5-195347	0672	1	F	Correction of NR test case 8.1.3.2.3-Event B2 RSRQ	15.4.0
2019-06	RAN#84	R5-195350	0667	1	F	Update of 5GC TC 9.1.5.1.5	15.4.0
2019-06	RAN#84	R5-195351	0688	1	F	New multilayer test case 11.1.4	15.4.0
2019-06	RAN#84	R5-195352	0683	1	F	Addition of Multilayer test case 11.1.2	15.4.0
2019-06	RAN#84	R5-195353	0684	1	F	Addition of Multilayer test case 11.1.5	15.4.0
2019-06	RAN#84	R5-195354	0685	1	F	Addition of Multilaver test case 11.1.6	15.4.0
2019-06	RAN#84	R5-195355	0710	1	F	Addition of 5GS Multilaver Test Case 11.1.1 MO MMTEL	15.4.0
			0.20	-		voice call setup from NR RRC IDLE / EPS Fallback with	201110
						redirection / Single registration mode with N26 interface /	
						Success	
2019-06	RAN#84	R5-195358	0798	1	F	Update of EN-DC RRC TC 8.2.3.2.1	15.4.0
2019-06	RAN#84	R5-195363	0781	2	F	Update to NR MAC Bandwidth Part operation TC 7.1.1.8.1	15.4.0
2019-06	RAN#84	R5-195364	0695	2	F	Correction to NR PDCP test case 7.1.3.4.2	15.4.0
2019-06	RAN#84	R5-195365	0785	2	F	Addition of 5GS NR RRC test case 8.2.3.6.1a	15.4.0
2019-06	RAN#84	R5-195366	0787	2	F	Addition of 5GS NR RRC test case 8.2.3.6.1b	15.4.0
2019-06	RAN#84	R5-195367	0788	2	F	Addition of 5GS NR RRC test case 8.2.3.8.1a	15.4.0
2019-06	RAN#84	R5-195368	0789	2	F	Addition of 5GS NR RRC test case 8.2.3.8.1b	15.4.0
2019-06	RAN#84	R5-195369	0799	2	F	Correction to EN-DC RRC Measurement test cases for ER2	15.4.0
					-	Power table	
2019-06	RAN#84	R5-195370	0666	2	F	Update of 5GC TC 9.1.6.1.2	15.4.0
2019-06	RAN#84	-	-	-	-	Administrative release upgrade to match the release of	16.0.0
						3GPP TS 38.508-1 which was upgraded at RAN#84 to Rel-	
						16 due to Rel-16 relevant CR(s)	
2019-09	RAN#85	R5-195649	0810	-	F	Addition of NR test case 6.4.1.1-HPLMN in Automatic PLMN	16.1.0
						Selection Mode in RRC_INACTIVE state	
2019-09	RAN#85	R5-195650	0811	-	F	Addition of NR test case 6.4.2.2-Inter-Freq Cell reselection	16.1.0
0010.00	DANIJOE	DF 105000	0004		_	by priority of SIBs	1010
2019-09	RAN#85	R5-195663	0824	-		Addition of NR test case 8.1.4.1.7.2-PCell Change and SCell	16.1.0
2010-00	DANI#85	D5-105664	0825	_		Addition of NP test case 8 1 4 1 7 3 PCell Change and SCell	1610
2019-09	INAIN#03	105-193004	0025	-		addition Intra-band non-contiguous CA	10.1.0
2019-09	RAN#85	R5-195666	0827	-	F	Addition of NR test case 8 1 4 1 8 2-SCell no change Inter-	1610
2010 00			0021			band CA	10.1.0
2019-09	RAN#85	R5-195667	0828	-	F	Addition of NR test case 8.1.4.1.8.3-SCell no change Intra-	16.1.0
						band non-contiguous CA	
2019-09	RAN#85	R5-195676	0837	-	F	Correction to NR test case 8.1.5.3.1-PWS reception in NR	16.1.0
						RRC_IDLE state	
2019-09	RAN#85	R5-195677	0838	-	F	Correction to NR test case 8.1.5.3.3-PWS reception in NR	16.1.0
						RRC_CONNECTED state	
2019-09	RAN#85	R5-195681	0842	-	F	Correction to NR test case 9.1.5.1.10-PLMN not allowed	16.1.0
2019-09	RAN#85	R5-195712	0850	-	F	Update to RRC measurement test cases in EN-DC for FR2	16.1.0
2010.00		DE 105000	0060			Support	1610
2019-09	RAN#85	R5-195929	0863	-		Opuale to PDCP test cases in EN-DC for FR2 support	16.1.0
TOTA-08	KAN#85	K5-19594/	0870	-		Correction to references to test procedure for Switch off /	U.1.01
2010.00		D5-105049	0071			POWELUILUE	1610
2019-09		DE 10E040	00/1	-		Correction of power level units for test cases 9.1.2.1.1.	1610
2013-03		183-195949	0072	-		8 1 3 1 12 8 1 3 1 154 8 1 3 2 2	10.1.0
2019-09	RAN#85	R5-195981	0876	-	F	Correction to 5GC TC 10.1.6.1	16.1 0
2019-09	RAN#85	R5-195996	0878	-	F	Undate PDCP test case 7 1 3 2 1	1610
1	1.0.0.0700	1.12 100000	1 2010	I I			

2010.00		DE 105007	0070		Г	Lindate DDCD test apps 71.2.2.1	1610
2019-09	RAN#00	R5-195997	0079	-		Update PDCP lesi case 7.1.3.3.1	16.1.0
2019-09		R5-190002	0004	-		Addition of now ECC TC 10.1.2.1	16.1.0
2019-09	RAN#00	R5-190039	0009	-			16.1.0
2019-09		R5-190040	0095	-		Correction to TC 0.1.7.1 Service Request in Idle state	16.1.0
2019-09		DE 106002	0902	-		Correction to PLC test case 7.1.2.2.11	1610
2019-09	RAN#00	R5-190095	0919	-			16.1.0
2019-09		DE 106110	0930	-		To void TC 8.1.1.3.5	1610
2019-09		DE 106111	0931	-		To void TC 8.1.1.3.0	1610
2019-09		DE 106112	0932	-		To void TC 8.1.1.4.3	1610
2019-09		DE 106112	0933	-		To void TC 8.1.4.1.5	1610
2019-09		R5-190115	0934	-		Correction to EN DC PPC TCs 9 2 2 4 1 8 9 2 2 5 1	16.1.0
2019-09		D5-106118	0933				1610
2019-09		D5-106110	0939			Undates to EN-DC RPC TC 8.2.3.7.1a	1610
2019-09		D5-106156	0940			Correction to NP Idle test case 6.1.1.6	1610
2019-09		D5-106217	0947			Lindate of NP test case 6.1.2.2-Intra-NP Cell Selection	1610
2019-09	NAN#0J	13-130217	0954	-		Oqualmin based	10.1.0
2019-09	RAN#85	R5-196218	0955	-	F	Update of NR test case 6.1.2.21-Cell reselection.	16.1.0
						SIntraSearchQ and SnonIntraSegrchQ	
2019-09	RAN#85	R5-196261	0962	-	F	Correction to NR test case 7.1.3.4.1 - PDCP Lossless	16.1.0
						handover	
2019-09	RAN#85	R5-196285	0964	-	F	Correction to EN-DC RRC test case 8.2.5.3.1	16.1.0
2019-09	RAN#85	R5-196306	0969	-	F	Removal of NR RRC test case 8.1.2.1.3	16.1.0
2019-09	RAN#85	R5-196353	0971	-	F	Correction to test cases 6.1.1.8	16.1.0
2019-09	RAN#85	R5-196354	0972	-	F	Update sub-clause 6.2.1 test cases with the latest generic	16.1.0
						procedure references	
2019-09	RAN#85	R5-196355	0973	-	F	Update to test case 9.1.5.1.5	16.1.0
2019-09	RAN#85	R5-196489	0976	-	F	Update of RRC TC 8.1.5.6.5.2	16.1.0
2019-09	RAN#85	R5-196492	0977	-	F	New RRC TC 8.1.5.6.5.3	16.1.0
2019-09	RAN#85	R5-196598	0982	-		Correction to Idle TC 6.1.1.3	16.1.0
2019-09	RAN#85	R5-196610	0985	-		Correction to Idle TC 6.1.2.8	16.1.0
2019-09	RAN#85	R5-196614	0988	-		Deletion of TC 8.1.4.1.1	16.1.0
2019-09	RAN#85	R5-196624	0991	-		Correction to RLC TC 7.1.2.2.5 and 7.1.2.2.6	16.1.0
2019-09	RAN#85	R5-196633	0995	-		Correction to 5GC TC 9.1.6.1.4	16.1.0
2019-09	RAN#85	R5-196642	0996	-		Adding specs to 15 38.523-1 References section	16.1.0
2019-09	RAN#85	R5-196730	1009	-		Update of test case 9.3.1.1 Mobility registration update /	16.1.0
						Single-registration mode with N26 / 5GMM-IDLE / 5GC to	
2019-09	RAN#85	R5-196731	1010	-	F	Lindate of test case 9.3.1.2 Mobility registration undate /	1610
2013 03	10.114/05				'	Single-registration mode with N26 / 5GMM-IDLE / EPC to	10.1.0
						5GC	
2019-09	RAN#85	R5-196732	1011	-	F	Update of test case 9.3.1.3 Mobility and periodic registration	16.1.0
						update / Rejected / Single-registration mode with N26 /	
						Handling of EPC relevant parameters	
2019-09	RAN#85	R5-196745	1013	-	F	Correction to pre-condition of MAC test cases	16.1.0
2019-09	RAN#85	R5-196753	1019	-	F	Correction to ENDC test case 7.1.2.2.6	16.1.0
2019-09	RAN#85	R5-196755	1020	-	F	Correction to NR5GC test case 9.1.5.2.8	16.1.0
2019-09	RAN#85	R5-196779	1029	-	F	Update to TC 8.1.3.1.15A	16.1.0
2019-09	RAN#85	R5-196827	1031	-	F	Removal of Radio Link Failure test cases	16.1.0
2019-09	RAN#85	R5-196828	1032	-	F	Editorial changes to SERVICE REQUEST parameters for	16.1.0
0010.55	D 4 1 1 2 -	DF 10000-	4000		_	multi layer test cases	10.1.5
2019-09	RAN#85	R5-196835	1036	-	F –	Update to 5GS NR RRC test case 8.1.5.4.1	16.1.0
2019-09	RAN#85	R5-197001	0941	1	F –	Correction of NR test case 7.1.1.3.3	16.1.0
2019-09	RAN#85	R5-197002	0943	1	F -	Correction to test case 7.1.1.3.4	16.1.0
2019-09	RAN#85	K5-197003	0944	1		Correction to test case 7.1.1.3.5	16.1.0
2019-09	RAN#85	R5-197005	0905	1		Correction to test case 8.1.1.4.2	16.1.0
2019-09	RAN#85	R5-197006	0914	1	ΙF	Correction to ENDC test case 10.2.2.1	16.1.0

2019-09	RAN#85	R5-197007	0983	1	F	Correction to RLC AM test case 7.1.2.3.9	16.1.0
2019-09	RAN#85	R5-197008	0953	1	F	Correction to RLC test case 7.1.2.3.10 in EN-DC	16.1.0
2019-09	RAN#85	R5-197011	1026	1	F	Correction to ENDC test case 7.1.2.3.5	16.1.0
2019-09	RAN#85	R5-197012	0918	1	F	Correction to PDCP test case 7.1.3.2.1	16.1.0
2019-09	RAN#85	R5-197013	1002	1	F	Correction to NR PDCP test case 7.1.3.4.2	16.1.0
2019-09	RAN#85	R5-197015	0904	1	F	Updates to EN-DC RRC measurement test case 8.2.3.3.1	16.1.0
2019-09	RAN#85	R5-197016	1012	1	F	Correction to EN-DC RRC test case 8.2.3.4.1 and 8.2.3.7.1	16.1.0
2019-09	RAN#85	R5-197017	0865	1	F	Update to NR RRC Idle mode test cases for FR2 support	16.1.0
2019-09	RAN#85	R5-197018	0864	1	F	Update to CA test cases in EN-DC for FR2 support	16.1.0
2019-09	RAN#85	R5-197019	0897	1	F	Correction to NR test case 6.1.2.1-cell selection	16.1.0
2019-09	RAN#85	R5-197020	0898	1	F	Correction to NR test case 6.1.2.13-Cell reselection	16.1.0
						CellReservedForOperatorUse with Access Identity 0-1-2-12-	
						13-14	
2019-09	RAN#85	R5-197021	0814	1	F	Correction to NR test case 7.1.1.1.4-BeamFailure	16.1.0
2019-09	RAN#85	R5-197022	0899	1	F	Correction to TC 7.1.1.3.5-Padding BSR	16.1.0
2019-09	RAN#85	R5-197023	0961	1	F	Correction to NR test case 7.1.1.9.1 - MAC Reset	16.1.0
2019-09	RAN#85	R5-197026	0978	1	F	Correction to Several MAC test cases	16.1.0
2019-09	RAN#85	R5-197027	0990	1	F	Correction to MAC TC 7.1.1.1.3	16.1.0
2019-09	RAN#85	R5-197029	0911	1	F	Correction to 5GS RLC test case 7.1.2.3.6	16.1.0
2019-09	RAN#85	R5-197030	0974	1	F	Correction to RLC test case 7.1.2.3.7	16.1.0
2019-09	RAN#85	R5-197051	0949	1	F	Updates to 5GS PDCP test cases 7.1.3.1.1 and 7.1.3.1.2	16.1.0
2019-09	RAN#85	R5-197052	0901	1	F	Correction to TC 8.1.1.3.4-NR2L reselection by RRCRelease	16.1.0
2019-09	RAN#85	R5-197053	0927	1	F	Updates to 5GS SA RRC TC 8.1.1.4.1	16.1.0
2019-09	RAN#85	R5-197054	0956	1	F	Correction to TC 8.1.1.2.1-T300 expiry	16.1.0
2019-09	RAN#85	R5-197055	0957	1	F	Correction to TC 8.1.1.3.3-T320 expiry	16.1.0
2019-09	RAN#85	R5-197057	0968	1	F	Correction to NR RRC Test case 8.1.2.1.1	16.1.0
2019-09	RAN#85	R5-197058	0832	1	F	Correction to NR test case 8.1.3.1.11-two RSRQ A3	16.1.0
2019-09	RAN#85	R5-197059	0833	1	F	Correction to NR test case 8.1.3.1.12-two SINR A5	16.1.0
2019-09	RAN#85	R5-197060	0834	1	F	Correction to NR test case 8.1.3.1.17.3-A6 intraband non	16.1.0
						contiguous	
2019-09	RAN#85	R5-197061	0835	1	F	Correction to NR test case 8.1.3.1.18.3-A6 intraband non	16.1.0
						contiguous additional reporting	
2019-09	RAN#85	R5-197062	0836	1	F	Correction to NR test case 8.1.3.2.5-A2 and B2	16.1.0
2019-09	RAN#85	R5-197063	0861	1	F	Editorial update MeasurementReport table	16.1.0
2019-09	RAN#85	R5-197064	1028	1	F	Correction to RRC TC 8.1.3.1.11, 8.1.3.1.12, 8.1.3.2.3 and 8.1.4.1.9.1	16.1.0
2019-09	RAN#85	R5-197065	0928	1	F	Updates to 5GS SA RRC TC 8.1.5.2.1	16.1.0
2019-09	RAN#85	R5-197066	0929	1	F	Updates to 5GS SA RRC TC 8.1.5.5.1	16.1.0
2019-09	RAN#85	R5-197067	1033	1	F	Updates to RLF test case 8.1.5.6.1	16.1.0
2019-09	RAN#85	R5-197068	1034	1	F	Updates to RLF test case 8.1.5.6.3	16.1.0
2019-09	RAN#85	R5-197070	1001	1	F	Correction to EN-DC RRC test case 8.2.1.1.1	16.1.0
2019-09	RAN#85	R5-197071	1003	1	F	Correction to EN-DC RRC test case 8.2.2.7.1	16.1.0
2019-09	RAN#85	R5-197072	0839	1	F	Correction to NR test case 8.2.3.15.1-A2 and A3	16.1.0
2019-09	RAN#85	R5-197073	0873	1	F	Correction to EN-DC RRC measurement test case 8.2.3.9.1	16.1.0
2019-09	RAN#85	R5-197074	1030	-	F	Correction to EN-DC RRC measurement test case	1610
2010 00			1000	-	•	8.2.3.10.1	10:1:0
2019-09	RAN#85	R5-197075	0948	1	F	Correction to EN-DC RRC test case 8.2.4.3.1.1	16.1.0
2019-09	RAN#85	R5-197076	1035	1	F	Updates to test cases using SERVICE REQUEST procedure	16.1.0
2019-09	RAN#85	R5-197077	0840	1	F	Correction to NR test case 9.1.1.6-5G AKA authentication	16.1.0
2010.00		D5-107070	0002	1	Е	ADHOITHAI	1610
2010.00		DE 107070	0993			Correction to NP test eace 0.1 5.1.1 Initial registration	1610
2010.00		DE 107000	0041			Correction to ND test case 9.1.5.1.1-111111al registration	1610
2013-03	со+инл	172-191090	0043		Г	Undete by lower layer failure	10.1.0
2019-09	RAN#85	R5-197081	0896	1	F	Correction to 5GC TC 9 1 5 1 9	1610
2019-09	RAN#85	R5-197082	0920	1	F	Correction to 5GC NAS test case 91.6.1.3	1610
2010-00	RAN#85	R5-197082	0945	1	F	Lindate of 5GC TC 9 1 5 1 11	1610
2013-03	101100	1.0 191000	0040	1 ±			10.1.0

2019-09	RAN#85	R5-197084	0946	1	F	Update of 5GC TC 9.1.5.1.12	16.1.0
2019-09	RAN#85	R5-197085	0965	1	F	Correction to NR5GC testcase 9.1.5.1.2	16.1.0
2019-09	RAN#85	R5-197086	0966	1	F	Correction to NR5GC testcase 9.1.5.1.14	16.1.0
2019-09	RAN#85	R5-197087	0981	1	F	Correction to 5GC test case 9.1.6.1.1 De-registration	16.1.0
2019-09	RAN#85	R5-197088	0844	1	F	Correction to NR test case 9.1.7.2-Data pending without	16.1.0
						user-plane resource	
2019-09	RAN#85	R5-197089	0924	1	F	Corrections to 5GS Multilayer Test Case 11.1.1	16.1.0
2019-09	RAN#85	R5-197090	0975	1	F	Correction to 5GS\EPS Fallback test case 11.1.3	16.1.0
2019-09	RAN#85	R5-197091	0997	1	F	Update of 5GS\EPS Fallback test cases for System	16.1.0
						information, type of cells and more	
2019-09	RAN#85	R5-197092	1007	1	F	Correction to 5GS\EPS Fallback test case 11.1.4	16.1.0
2019-09	RAN#85	R5-197093	1015	1	F	Update multi-layer test case 11.1.2	16.1.0
2019-09	RAN#85	R5-197094	1016	1	F	Update multi-layer test case 11.1.5	16.1.0
2019-09	RAN#85	R5-197095	1017	1	F	Update multi-layer test case 11.1.6	16.1.0
2019-09	RAN#85	R5-197097	1039	-	F	Correction to NR test case 8.1.5.3.4-PWS reception using	16.1.0
						dedicatedSystemInformationDelivery	
2019-09	RAN#85	R5-197185	0804	1	F	Addition of NR test case 6.2.3.1-Inter-RAT Cell reselection	16.1.0
0010.00	B A A U 0 E	55 107100	0005			L2NR by priority Srxlev based	1010
2019-09	RAN#85	R5-197186	0805	1		Addition of NR test case 6.2.3.2-Inter-RAT Cell reselection	16.1.0
2010.00		DE 107197	0006	1		L2NR by priority Squal based	1610
2019-09	RAN#00	K2-19/10/	0800	1		Addition of NR lest case 0.2.3.4-Inter-RAT Cell reselection	10.1.0
2019-09	RAN#85	R5-197188	0807	1	F	Addition of NR test case 6.2.3.6-Inter-RAT Cell reselection	1610
2013 03	10.114/05			-	'	I 2NR by priority from dedicated signalling	10.1.0
2019-09	RAN#85	R5-197189	0808	1	F	Addition of NR test case 6.2.3.8-Inter-RAT Cell reselection	16.1.0
						L2NR Snonintrasearch	
2019-09	RAN#85	R5-197190	0809	1	F	Addition of NR test case 6.2.3.9-Inter-RAT Cell reselection	16.1.0
						NR2L Speed Dependent	
2019-09	RAN#85	R5-197191	0812	1	F	Addition of NR test case 6.4.3.1-Inter-RAT Cell reselection	16.1.0
						NR2L Srxlev based	
2019-09	RAN#85	R5-197192	1043	-	F	Correction to UE capability transfer test case 8.1.5.1.1	16.1.0
2019-09	RAN#85	R5-197193	0813	1	F	Update of NR test case 6.1.2.22-Inter-frequency cell	16.1.0
0010.00	DANUUOE	DE 10710E	0040		_	reselection with parameters	1010
2019-09	RAN#85	R5-19/195	0846			Addition of test case 6.3.1.3 of TS 38.523-1	16.1.0
2019-09	RAN#85	R5-19/196	0847			Addition of test case 6.3.1.4 of TS 38.523-1	16.1.0
2019-09	RAN#85	R5-197197	0848				16.1.0
2019-09	RAN#85	R5-197198	0849	1		Addition of test case 6.3.1.9 of TS 38.523-1	16.1.0
2019-09	RAN#85	R5-197199	0893	1		Addition of NR Idle test case 6.1.2.23 - Cell reselection/	16.1.0
2010.00		DE 107201	1014	1		MFBI	1610
2019-09		R5-197201	1014			Addition of new ND MAC toot area 7.1.1.2	16.1.0
2019-09		R5-197202	1030			Addition of Idle Made Test Case, Cell resolastion	16.1.0
2019-09	са⊮инл	142-19/203	0923	_		Sintrasearch Sponintrasearch	10.1.0
2019-00	RAN#85	R5-197205	0866	1	F	Add RRC reconfiguration test case 8 1 2 1 4	1610
2019-00	RAN#85	R5-197206	0867	1	F	Add RRC reconfiguration test case 8.1.2.1.5.1	1610
2010-00		R5-107207	0869	1		Add RRC reconfiguration test case 8.1.2.1.5.1	1610
2010-00		R5-107207	0000			Add RRC reconfiguration test case 8.1.2.1.5.2	1610
2010.00		R5-107200	0003	1		Addition of NR test case 8.1.2.1.16_whitelisting	1610
2019-09		D5-107210	0017			Addition of NR test case 8.1.3.1.20-Willelibuliy	1610
2019-09		DE 107011	0010			Addition of ND tost case 0.1.2.1.20-040FK1	1610
2019-09		DE 107212	0000			Addition of ND tost case 9.1.2.2.4 Event D2 SND	1610
2019-09		DE 10701 1	0004			Addition of CA ND macrossent test case 7.0.0.1.0.1.00	10.1.0
2019-09		R5-19/214	0984			Addition of NR thet area 0.1.4.1.7.1. DO-" Observe and 0.0. "	16.1.0
2018-08	KAN#85	K2-19/212	0823	_		Addition lates hand Continues CA	10.1.0
2010.00		D5-107016	0026	1		Addition of NP test case 9.1.4.1.9.1. SCelline change later	1610
2019-09	со+инл	172-191510	0020	_		hand Contiguous CA	10.1.0
2019-09	RAN#85	R5-197217	0894	1	F	Addition of 5GC test case 9.1.1.4	16.1.0
2019-09	RAN#85	R5-197218	0887	1	F	Addition of new 5GC TC 10 1 3 1	1610
1	1.0.00	1.10 101210	1 2007	I + I			±0.±.0

2019-09	RAN#85	R5-197219	0998	1	F	Introduction of new TC 11.4.1 5GMM-	16.1.0
						REGISTERED.NORMAL-SERVICE / 5GMM-IDLE /	
						Emergency call / Utilising emergency number stored on the	
						USIM / New emergency PDU session	
2019-09	RAN#85	R5-197220	0999	1	F	Introduction of new TC 11.4.2 5GMM-	16.1.0
						DEREGISTERED.LIMITED-SERVICE / Emergency call /	
					_	Handling of forbidden PLMNs	
2019-09	RAN#85	R5-197221	1000	1	F	Introduction of new TC 11.4.3 5GMM-DEREGISTERED.NO-	16.1.0
						SUPI / Emergency call / Utilisation of emergency numbers	
2010.00		DE 107007	0070	1	_	stored on the ME / Initial registration for emergency services	1010
2019-09	RAN#85	R5-197227	0979			Non 3GPP Access over WLAN lest cases	16.1.0
2019-09	RAN#85	R5-197247	0877			Update MAC test case 7.1.1.1	16.1.0
2019-09	RAN#85	R5-197250	0989			Correction to RLC UM test case 7.1.2.2.5	16.1.0
2019-09	RAN#85	R5-197255	0938	1		Correction to PDCP TC 7.1.3.5.3	16.1.0
2019-09	RAN#85	R5-197256	0986	1		Corrections to TC 8.1.4.1.2	16.1.0
2019-09	RAN#85	R5-197258	1023	1	F	Correction to test cases 8.1.1.2.3	16.1.0
2019-09	RAN#85	R5-197259	0917	1	F	Correction to test case 10.1.5.1	16.1.0
2019-09	RAN#85	R5-197260	0880	1	F	Update PDCP test case 7.1.3.4.1	16.1.0
2019-09	RAN#85	R5-197263	0915	2	F	Correction to NR test case 7.1.1.2.1	16.1.0
2019-09	RAN#85	R5-197264	0916	2	F	Correction to NR test case 7.1.1.3.1	16.1.0
2019-09	RAN#85	R5-197266	1027	1	F	Correction to test case 7.1.2.3.8	16.1.0
2019-09	RAN#85	R5-197267	0922	1	F	Initial registration / 5GS services / NSSAI handling / NSSAI	16.1.0
						Storage	
2019-09	RAN#85	R5-197292	1044	-	F	Update of 5GC test case 9.1.1.1	16.1.0
2019-09	RAN#85	R5-197297	1045	-	F	Update of 5GC test case 9.1.1.3	16.1.0
2019-09	RAN#85	R5-197299	1005	2	F	Correction to NR MAC test case 7.1.1.3.2	16.1.0
2019-09	RAN#85	R5-197661	1037	1	F	Update to NR MAC Bandwidth Part operation TC 7.1.1.8.1	16.1.0
2019-09	RAN#85	R5-197662	1042	1	F	Corrections to NR MAC test case 7.1.1.1.1a	16.1.0
2019-09	RAN#85	R5-197663	0900	2	F	Correction to TC 7.1.2.3.4-18 bit SN processing	16.1.0
2019-09	RAN#85	R5-197664	1022	3	F	Correction to ENDC test case 7.1.2.3.3	16.1.0
2019-09	RAN#85	R5-197665	1041	1	F	Correction to EN-DC RRC Test case 8.2.3.13.1	16.1.0
2019-09	RAN#85	R5-197666	1040	1	F	Correction to NR test case 9.1.3.1-Identification procedure	16.1.0
2019-12	RAN#86	R5-197740	1046	-	F	Update RRC reconfiguration test case 8.1.2.1.4	16.2.0
2019-12	RAN#86	R5-197741	1047	-	F	Update RRC reconfiguration test case 8.1.2.1.5.1	16.2.0
2019-12	RAN#86	R5-197744	1049	-	F	Update RRC reconfiguration test case 8.1.3.1.18.1	16.2.0
2019-12	RAN#86	R5-197745	1050	-	F	Update RRC reconfiguration test case 8.1.5.6.5.1	16.2.0
2019-12	RAN#86	R5-197838	1054	-	F	Update of TC 6.4.1.1-HPLMN in Automatic PLMN Selection	16.2.0
						Mode	
2019-12	RAN#86	R5-197839	1055	-	F	Correction to NR test case 6.1.2.14-Cell reselection	16.2.0
						CellReservedForOperatorUse with Access Identity 11 or 15	
2019-12	RAN#86	R5-197840	1056	-	F	Correction of NR test case 6.2.3.2-Inter-RAT cell reselection	16.2.0
						from L2NR	
2019-12	RAN#86	R5-197841	1057	-	F	Correction of NR test case 6.2.3.4-Inter-RAT cell reselection	16.2.0
0010.10	DANUUQQ	DE 107010	1050		_	from NR2L	10.0.0
2019-12	RAN#86	R5-197842	1058	-		Correction of NR test case 6.2.3.5-Inter-RAT cell reselection	16.2.0
2010-12	DANI#86	D5-1078/2	1050			Correction of NP test case 6.2.3.6.Inter-PAT cell reselection	1620
2019-12		183-197043	1055	-		from L2N by dedicated signalling	10.2.0
2019-12	RAN#86	R5-197849	1065	-	F	Correction to NR test case 7.1.2.3.5-Control of receive	16.2.0
						window for AM RLC	20.2.0
2019-12	RAN#86	R5-197854	1070	-	F	Correction of NR test case 8.1.3.1.2 - Event A3 intra-Freq	16.2.0
2019-12	RAN#86	R5-197856	1072	-	F	Correction to NR TC 8.1.3.1.8-Event A5 Intra-Freq	16,2.0
2019-12	RAN#86	R5-197860	1076	-	F	Correction to NR test case 8.1.5.3.1-PWS recention in NR	16.2.0
			10/0			RRC IDLE state	10.2.0
2019-12	RAN#86	R5-197867	1083	-	F	Correction to NR test case 9.1.6.2.2-Re-registration not	16.2.0
						required	
2019-12	RAN#86	R5-197904	1089	-	F	Correction to NR MAC test case 7.1.1.3.5 to accommodate	16.2.0
						the DCI format change to DCI_0_1	

2019-12	RAN#86	R5-198006	1099	-	F	Addition of new 5GC test case 9.1.2.3	16.2.0
2019-12	RAN#86	R5-198085	1110	-	F	Update of References in 38.523-1	16.2.0
2019-12	RAN#86	R5-198086	1111	-	F	Introduction of new TC 9.1.5.2.6 Mobility registration	16.2.0
						update / Registered slice(s) change	
2019-12	RAN#86	R5-198147	1127	-	F	Updates to 5GMM test case 9.1.4.1 for NAS cells definition	16.2.0
						in pre-test conditions	
2019-12	RAN#86	R5-198148	1128	-	F	Updates to 5GMM initial registration test cases for NAS cells	16.2.0
2010 12		DF 100100	1100			definition in pre-test conditions	10.0.0
2019-12		R5-198180	1130	-		Correction to PDCP Test Case 7.1.3.5.3	16.2.0
2019-12	RAN#80	R2-198181	1131	-		Correction to EN-DC Inter-RAT measurement rest Cases	16.2.0
2019-12	RAN#86	R5-198184	1134	-	F	Corrections to 5GC NAS Test Case 10.1.1.1	1620
2010 12	RAN#86	R5-198185	1135	-		Corrections to 5GC NAS Test Case 91.6.1.3	1620
2010 12	RAN#86	R5-198186	1136	-		Corrections to 5GC NAS Test Case 9.1.4.1	1620
2010-12	PAN#86	R5-108187	1137	-		Correction to RI C Test Case 7.1.2.3.5	16.2.0
2019-12	DAN#96	D5-109199	1120			Correction to RLC Test Case 7.1.2.3.1	16.2.0
2019-12	DAN#96	D5-109190	1120			Correction to FGC NAS NSSALTest Case 0.1.5.1.3a	16.2.0
2019-12	DAN#00	DE 109216	1140	-		Correction to TC 7 1 1 1 2	16.2.0
2019-12	DAN#00	DE 100225	1151	-		Correction to FCC test case 0.1.1.1	16.2.0
2019-12		R3-190233	1151	-		Correction to SGC test case 9.1.1.1	16.2.0
2019-12		R5-196242	1155	-		Correction to ND TC 0.1 5.1.0	16.2.0
2019-12		R5-198299	1166	-		Correction to NR TC 9.1.5.1.9	16.2.0
2019-12		R5-198322	1167	-		Corrections to SGC test case 10.1.1.2	16.2.0
2019-12		R5-198323	1107	-		Correction to NR MAC test case 7.1.1.1.2	16.2.0
2019-12	RAN#86	R5-198325	1168	-		Correction to 5GC test case 9.1.5.1.6	16.2.0
2019-12	RAN#86	R5-198331	1109	-		Correction to NR MAC test cases 7.1.1.2.1 and 7.1.1.3.1	16.2.0
2019-12	RAN#86	R5-198355	11/4	-		Correction to ENDC RLC AM testcases 7.1.2.3.1 and	16.2.0
2010 12	DAN#96	DE 100261	1176			1.1.2.3.2	1620
2019-12	RAN#00	K0-190201	11/0	-		description	10.2.0
2019-12	RAN#86	R5-198362	1177	-	F	Update to test case 11.1.5 to align EPS bearer ID	16.2.0
					-	description	
2019-12	RAN#86	R5-198438	1182	-	F	Updates of 5GC test case titles	16.2.0
2019-12	RAN#86	R5-198757	1199	-	F	Correction to test cases 8.1.1.2.3	16.2.0
2019-12	RAN#86	R5-198759	1200	-	F	Correction to NR MAC test case 7.1.1.3.2b	16.2.0
2019-12	RAN#86	R5-198772	1210	-	F	Correction to test case 9.1.5.2.7	16.2.0
2019-12	RAN#86	R5-198784	1214	-	F	Corrections to MAC Test Case 7.1.1.5.3	16.2.0
2019-12	RAN#86	R5-198786	1215	-	F	Update of 5GC TC 9.1.5.2.9	16.2.0
2019-12	RAN#86	R5-198825	1219	-	F	Update of test case 8.1.5.1.1	16.2.0
2019-12	RAN#86	R5-198874	1053	1	F	Addition of NR TC 6.1.2.11-systemInformationAreaID	16.2.0
2019-12	RAN#86	R5-198875	1060	1	F	Correction of NR test case 6.2.3.7-Inter-RAT cell reselection	16.2.0
						N2L, Snonintrasearch	
2019-12	RAN#86	R5-198877	1132	1	F	Corrections to Idle Mode SoR Test Case 6.3.1.1	16.2.0
2019-12	RAN#86	R5-198878	1133	1	F	Corrections to Idle Mode SoR Test Case 6.3.1.2	16.2.0
2019-12	RAN#86	R5-198879	1178	1	F	Correction to FR1 power levels for several test cases	16.2.0
2019-12	RAN#86	R5-198880	1195	1	F	Update to test cases 6.1.1.7 and 6.1.1.8	16.2.0
2019-12	RAN#86	R5-198881	1196	1	F	Update to test cases 6.2.1.1 and 6.2.1.5	16.2.0
2019-12	RAN#86	R5-198882	1197	1	F	Update to test cases 6.2.1.2, 6.2.1.3 and 6.2.1.4	16.2.0
2019-12	RAN#86	R5-198883	1183	1	F	Update FR2 power of NR TC 7.1.1.1.3-SI request	16.2.0
2019-12	RAN#86	R5-198884	1091	1	F	Correction to NR MAC test case 7.1.1.4.2.1	16.2.0
2019-12	RAN#86	R5-198885	1129	1	F	Correction to NR MAC transport size selection test cases	16.2.0
2019-12	RAN#86	R5-198886	1145	1	F	Corrections to MAC Test Case 7.1.1.1.1	16.2.0
2019-12	RAN#86	R5-198887	1154	1	F	Update to NR MAC test case 7.1.1.1.5	16.2.0
2019-12	RAN#86	R5-198888	1158	1	F	Correction to EN-DC MAC Test Case 7.1.1.1.1a	16.2.0
2019-12	RAN#86	R5-198889	1184	1	F	Correction to MAC test case 7.1.1.7.1	16.2.0
2019-12	RAN#86	R5-198890	1186	1	F	Addition of new MAC test case for data inactivity timer	16.2.0
2019-12	RAN#86	R5-198891	1187	1	F	Split of CA MAC test case into 3 variants	16.2.0

2019-12	RAN#86	R5-198892	1095	1	F	Correction to NR test case 7.1.2.3.10-Re-transmission of	16.2.0
						RLC PDU	
2019-12	RAN#86	R5-198893	1090	1	F	Correction to NR RLC test cases to accommodate the DCI	16.2.0
						format change to DCI_0_1	
2019-12	RAN#86	R5-198894	1093	1	F	Correction to RLC UM test case 7.1.2.2.5	16.2.0
2019-12	RAN#86	R5-198900	1123	1	F	Correction to NR RLC test case 7.1.2.3.10	16.2.0
2019-12	RAN#86	R5-198901	1157	1	F	Correction to RLC test case 7.1.2.2.6 in EN-DC	16.2.0
2019-12	RAN#86	R5-198902	1172	1	F	Correction to RLC AM test case 7.1.2.3.9	16.2.0
2019-12	RAN#86	R5-198903	1193	1	F	Correction to RLC AM Test case 7.1.2.3.8	16.2.0
2019-12	RAN#86	R5-198904	1122	1	F	Correction to NR PDCP test case 7.1.3.4.2	16.2.0
2019-12	RAN#86	R5-198905	1141	1	F	Corrections to PDCP Test Case 7.1.3.5.2	16.2.0
2019-12	RAN#86	R5-198906	1150	1	F	Correction to PDCP TC 7.1.3.4.1	16.2.0
2019-12	RAN#86	R5-198907	1092	1	F	Corrections to SDAP test cases 7.1.4.1 and 7.1.4.2	16.2.0
2019-12	RAN#86	R5-198909	1221	-	F	Correction to NR TCs	16.2.0
2019-12	RAN#86	R5-198910	1175	1	F	Update to 5GS NR RRC test case 8.1.1.3.2	16.2.0
2019-12	RAN#86	R5-198911	1198	1	F	Correction to test case 8.1.1.2.1	16.2.0
2019-12	RAN#86	R5-198912	1201	1	F	Correction to test case 8.1.1.4.1	16.2.0
2019-12	RAN#86	R5-198913	1066	1	F	Addition of NR test case 8.1.2.1.2-uplinkTxDirectCurrentList	16.2.0
2019-12	RAN#86	R5-198914	1048	1	F	Update RRC reconfiguration test case 8.1.3.1.17.1	16.2.0
2019-12	RAN#86	R5-198915	1067	1	F	Addition of NR TC 8.1.3.3.1-CGI reporting of NR cell	16.2.0
2019-12	RAN#86	R5-198916	1068	1	F	Addition of NR TC 8.1.3.3.2-CGI reporting of F-UTRA cell	16.2.0
2019-12	RAN#86	R5-198917	1071	1	F	Correction to NR TC 81315-Event A4 Intra-Freq	1620
2019-12	RAN#86	R5-198918	1073	1	F	correction of NR TC 8 1 3 1 18 1-Additional measurement	1620
2013 12	10,110,00			-	•	report of Intra-hand Contiguous CA	10.2.0
2019-12	RAN#86	R5-198920	1222	-	F	correction of NR TCs 8.1.3.2.1 and TC 8.1.3.2.2	16.2.0
2019-12	RAN#86	R5-198921	1220	1	F	Update of test case 8.1.3.2.4	16.2.0
2019-12	RAN#86	R5-198922	1075	1	F	Correction to NR test case 8.1.4.2.2.1 E-UTRA To NR	16.2.0
						handover success	
2019-12	RAN#86	R5-198923	1203	1	F	Correction to test case 8.1.4.2.2.1	16.2.0
2019-12	RAN#86	R5-198924	1119	1	F	Correction to 5GS SA RRC test case 8.1.4.1.5	16.2.0
2019-12	RAN#86	R5-198925	1077	1	F	Correction to NR test case 8.1.5.3.4-PWS reception using	16.2.0
						dedicatedSystemInformationDelivery	
2019-12	RAN#86	R5-198926	1204	1	F	Correction to test case 8.1.5.5.1	16.2.0
2019-12	RAN#86	R5-198927	1173	1	F	Update to 5GS NR RRC test case 8.1.5.4.1	16.2.0
2019-12	RAN#86	R5-198928	1148	1	F	Correction to ENDC test case 8.2.2.8.1	16.2.0
2019-12	RAN#86	R5-198930	1216	1	F	Correction to test case 8.2.2.6.1	16.2.0
2019-12	RAN#86	R5-198931	1078	1	F	Correction to NR test case 8.2.3.11.X-ENDC-GAP	16.2.0
2019-12	RAN#86	R5-198932	1125	1	F	Correction to EN-DC RRC measurement test case 8.2.3.9.1	16.2.0
2019-12	RAN#86	R5-198933	1126	1	F	Correction to EN-DC RRC measurement test case	16.2.0
						8.2.3.10.1	
2019-12	RAN#86	R5-198935	1069	1	F	Addition of NR TC 8.2.6.2.1-Processing delay of ENDC	16.2.0
2019-12	RAN#86	R5-198937	1096	1	F	Addition of 5GC test case 9.1.1.5	16.2.0
2019-12	RAN#86	R5-198938	1152	1	F	Correction to 5GC test case 9.1.1.3	16.2.0
2019-12	RAN#86	R5-198939	1080	1	F	Correction to NR test case 9.1.2.1-NAS security mode	16.2.0
0010.10	D N N N N N N N N N N	55 4000 40				command	10.0.0
2019-12	RAN#86	R5-198940	1100	1	-	Addition of new 5GC test case 9.1.2.4	16.2.0
2019-12	RAN#86	R5-198941	1101	1	F	Addition of new 5GC test case 9.1.2.5	16.2.0
2019-12	RAN#86	R5-198942	1103	1	F	Addition of new 5GC test case 9.1.2.7	16.2.0
2019-12	RAN#86	R5-198943	1104	1	F	Addition of new 5GC test case 9.1.2.8	16.2.0
2019-12	RAN#86	R5-198944	1102	1	F	Addition of new 5GC test case 9.1.2.6	16.2.0
2019-12	RAN#86	R5-198947	1052	1	F	Correction to 5GC TC 9.1.5.1.12	16.2.0
2019-12	RAN#86	R5-198948	1081	1	F	Correction to NR test case 9.1.5.1.10-PLMN not allowed	16.2.0
2019-12	RAN#86	R5-198949	1082	1	F	Correction to NR test case 9.1.6.1.2-Transmission failure of	16.2.0
2010.10		DE 400050	1004			De-registration	10.0.0
2019-12	RAN#86	R5-198950	1084			Update of NR TC 9.1.7.2-Service request	16.2.0
2019-12	RAN#86	R5-198951	1140	1	H ا	Correction to 5GC NAS NSSAL Lest Case 9.1.5.1.3	16.2.0
12019-12	RAN#86	IR5-198952	11189	11	ΙF	Correction to NR5GC testcase 9.1.5.1.5	16.2.0

2019-12	RAN#86	R5-198953	1208	1	F	Correction to test case 9.1.5.1.2	16.2.0
2019-12	RAN#86	R5-198954	1217	1	F	Update of 5GC TC 9.1.6.1.4	16.2.0
2019-12	RAN#86	R5-198972	1098	1	F	Correction to 5GC test case 10.1.2.1	16.2.0
2019-12	RAN#86	R5-198975	1112	1	F	Update of 11.1.7 Emergency call setup from NR RRC_IDLE	16.2.0
						- Emergency Services Fallback to EPS with redirection	
2019-12	RAN#86	R5-198977	1224	-	F	Editorial improvements of Multilayer EPS Fallback test cases	16.2.0
2019-12	RAN#86	R5-198978	1161	1	F	Update EPS fallback test case 11.1.2	16.2.0
2019-12	RAN#86	R5-198979	1162	1	F	Update EPS fallback test case 11.1.5	16.2.0
2019-12	RAN#86	R5-198980	1163	1	F	Update EPS fallback test case 11.1.6	16.2.0
2019-12	RAN#86	R5-198981	1170	1	F	Correction to test case 11.1.4	16.2.0
2019-12	RAN#86	R5-198982	1171	1	F	Correction to test case 11.1.3	16.2.0
2019-12	RAN#86	R5-198985	1106	1	F	Addition of new UAC test case 11.3.4	16.2.0
2019-12	RAN#86	R5-198986	1113	1	F	Update to TC 11.4.1 5GMM-REGISTERED.NORMAL-	16.2.0
						SERVICE / 5GMM-IDLE / Emergency call / / New	
						emergency PDU session	
2019-12	RAN#86	R5-198987	1114	1	F	Update to TC 11.4.2 5GMM-DEREGISTERED.LIMITED-	16.2.0
						SERVICE / Emergency call / / Handling of forbladen	
2010-12	DAN#86	D5-108088	1115	1			1620
2019-12	NAN#00	1/2-190900	1115	–		Emergency call / / Initial registration for emergency	10.2.0
						services	
2019-12	RAN#86	R5-198989	1116	1	F	Introduction of new TC 11.4.4 5GMM-	16.2.0
						REGISTERED.ATTEMPTING-REGISTRATION-UPDATE	
						T3346 running / Emergency call establishment	
2019-12	RAN#86	R5-198990	1117	1	F	Introduction of new 11.4.5 5GMM-REGISTERED.LIMITED-	16.2.0
						SERVICE / 5GMM-IDLE / Emergency call establishment and	
						release / Handling of 5GS forbidden tracking areas for	
						roaming	
2019-12	RAN#86	R5-198991	1118	1	F	Introduction of new TC 11.4.6 5GMM-REGISTERED.NON-	16.2.0
						ALLOWED-SERVICE / Emergency call establishment and	
2010 12		DE 100000	1105	1		release / Handling of non-allowed tracking areas	1620
2019-12		R5-199000	1100	1		Undets of ORASED in the test condition for DSDO test	16.2.0
2019-12	RAN#00	K0-199027	1190	±			10.2.0
2019-12	RAN#86	R5-199028	1194	1	F	Addition of NR Idle mode cell reselection test case 6.1.2.16	16.2.0
2019-12	RAN#86	R5-199029	1202	1	F	Correction to test case 8.1.1.4.2	16.2.0
2019-12	RAN#86	R5-199030	1156	-	F	Correction to RRC test case 8.2.2.1.1	16.2.0
2019-12	RAN#86	R5-199033	1223	1	F	Corrections to Test Case 8.2.4.1.1.1 and 8.2.4.1.1.2 and	16.2.0
2010 12			1220	-		8.2.4.1.1.3	10.2.0
2019-12	RAN#86	R5-199034	1207	1	F	Correction to test case 9.1.3.1	16.2.0
2019-12	RAN#86	R5-199035	1227	-	F	New 5GC NAS test case 10.1.4.1	16.2.0
2019-12	RAN#86	R5-199036	1086	1	F	Addition of new NR test case 11.3.6-Access Identity 2-	16.2.0
						accessibility AC7-RRC_INACTIVE	
2019-12	RAN#86	R5-199037	1105	1	F	Addition of new UAC test case 11.3.3	16.2.0
2019-12	RAN#86	R5-199038	1191	1	F	Correction to RRC test case 8.1.3.1.2	16.2.0
2019-12	RAN#86	R5-199072	1107	2	F	Update of 5G Idle test case 6.1.2.23	16.2.0
2019-12	RAN#86	R5-199095	1225	1	F	Correction to NR RRC Test case 8.1.5.6.3	16.2.0
2019-12	RAN#86	R5-199096	1212	1	F	Correction to test cases 8.2.3.6.1 / 1a and 1b	16.2.0
2019-12	RAN#86	R5-199097	1228	1	F	Corrections to EN-DC inter frequency and inter band	16.2.0
						measurement test cases	
2019-12	RAN#86	R5-199098	1079	2	F	Correction to NR test case 9.1.1.6-5G AKA authentication	16.2.0
	B 4 1 1 2 5		40			abnormal	10.5.5
2019-12	RAN#86	R5-199099	1211	2	F	Correction to test case 9.1.7.1	16.2.0
2019-12	RAN#86	R5-199101	1051	2	F	Correction to 5GC TC 9.1.5.1.11	16.2.0
2019-12	RAN#86	R5-199102	1226	1	F	Correction to NR Idle mode test case 6.1.2.1	16.2.0
2020-03	RAN#87	R5-200148	1250	-	F	Correction to test case 6.1.1.6	16.3.0
2020-03	RAN#87	R5-200150	1252	-	F	Correction to test case 8.1.3.1.16	16.3.0

2020-03	RAN#87	R5-200175	1268	-	F	Correction to NR TC 6.2.3.9-Speed Dependent Cell	16.3.0
						Reselection N2L	
2020-03	RAN#87	R5-200182	1275	-	F	Correction to NR TC 8.1.2.1.2-uplinkTxDirectCurrentList	16.3.0
2020-03	RAN#87	R5-200185	1278	-	F	Correction to NR TC 8.1.4.1.6-Handover Failure	16.3.0
2020-03	RAN#87	R5-200187	1280	-	F	Correction to NR TC 8.1.4.1.8.1-SCell no change Intra-band	16.3.0
2020-03	PAN#87	P5-200188	1281	_	F	Correction to NR TC 8 1 4 2 2 1 J 2N Handover	1630
2020-03	DAN#07	R5-200100	1201	-		Correction to NR TC 0.1.1.1 EAD AKA related procedures	16.2.0
2020-03		R5-200195	1205	-		Correction to NR TC 9.1.1.1-EAP-AKA Telateu procedures	10.3.0
2020-03	RAN#87	R5-200205	1295	-		Correction to NR TC 9.1.5.2.2-Periodic Register 13512	16.3.0
2020-03	RAN#87	R5-200206	1296	-		Correction to NR TC 9.1.5.2.8-Registration Reject 10	16.3.0
2020-03	RAN#87	R5-200208	1298	-	-	Correction to NR TC 9.1.6.1.3-Deregistration in new TA	16.3.0
2020-03	RAN#87	R5-200211	1301	-	⊢ 	Correction to NR TC 9.3.1.1-5GC to EPC	16.3.0
2020-03	RAN#87	R5-200213	1303	-	F	Correction to NR TC 10.1.1.1-Authentication during PDU establish	16.3.0
2020-03	RAN#87	R5-200214	1304	-	F	Correction to NR TC 10.1.1.2-Authentication after PDU	16.3.0
2020.02	DANI#07	DE 200221	1211		-	establish	1620
2020-03		R5-200221	1011	-		Adding agra apage to pagtian Deferences	16.3.0
2020-03		R5-200226	1313	-	- -	Adding core specs to section Relefences	10.3.0
2020-03	RAN#87	R5-200227	1314	-		Corrections to IMS Emergency Services TC 11.4.1	16.3.0
2020-03	RAN#87	R5-200229	1316	-		Corrections to IMS Emergency Services TC 11.4.2	16.3.0
2020-03	RAN#87	R5-200230	1317	-	F	Corrections to IMS Emergency Services TC 11.4.4	16.3.0
2020-03	RAN#87	R5-200232	1319	-	F	Corrections to IMS Emergency Services TC 11.4.6	16.3.0
2020-03	RAN#87	R5-200233	1320	-	F	Introduction of new TC 11.4.7 Handling of Local and extended emergency numbers / Mobility	16.3.0
2020-03	RAN#87	R5-200234	1321	-	F	Introduction of new TC 11.4.8 Handling of Local and	16.3.0
					-	extended emergency numbers / Switch-off and maximum	
						local numbers storage	
2020-03	RAN#87	R5-200250	1326	-	F	Corrections to NR RLC test case 7.1.2.3.8	16.3.0
2020-03	RAN#87	R5-200253	1329	-	F	Corrections to EN-DC test case 8.2.2.3.1	16.3.0
2020-03	RAN#87	R5-200254	1330	-	F	Corrections to 5GC test case 9.1.5.1.1	16.3.0
2020-03	RAN#87	R5-200338	1332	-	F	Correction to NR TC 6.1.1.3-Cell reselection of ePLMN in	16.3.0
					-	manual mode	
2020-03	RAN#87	R5-200339	1333	-	F	Correction to NR TC 6.4.1.2-Cell reselection of ePLMN in	16.3.0
2020-03	R4N#87	R5-200341	1335	-	F	Correction to NR TC 8 1 3 1 17 1-Event A6	1630
2020-03	RAN#87	R5-200347	1338	-	F	Correction to NR test case 8 1 5 2 1	1630
2020-03	PAN#87	R5-200354	13/2	_		Correction to 5G RPC test case 8.1.1.2.3	1630
2020-03	DAN#07	R5-200354	1242	_		Correction to 5C RPC test case 0.1.1.2.3	16.2.0
2020-03	DAN#07	R5-200355	1245	-		Correction to 5C LIAC test case 0.1.1.4.1	16.2.0
2020-03		R5-200357	1345	-		Correction to 5G DAC test case 11.3.3	16.2.0
2020-03	RAN#87	R5-200358	1340	-	F		10.3.0
2020-03	RAN#87	R5-200360	1348	-	-	Update of 5GC test case 10.1.3.1	16.3.0
2020-03	RAN#87	R5-200366	1351	-	F	LOFFECTION OF NR TEST CASE 6.4.3.1-INTEF-RAT CEIL RESELECTION	16.3.0
2020-03	RAN#87	R5-200551	1354	-	F	Correction to NR PDCP test case 7 1 3 5 5	1630
2020-03	RAN#87	R5-200579	1358	-	F	Corrections to RRC TC 8 2 2 7 1	1630
2020-03	RAN#87	R5-200583	1362	-	F	Correction to RRC TC 8 2 2 5 1	1630
2020-03	PAN#87	R5-200587	1365	_	, E	Correction to 5G TC 9 1 5 2 1	1630
2020-03		DE 200616	1272	_			16.2.0
2020-03	RAN#07	R5-200010	1275	-		Update to SGC test case 9.1.1.5 In 30.523-1	16.2.0
2020-03	RAN#07	R5-200022	13/5	-	Г	dependent cell reselection	10.3.0
2020-03	RAN#87	R5-200623	1376	-	F	Undate of RRC TC 8 1 5 6 5 1	1630
2020-03	RAN#87	R5-200625	1377	-	F	Update of RRC TC 8.2.3.12.1	16.3.0
2020-03	RAN#97	R5-200634	1378	-		Corrections to NR MAC Test Case	1630
2020-03	D∆NI#07	R5-200034	1202	_		Editorial correction: Assign title to section 10.1.4	1620
2020-03	DANI#07	D5-200073	1204	-		Correction to NP Idle mode test case 6.1.2.1	1620
2020-03	DANI#07	D5-200075	1204	-		Correction to NSSALTC 0.1.5.1.2	1620
2020-03		DE 200000	1200	-		Correction to ND TC 9.1.2.1.22 Intro ND managing marks	16.3.0
2020-03		R5-200803	1400	-		Correction to Nultileurs TC 11.1.5	16.3.0
2020-03	RAN#87	K2-2008/2	1403	-	F	Correction to multilayer TC 11.1.5	10.3.0

2020-03	RAN#87	R5-200877	1404	-	F	Correction to Multilayer TC 11.1.6	16.3.0
2020-03	RAN#87	R5-200997	1249	1	F	Correction to EN-DC RRC Test case 8.2.3.2.1	16.3.0
2020-03	RAN#87	R5-200999	1230	1	F	Correction to NR RLC test case 7.1.2.3.5	16.3.0
2020-03	RAN#87	R5-201000	1248	1	F	Correction to NR PDCP test case 7.1.3.5.3	16.3.0
2020-03	RAN#87	R5-201001	1236	1	F	Correction to NR SDAP test case 7.1.4.2	16.3.0
2020-03	RAN#87	R5-201002	1243	1	F	Correction to 5GMM test case 9.1.5.1.8	16.3.0
2020-03	RAN#87	R5-201006	1389	1	F	Correction to NR TC 6.1.2.11-Area Specific SIBs using	16.3.0
						systemInformationAreaID	
2020-03	RAN#87	R5-201007	1368	1	F	Editorial Correction to TC 8.1.1.1.2	16.3.0
2020-03	RAN#87	R5-201009	1379	1	F	Correction to Non 3GPP Access test cases	16.3.0
2020-03	RAN#87	R5-201018	1374	1	F	Correction to NR test case 8.2.3.8.1x	16.3.0
2020-03	RAN#87	R5-201031	1312	1	F	Adding generic test parameters references and updating	16.3.0
						subclause 5	
2020-03	RAN#87	R5-201032	1315	1	F	Update to IMS Emergency Services TC 11.4.1 for adding	16.3.0
						new TPs	
2020-03	RAN#87	R5-201033	1318	1	F	Update of TC 11.4.4 5G Emergency Services to add a new	16.3.0
2020-03	RAN#87	R5-201084	1287	1	F	Correction to NR TC 9.1.1.6-5G AKA abnormal	16.3.0
2020-03	RAN#87	R5-201085	1288	1	F	Correction to NR TC 9.1.2.2-Initial NAS msg ciphering	16.3.0
2020-03	RAN#87	R5-201086	1290	1	F	Correction to NR TC 9.1.5.1.2-Equivalent PLMN list handling	16.3.0
2020-03	RAN#87	R5-201087	1293	-	F	Correction to NR TC 9.1.5.1.9-Change of cell into a new	16.3.0
				-		tracking area	20.010
2020-03	RAN#87	R5-201088	1299	1	F	Correction to NR TC 9.1.7.2-Service Request	16.3.0
2020-03	RAN#87	R5-201089	1300	1	F	Correction to NR TC 9.1.8.1-SMS	16.3.0
2020-03	RAN#87	R5-201094	1353	1	F	Correction to EN-DC RLC test case 7.1.2.3.11	16.3.0
2020-03	RAN#87	R5-201095	1385	1	F	Correction to NR RLC AM test case 7.1.2.3.9	16.3.0
2020-03	RAN#87	R5-201096	1355	1	F	Correction to NR PDCP Test cases 7.1.3.2.1, 7.1.3.2.2 and	16.3.0
						7.1.3.2.3	
2020-03	RAN#87	R5-201097	1381	1	F	Correction to NR RRC measurement test case for SINR	16.3.0
						report of serving cell	
2020-03	RAN#87	R5-201098	1393	1	F	Correction NR CA Test case 8.2.4.1.1.1	16.3.0
2020-03	RAN#87	R5-201100	1369	1	F	Corrections to MAC TC 7.1.1.1.2	16.3.0
2020-03	RAN#87	R5-201101	1359	1	F	Corrections to RRC TC 8.2.2.8.1	16.3.0
2020-03	RAN#87	R5-201103	1395	1	F	Correction to test case 11.1.2	16.3.0
2020-03	RAN#87	R5-201107	1256	1	F	Correction to 5GC TC 10.1.3.2	16.3.0
2020-03	RAN#87	R5-201112	1262	1	F	Correction to NR TC 6.1.2.21-Cell reselection	16.3.0
2020-03	RAN#87	R5-201113	1322	1	F	Correction to NR TC 6.1.2.4-Cell Reselection for interband	16.3.0
2020-03	DANI#97	P5-201114	1222	1		Correction to NP TC 6.1.2.5-Cell reselection for interband	1630
2020-03	NAN#07		1525	–		oneration Between FDD and TDD	10.5.0
2020-03	RAN#87	R5-201115	1334	1	F	Correction to NR TC 6.1.2.18-Cell reselection with	16.3.0
						parameters Sintrasearch and Snonintrasearch	
2020-03	RAN#87	R5-201117	1336	1	F	Correction to NR test case 7.1.2.3.6	16.3.0
2020-03	RAN#87	R5-201118	1337	1	F	Correction to NR test case 8.1.3.2.2	16.3.0
2020-03	RAN#87	R5-201119	1339	1	F	Correction to NR test case 9.1.5.2.6	16.3.0
2020-03	RAN#87	R5-201125	1258	1	F	Correction to NR TC 6.1.1.2-PLMN selection of Other PLMN	16.3.0
2020-03	RAN#87	R5-201126	1259	1	F	Correction to NR TC 6.1.1.4-PLMN selection in shared	16.3.0
						network environment with Automatic mode	
2020-03	RAN#87	R5-201127	1260	1	F	Correction to NR TC 6.1.1.5-PLMN selection with Automatic	16.3.0
						mode and user reselection	
2020-03	RAN#87	R5-201128	1263	1	F	Correction to NR TC 6.1.2.22-Inter frequency cell reselection	16.3.0
0000.00	DANUST		1001		_	based on common priority information	1000
2020-03	RAN#87	R5-201129	1264	1	F	Correction to NR TC 6.2.3.2-Inter-RAT cell reselection L2N	16.3.0
2020-03	RAN#87	R5-201130	1265	1	F	Correction to NR TC 6.2.3.5-Inter-RAT cell reselection N2L	16.3.0
2020.02	DANI#07	D5-201121	1266	1		Dy dedicated Signalling	1620
2020-03	DANI#07	D5-201131	1267	1		Correction to NP TC 6.2.2.9 Inter DAT cell reselection	1620
2020-03	r,~in#ð <i>í</i>	173-201132	10/			Snonintrasearch	10.3.0
						างการและสาวาร	

2020-03	RAN#87	R5-201133	1269	1	F	Correction to NR TC 6.4.2.1-Inactive-Reselection	1630
2020-03	RAN#87	R5-201124	1270	1	F	Correction to NR TC 7 1 1 1 4-Ream Failure	1630
2020-03	RAN#87	R5-201134	1270	1	, E	Correction to NR TC 8 1 1 3 1-Redirection	1630
2020-03	DAN#07	DE 201126	1272	1 1		Correction to NR TC 9.1.1.3.1-Neurection	16.2.0
2020-03	KAN#07	K5-201130	12/3	1	Г	Cell	10.3.0
2020-03	RAN#87	R5-201137	1274	1	F	Correction to NR TC 8.1.1.3.4-With priority information of	16.3.0
						LTE Cell	
2020-03	RAN#87	R5-201138	1276	1	F	Correction to NR TC 8.1.3.3.1-NR CGI	16.3.0
2020-03	RAN#87	R5-201139	1277	1	F	Correction to NR TC 8.1.3.3.2-LTE CGI	16.3.0
2020-03	RAN#87	R5-201140	1279	1	F	Correction to NRTC 8.1.4.1.7.1-PCell Change and SCell	16.3.0
						addition Intra-band Contiguous CA	
2020-03	RAN#87	R5-201141	1282	1	F	Correction to NR TC 8.2.1.1.1-UE Capability	16.3.0
2020-03	RAN#87	R5-201142	1286	1	F	Correction to NR TC 9.1.1.2-Authentication Reject	16.3.0
2020-03	RAN#87	R5-201143	1289	1	F	Correction to NR TC 9.1.4.1-Generic UE configuration	16.3.0
2020-03	RAN#87	R5-201144	1294	1	F	Correction to NR TC 9.1.5.1.14-RegisterReject 22 and	16.3.0
						T3346	
2020-03	RAN#87	R5-201145	1297	1	F	Correction to NR TC 9.1.6.1.2-UE initiated deregistration	16.3.0
						procedure	
2020-03	RAN#87	R5-201146	1306	1	F	Correction to NR TC 10.1.4.1-T3580	16.3.0
2020-03	RAN#87	R5-201149	1324	1	F	Update to NR MAC test case 7.1.1.1.5	16.3.0
2020-03	RAN#87	R5-201153	1310	1	F	Correction to NR RLC testcase 7.1.2.3.7	16.3.0
2020-03	RAN#87	R5-201170	1340	1	F	Correction to NR RRC measurement Test cases 8.1.3.1.13	16.3.0
0000.00	DANU/07	DE 001171	1050		_	and 8.1.3.1.14A	10.0.0
2020-03	RAN#87	R5-2011/1	1350		-	Correction to NR test case 6.2.3.1	16.3.0
2020-03	RAN#87	R5-201200	1302	1	F	Correction to NR TC 9.3.1.2-Inter-system mobility	16.3.0
2020-03	DAN#97	D5-201204	1252	1		Indete to test case 8.2.2.2.1	1630
2020-03	PAN#87	R5-201204	1257	1 1		Correction to NR TC 6.1.1.1-PL MN selection with Automatic	1630
2020 00	10,114/07		1201	-		mode	10.0.0
2020-03	RAN#87	R5-201208	1231	1	F	Correction to Inter-frequency Cell reselection test case	16.3.0
						6.1.2.20	
2020-03	RAN#87	R5-201209	1232	1	F	Correction to NR Idle mode test case 6.1.2.9	16.3.0
2020-03	RAN#87	R5-201210	1233	1	F	Correction to NR MAC test case 7.1.1.1.2	16.3.0
2020-03	RAN#87	R5-201211	1234	1	F	Correction to NR RLC test case 7.1.2.2.6	16.3.0
2020-03	RAN#87	R5-201212	1237	1	F	Correction to NR RRC test case 8.1.1.4.1	16.3.0
2020-03	RAN#87	R5-201213	1239	1	F	Correction to NR5GC IRAT test case 8.1.3.2.1	16.3.0
2020-03	RAN#87	R5-201214	1247	1	F	Correction to NR5GC RRC test case 8.1.3.1.2	16.3.0
2020-03	RAN#87	R5-201215	1240	1	F	Correction to NR5GC IRAT test case 8.1.4.2.1.1	16.3.0
2020-03	RAN#87	R5-201216	1383	1	F	Correction to NR5GC RRC test case 8.1.1.2.1	16.3.0
2020-03	RAN#87	R5-201218	1327	1	F	Enhancement of NR PDCP test cases 7.1.3.1.x	16.3.0
2020-03	RAN#87	R5-201219	1328	1	F	Corrections to NR PDCP test case 7.1.3.4.1	16.3.0
2020-03	RAN#87	R5-201223	1347	1	F	Update of 5G Idle test case 6.1.2.23	16.3.0
2020-03	RAN#87	R5-201224	1341	1	F	Correction to 5G RRC test case 8.2.4.3.1	16.3.0
2020-03	RAN#87	R5-201225	1392	1	F	Correction to 5G RRC test case 8.2.4.3.1.3	16.3.0
2020-03	RAN#87	R5-201226	1352	1	F	Correction to 5GC test case 10.1.2.2	16.3.0
2020-03	RAN#87	R5-201227	1344	1	F	Correction to 5G UAC test case 11.3.6	16.3.0
2020-03	RAN#87	R5-201230	1399	1	F	Corrections to EN-DC RRC TC 8.2.2.1.1	16.3.0
2020-03	RAN#87	R5-201231	1402	1	F	Correction to Multilayer TC 11.1.1	16.3.0
2020-03	RAN#87	R5-201235	1396	2	F	Correction to NR Idle mode test case 6.1.2.3	16.3.0
2020-03	RAN#87	R5-201236	1397	2	F	Update of RRC TC 8.1.3.1.1	16.3.0
2020-03	RAN#87	R5-201241	1367	2	F	Correction to 5G TC 9.1.7.1	16.3.0
2020-06	RAN#88	R5-201326	1405	-	F	Correction to EN-DC Carrier Aggregation test case	16.4.0
	DANUSS	DE 001515	4		_	8.2.4.1.1.1	40.45
2020-06	RAN#88	R5-201340	1408	-	F	Correction to NR IC 6.1.2.18-Cell reselection with	16.4.0
2020-06	RAN#88	R5-2013/1	1400		F	Correction to NR TC 6.1.2.19-N2N Sneed dependent cell	1640
2020-00	1.0.110700		1-705		'	reselection	10.7.0

2020-06	RAN#88	R5-201344	1412	-	F	Correction to NR TC 6.2.3.9-N2L Speed dependent cell	16.4.0
						reselection	
2020-06	RAN#88	R5-201349	1417	-	F	Correction to NR TC 6.4.1.1-PLMN selection Automatic	16.4.0
						mode in RRC_INACTIVE state	
2020-06	RAN#88	R5-201353	1421	-		Correction to NR TC 8.1.2.1.4-RRC reconfiguration	16.4.0
2020.06	DANI#00	DE 2012E6	1424			Dedicated RLF timer	1640
2020-06	RAN#88	R5-201350	1424	-		Confection to NR TC 8.1.3.1.23-Continuation of the	10.4.0
2020-06	RAN#88	R5-201361	1429	-	F	Correction to NR TC 8 1 5 4 1-Recention of CounterCheck	1640
2020 00			1.20			message by the UF	10.110
2020-06	RAN#88	R5-201367	1434	-	F	Addition of NR TC 8.1.5.8.1-Connected state latency check	16.4.0
2020-06	RAN#88	R5-201372	1439	-	F	Correction to NR TC 9.1.5.1.2-Equivalent PLMN list handling	16.4.0
2020-06	RAN#88	R5-201379	1446	-	F	Addition of new NR TC 11.3.5-UAC AI1-accessibility AC5-	16.4.0
						MMTEL-Video call	
2020-06	RAN#88	R5-201431	1461	-	F	Correction to ENDC TC 7.1.3.3.2-Correct functionality of	16.4.0
						encryption algorithm AES	
2020-06	RAN#88	R5-201432	1462	-	F	Correction to ENDC TC 7.1.3.3.3-Correct functionality of	16.4.0
						encryption algorithm ZUC	
2020-06	RAN#88	R5-201440	1470	-	F	Correction to NR TC 6.1.2.2-Qqualmin Serving Cell non-	16.4.0
2020.06		DE 201471	1470			Suitable	16.4.0
2020-00	RAN#88	R5-201471	1479	-		Addition of NR TC 6.2.2.1-N2L Serving cell becomes non-	10.4.0
2020-06	RAN#88	R5-201477	1482	-	F	Correction to FR1 nower level table for several test cases to	1640
2020 00	10,11,00		1402		'	not to assign beyond maximum power level -78	10.4.0
2020-06	RAN#88	R5-201484	1485	-	F	Correction 7.1.2.3.7 to use downlink timing reference for	16.4.0
						scheduling less than 100ms timing gap	
2020-06	RAN#88	R5-201499	1486	-	F	Correction to NR Idle mode test case 6.1.2.5	16.4.0
2020-06	RAN#88	R5-201500	1487	-	F	Correction to NR idle mode test case 6.4.2.2	16.4.0
2020-06	RAN#88	R5-201501	1488	-	F	Correction to NR MAC test case 7.1.1.1.1a	16.4.0
2020-06	RAN#88	R5-201502	1489	-	F	Correction to BWP Dependent Parameters for RA type 0 in	16.4.0
						MAC testcases	
2020-06	RAN#88	R5-201519	1497	-	F	Corrections to MAC test cases for Logical Channel ID	16.4.0
2020-06	RAN#88	R5-201574	1499	-	F	Updates to NR RLC test case 7.1.2.3.11	16.4.0
2020-06	RAN#88	R5-201575	1500	-	F	Enhancement of NR PDCP test case 7.1.3.1.1	16.4.0
2020-06	RAN#88	R5-201578	1503	-	F	Correction to NR test cases 8.1.3.1.13 and 8.1.3.1.14A	16.4.0
2020-06	RAN#88	R5-201629	1510	-	F	Correction to 5GC TC 10.1.3.2	16.4.0
2020-06	RAN#88	R5-201632	1511	-	F	Corrections to RRC TCs 8.2.3.1.1, 8.2.3.2.1, 8.2.3.3.1 and	16.4.0
						8.2.3.12.1	
2020-06	RAN#88	R5-201633	1512	-	F	Addition of NR5G UAC TC 11.3.7	16.4.0
2020-06	RAN#88	R5-201637	1516	-	F	Corrections to NR5G MAC TC 7.1.1.3.1	16.4.0
2020-06	RAN#88	R5-201638	1517	-	F	Corrections to NR5G RRC TC 8.1.4.2.1.1	16.4.0
2020-06	RAN#88	R5-201644	1522	-	F	Corrections to NR5G NAS TC 9.1.6.1.4	16.4.0
2020-06	RAN#88	R5-201646	1524	-	F	Corrections to NR5G RRC TC 8.1.1.4.1	16.4.0
2020-06	RAN#88	R5-201650	1528	-	F	Corrections to NR5G SDAP TC 7.1.4.2	16.4.0
2020-06	RAN#88	R5-201651	1529	-	F	Corrections to NR5G RRC TC 8.1.5.4.1	16.4.0
2020-06	RAN#88	R5-201761	1538	-	F	Correction to NR UE Capability test case 8.2.1.1.1	16.4.0
2020-06	RAN#88	R5-201790	1539	-	F	Correction to NR idle mode test case 6.4.2.1	16.4.0
2020-06	RAN#88	R5-201791	1540	-	F	Correction to NR5GC IRAT test case 6.2.3.1	16.4.0
2020-06	RAN#88	R5-201793	1542	-	F	Removal of requirement of USIM configuration 14 from	16.4.0
						5GMM Idle mode test cases	
2020-06	RAN#88	R5-201802	1545	-	F	Update of RRC TC 8.2.3.12.1	16.4.0
2020-06	RAN#88	R5-201913	1547	-	F	Update of RRC TC 8.1.5.6.5.1	16.4.0
2020-06	RAN#88	R5-201943	1549	-	F	Correction to NR TC 6.2.3.4-inter-RAT reselection	16.4.0
2020-06	RAN#88	R5-202026	1559	-	F	Corrections to NR MAC Test Case 7.1.1.3.2b	16.4.0
2020-06	RAN#88	R5-202048	1560	-	F	Corrections to EN-DC test case 8.2.3.12.1	16.4.0
2020-06	RAN#88	R5-202107	1561	-	F	Editorial Corrections to NR5G MAC TC 7.1.1.1.2	16.4.0
2020-06	RAN#88	R5-202140	1564	-	F	Addition of new DRX TC 7.1.1.5.5 for short DRX configured	16.4.0
						and Long DRX command MAC CE is received	
2020-06	RAN#88	R5-202178	1566	-	F	Correction to 5G test case 6.2.1.2	16.4.0

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2020-06	RAN#88	R5-202183	1567	-	F	Editorial update to NR measurements test case 8.1.3.1.2	16.4.0
2020-06	RAN#88	R5-202185	1568	-	F	Correction to 5G test case 6.2.1.3	16.4.0
2020-06	RAN#88	R5-202205	1569	-	F	Correction to 5G test case 6.2.1.4	16.4.0
2020-06	RAN#88	R5-202221	1572	-	F	Removal of 5GC test case 10.1.3.1	16.4.0
2020-06	RAN#88	R5-202411	1581	-	F	Correction to EN-DC RRC test case 8.2.2.1.1	16.4.0
2020-06	RAN#88	R5-202506	1584	-	F	Correction to NR PDCP test case 7.1.3.5.5	16.4.0
2020-06	RAN#88	R5-202530	1585	-	F	Correction to NR CA RRC test cases 8.1.3.1.18.x	16.4.0
2020-06	RAN#88	R5-202535	1442	1	F	Correction to NR TC 9.3.1.3-Handling of EPC relevant	16.4.0
						parameters	
2020-06	RAN#88	R5-202537	1586	-	F	Correction to NR RRC IDLE testcase 6.1.2.1	16.4.0
2020-06	RAN#88	R5-202538	1587	-	F	Correction to the ENDC testcase 7.1.1.3.7	16.4.0
2020-06	RAN#88	R5-202539	1588	-	F	Correction to NR MAC test case 7.1.1.3.3	16.4.0
2020-06	RAN#88	R5-202540	1589	-	F	Correction to NR TC 8.2.3.2.1	16.4.0
2020-06	RAN#88	R5-202543	1554	1	F	Correction to NR MAC test case 7.1.1.3.1	16.4.0
2020-06	RAN#88	R5-202550	1555	1	F	Corrections to IMS Emergency Services TC 11.4.2	16.4.0
2020-06	RAN#88	R5-202551	1556	1	F	Introduction of new IMS Emergency TC 11.4.9 5GMM-	16.4.0
						DEREGISTERED.LIMITED-SERVICE No suitable cells in	
						tracking area call	
2020-06	RAN#88	R5-202592	1577	1	F	Adding generic test parameters references to section 5.3	16.4.0
2020-06	RAN#88	R5-202593	1406	1	F	Correction to NR TC 6.1.1.1-PLMN selection Automatic	16.4.0
						mode	
2020-06	RAN#88	R5-202594	1407	1	F	Correction to NR TC 6.1.1.5-PLMN selection with Automatic	16.4.0
						mode and user reselection	
2020-06	RAN#88	R5-202595	1411	1	F	Correction to NR TC 6.2.3.3-From NR RRC_IDLE to E-	16.4.0
0000.00	DAN///00		1 4 1 0	1	_	UTRA_IDLE	10.4.0
2020-06	RAN#88	R5-202596	1413	1	F	List Type 1	16.4.0
2020-06		P5-202507	1416	1		LISE Type I	1640
2020-00	NAN#00	113-202331	1410	–	Г	manual mode	10.4.0
2020-06	RAN#88	R5-202598	1449	1	F	Corrections to Idle Mode SoR Test Case 6.3.1.2	16.4.0
2020-06	RAN#88	R5-202599	1450	1	F	Corrections to Idle Mode SoR Test Case 6.3.1.3	16.4.0
2020-06	RAN#88	R5-202600	1452	1	F	Addition of Idle Mode SoR Test Case 6.3.1.5	16.4.0
2020-06	RAN#88	R5-202601	1453	1	F	Addition of Idle Mode SoR Test Case 6.3.1.7	16.4.0
2020-06	RAN#88	R5-202602	1480	1	F	Addition of NR TC 6.2.2.2-L2N Serving cell becomes non-	16.4.0
						suitable	
2020-06	RAN#88	R5-202603	1531	1	F	Correction to NR5G Idle Mode TC 6.1.2.11	16.4.0
2020-06	RAN#88	R5-202604	1543	1	F	Correction to NR TC 6.3.1.8-SoR after registration Automatic	16.4.0
						mode	
2020-06	RAN#88	R5-202605	1544	1	F	Correction to NR TC 6.3.1.9-SoR after registration Manual	16.4.0
						mode	
2020-06	RAN#88	R5-202606	1570	1	F	Correction to test case 6.1.2.23	16.4.0
2020-06	RAN#88	R5-202607	1474	1	F	Correction to NR TC 7.1.1.4.2.x-TBS ambiguity of UL	16.4.0
2020-06	RAN#88	R5-202608	1490	1	F	Correction to NR MAC test case 7.1.1.4.2.3	16.4.0
2020-06	RAN#88	R5-202609	1558	1	F	Corrections to NR DRX Test Cases	16.4.0
2020-06	RAN#88	R5-202610	1574	1	F	Corrections to MAC TBS test cases with dynamicSwitch	16.4.0
2020-06	RAN#88	R5-202611	1583	1	F	Correction to NR MAC CA Test Case	16.4.0
2020-06	RAN#88	R5-202612	1498	1	F	Editorial corrections to NR RLC test cases 7.1.2.3.x	16.4.0
2020-06	RAN#88	R5-202613	1507	1	F	Correction to 7.1.2.3.3 and 7.1.2.3.4 to reduce test execution	16.4.0
						time	
2020-06	RAN#88	R5-202614	1457	1	F	Correction to ENDC TC 7.1.3.2.1-Correct functionality of	16.4.0
						Integrity algorithm SNOW3G	
2020-06	RAN#88	R5-202615	1458	1	F	Correction to ENDC TC 7.1.3.2.2-Correct functionality of	16.4.0
2020.00		DE 202610	1450	1		Integrity algorithm AES	16.4.0
2020-06	KAN#88	K2-202010	1459	_	F	Listogrity algorithm ZLC	10.4.0
2020-06	Β ΔΝΙ#89	R5-202617	1/60	1		Correction to ENDC TC 7.1.3.3.1-Correct functionality of	1640
2020-00	117111#00	110-202017	1400	-	r	encryption algorithm SNOW3G	10.4.0
2020-06	RAN#88	R5-202618	1520	1	F	Corrections to NR5G PDCP TC 7.1.3.4.1 and 7.1.3.4.2	16.4.0
0 0 0 0				!			

220206 RAN#88 R5-20261 1419 1 F Correction to NR TC 8.1.1.2.1-300 expiny 16.4.0 220206 RAN#88 R5-20262 1419 1 F Correction to test case 8.1.1.3.1 16.4.0 202006 RAN#88 R5-20262 1461 1 F Correction to test case 8.1.1.3.1 16.4.0 202006 RAN#88 R5-20262 1466 1 F Correction to test case 8.1.1.3.4 16.4.0 2020-06 RAN#88 R5-20262 1469 1 F Correction to test case 8.1.1.3.4 16.4.0 2020-06 RAN#88 R5-20262 1469 1 F Correction to test case 8.1.1.4.1 16.4.0 2020-06 RAN#88 R5-20262 1451 1 F Correction to test case 8.1.1.4.1 16.4.0 2020-06 RAN#88 R5-20263 1422 1 F Correction to NR TC 8.1.3.1.1.1 Trov PSRQ event A3 16.4.0 2020-06 RAN#88 R5-20263 1427 1 F Correction to NR TC 8.1.3.2.4-RSRQ e						_		
2202-06 RAN#88 R5-202620 1419 I F Correction to RT C 8.1.3.2.*Peddirection from NR to E- 16.4.0 2020-06 RAN#88 R5-202621 1466 I F Correction to test case 8.1.3.3 164.0 2020-06 RAN#88 R5-202621 1466 I F Correction to test case 8.1.1.3.4 164.0 2020-06 RAN#88 R5-202621 1466 I F Correction to test case 8.1.1.4.1 164.0 2020-06 RAN#88 R5-202621 1451 I F Corrections to test case 8.1.2.1 164.0 2020-06 RAN#88 R5-202621 1551 I F Update RC TC 8.1.2.1.5 164.0 2020-06 RAN#88 R5-202631 1423 I F Correction to NR TC 8.1.3.1.1*Two RSRQ event A3 164.0 2020-06 RAN#88 R5-202631 1425 I F Correction to NR TC 8.1.3.3.1*NR CGI 164.0 2020-06 RAN#88 R5-202631 1425 I F Correction to NR TC 8.1.3.3.1*	2020-06	RAN#88	R5-202619	1418	1	F	Correction to NR TC 8.1.1.2.1-T300 expiry	16.4.0
2020-06 RAN#88 R5-20262 1464 1 F Correction to test case 8.1.3.3 16.40 2020-06 RAN#88 R5-20262 1466 1 F Correction to test case 8.1.3.3 16.40 2020-06 RAN#88 R5-20262 1467 1 F Correction to test case 8.1.1.4.1 16.40 2020-06 RAN#88 R5-20262 1469 1 F Correction to test case 8.1.1.4.1 16.40 2020-06 RAN#88 R5-20262 1515 1 F Correction to test case 8.1.2.1 16.40 2020-06 RAN#88 R5-202620 1576 1 F Corrections to NRSG RRC TC 8.2.2.6.1 16.40 2020-06 RAN#88 R5-202631 1422 1 F Corrections to NR TC 8.1.3.1.1-Win SRG Qevent A3 16.40 2020-06 RAN#88 R5-202631 1427 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.40 2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.2.4-RSRQ eve	2020-06	RAN#88	R5-202620	1419	1	F	Correction to NR TC 8.1.1.3.2-Redirection from NR to E-	16.4.0
2120-06 RAN#88 R5-20262 1468 1 F Correction to test case 8.1.3.3 164.0 2020-06 RAN#88 R5-20262 1468 1 F Correction to test case 8.1.1.34 164.0 2020-06 RAN#88 R5-20262 1468 1 F Correction to test case 8.1.1.41 164.0 2020-06 RAN#88 R5-20262 1468 1 F Correction to test case 8.1.2.11 164.0 2020-06 RAN#88 R5-20263 152 1 Correction to NR50 RRC TC 8.2.2.1 164.0 2020-06 RAN#88 R5-202630 1422 1 F Correction to NR TC 8.1.3.11H-Two RSRQ event A3 164.0 2020-06 RAN#88 R5-202631 122 1 F Correction to NR TC 8.1.3.1H-Two RRESUMERCE 164.0 2020-06 RAN#88 R5-202631 122 1 F Correction to NR TC 8.1.3.2.4TRC GI 164.0 2020-06 RAN#88 R5-20263 1501 1 F Correction to NR TC 8.1.3.14 164.0 <		D N 1//00	55.000001				UTRA	10.10
2120-06 RAN#88 R5-20262 1 fe Correction to test case 8.1.3.4 164.0 2020-06 RAN#88 R5-20263 1461 1 F Correction to test case 8.1.1.41 164.0 2020-06 RAN#88 R5-20251 1468 1 F Correction to test case 8.1.1.42 164.0 2020-06 RAN#88 R5-20252 1468 1 F Correction to test case 8.1.1.42 164.0 2020-06 RAN#88 R5-20262 1451 1 F Correction to NR TC 8.1.3.11 164.0 2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.11-thron RSRQ event A3 164.0 2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.14 164.0 2020-06 RAN#88 R5-202631 1421 1 Correction to NR TC 8.1.3.14 164.0 2020-06 RAN#88 R5-202631 1511 1 Correction to NR TC 8.1.3.14 164.0 2020-06 RAN#88 R5-2	2020-06	RAN#88	R5-202621	1464	1		Correction to test case 8.1.1.3.1	16.4.0
2120-06 RAN#88 R5-20263 1467 1 F Correction to test case 8.1.1.4.1 16.4.0 2020-06 RAN#88 R5-202621 168.1 I F Correction to test case 8.1.1.4.1 16.4.0 2020-06 RAN#88 R5-202621 161.5 1 F Correction to test case 8.1.1.4.2 164.0 2020-06 RAN#88 R5-202631 121 F Correction to test case 8.1.1.4.1 164.0 2020-06 RAN#88 R5-202631 122 1 F Correction to NR TC 8.1.3.11F-more SRQ event A3 164.0 2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.11-Run Resourcements with 164.0 2020-06 RAN#88 R5-202631 1421 1 F Correction to NR TC 8.1.3.3.1-NR CG 164.0 2020-06 RAN#88 R5-202631 121 1 Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202631 1501 1 Correction to NR TC 8.1.3.2.1-SIN and/weit 164.0	2020-06	RAN#88	R5-202622	1465	1	-	Correction to test case 8.1.1.3.3	16.4.0
2202-06 RAN#88 R5-202621 1467 1 F Correction to test case 8.1.1.4.2 16.4.0 2020-06 RAN#88 R5-202625 1468 1 F Correction to test case 8.1.2.1 16.4.0 2020-06 RAN#88 R5-202625 1515 1 F Correction to test case 8.1.2.1 16.4.0 2020-06 RAN#88 R5-202627 1515 1 F Correction to NR TC 8.1.3.11F-Wo RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.11F-Wo RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1421 1 Correction to NR TC 8.1.3.15-1 16.4.0 2020-06 RAN#88 R5-202631 1421 1 Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202631 150 1 F Correction to NR TC 8.1.3.2.4-SINR eventB2	2020-06	RAN#88	R5-202623	1466	1	F	Correction to test case 8.1.1.3.4	16.4.0
2020-06 RAN#88 R5-20262 1468 1 F Correction to test case 8.1.1.4.2 16.4.0 2020-06 RAN#88 R5-202621 1515 1 F Correction to test case 8.1.2.1.1 16.4.0 2020-06 RAN#88 R5-202623 1521 1 F Corrections to EN-DC RC TC 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.11-Invo RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202632 1423 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202632 1421 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1501 1 F Correction to NR TC 8.1.3.2.4-SIR Col 16.4.0 2020-06 RAN#88 R5-202631 1501 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202641 1451 1 F <	2020-06	RAN#88	R5-202624	1467	1	F	Correction to test case 8.1.1.4.1	16.4.0
2202-06 RAN#88 R5-20226 1469 1 F Corrections to tests case 8.1.2.1.1 16.4.0 2020-06 RAN#88 R5-202282 1556 1 F Corrections to NR5G RFC TC 8.2.2.6.1 16.4.0 2020-06 RAN#88 R5-202621 1562 1 F Corrections to NR TC 8.1.3.1.1-Two RSRQ event A3 164.0 2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.1.1-Two RSRQ event A3 164.0 2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.2.1-RSRQ event B2 164.0 2020-06 RAN#88 R5-202634 1427 1 F Corrections to NR TC 8.1.3.2.1-SRQ event B2 164.0 2020-06 RAN#88 R5-202634 1427 1 F Corrections to NR TC 8.1.3.2.1-SR 164.0 2020-06 RAN#88 R5-202634 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202634 1550 1 F	2020-06	RAN#88	R5-202625	1468	1	F	Correction to test case 8.1.1.4.2	16.4.0
2202-06 RAN/88 R5-20227 1515 1 F Corrections to NR5G RRC TC 8.2.2.6.1 164.0 2020-06 RAN/88 R5-20263 1422 1 F Corrections to EN-DC RRC TC 8.2.2.7.1 164.0 2020-06 RAN/88 R5-20263 1422 1 F Corrections to RT C 8.1.3.1.1-Two RSRQ event A3 164.0 2020-06 RAN/88 R5-202631 1423 1 F Correction to NR TC 8.1.3.2.1-Finta NR measurements with 164.0 2020-06 RAN/88 R5-202631 1421 1 F Correction to NR TC 8.1.3.2.1-Finta NR measurements with 164.0 2020-06 RAN/88 R5-202631 1501 1 F Corrections to NR TC 8.1.3.1.16-Inta NR measurements 164.0 2020-06 RAN/88 R5-202631 1518 1 F Corrections to NR TC 8.1.3.2.4-SiNR event B2 164.0 2020-06 RAN/88 R5-202631 1550 1 F Correction to NR TC 8.1.3.2.4-SiNR event B2 164.0 2020-06 RAN/88 R5-202641 1421	2020-06	RAN#88	R5-202626	1469	1	F	Correction to test case 8.1.2.1.1	16.4.0
2202-06 RAN#88 R5-202281 IF Pupdate RRC TC 8.1.2.1.5 16.4.0 2020-06 RAN#88 R5-202631 1422 I F Corrections to RN-TC 8.1.3.1.1-Two RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202631 1422 I F Correction to NR TC 8.1.3.1.1-Two RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202631 1425 I F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1427 I F Corrections to NR TC 8.1.3.2.4 16.4.0 2020-06 RAN#88 R5-202631 1501 I F Corrections to NR TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202631 1550 I F Correction to NR TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202631 1550 I F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202631 1562 I F Correction to NR TC 8.1.3.2.4-SINR event B2	2020-06	RAN#88	R5-202627	1515	1	F	Corrections to NR5G RRC TC 8.2.2.6.1	16.4.0
2020-06 RAN#88 R5-202629 1582 1 F Corrections to EN-DC RC TC 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.1.11-Wn RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202632 1425 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202633 1425 1 F Correction to NR TC 8.1.3.2.1-TE CGI 16.4.0 2020-06 RAN#88 R5-202635 1501 I F Corrections to NR5G RRC TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202637 1536 I F Corrections to NR5G RRC TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202631 142 I F Correction to NR TC 8.1.3.2.1-YN handover 16.4.0 2020-06 RAN#88 R5-202631 142 I F Correction to NR TC 8.1.3.2.1-YN handover 16.4.0 2020-06 RAN#88 R5-202641 143 I F	2020-06	RAN#88	R5-202628	1576	1	F	Update RRC TC 8.1.2.1.5	16.4.0
2020-06 RAN#88 R5-202631 1422 1 F Correction to NR TC 8.1.3.1.1-Two RSRQ event A3 16.4.0 2020-06 RAN#88 R5-202631 1425 1 F Correction to NR TC 8.1.3.1.6-Intra NR measurements with 16.4.0 2020-06 RAN#88 R5-202631 1425 1 F Correction to NR TC 8.1.3.3.2-NR CGI 16.4.0 2020-06 RAN#88 R5-202631 1421 I F Corrections to NR SG RR CT 8.1.3.3.1-MK CGI 16.4.0 2020-06 RAN#88 R5-202631 1530 I F Corrections to NR SG RRC TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202631 1530 I F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202631 1281 I F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202631 1281 I F Correction to NR TC 8.1.4.2.1.12 N and/over 16.4.0 2020-06 RAN#88 R5-202641 1563 <td< td=""><td>2020-06</td><td>RAN#88</td><td>R5-202629</td><td>1582</td><td>1</td><td>F</td><td>Corrections to EN-DC RRC TC 8.2.2.7.1</td><td>16.4.0</td></td<>	2020-06	RAN#88	R5-202629	1582	1	F	Corrections to EN-DC RRC TC 8.2.2.7.1	16.4.0
2020-06 RAN#88 R5-202631 1423 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1426 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 16.4.0 2020-06 RAN#88 R5-202631 1426 1 F Correction to NR TC 8.1.3.3.1-NR CGI 16.4.0 2020-06 RAN#88 R5-202631 1501 1 F Correction to NR TC 8.1.3.3.1-NR CGI 16.4.0 2020-06 RAN#88 R5-202631 1531 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202631 1531 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202641 1492 1 F Correction to NR TC 8.1.4.2.1.1 16.4.0 2020-06 RAN#88 R5-202641 1433 1 F Correction to NR RC 18.1.4.2.1.1 16.4.0 2020-06 RAN#88 R5-202641 1536 1 F Correction to NR RC 18.1.5.1	2020-06	RAN#88	R5-202630	1422	1	F	Correction to NR TC 8.1.3.1.11-Two RSRQ event A3	16.4.0
Construction Whitelisting Multicipant 2020-06 RAN#88 R5-202632 1425 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 164.0 2020-06 RAN#88 R5-202631 1427 1 F Correction to NR TC 8.1.3.3.1-NR CGI 164.0 2020-06 RAN#88 R5-202631 1511 F Corrections to NR measurement test cases 8.1.3.x 164.0 2020-06 RAN#88 R5-202631 1531 1 F Corrections to NR measurement test cases 8.1.3.x 164.0 2020-06 RAN#88 R5-202631 1530 1 F Correction to NR TC 8.1.3.2.3-HIM Revent B2 164.0 2020-06 RAN#88 R5-202640 1492 1 F Correction to NR TC 8.1.3.2.1-L2N handover 164.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NR RC test case 8.1.4.1.1 164.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to R.RC test case 8.1.5.2.1 164.0 2020-06 RAN#	2020-06	RAN#88	R5-202631	1423	1	F	Correction to NR TC 8.1.3.1.16-Intra NR measurements with	16.4.0
2020-06 RAN#88 R5-202631 1425 1 F Correction to NR TC 8.1.3.2.3-RSRQ event B2 164.0 2020-06 RAN#88 R5-202633 1427 1 F Correction to NR TC 8.1.3.3.1NR CGI 164.0 2020-06 RAN#88 R5-202635 1501 1 F Correction to NR TC 8.1.3.1NR CGI 164.0 2020-06 RAN#88 R5-202636 1518 1 F Correction to NR TC 8.1.3.1.15a-intra NR measurements 164.0 2020-06 RAN#88 R5-202639 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202631 1428 1 F Correction to NR TC 8.1.3.1.15a-intra NR measurements 164.0 2020-06 RAN#88 R5-202641 1492 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202641 1493 1 F Correction to RC 0ters TC 8.1.5.1 164.0 2020-06 RAN#88 R5-202641 1431 1 F<							Whitelisting	
2020-06 RAN#88 R5-202631 1426 1 F Correction to NR TC 8.1.3.3.1-NR CGI 164.0 2020-06 RAN#88 R5-202635 1501 1 F Corrections to NR TC 8.1.3.3.1-NR CGI 164.0 2020-06 RAN#88 R5-202637 1536 1 F Corrections to NR TC 8.1.3.15A-intra NR measurement 164.0 2020-06 RAN#88 R5-202639 1550 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202639 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202640 1429 1 F Correction to NR TC 8.1.4.2.1.1 164.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NR TC 8.1.5.7.1-MCG RLC failure 164.0 2020-06 RAN#88 R5-202641 1564 1 F Corrections to RAC others TC 8.1.5.2.2 164.0 2020-06 RAN#88 R5-202641 1564 1 F	2020-06	RAN#88	R5-202632	1425	1	F	Correction to NR TC 8.1.3.2.3-RSRQ event B2	16.4.0
2020-06 RAN#88 R5-202634 1427 1 F Corrections to NR TC 8.1.3.2-LTE CGI 16.4.0 2020-06 RAN#88 R5-202635 1501 1 F Corrections to NR RG RRC TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202637 1536 1 F Correction to NR TC 8.1.3.1.15A 16.4.0 2020-06 RAN#88 R5-202638 1550 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202640 1422 1 F Correction to NR TC 8.1.3.2.1-CN Natower 16.4.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NR TC 8.1.5.7.1-WCG RLC 1ailure 16.4.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NRSG RTC TC 8.1.5.2.2 16.4.0 2020-06 RAN#88 R5-202641 1483 1 F Correction to NRSG RTC TC 8.1.5.2.2 16.4.0 2020-06 RAN#88 R5-202641 1483 1 F Correct	2020-06	RAN#88	R5-202633	1426	1	F	Correction to NR TC 8.1.3.3.1-NR CGI	16.4.0
2020-06 RAN#88 R5-202635 1510 1 F Corrections to NR measurement test cases 8.1.3.x 164.0 2020-06 RAN#88 R5-202631 1536 1 F Corrections to NR TC 8.1.3.1.15A 164.0 2020-06 RAN#88 R5-202631 1536 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202631 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202641 1492 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NR RC test case 8.1.4.2.1.1 164.0 2020-06 RAN#88 R5-202641 1564 F Corrections to NR5G RRC TC 8.1.5.5.1 164.0 2020-06 RAN#88 R5-202641 1564 F Corrections to NR5G RRC TC 8.1.5.5.1 164.0 2020-06 RAN#88 R5-202641 1505 1 F Addition of NRDC RRC test case 8.2.	2020-06	RAN#88	R5-202634	1427	1	F	Correction to NR TC 8.1.3.3.2-LTE CGI	16.4.0
2020-06 RAM#88 R5-20263 1518 1 F Corrections to NRSG RRC TC 8.1.3.1.15A 164.0 2020-06 RAM#88 R5-20263 1536 1 F Correction to NR TC 8.1.3.1.15a-Intra NR measurements 164.0 2020-06 RAM#88 R5-20263 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAM#88 R5-202640 1429 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 164.0 2020-06 RAM#88 R5-202641 1563 1 F Correction to NR TC 8.1.5.7.1-MCG RLC failure 164.0 2020-06 RAN#88 R5-202641 1564 1 F Corrections to NRSG RRC TC 8.1.5.2.2 164.0 2020-06 RAN#88 R5-202641 1431 1 F Corrections to NRSG RRC TC 8.1.5.7.1 164.0 2020-06 RAN#88 R5-202641 1431 1 F Corrections to RSG RRC TC 8.1.5.2.2 164.0 2020-06 RAN#88 R5-202641 1551 1 F	2020-06	RAN#88	R5-202635	1501	1	F	Corrections to NR measurement test cases 8.1.3.x	16.4.0
2020-06 RAN#88 R5-202637 1536 1 F Correction to NR TC 8.1.3.1.15a-Intra NR measurements with Blacklisting 16.4.0 2020-06 RAN#88 R5-202638 1550 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202641 1492 1 F Correction to NR TC 8.1.4.2.2.1-L2N handover 16.4.0 2020-06 RAN#88 R5-202641 1453 1 F Correction to NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202641 1564 1 F Corrections to NR5G RRC TC 8.1.5.7.1 16.4.0 2020-06 RAN#88 R5-202641 1543 1 F Corrections to NR5G RRC TC 8.1.5.7.1 16.4.0 2020-06 RAN#88 R5-202641 1541 F Corrections to NR5G RRC TC 8.1.5.7.1 16.4.0 2020-06 RAN#88 R5-202641 157<1	2020-06	RAN#88	R5-202636	1518	1	F	Corrections to NR5G RRC TC 8.1.3.1.15A	16.4.0
With Blacklisting With Blacklisting 2020-06 RAN#88 R5-202638 1428 1 F Correction to NR TC 8.1.3.2.4-SINR event B2 16.4.0 2020-06 RAN#88 R5-202640 1492 1 F Correction to NR TC 8.1.4.2.2.1-L2N handover 16.4.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NR RC test case 8.1.4.1.2 to update the security 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202644 1546 1 F Correction to 8.2.2.8.1 not to check reception of RAN#88 R5-202645 1483 1 F Correction to R-DC RC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202645 1493 1 F Correction to R-DC RC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202651 1551 1	2020-06	RAN#88	R5-202637	1536	1	F	Correction to NR TC 8.1.3.1.15a-Intra NR measurements	16.4.0
2020-06 RAN#88 R5-202638 1428 1 F Correction to NR TC 8.1.3.2.4-SINK event B2 16.4.0 2020-06 RAN#88 R5-202640 1492 1 F Correction to NR TC 8.1.3.2.4-SINK event B2 16.4.0 2020-06 RAN#88 R5-202640 1492 1 F Correction to NR TC 8.1.3.2.1.21 N handover 16.4.0 2020-06 RAN#88 R5-202642 1433 1 F Correction to NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202643 1506 1 F Updates on RC others TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202644 1483 1 F Corrections to NR5G RRC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202647 1483 1 F Correction to NR-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202651 1557 1 F							with Blacklisting	
2020-06 RAN#88 R5-202639 1428 1 F Correction to NRTC 8.1.4.2.1.12N handover 16.4.0 2020-06 RAN#88 R5-202641 1563 1 F Correction to NRTC test case 8.1.4.2.1.1 16.4.0 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202643 1506 1 F Corrections to NRSG RRC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202644 1543 1 F Corrections to NR5G RRC TC 8.1.5.1 16.4.0 2020-06 RAN#88 R5-202644 1483 1 F Corrections to NRDC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Corrections to EN-DC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F A	2020-06	RAN#88	R5-202638	1550	1	F	Correction to NR TC 8.1.3.2.4-SINR event B2	16.4.0
2020-06 RAN#88 R5-202640 1492 1 F Correction to NR RRC test case 8.1.4.2.1.1 16.4.0 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202643 1506 1 F Updates on RRC others TC 8.1.5.7.1 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Correction to R.2.2.8.1 not to check reception of 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Corrections to RN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Addition of NRT C 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1551 1	2020-06	RAN#88	R5-202639	1428	1	F	Correction to NR TC 8.1.4.2.2.1-L2N handover	16.4.0
2020-06 RAN#88 R5-202641 1563 1 F Correction to NR RRC test case 8.1.4.1.2 to update the security 16.4.0 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202643 1506 1 F Updates on RRC others TC 8.1.5.2.2 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of sent 16.4.0 2020-06 RAN#88 R5-202646 1493 1 F Correction to 8.2.2.8.1 not to check reception of sent 16.4.0 2020-06 RAN#88 R5-202646 1493 1 F Corrections to EN-DC test case 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202651 15	2020-06	RAN#88	R5-202640	1492	1	F	Correction to NR5GC IRAT test case 8.1.4.2.1.1	16.4.0
security security 2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202643 1506 1 F Updates on RRC others TC 8.1.5.2.2 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of RRCReconfigurationComplete if RRCReconfiguration is not sent 2020-06 RAN#88 R5-202646 1493 1 F Corrections to EN-DC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.3.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NRT C 8.2.4.1.4.4.4.1.4.4.4.4.4.4.4.4.4.4.4.4.4	2020-06	RAN#88	R5-202641	1563	1	F	Correction to NR RRC test case 8.1.4.1.2 to update the	16.4.0
2020-06 RAN#88 R5-202642 1433 1 F Addition of NR TC 8.1.5.7.1-MCG RLC failure 16.4.0 2020-06 RAN#88 R5-202644 1546 1 F Corrections to NR5G RC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Corrections to RSC RC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202646 1493 1 F Correction to 8.2.2.8.1 not to check reception of RC TC 8.1.5.2.1 16.4.0 2020-06 RAN#88 R5-202646 1493 1 F Correction to EN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NRDC RRC TC 8.2.3.16.1 MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test case 8.2.3.x 164.0 2020-06 RAN#88 R5-202651 1507							security	
2020-06 RAN#88 RS-202643 1506 1 F Updates on RRC others TC 8.1.5.2.2 16.4.0 2020-06 RAN#88 RS-202644 1546 1 F Corrections to NR5G RRC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 RS-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of RRCReconfigurationComplete if RRCReconfiguration is not sent 2020-06 RAN#88 RS-202646 1493 1 F Correction to EN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 RS-202649 1526 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 RS-202650 1435 1 F Addition of NRDC RRC TC 8.2.2.5.2 164.0 2020-06 RAN#88 RS-202651 1504 1 F Corrections to RT 6.2.3.16.1-MeasConfig via SRB3 164.0 2020-06 RAN#88 RS-202651 1504 1 F Corrections to RT 6.2.3.16.1-MeasConfig via SRB3 164.0 2020-06 RAN#88 RS-202651 1551	2020-06	RAN#88	R5-202642	1433	1	F	Addition of NR TC 8.1.5.7.1-MCG RLC failure	16.4.0
2020-06 RAN#88 R5-202644 1546 1 F Corrections to NR5G RRC TC 8.1.5.5.1 16.4.0 2020-06 RAN#88 R5-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of RCRCReconfigurationComplete if RRCReconfiguration is not sent 2020-06 RAN#88 R5-202647 1505 1 F Corrections to EN-DC rest case 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202641 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to RT Reass 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to SGM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202655 1435 1	2020-06	RAN#88	R5-202643	1506	1	F	Updates on RRC others TC 8.1.5.2.2	16.4.0
2020-06 RAN#88 R5-202645 1483 1 F Correction to 8.2.2.8.1 not to check reception of RCReconfiguration is not sent 2020-06 RAN#88 R5-202646 1493 1 F Correction to EN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Correction to EN-DC RRC test case 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202648 1526 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NRDC RRC TC 8.2.2.5.2 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202651 1537 1 F Corrections to RT C 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202655 1551 1 <	2020-06	RAN#88	R5-202644	1546	1	F	Corrections to NR5G RRC TC 8.1.5.5.1	16.4.0
RRCReconfigurationComplete if RRCReconfiguration is not sent RRCReconfigurationComplete if RRCReconfiguration is not sent 2020-06 RAN#88 R5-202646 1493 1 F Correction to EN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Corrections to EN-DC test case 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to R measurement test cases 8.2.3.x 164.0 2020-06 RAN#88 R5-202651 1501 1 F Corrections to RN-DC test case 8.2.4.3.1.1 164.0 2020-06 RAN#88 R5-202651 1551 1 F Correction to RT C 8.2.6.1.1-RLC failure 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Correction to SGM test case 9.1.2.3	2020-06	RAN#88	R5-202645	1483	1	F	Correction to 8.2.2.8.1 not to check reception of	16.4.0
Sent Sent 2020-06 RAN#88 R5-202646 1493 1 F Correction to EN-DC RRC test case 8.2.2.7.1 16.4.0 2020-06 RAN#88 R5-202647 1505 1 F Corrections to EN-DC test case 8.2.2.3.1 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NRDC RRC TC 8.2.2.5.2 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to SGC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Correction to SGM test case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202651 <							RRCReconfigurationComplete if RRCReconfiguration is not	
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2020-06 RAN#88 R5-202648 1526 1 F Addition of NRDC RRC TC 8.2.2.4.2 16.4.0 2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.5.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202652 1475 1 F Corrections to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06	2020-06	RAN#88	R5-202647	1505	1	F	Corrections to EN-DC test case 8.2.2.3.1	16.4.0
2020-06 RAN#88 R5-202649 1527 1 F Addition of NRDC RRC TC 8.2.2.5.2 16.4.0 2020-06 RAN#88 R5-202650 1435 1 F Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202652 1475 1 F Corrections to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to SGMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 <	2020-06	RAN#88	R5-202648	1526	1	F	Addition of NRDC RRC TC 8.2.2.4.2	16.4.0
2020-06 RAN#88 R5-202650 1435 1 F Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3 16.4.0 2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202652 1475 1 F Corrections to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202656 1494 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202660 1508 1 <	2020-06	RAN#88	R5-202649	1527	1	F	Addition of NRDC RRC TC 8.2.2.5.2	16.4.0
2020-06 RAN#88 R5-202651 1504 1 F Corrections to NR measurement test cases 8.2.3.x 16.4.0 2020-06 RAN#88 R5-202652 1475 1 F Correction to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Addition of NR TC 8.2.6.1.1-RLC failure 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202660 1508 1	2020-06	RAN#88	R5-202650	1435	1	F	Addition of NR TC 8.2.3.16.1-MeasConfig via SRB3	16.4.0
2020-06 RAN#88 R5-202652 1475 1 F Correction to NR TC 8.2.4.2.1.x-CA release 16.4.0 2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202654 1436 1 F Addition of NR TC 8.2.6.1.1-RLC failure 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202661 1508 1 F Corrections to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1508 <td>2020-06</td> <td>RAN#88</td> <td>R5-202651</td> <td>1504</td> <td>1</td> <td>F</td> <td>Corrections to NR measurement test cases 8.2.3.x</td> <td>16.4.0</td>	2020-06	RAN#88	R5-202651	1504	1	F	Corrections to NR measurement test cases 8.2.3.x	16.4.0
2020-06 RAN#88 R5-202653 1537 1 F Corrections to EN-DC test case 8.2.4.3.1.1 16.4.0 2020-06 RAN#88 R5-202654 1436 1 F Addition of NR TC 8.2.6.1.1-RLC failure 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202656 1494 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR 5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F	2020-06	RAN#88	R5-202652	1475	1	F	Correction to NR TC 8.2.4.2.1.x-CA release	16.4.0
2020-06 RAN#88 R5-202654 1436 1 F Addition of NR TC 8.2.6.1.1-RLC failure 16.4.0 2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 16.4.0 2020-06 RAN#88 R5-202656 1494 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to SGC SMS test case 9.1.8.2 16.4.0 2020-06 R	2020-06	RAN#88	R5-202653	1537	1	F	Corrections to EN-DC test case 8.2.4.3.1.1	16.4.0
2020-06 RAN#88 R5-202655 1551 1 F Corrections to 5GC Test Case 9.1.1.3 164.0 2020-06 RAN#88 R5-202656 1494 1 F Correction to 5GMM test case 9.1.2.1 164.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 164.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 164.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 164.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 164.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 164.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to test case 9.1.7.1 164.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to NR TC 10.1.4.1-T3580 expiry 164.0 2020-06	2020-06	RAN#88	R5-202654	1436	1	F	Addition of NR TC 8.2.6.1.1-RLC failure	16.4.0
2020-06 RAN#88 R5-202656 1494 1 F Correction to 5GMM test case 9.1.2.1 16.4.0 2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to NR TC 10.1.4.1-T3580 expiry<	2020-06	RAN#88	R5-202655	1551	1	F	Corrections to 5GC Test Case 9.1.1.3	16.4.0
2020-06 RAN#88 R5-202657 1495 1 F Correction to 5GMM test case 9.1.4.1 16.4.0 2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1508 1 F Corrections to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0	2020-06	RAN#88	R5-202656	1494	1	F	Correction to 5GMM test case 9.1.2.1	16.4.0
2020-06 RAN#88 R5-202658 1438 1 F Correction to NR TC 9.1.5.1.3-NSSAI handling 16.4.0 2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1508 1 F Corrections to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 <td>2020-06</td> <td>RAN#88</td> <td>R5-202657</td> <td>1495</td> <td>1</td> <td>F</td> <td>Correction to 5GMM test case 9.1.4.1</td> <td>16.4.0</td>	2020-06	RAN#88	R5-202657	1495	1	F	Correction to 5GMM test case 9.1.4.1	16.4.0
2020-06 RAN#88 R5-202659 1440 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.5.1.9-Change of cell into a new tracking area 16.4.0 2020-06 RAN#88 R5-202661 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Addition to 5GC SMS test case 9.1.8.2 16.4.0 2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 <td< td=""><td>2020-06</td><td>RAN#88</td><td>R5-202658</td><td>1438</td><td>1</td><td>F</td><td>Correction to NR TC 9.1.5.1.3-NSSAI handling</td><td>16.4.0</td></td<>	2020-06	RAN#88	R5-202658	1438	1	F	Correction to NR TC 9.1.5.1.3-NSSAI handling	16.4.0
Image: Constraint of the second sec	2020-06	RAN#88	R5-202659	1440	1	F	Correction to NR TC 9.1.5.1.9-Change of cell into a new	16.4.0
2020-06 RAN#88 R5-202660 1508 1 F Correction to NR TC 9.1.6.1.3-Deregistration in new TA 16.4.0 2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Addition to 5GC SMS test case 9.1.8.2 16.4.0 2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Upd							tracking area	
2020-06 RAN#88 R5-202661 1530 1 F Corrections to NR5G NAS TC 9.1.7.2 16.4.0 2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Addition to 5GC SMS test case 9.1.8.2 16.4.0 2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202660	1508	1	F	Correction to NR TC 9.1.6.1.3-Deregistration in new TA	16.4.0
2020-06 RAN#88 R5-202662 1578 1 F Correction to test case 9.1.7.1 16.4.0 2020-06 RAN#88 R5-202663 1573 1 F Addition to 5GC SMS test case 9.1.8.2 16.4.0 2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202661	1530	1	F	Corrections to NR5G NAS TC 9.1.7.2	16.4.0
2020-06 RAN#88 R5-202663 1573 1 F Addition to 5GC SMS test case 9.1.8.2 16.4.0 2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202662	1578	1	F	Correction to test case 9.1.7.1	16.4.0
2020-06 RAN#88 R5-202664 1444 1 F Correction to NR TC 10.1.4.1-T3580 expiry 16.4.0 2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202663	1573	1	F	Addition to 5GC SMS test case 9.1.8.2	16.4.0
2020-06 RAN#88 R5-202665 1476 1 F Update of multilayer test case 11.1.5 16.4.0 2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202664	1444	1	F	Correction to NR TC 10.1.4.1-T3580 expiry	16.4.0
2020-06 RAN#88 R5-202666 1477 1 F Update of multilayer test case 11.1.6 16.4.0 2020-06 RAN#88 R5-202667 1478 1 F Update of multilayer test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202665	1476	1	F	Update of multilayer test case 11.1.5	16.4.0
2020-06 RAN#88 R5-202667 1478 1 F Update of multilaver test case 11.1.2 16.4.0	2020-06	RAN#88	R5-202666	1477	1	F	Update of multilayer test case 11.1.6	16.4.0
	2020-06	RAN#88	R5-202667	1478	1	F	Update of multilayer test case 11.1.2	16.4.0

2020-06	RAN#88	R5-202668	1445	1	F	Addition of new NR TC 11.3.1-UAC AI0-MTSI MO speech	16.4.0
						call-SMSoIP-Uplink User data transfer	
2020-06	RAN#88	R5-202669	1447	1	F	Addition of new NR TC 11.3.9-UAC Operator Defined	16.4.0
0000.00	DAN 1//00	55 000070	4540			Access Category	10.10
2020-06		R5-202670	1513				16.4.0
2020-06	RAN#88	R5-2026/1	15/1	1		Update to UAC test case 11.3.4	16.4.0
2020-06 2020-09	RAN#88	R5-202672	1557	1	ト	Introduction of new IMS emergency TC 11.4.10 5GMM-	16.4.0
						REGISTERED.NORMAL-SERVICE N26 Interface not	
		DE 202262	1500			Supported N1 to S1	16 5 0
	RAN#89	R5-203303	1290	-		Correction to NR TC 6.1.1.1-PLMIN Selection in automatic	10.5.0
2020.00		DE 202267	1504			Inoue	16 5 0
2020-09	RAN#09	R5-203307	1594	-		mode User reselection	10.5.0
2020-09	RAN#89	R5-203372	1599	-	F	Correction to NR TC 6.1.2.21-Cell reselection	1650
2020-09	RAN#89	R5-203373	1600	-	F	Correction to NR TC 6 1 2 23-Cell Reselection MEBI	1650
2020 00	DANI#80	P5-203374	1601			Correction to NR TC 6.2.1.1-Selection of correct RAT for	1650
2020-09	RAN#09	R5-203374	1001	-			10.5.0
2020-09	RAN#89	R5-203375	1602	-	F	Correction to NR TC 6.2.1.4-Inter-RAT PLMN Selection with	1650
	10 1100		1002		'	Manual mode	10.0.0
2020-09	RAN#89	R5-203377	1604	-	F	Correction to NR TC 6.2.3.9-Inter-RAT Speed Dependent	16.5.0
			1 200 .		.	Cell Reselection	10.0.0
2020-09	RAN#89	R5-203382	1609	-	F	Correction to NR TC 6.4.1.1-PLMN Selection	16.5.0
2020-09	RAN#89	R5-203383	1610	-	F	Correction to NR TC 7.1.1.1.1-Correct selection of RACH	16.5.0
						parameters	
2020-09	RAN#89	R5-203389	1616	-	F	Correction to NR TC 8.1.1.3.1-Redirection to another NR	16.5.0
						frequency	
2020-09	RAN#89	R5-203394	1621	-	F	Correction to NR TC 8.1.3.1.15A-Intra NR measurements	16.5.0
						Blacklisting	
2020-09	RAN#89	R5-203396	1623	-	F	Correction to NR TC 8.1.5.7.1.X-RLC Failure MCG	16.5.0
2020-09	RAN#89	R5-203397	1624	-	F	Correction to ENDC TC 8.2.2.1.1-SRB3	16.5.0
2020-09	RAN#89	R5-203398	1625	-	F	Addition of NRDC TC 8.2.2.1.2-SRB3	16.5.0
2020-09	RAN#89	R5-203403	1630	-	F	Correction to ENDC TC 8.2.3.11.X-Measurement Gap	16.5.0
2020-09	RAN#89	R5-203405	1632	-	F	Correction to ENDC TC 8.2.6.1.1.X-RLC Failure SCG	16.5.0
2020-09	RAN#89	R5-203406	1633	-	F	Addition of NRDC TC 8.2.6.1.2.1-RLC Failure SCG intra-	16.5.0
						band	
2020-09	RAN#89	R5-203407	1634	-	F	Addition of NRDC TC 8.2.6.1.2.2-RLC Failure SCG inter-	16.5.0
						band	
2020-09	RAN#89	R5-203408	1635	-	F	Addition of NRDC TC 8.2.6.1.2.3-RLC Failure SCG intra-	16.5.0
						band NC	
2020-09	RAN#89	R5-203409	1636	-	F	Correction to ENDC TC 8.2.6.2.1-Processing delay	16.5.0
2020-09	RAN#89	R5-203412	1639	-	F	Correction to NR TC 9.1.5.1.1-Initial registration with 5G-	16.5.0
						GUTI reallocation	
2020-09	RAN#89	R5-203413	1640	-	F	Correction to NR TC 9.1.5.1.8-Serving network not	16.5.0
0000.05	D A N 1//00	55 000 404	1010			authorized	4050
2020-09	RAN#89	R5-203481	1648	-	ト	Correction to NR TC 6.1.1.4-PLMN selection in shared	16.5.0
2020.00			1050			network environment	10 5 0
2020-09	RAN#89	R5-203502	1652	-		Correction to 5G NR Idle mode test case 6.4.2.2	16.5.0
2020-09	RAN#89	R5-203503	1653	-		Correction to NR CA RRC test cases 8.1.3.1.18.x	16.5.0
2020-09	RAN#89	R5-203504	1654	-	F	Correction to NR RRC test cases 8.1.3.2.3 and 8.1.3.2.4	16.5.0
2020-09	RAN#89	R5-203505	1655	-	F	Correction to 5GMM test case 9.1.5.1.13	16.5.0
2020-09	RAN#89	R5-203524	1661	-	F	Corrections to NR MAC Test Case 7.1.1.5.4	16.5.0
2020-09	RAN#89	R5-203535	1662	-	F	Splitting and updates to NR RLC test case 7.1.2.3.5	16.5.0
2020-09	RAN#89	R5-203539	1666	-	F	Correction to NR test case 8.1.3.1.15A	16.5.0
2020-09	RAN#89	R5-203540	1667	-	F	Editorial correction to EN-DC test case 8.2.3.5.1	16.5.0
2020-09	RAN#89	R5-203567	1671	-	F	Correction to NR TC 7.1.1.1.2-Random access procedure for	16.5.0
						Preamble selected by MAC itself	
2020-09	RAN#89	R5-203648	1690	-	F	Editorial updates to NR5G Idle Mode TC 6.1.2.11	16.5.0
2020-09	RAN#89	R5-203649	1691	-	F	Corrections to NR5G BWP TC 7.1.1.8.1	16.5.0
2020-09	RAN#89	R5-203650	1692	-	F	Corrections to NR5G RRC NR-DC TC 8.2.2.4.2 and	16.5.0
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2020-09	PAN/#80	R5-203656	1605	-		Corrections to NR5G MAC DRX TC 7.1.1.5.3	1650
2020-03	DAN#03	R5-203050	1606	-		Corrections to NREC PRC TC 9.1.2.1.16	1650
2020-09	DANI#03	D5-203037	1607	-			1650
2020-09	DANI#09	D5-203050	1608	-		Corrections to NP5G MAC TC 7.1.1.2.1	1650
2020-09	DANI#09	D5-203039	1702	-		Corrections to NP5G PPC CA TCs to add Data Path	1650
2020-03	NAN#03	105-203003	1105	-		verification	10.5.0
2020-09	RAN#89	R5-203666	1704	-	F	Corrections to ENDC RRC CA TCs to add Data Path	16.5.0
						verification	
2020-09	RAN#89	R5-203706	1708	-	F	Correction to NR test case 7.1.2.3.1	16.5.0
2020-09	RAN#89	R5-203709	1711	-	F	Correction to NR test case 8.1.3.1.5	16.5.0
2020-09	RAN#89	R5-203710	1712	-	F	Correction to NR test case 8.1.3.1.8	16.5.0
2020-09	RAN#89	R5-203728	1715	-	F	Correction to NR test case 8.1.3.1.16	16.5.0
2020-09	RAN#89	R5-203739	1717	-	F	Corrections to 5GS Non-3GPP Access TC 9.2.1.1	16.5.0
2020-09	RAN#89	R5-203740	1718	-	F	Corrections to 5GS Non-3GPP Access TC 9.2.5.1.4	16.5.0
2020-09	RAN#89	R5-203741	1719	-	F	Corrections to 5GS Non-3GPP Access TC 9.2.7.1	16.5.0
2020-09	RAN#89	R5-203742	1720	-	F	Corrections to 5GS Non-3GPP Access TC 9.2.7.2	16.5.0
2020-09	RAN#89	R5-203745	1721	-	F	Correction to 5G NR Idle mode test case 6.4.3.1	16.5.0
2020-09	RAN#89	R5-203772	1727	-	F	Correction to NR5GC testcase 9.1.4.1	16.5.0
2020-09	RAN#89	R5-203785	1728	-	F	Correction to NR5GC testcase 10.1.1.2	16.5.0
2020-09	RAN#89	R5-203810	1729	-	F	Correction to NR5GC test case 6.1.2.9	16.5.0
2020-09	RAN#89	R5-203811	1730	-	F	Correction to NR CA RRC Test cases 8.1.3.1.17.x and	16.5.0
						8.1.3.1.18.x	
2020-09	RAN#89	R5-204015	1733	-	F	Correction of NR TC 6.2.2.1	16.5.0
2020-09	RAN#89	R5-204016	1734	-	F	Correction to NR TC 8.1.4.1.8.X-Scell no change	16.5.0
2020-09	RAN#89	R5-204018	1735	-	F	Correction of NR TC 6.2.2.2	16.5.0
2020-09	RAN#89	R5-204019	1736	-	F	Correction to NR5G UAC TC 11.3.8	16.5.0
2020-09	RAN#89	R5-204107	1740	-	F	Correction to NR test case 7.1.2.3.11	16.5.0
2020-09	RAN#89	R5-204217	1744	-	F	Addition of NR-DC RRC test case 8.2.2.9.2	16.5.0
2020-09	RAN#89	R5-204237	1746	-	F	Correction to NR5G RRC TC 8.1.4.1.2	16.5.0
2020-09	RAN#89	R5-204254	1748	-	F	Correction to NR UE Capability test case 8.1.5.1.1	16.5.0
2020-09	RAN#89	R5-204334	1749	-	F	Correction to NR5GC RRC test case 8.1.5.2.2	16.5.0
2020-09	RAN#89	R5-204336	1750	-	F	Correction to test case 11.1.3	16.5.0
2020-09	RAN#89	R5-204341	1751	-	F	Correction to the NR5GC testcase 8.1.3.1.12	16.5.0
2020-09	RAN#89	R5-204359	1754	-	F	Correction to NR test case 8.1.4.1.6	16.5.0
2020-09	RAN#89	R5-204363	1755	-	F	Corrections to NR5G PDCP TC 7.1.3.4.1	16.5.0
2020-09	RAN#89	R5-204372	1756	-	F	Correction to NR5GC CA RRC test cases 8.1.2.1.5.x	16.5.0
2020-09	RAN#89	R5-204379	1678	1	F	Correction to Idle mode test case 6.4.1.2	16.5.0
2020-09	RAN#89	R5-204380	1680	1	F	Correction to Idle mode test case 6.1.2.9	16.5.0
2020-09	RAN#89	R5-204381	1689	1	F	Correction to the power level of NR RRC TC 8.1.1.2.1 and	16.5.0
						8.1.1.4.1	
2020-09	RAN#89	R5-204382	1739	1	F	Correction to NR RRC TC 8.1.3.2.2	16.5.0
2020-09	RAN#89	R5-204403	1592	1	F	Correction to NR TC 6.1.1.2-access technology	16.5.0
						combinations	
2020-09	RAN#89	R5-204404	1596	1	F	Correction to NR TC 6.1.1.7-PLMN selection of RPLMN or	16.5.0
						HPLMN in Automatic mode	
2020-09	RAN#89	R5-204405	1598	1	F	Correction to NR TC 6.1.2.19-Speed-dependent cell	16.5.0
2020.00		DE 204406	1602	1		reselection	1650
2020-09	RAN#89	K3-204406	1003	1		Search with Automatic Mode	10.5.0
2020-00	RANI#80	R5-204407	1605	1	F	Correction to NR TC 6.3.1.1-SOR during registration with	1650
2020-09	1.7.110703	1.0 204407	1 1000	*		security check successful using List Type 1	10.0.0
2020-09	RAN#89	R5-204408	1606	1	F	Correction to NR TC 6.3.1.2-SOR during registration with	16.5.0
				[_]		security check successful but no requested	
						acknowledgement	
2020-09	RAN#89	R5-204409	1608	1	F	Correction to NR TC 6.3.1.5-SOR during registration with no	16.5.0
						SOR information received	

2020-09 RANR99 RS-204411 14 F Correction to NR TC 6.2.1-N2 cell reselection 16.5.0 2020-09 RANR99 RS-20412 1670 1 F Correction to NR TC 6.2.2.1-N2 cell reselection 16.5.0 2020-09 RANR98 RS-20413 1670 1 F Correction to the power level of Idle mode test cases 16.5.0 2020-09 RANR98 RS-20411 1701 1 F Corrections to NRSG Idle Mode TC 6.4.2.1 16.5.0 2020-09 RANR98 RS-20441 1772 1 F Corrections to NRSG Idle Mode TC 6.1.2.13 16.5.0 2020-09 RANR98 RS-20441 1635 1 F Corrections to NRSG Idle Mode TC 6.1.2.3 16.5.0 2020-09 RANR98 RS-204421 1634 1 F Corrections to NRSG MAC TC 7.1.1.2.4 16.5.0 2020-09 RANR98 RS-204421 1634 1 F Corrections to NRSG MAC TC 7.1.1.2.4 16.5.0 2020-09 RANR98 RS-204421 1634 1 F Corrections to N	2020-09	RAN#89	R5-204410	1645	1	F	Correction to Idle Mode SoR TC 6.3.1.7	16.5.0
Construction registration 2020-09 RANE9 RS-20412 169 1 F Correction to NR TC 6.2.2.1-N2L cell reselection 16.5.0 2020-09 RANE9 RS-20413 1670 1 F Correction to NR TC 6.2.2.1-N2L cell reselection 16.5.0 2020-09 RANE9 RS-20411 1650 165.0 2020-09 RANE9 RS-20411 1721 1 F Correction to SO RN Idle mode Inter-RAT test cases 16.5.0 2020-09 RANE9 RS-20418 1631 1 Correction to SO RN Idle mode Inter-RAT test cases 16.5.0 2020-09 RANE9 RS-20412 1656 1 F Correction to NR TC 7.1.1.2.2 16.5.0 2020-09 RANE9 RS-20422 1699 1 F Correction to NRSG MAC TC 7.1.1.1.2 16.5.0 2020-09 RANE9 RS-20442 1691 1 F Correction to NRSG MAC TC 7.1.1.1.2 16.5.0 2020-09 RANE9 RS-20442 1791 1 F Correction to NRSG MAC TC 7.1.1.1.2 <t< td=""><td>2020-09</td><td>RAN#89</td><td>R5-204411</td><td>1647</td><td>1</td><td>F</td><td>Correction to NR TC 6.3.1.8-Steering of UE in roaming after</td><td>16.5.0</td></t<>	2020-09	RAN#89	R5-204411	1647	1	F	Correction to NR TC 6.3.1.8-Steering of UE in roaming after	16.5.0
2020-09 RANK99 R5-204412 166 1 F Correction to NR TG 6.2.2.1-2N cell reselection 16.5.0 2020-09 RANK99 R5-204413 1670 1 F Corrections to NRSG tidle Mode TC 6.4.2.1 165.0 2020-09 RANK99 R5-204413 1630 1 F Corrections to NRSG tidle Mode TC 6.4.2.1 165.0 2020-09 RANK98 R5-204411 1722 1 F Corrections to SG NR tidle mode inter-RAT test cases 165.0 2020-09 RANK98 R5-204421 1684 1 F Corrections to NR TC 7.1.1.2.1-1.3.2 165.0 2020-09 RANK98 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2.4 165.0 2020-09 RANK98 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.3.5.2 165.0 2020-09 RANK98 R5-204421 1749 1 F Addition of NR-DC TC 7.1.3.5.2 0.61.5.0 2020-09 RANK98 R5-204421 1741 1 F <							registration	
2020-09 RANK99 R5-204413 1670 1 F Correction to NR TC 6.2.2-L2N cell reselection 16.5.0 2020-09 RANK98 R5-204415 1631 1 F Corrections to NR5G Idle Mode TC 6.1.2.13 16.5.0 2020-09 RANK98 R5-204417 1722 1 F Correction to SG NR Idle mode inter-RAT test cases 16.5.0 2020-09 RANK98 R5-204411 1121 F Correction to NR TO 7.1.1.2-21PSCH Aggregation 16.5.0 2020-09 RANK98 R5-204422 1656 1 F Corrections to NR TO 7.1.1.2-21PSCH Aggregation 16.5.0 2020-09 RANK98 R5-204423 1743 1 F Corrections to NR SG MAC TC 7.1.1.1.2 16.5.0 2020-09 RANK98 R5-204423 1743 1 F Addition of NR PC MAC Test Case 16.5.0 2020-09 RANK98 R5-204423 1741 1 F Correction to NR TSG CAS 7.1.3.5.2 16.5.0 2020-09 RANK98 R5-204423 1721 F Correction to NR	2020-09	RAN#89	R5-204412	1669	1	F	Correction to NR TC 6.2.2.1-N2L cell reselection	16.5.0
2020-09 RANH89 R5-204414 167.1 I F Correction to NR56 life Mode TC 6.4.2.1 16.5.0 2020-09 RANH89 R5-204415 100.1 F Correction to S NR56 life Mode TC 6.1.2.13 16.5.0 2020-09 RANH89 R5-204418 113.1 I F Correction to S RT R1 life Mode TC 6.1.2.13 16.5.0 2020-09 RANH89 R5-204418 113.1 I F Correction to N R TC 7.1.1.2.1-MAC Reset 16.5.0 2020-09 RANH89 R5-204422 1699.1 I Corrections to NR56 MAC TC 7.1.1.2.4 16.5.0 2020-09 RANH89 R5-204421 1644 I F Corrections to NR56 MAC TC 7.1.1.2.4 16.5.0 2020-09 RANH89 R5-204421 1641 F Correction to NR CR TC 3.1.5.5 165.0 2020-09 RANH89 R5-204421 1741 I Correction to NR TC 8.1.3.3 With priority information 165.0 2020-09 RANH89 R5-204431 1721 I Correction to NR TC 8.1.3.3 With priority information 165.0	2020-09	RAN#89	R5-204413	1670	1	F	Correction to NR TC 6.2.2.2-L2N cell reselection	16.5.0
2020-09 RANH89 R5-204415 169.3 1 F Corrections to NR55 clide Mode TC 6.1.2.13 165.0 2020-09 RANH89 R5-204411 1722 1 F Correction to SG NR Idle mode ITC 6.1.2.13 165.0 2020-09 RANH89 R5-204411 161.1 F Correction to NR TC 7.1.1.2-2PDSCH Aggregation 165.0 2020-09 RANH89 R5-204422 169.1 F Correction to NR TG 7.1.1.2-2PDSCH Aggregation 165.0 2020-09 RANH89 R5-204422 169.1 F Correction to NR SG MAC TC 7.1.1.1.2 165.0 2020-09 RANH89 R5-204423 1743 1 F Addition of NR-DC MAC Test Case 165.0 2020-09 RANH89 R5-204423 1741 F Correction to NR SG SDA TEst Cases 7.1.4.1 and 7.1.4.2 165.0 2020-09 RANH89 R5-204423 1721 F Correction to NR SG CSDAP test cases 7.1.4.1 and 7.1.4.2 165.0 2020-09 RANH89 R5-204423 1731 F Correction to NR SG CSDAP test cases 8.1.1.3.4 165.0	2020-09	RAN#89	R5-204414	1677	1	F	Correction to the power level of Idle mode test cases	16.5.0
2020-09 RANH89 R5-204416 1700 1 F Correction to SQR 1dle mode Tice F.1.2.13 16.5.0 2020-09 RANH89 R5-204418 1613 1 F Correction to NR TC 7.1.1.2.1-MAC Reset 16.5.0 2020-09 RANH89 R5-204421 1641 1 F Correction to NR TC 7.1.1.2.4 16.5.0 2020-09 RANH89 R5-204421 1694 1 F Correction to NR MAC test case 7.1.1.5.2 16.5.0 2020-09 RANH89 R5-204422 1691 1 F Correction to NRSG MAC TC 7.1.1.2 16.5.0 2020-09 RANH89 R5-204423 1743 1 F Modification of NR-DC MAC Test Case 16.5.0 2020-09 RANH89 R5-204423 1724 1 F Update to test case NR5C 7.1.3.5.3 16.5.0 2020-09 RANH89 R5-204431 1724 1 F Correction to NR Test case 7.1.4.1 16.5.0 2020-09 RANH89 R5-204431 1725 1 F Correction to NR Test 3.1.	2020-09	RAN#89	R5-204415	1693	1	F	Corrections to NR5G Idle Mode TC 6.4.2.1	16.5.0
2020-09 FAN#89 R5-204412 17.2 1 F Correction to SR NR Idle mode inter-FAT test cases 16.5.0 2020-09 RAN#89 R5-204418 161.1 I F Correction to NR TC 7.1.1.2.2-PDSCH Aggregation 16.5.0 2020-09 RAN#89 R5-204420 165.6 I F Corrections to NR5G MAC TC 7.1.1.2 16.5.0 2020-09 RAN#89 R5-204421 169.9 I F Corrections to NR5G MAC TC 7.1.1.2 16.5.0 2020-09 RAN#89 R5-204421 169.1 F Addition of NR-DC MAC Test Case 16.5.0 2020-09 RAN#89 R5-204421 1709 I F Correction to NR test Case 1.3.5.3 16.5.0 2020-09 RAN#89 R5-204431 1725 I F Correction to NR test Cases 7.1.3.5.2 16.5.0 2020-09 RAN#89 R5-204431 1725 I F Correction to NR CC S.1.3.3 NR-DC 1.4.2 16.5.0 2020-09 RAN#89 R5-204432 1673 I F <td>2020-09</td> <td>RAN#89</td> <td>R5-204416</td> <td>1700</td> <td>1</td> <td>F</td> <td>Corrections to NR5G Idle Mode TC 6.1.2.13</td> <td>16.5.0</td>	2020-09	RAN#89	R5-204416	1700	1	F	Corrections to NR5G Idle Mode TC 6.1.2.13	16.5.0
2020-09 RAN/#98 R5-204419 1613 1 F Correction to NR TC 7.1.1.9.1-MAC Reset 16.5.0 2020-09 RAN/#89 R5-204420 1666 1 F Correction to NR MAC test case 7.1.1.5.2 16.5.0 2020-09 RAN/#89 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2.4 16.5.0 2020-09 RAN/#89 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2.4 16.5.0 2020-09 RAN/#89 R5-204423 1743 1 F Addition of NP-DC MAC Test Case 16.5.0 2020-09 RAN/#89 R5-204420 1724 1 F Correction to NR Test Case 7.1.3.5.1 16.5.0 2020-09 RAN/#89 R5-204431 1725 1 F Correction to NR TC 6.1.3.3.3 (NR-DC) 16.5.0 2020-09 RAN/#89 R5-204431 173 1 F Correction to NR TC 6.1.3.3.3 (NR-DC) 16.5.0 2020-09 RAN/#89 R5-204431 173 1 F Correction t	2020-09	RAN#89	R5-204417	1722	1	F	Correction to 5G NR Idle mode inter-RAT test cases	16.5.0
2020-09 RAN#89 R5-204419 1614 1 F Correction to NR TC 7.1.1.2.2-DSCH Aggregation 165.0 2020-09 RAN#89 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2 165.0 2020-09 RAN#89 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2 165.0 2020-09 RAN#89 R5-204421 143 1 F Addition of NR-DC MAC Test Case 165.0 2020-09 RAN#89 R5-204421 1703 1 F Correction to NR test Case 7.1.3.5.5 16.5.0 2020-09 RAN#89 R5-204431 1724 1 F Correction to NR TC 3.1.3.3 (WR-DC) 165.0 2020-09 RAN#89 R5-204431 1737<1	2020-09	RAN#89	R5-204418	1613	1	F	Correction to NR TC 7.1.1.9.1-MAC Reset	16.5.0
2020-09 RAN#89 R5-204420 1656 1 F Corrections to NRAC test case 7.1.15.2 165.0 2020-09 RAN#89 R5-204421 1699 1 F Corrections to NR5G MAC TC 7.1.1.2.4 165.0 2020-09 RAN#89 R5-204422 1693 1 F Corrections to NR5G MAC TC 7.1.3.5.2 165.0 2020-09 RAN#89 R5-204422 1743 1 F Modification of PCP TO 7.1.3.5.2 16.5.0 2020-09 RAN#89 R5-204423 1724 1 F Modification of PCP TO 7.1.3.5.2 16.5.0 2020-09 RAN#89 R5-204430 1724 1 F Correction to NR SGC 50.7.1.3.5.3 16.5.0 2020-09 RAN#89 R5-204433 173 1 F Correction to NR TC 8.1.1.3.3 16.5.0 2020-09 RAN#89 R5-204433 173 1 F Correction to NR TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204433 173 1 F Correction to NR TC 8.1.1.4.1 16.5.	2020-09	RAN#89	R5-204419	1614	1	F	Correction to NR TC 7.1.1.2.2-PDSCH Aggregation	16.5.0
2020-09 RAN#89 R5-204421 1694 1 F Corrections to NR5G MAC TC 7.1.1.2.4 16.5.0 2020-09 RAN#89 R5-204423 1743 1 F Addition of NR-DC MAC Test Case 16.5.0 2020-09 RAN#89 R5-204423 1743 1 F Addition of NR-DC MAC Test Case 16.5.0 2020-09 RAN#89 R5-204423 1724 1 F Ordection to NR5C CASE 16.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR CS CASE 1.3.5.3 (NR-DC) 16.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR CS CASE 7.1.4.1 and 7.1.4.2 16.5.0 2020-09 RAN#89 R5-204431 1735 1 F Correction to NR RC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR RC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204438 1627 1 F <td>2020-09</td> <td>RAN#89</td> <td>R5-204420</td> <td>1656</td> <td>1</td> <td>F</td> <td>Correction to NR MAC test case 7.1.1.5.2</td> <td>16.5.0</td>	2020-09	RAN#89	R5-204420	1656	1	F	Correction to NR MAC test case 7.1.1.5.2	16.5.0
2020-09 RAN#69 R5-204422 1743 1 F Addition of NR-DC MAC Test Case 165.0 2020-09 RAN#69 R5-204422 1743 1 F Addition of NR-DC MAC Test Case 165.0 2020-09 RAN#69 R5-204426 1682 1 F F Correction to NR test case 7.1.3.5.1 165.0 2020-09 RAN#69 R5-204431 1725 1 F Correction to NR test case 7.1.3.5.3 (NR-DC) 165.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR TC 8.1.3.3 Mith priority information 165.0 2020-09 RAN#89 R5-204431 1731 1 F Correction to NR RC 1RAT test case 8.1.1.3.4 165.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR SC RAT test case 8.1.1.3.4 165.0 2020-09 RAN#89 R5-204437 1631 F Correction to NR SC RAT Test test case 8.1.1.3.4 165.0 2020-09 RAN#89 R5-204437 1621	2020-09	RAN#89	R5-204421	1694	1	F	Corrections to NR5G MAC TC 7.1.1.2.4	16.5.0
2020-09 RAN#89 R5-204423 1743 1 F Addition of NR-DC MAC Test Case 165.0 2020-09 RAN#89 R5-204426 1682 1 F Modification of PDCP TC 7.1.3.5.2 to add testing for change 165.0 2020-09 RAN#89 R5-204430 1724 1 F Correction to NR test case 7.1.3.5.3 (NR-DC) 165.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR TC 8.1.1.3.3-With priority information 165.0 2020-09 RAN#89 R5-204431 1723 1 F Correction to NR TC 6.1.1.3.3-With priority information 165.0 2020-09 RAN#89 R5-204431 1723 1 F Correction to NR TC 18.1.3.2 165.0 2020-09 RAN#89 R5-204431 1731 1 F Correction to NR TC 8.1.1.3.1 165.0 2020-09 RAN#89 R5-204431 1743 1 F Correction to NR TC 8.1.3.1.3 165.0 2020-09 RAN#89 R5-204431 1627 1 F	2020-09	RAN#89	R5-204422	1699	1	F	Corrections to NR5G MAC TC 7.1.1.1.2	16.5.0
2020-09 RAN#89 R5-204426 1682 1 F Modification of PDCP TC 7.1.3.5.2 to add testing for change of ul-DataSplitThreshold and transmission SR8 2020-09 RAN#89 R5-204429 1709 1 F Correction to NR test case 7.1.3.5.5 16.5.0 2020-09 RAN#89 R5-204431 1724 1 F Update to test case NR5GC 7.1.3.5.3 NR-NCD 16.5.0 2020-09 RAN#89 R5-204432 1617 1 F Correction to NR5C SDAP test cases 7.1.4.1 and 7.1.4.2 16.5.0 2020-09 RAN#89 R5-204432 1617 1 F Correction to NR5C C SDAP test cases 7.1.4.1 and fing in S1 2020-09 RAN#89 R5-204431 1721 1 F Correction to NR5C Test cases 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204431 161 1 F Correction to NR5C test case 8.1.4.1 16.5.0 2020-09 RAN#89 R5-204431 1621 1 F Correction to NR TC 8.1.3.1.3-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89	2020-09	RAN#89	R5-204423	1743	1	F	Addition of NR-DC MAC Test Case	16.5.0
of ul-DataSplitThreshold and transmission of SRs 2020-09 RAN#89 R5-204429 1709 1 F Correction to NR test case 7.1.3.5.5 165.0 2020-09 RAN#89 R5-204431 1724 1 F Correction to NR test case 7.1.3.5.3 10.6.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR TC 8.1.1.3.3-With priorly information 16.5.0 2020-09 RAN#89 R5-204431 1723 1 F Correction to NR TC 8.1.1.3.3-With priorly information 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR TC 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR TC 8.1.3.1.4 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR TC 8.1.3.1.4 16.5.0 2020-09 RAN#89 R5-204431 1619 1 F Correction to NR TC 8.1.3.1.4 16.5.0 2020-09 RAN#89 R5-204441	2020-09	RAN#89	R5-204426	1682	1	F	Modification of PDCP TC 7.1.3.5.2 to add testing for change	16.5.0
2020-09 RAN#89 R5-204430 1709 1 F Correction to NR test case 7.1.3.5.5 16.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR SCC SDAP test cases 7.1.4.1 and 7.1.4.2 16.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR SCC SDAP test cases 7.1.4.1 and 7.1.4.2 16.5.0 2020-09 RAN#89 R5-204431 1723 1 F Correction to NR TC C 1 or checking extended / spare field 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR SC testcase 8.1.3.2 16.5.0 2020-09 RAN#89 R5-204435 1745 1 F Correction to NR SC testcase 8.1.3.2 16.5.0 2020-09 RAN#89 R5-204439 1627 1 F Correction to NR TC 8.1.3.1 1.4.1 16.5.0 2020-09 RAN#89 R5-204431 1620 1 F Correction to NR TC 8.1.3.1.4 16.5.0 2020-09 RAN#89 R5-204441 1641							of ul-DataSplitThreshold and transmission of SRs	
2020-09 RAN#89 R5-204430 1724 1 F Update to test case NR5GC 7.1.3.5.3(NR-DC) 16.5.0 2020-09 RAN#89 R5-204431 1725 1 F Correction to NR TC 8.1.1.3.3-With priority information 16.5.0 2020-09 RAN#89 R5-204431 1731 1 F Correction to NR TC 8.1.1.3.3-With priority information 16.5.0 2020-09 RAN#89 R5-204431 1737 1 F Correction to NR RCC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204431 1745 1 F Correction to NR RCC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204431 1745 1 F Correction to NR TC 8.1.4.1 16.5.0 2020-09 RAN#89 R5-204431 1620 1 F Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1646 1 F Correction to NR TC 8.1.2.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441	2020-09	RAN#89	R5-204429	1709	1	F	Correction to NR test case 7.1.3.5.5	16.5.0
2020-09 RAN#89 R5-204431 1725 1 F Correction to NR5GC SDAP test cases 7.1.4.1 and 7.1.4.2 16.5.0 2020-09 RAN#89 R5-204432 1617 1 F Correction to NR TC 8.1.3.3-With priority information 16.5.0 2020-09 RAN#89 R5-204431 1723 1 F Correction to NR RC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204436 1745 1 F Correction to NR RCC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204436 1745 1 F Correction to NR TC 8.1.X on SINR related configuration 16.5.0 2020-09 RAN#89 R5-204438 1620 1 F Correction to NR TC 8.1.X on SINR related configuration 16.5.0 2020-09 RAN#89 R5-204440 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Addition of new test purpose to test case 8.1.3.1.23 16.5.0 2020-09 RAN#89 </td <td>2020-09</td> <td>RAN#89</td> <td>R5-204430</td> <td>1724</td> <td>1</td> <td>F</td> <td>Update to test case NR5GC 7.1.3.5.3 (NR-DC)</td> <td>16.5.0</td>	2020-09	RAN#89	R5-204430	1724	1	F	Update to test case NR5GC 7.1.3.5.3 (NR-DC)	16.5.0
2020-09 RAN#89 R5-204432 1617 1 F Correction to NR TC 8.1.1.3With priority information 16.5.0 2020-09 RAN#89 R5-204431 1685 1 F Addition of new RRC TC for checking extended / spare field 16.5.0 2020-09 RAN#89 R5-204431 1737 1 F Correction to NRSG testcase 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204431 1619 1 F Correction to NRSG RC TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204431 1619 1 F Correction to NR TC 8.1.3.0.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204431 1620 1 F Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1646 1 F Correction to NR TC 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204441 1640 1 F Correction to NR RC test case 8.1.3.1.21 16.5.0 2020-09 RAN#89 R5-204445 1675	2020-09	RAN#89	R5-204431	1725	1	F	Correction to NR5GC SDAP test cases 7.1.4.1 and 7.1.4.2	16.5.0
2020-09 RAN#89 R5-204433 1685 1 F Addition of new RRC TC for checking extended / spare field handling in SI 165.0 2020-09 RAN#89 R5-204434 1723 1 F Correction to NR RC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR RC TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204437 1619 1 F Correction to NR TC 8.1.3.1.3*CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204431 1620 1 F Correction to NR TC 8.1.3.1.3*CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1641 1 F Correction to NR TC 8.1.3.1.44 1.2.3 16.5.0 2020-09 RAN#89 R5-204441 1654 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204441 1654 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204	2020-09	RAN#89	R5-204432	1617	1	F	Correction to NR TC 8.1.1.3.3-With priority information	16.5.0
handling in SI handling in SI 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR RC IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204435 1745 1 F Correction to NR5GC testcase 8.1.1.3.2 16.5.0 2020-09 RAN#89 R5-204437 1619 1 F Correction to NR TC 8.1.X on SINR related configuration 16.5.0 2020-09 RAN#89 R5-204437 1627 1 F Correction to NR TC 8.1.3.1.3-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204440 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.2 16.5.0 2020-09 RAN#89 R5-204441 1671 1 F Correction to NR TC 8.1.3.1.2 16.5.0 2020-09 RAN#89 R5-204441 1672 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09	2020-09	RAN#89	R5-204433	1685	1	F	Addition of new RRC TC for checking extended / spare field	16.5.0
2020-09 RAN#89 R5-204434 1723 1 F Correction to NR RCR IRAT test case 8.1.1.3.4 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR5G RC TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204437 1619 1 F Correction to NR TC 8.1.3.1 11 16.5.0 2020-09 RAN#89 R5-204439 1620 1 F Correction to NR TC 8.1.3.1.3 CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204449 1620 1 F Correction to NR TC 8.1.3.1.3 LSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.4A-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1675 1 F Addition of NR-DC RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204441 1675 1 F Addition of NR-DC RC test case 8.2.3.1.2 16.5.0 2020-09 RAN#89 <							handling in SI	
2020-09 RAN#89 R5-204435 1737 1 F Correction to NR5GC testcase 8.1.1.3.2 16.5.0 2020-09 RAN#89 R5-204435 1737 1 F Correction to NR5G RRC TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204433 1620 1 F Correction to NR TC 8.1.3.1.13-CSI-R5 based intra-freq 16.5.0 2020-09 RAN#89 R5-204430 1646 1 F Correction to NR TC 8.1.3.1.14-CSI-R5 based intra-freq 16.5.0 2020-09 RAN#89 R5-204440 1646 1 F Correction to NR TC 8.1.3.1.14-CSI-R5 based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204444 1675 1 F Addition of NR-DC RC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204444 1672 1 F Addition of NR-DC RC test case 8.1.4.1.7.X-scell Release 16.5.0 2020-09 RAN#89 R5-204444 <td< td=""><td>2020-09</td><td>RAN#89</td><td>R5-204434</td><td>1723</td><td>1</td><td>F</td><td>Correction to NR RRC IRAT test case 8.1.1.3.4</td><td>16.5.0</td></td<>	2020-09	RAN#89	R5-204434	1723	1	F	Correction to NR RRC IRAT test case 8.1.1.3.4	16.5.0
2020-09 RAN#89 R5-204436 1745 1 F Correction to NR5G RRC TC 8.1.1.4.1 16.5.0 2020-09 RAN#89 R5-204437 1619 1 F Correction to NR TC 8.1.X on SINR related configuration 16.5.0 2020-09 RAN#89 R5-204433 1627 1 F Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204431 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1674 1 F Correction to NR TC 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204441 1675 1 F Addition of NR-DC REC test case 8.1.3.1.2 16.5.0 2020-09 RAN#89 R5-204444 1622 1 F Correction to RNC TC 8.2.3.9.1-CSI-RS based Intra-freq 16.5.0 2020-09 RAN#89 R5-204448	2020-09	RAN#89	R5-204435	1737	1	F	Correction to NR5GC testcase 8.1.1.3.2	16.5.0
2020-09 RAN#89 R5-204437 1619 1 F Correction to NR TC 8.1.X on SINR related configuration 16.5.0 2020-09 RAN#89 R5-204439 1620 1 F Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1674 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to RNC C 8.2.3.0.1-CSI-RS based Intra-freq 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.16.2-Intra-NR Measurement 16.5.0 2020-09 RAN#89	2020-09	RAN#89	R5-204436	1745	1	F	Correction to NR5G RRC TC 8.1.1.4.1	16.5.0
2020-09 RAN#89 R5-204438 1620 1 F Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204440 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based intra-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1659 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204441 1675 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204446 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-freq 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-freq 16.5.0 2020-09 RAN#89 <	2020-09	RAN#89	R5-204437	1619	1	F	Correction to NR TC 8.1.X on SINR related configuration	16.5.0
2020-09 RAN#89 R5-204439 1627 1 F Correction to ENDC TC 8.2.2.6.1-PDCP version change 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1679 1 F Correction to NR RC test case 8.1.3.1.23 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Correction to NRSGC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RRC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Correction to NRDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-2044450	2020-09	RAN#89	R5-204438	1620	1	F	Correction to NR TC 8.1.3.1.13-CSI-RS based intra-freq	16.5.0
2020-09 RAN#89 R5-204440 1646 1 F Correction to NR TC 8.1.3.1.14A-CSI-RS based inter-freq 16.5.0 2020-09 RAN#89 R5-204441 1649 1 F Addition of new test purpose to test case 8.1.3.1.23 16.5.0 2020-09 RAN#89 R5-204441 1674 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RRC test case 8.2.2.8.2 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.10.1-CSI-RS based Inter-frequency measurements 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to INCD CT C 8.2.3.10.2-Intra-NR Measurement configuration control and reporting 16.5.0 <td>2020-09</td> <td>RAN#89</td> <td>R5-204439</td> <td>1627</td> <td>1</td> <td>F</td> <td>Correction to ENDC TC 8.2.2.6.1-PDCP version change</td> <td>16.5.0</td>	2020-09	RAN#89	R5-204439	1627	1	F	Correction to ENDC TC 8.2.2.6.1-PDCP version change	16.5.0
2020-09 RAN#89 R5-204441 1649 1 F Addition of new test purpose to test case 8.1.3.1.23 16.5.0 2020-09 RAN#89 R5-204442 1659 1 F Correction to NR RRC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204444 1674 1 F Correction to NR RC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204444 1675 1 F Addition of NR-DC RRC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to RTC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Correction to INCT C 8.2.3.10.2-INTra-NR Measurement configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09	2020-09	RAN#89	R5-204440	1646	1	F	Correction to NR TC 8.1.3.1.14A-CSI-RS based inter-freq	16.5.0
2020-09 RAN#89 R5-204442 1659 1 F Correction to NR RRC test case 8.1.3.1.20 16.5.0 2020-09 RAN#89 R5-204444 1674 1 F Correction to NR5GC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RRC test case 8.2.2.8.2 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.0.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1651 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09	2020-09	RAN#89	R5-204441	1649	1	F	Addition of new test purpose to test case 8.1.3.1.23	16.5.0
2020-09 RAN#89 R5-204444 1674 1 F Correction to NR5GC test case 8.1.3.1.12 16.5.0 2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RRC test case 8.2.2.8.2 16.5.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.9.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204448 1631 1 F Addition of NRDC TC 8.2.3.10.1-CSI-RS based Inter-frequency measurements 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to Include data path check after handover in test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0	2020-09	RAN#89	R5-204442	1659	1	F	Correction to NR RRC test case 8.1.3.1.20	16.5.0
2020-09 RAN#89 R5-204445 1675 1 F Addition of NR-DC RRC test case 8.2.2.8.2 165.0 2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 165.0 2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.9.1-CSI-RS based Intra- frequency measurements 165.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Inter- frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.10.1-CSI-RS based Inter- frequency measurements 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Correction to NR TC 8.1.4.2.2.1 165.0	2020-09	RAN#89	R5-204444	1674	1	F	Correction to NR5GC test case 8.1.3.1.12	16.5.0
2020-09 RAN#89 R5-204446 1622 1 F Correction to NR TC 8.1.4.1.7.X-Scell Release 16.5.0 2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.9.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra-frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Inter-frequency measurements 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to ENDC TC 8.2.3.16.2-Intra-NR Measurement configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Correction to NR-DC RC test case 8.2.3.14.2	2020-09	RAN#89	R5-204445	1675	1	F	Addition of NR-DC RRC test case 8.2.2.8.2	16.5.0
2020-09 RAN#89 R5-204447 1628 1 F Correction to ENDC TC 8.2.3.9.1-CSI-RS based Intra- frequency measurements 16.5.0 2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Intra- frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.16.2-Intra-NR Measurement configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204453 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1	2020-09	RAN#89	R5-204446	1622	1	F	Correction to NR TC 8.1.4.1.7.X-Scell Release	16.5.0
Image: Constraint of the constratent of the constraint of the constraint of the constraint of the	2020-09	RAN#89	R5-204447	1628	1	F	Correction to ENDC TC 8.2.3.9.1-CSI-RS based Intra-	16.5.0
2020-09 RAN#89 R5-204448 1629 1 F Correction to ENDC TC 8.2.3.10.1-CSI-RS based Inter- frequency measurements 16.5.0 2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.16.2-Intra-NR Measurement configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test case 8.1.4.1.2 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204451 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to NR RC TC 8.1.5.1.1 16.5.0 20							frequency measurements	
Image: Constraint of the constratent of the constraint of the constraint of the constraint of the	2020-09	RAN#89	R5-204448	1629	1	F	Correction to ENDC TC 8.2.3.10.1-CSI-RS based Inter-	16.5.0
2020-09 RAN#89 R5-204449 1631 1 F Addition of NRDC TC 8.2.3.16.2-Intra-NR Measurement configuration control and reporting 16.5.0 2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test case 8.1.4.1.2 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC TC 8.1.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to NR RC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09							frequency measurements	
Image: Configuration control and reporting Configuration control and reporting 2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test case 8.1.4.1.2 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to NR RC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA	2020-09	RAN#89	R5-204449	1631	1	F	Addition of NRDC TC 8.2.3.16.2-Intra-NR Measurement	16.5.0
2020-09 RAN#89 R5-204450 1650 1 F Correction to include data path check after handover in test case 8.1.4.1.2 16.5.0 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0							configuration control and reporting	
Case 8.1.4.1.2 Case 8.1.4.1.2 2020-09 RAN#89 R5-204451 1672 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09	2020-09	RAN#89	R5-204450	1650	1	F	Correction to include data path check after handover in test	16.5.0
2020-09 RAN#89 R5-204451 1072 1 F Correction to Inter-RAT HO test case 8.1.4.2.2 16.5.0 2020-09 RAN#89 R5-204452 1679 1 F Correction to Inter-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to NR RC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204455 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 <td>2020.00</td> <td></td> <td>DE 2044E1</td> <td>1672</td> <td>1</td> <td>-</td> <td>Case 8.1.4.1.2</td> <td>16 5 0</td>	2020.00		DE 2044E1	1672	1	-	Case 8.1.4.1.2	16 5 0
2020-09 RAN#89 R5-204452 1679 1 F Correction to Intel-RAT HO test case 8.1.4.2.1 16.5.0 2020-09 RAN#89 R5-204453 1702 1 F Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to SGC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020	2020-09	RAN#09	R5-204451	1670	1		Correction to Inter-RAT HO test case 0.1.4.2.2	16.5.0
2020-09 RAN#89 R5-204453 1702 1 F Corrections to NRSG RRC IRATIC 8.1.4.2.2.1 16.5.0 2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to SGC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change of cell into a new tracking area 16.5.0 <	2020-09	RAN#89	R5-204452	1079		F		10.5.0
2020-09 RAN#89 R5-204454 1731 1 F Addition of NR-DC RRC test case 8.2.3.14.2 16.5.0 2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC TC 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to 5GC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09	RAN#89	R5-204453	1702		-	Corrections to NR5G RRC IRAT TC 8.1.4.2.2.1	16.5.0
2020-09 RAN#89 R5-204455 1742 1 F Correction to MR-DC RRC 1C 8.2.3.8.1 16.5.0 2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to 5GC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI <td>2020-09</td> <td>RAN#89</td> <td>R5-204454</td> <td>1731</td> <td>1</td> <td></td> <td>Addition of NR-DC RRC test case 8.2.3.14.2</td> <td>16.5.0</td>	2020-09	RAN#89	R5-204454	1731	1		Addition of NR-DC RRC test case 8.2.3.14.2	16.5.0
2020-09 RAN#89 R5-204456 1676 1 F Correction to NR RRC TC 8.1.5.1.1 16.5.0 2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to SGC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09	RAN#89	K5-204455	1/42	1	F	Correction to MR-DC RRC TC 8.2.3.8.1	16.5.0
2020-09 RAN#89 R5-204457 1637 1 F Correction to NR TC 9.1.1.3-EAP message transport abnormal 16.5.0 2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to 5GC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09	RAN#89	R5-204456	16/6	1	⊢ 	Correction to NR RRC TC 8.1.5.1.1	16.5.0
2020-09 RAN#89 R5-204458 1638 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to 5GC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change of cell into a new tracking area 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09	RAN#89	R5-204457	1637	1	F	Correction to NR TC 9.1.1.3-EAP message transport	16.5.0
2020-09 RAN#69 R5-204458 1038 1 F Correction to NR TC 9.1.1.6-5G AKA abnormal 16.5.0 2020-09 RAN#89 R5-204459 1716 1 F Correction to 5GC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change of cell into a new tracking area 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020.00			1600			ADNORMAI	16 5 0
2020-09 RAN#69 R5-204459 1710 1 F Correction to SGC TC 9.1.3.1 16.5.0 2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09		DE 204458	1710			Correction to ECC TC 0.1.2.1	16.5.0
2020-09 RAN#89 R5-204460 1641 1 F Correction to NR TC 9.1.5.1.9-Initial registration with Change 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0	2020-09		R5-204459	1044				10.5.0
2020-09 RAN#89 R5-204461 1642 1 F Correction to NR TC 9.1.6.1.4-Transmission failure with TAI 16.5.0 change from lower layers change from lower layers	2020-09	RAN#89	K5-204460	1041	1	F	Correction to NR IC 9.1.5.1.9-Initial registration with Change	10.5.0
	2020-00		R5-201161	16/2	1	F	Orrection to NR TC 9 1.6.1.4-Transmission failure with TAL	1650
	2020-09	117111#09	113-204401	1042	-	r	change from lower lavers	10.0.0

2020-09	RAN#89	R5-204462	1706	1	F	Correction to 5GC TC 9.1.5.2.9	16.5.0
2020-09	RAN#89	R5-204463	1752	1	F	Correction to NR TC 9.1.5.1.14	16.5.0
2020-09	RAN#89	R5-204464	1753	1	F	Corrections to NR5G NAS TC 9.1.6.1.3	16.5.0
2020-09	RAN#89	R5-204465	1726	1	F	Correction to Multilaver TC 11.1.2 and 11.1.5	16.5.0
2020-09	RAN#89	R5-204466	1732	1	F	Corrections to EPS Fallback regarding IMS procedures	16.5.0
2020-09	RAN#89	R5-204467	1738	1	F	Correction to test case 11 1 7	1650
2020-00	DANI#80	P5-204468	1642	1		Correction to NP TC 11.3.9-LIAC AL-0 Operator Defined	1650
2020-03	NAN#03	105-204400	1043	-		Access Category	10.5.0
2020-09	RAN#89	R5-204512	1701	1	F	Corrections to NR5G RI C TC 7.1.2.3.11	16.5.0
2020-09	RAN#89	R5-204513	1660	1	F	Addition of new test case 8 1 4 2 1 2 for Inter-RAT handover	1650
2020 00			1000	-	.	from NR to EN-DC	10.0.0
2020-09	RAN#89	R5-204517	1658	1	F	Introduction of a new test case for voice fallback indication	16.5.0
						under EPS Fallback with redirection	
2020-09	RAN#89	R5-204518	1747	1	F	Addition of NR5G UAC TC 11.3.2	16.5.0
2020-09	RAN#89	R5-204543	1607	1	F	Correction to NR TC 6.3.1.3-SOR during registration with	16.5.0
						security check unsuccessful for Automatic mode	
2020-12	RAN#90	R5-205142	1758	-	F	Update of test case 9.3.1.2 Inter-system mobility registration	16.6.0
						update / Single-registration mode with N26 / 5GMM-IDLE /	
						EPC to 5GC	
2020-12	RAN#90	R5-205176	1768	-	F	Correction to ENDC TC 8.2.6.2.1	16.6.0
2020-12	RAN#90	R5-205180	1770	-	F	Corrections to TC 8.1.4.2.2 regarding IMS usage	16.6.0
2020-12	RAN#90	R5-205192	1771	-	F	Correction to 5G NR Idle mode test case 6.1.2.14	16.6.0
2020-12	RAN#90	R5-205244	1778	-	F	Correction to the Preamble of Test case 8.1.4.1.2	16.6.0
2020-12	RAN#90	R5-205279	1779	-	F	Correction to NR-DC RRC test case 8.2.3.14.2	16.6.0
2020-12	RAN#90	R5-205292	1783	-	F	Corrections to EPS Fallback test cases regarding IMS usage	16.6.0
2020-12	RAN#90	R5-205320	1787	-	F	Correction to NR5G Idle Mode TC 6.1.1.1	16.6.0
2020-12	RAN#90	R5-205321	1788	-	F	Correction to NR5G UAC TC 11.3.2	16.6.0
2020-12	RAN#90	R5-205341	1790	-	F	Undates to PDCP default Pre-Test Conditions	1660
2020-12	RAN#90	R5-205342	1791	-	F	Corrections to NR CA HO test cases 8 1 4 1 9 x	1660
2020-12	RAN#90	R5-205361	1795	-	F	Correction to Idle Mode SoR Test Case 6.3.1.7	1660
2020 12	PAN#90	R5-205365	1796	_		Correction to NR TC 6.1.2.9-Cell reselection using Obyst	16.6.0
2020-12	1171117730	110-200000	1750	_	'	and Ooffset	10.0.0
2020-12	RAN#90	R5-205366	1797	-	F	Correction to NR TC 6.1.2.13-Cell reselection	16.6.0
						CellReservedForOperatorUse with Access Identity 0-1-2-12-	20.010
						13-14	
2020-12	RAN#90	R5-205368	1799	-	F	Correction to NR TC 6.3.1.3-SOR security check	16.6.0
						unsuccessful	
2020-12	RAN#90	R5-205369	1800	-	F	Correction to NR TC 6.3.1.5-Steering of UE in roaming	16.6.0
						during registration	
2020-12	RAN#90	R5-205373	1804	-	F	Correction to NR TC 8.1.3.1.11-RSRQ based	16.6.0
2020-12	RAN#90	R5-205374	1805	-	F	Correction to NR TC 8.1.3.2.X-Inter-RAT	16.6.0
2020-12	RAN#90	R5-205377	1808	-	F	Correction to MRDC TC 8.2.2.8.2-key change	16.6.0
2020-12	RAN#90	R5-205379	1810	-	F	Correction to MRDC TC 8.2.3.9.1-CSI-RS based intra-freq	16.6.0
2020-12	RAN#90	R5-205381	1812	-	F	Correction to MRDC TC 8.2.3.16.2-Measurement via SRB3	16.6.0
2020-12	RAN#90	R5-205383	1814	-	F	Correction to NR TC 9.1.4.1-Generic UE configuration	16.6.0
						update	
2020-12	RAN#90	R5-205385	1816	-	F	Correction to NR TC 9.1.6.1.3-DeRegistration	16.6.0
2020-12	RAN#90	R5-205388	1819	-	F	Correction to NR TC 11.3.9-UAC AI-0 Operator Defined	16.6.0
						Access Category	
2020-12	RAN#90	R5-205575	1862	-	F	Correction to NR PDCP test case 7.1.3.5.2 for NR-DC	16.6.0
2020-12	RAN#90	R5-205577	1864	-	F	Correction to ENDC CA RRC test cases 8.2.4.1.1.x	16.6.0
2020-12	RAN#90	R5-205578	1865	-	F	Correction to NR5G MAC TC 7.1.1.8.1	16.6.0
2020-12	RAN#90	R5-205579	1866	-	F	Correction NR5G NAS TC 9.1.1.2	16.6.0
2020-12	RAN#90	R5-205600	1871	-	F	Correction to NR TC 6.4.2.1-Cell Selection in	16.6.0
						RRC_INACTIVE state	
2020-12	RAN#90	R5-205615	1879	-	F	Correction to 5GS Non-3GPP Access Test Case 9.2.4.1	16.6.0
2020-12	RAN#90	R5-205616	1880	-	F	Correction to 5GS Non-3GPP Access Test Case 9.2.5.1.2	16.6.0
2020-12	RAN#90	R5-205637	1882	-	F	Update to TC 7.1.3.5.5 PDCP Duplication	16.6.0

2020-12	RAN#90	R5-205671	1884	-	F	Correction to ENDC RLC TC 7.1.2.3.6	16.6.0
2020-12	RAN#90	R5-205673	1885	-	F	Correction to RLC TCs 7.1.2.3.7 and 7.1.2.3.8	16.6.0
2020-12	RAN#90	R5-205718	1887	-	F	Correction to NR testcases 8.1.3.1.11. 8.1.3.1.12	16.6.0
2020-12	RAN#90	R5-205752	1888	-	F	Correction to NR test case 8 2 2 1 2	1660
2020-12	RAN#90	R5-205753	1889	-	F	Correction to NR test case 8.2.2.2.1	1660
2020 12	DAN#00	P5-205750	1901	_		Correction to NR5C RPC TC 8 1 1 4 1	1660
2020-12	RAN#90	R5-205759	1091	-		Correction to Inter DAT Idle mode test asso 6.2.1.4	16.6.0
2020-12	RAN#90	R5-205650	1097	-		Correction to Intel-RAT fulle mode test case 0.2.1.4	16.6.0
2020-12	RAN#90	R5-205800	1903	-		Correction of NR test case 9.1.5.1.8	10.0.0
2020-12	RAN#90	R5-205942	1906	-		Update for Flexible PDU-PDN - Test Cases	16.6.0
2020-12	RAN#90	R5-206123	1907	-	-	Corrections to NR MAC Test Case 7.1.1.5.4	16.6.0
2020-12	RAN#90	R5-206265	1912	-	F	Correction of Idle TC 6.2.3.2	16.6.0
2020-12	RAN#90	R5-206280	1815	1	F	Correction to NR TC 9.1.5.2.9-Mobility and periodic	16.6.0
0000 10	DAN///00	DE 000011	1770		_	registration update	10.0.0
2020-12	RAN#90	R5-206311	1772		-		16.6.0
2020-12	RAN#90	R5-206312	1792	1		Correction to Cell Reselection Test Case 6.1.2.18	16.6.0
2020-12	RAN#90	R5-206313	1793	1	F	Correction to Cell Reselection Test Case 6.1.2.21	16.6.0
2020-12	RAN#90	R5-206314	1798	1	F	Correction to NR TC 6.3.1.1-SOR	16.6.0
2020-12	RAN#90	R5-206315	1856	1	F	Addition of new NR TC-Additional extended field in LTE	16.6.0
0000.10	BAN //00	55.000040	1057		_	SIB1_schedulingInfoList-v12j0	
2020-12	RAN#90	R5-206316	1857	1	F	Addition of new NR IC-Additional extended field in LIE	16.6.0
0000 10	DAN///00	DE 000017	1000	1		SIB1_schedulingInfoListExt-r12	10.0.0
2020-12	RAN#90	R5-206317	1909		+	Correction to test case 6.2.3.9	16.6.0
2020-12	RAN#90	R5-206318	1910	1		Correction to NR IDLE mode test case 6.1.2.2	16.6.0
2020-12	RAN#90	R5-206319	1801	1	F	Correction to NR TC 7.1.1.5.5-Long DRX command MAC	16.6.0
2020 12		DF 200220	1002	1		Control element reception	10.0.0
2020-12	RAN#90	R5-206320	1802			Correction to NR TC 7.1.1.9.1-MAC Reset	16.6.0
2020-12	RAN#90	R5-206321	1858	1	⊢ 	Correction to MAC TC 7.1.1.8.1	16.6.0
2020-12	RAN#90	R5-206322	1869	1		Correction to NR TC 7.1.1.10.1-DataInactivity I mer expiry	16.6.0
2020-12	RAN#90	R5-206323	1892	1	F	Addition of MAC Test Case for Recommended Bit Rate	16.6.0
2020-12	RAN#90	R5-206324	1893	1	F	Corrections to MAC CA Power Headroom Test case	16.6.0
2020-12	RAN#90	R5-206325	1895	1	F	Correction to MAC CA test case	16.6.0
2020-12	RAN#90	R5-206326	1803	1	F	Correction to NR TC 7.1.2.3.3 and 7.1.2.3.4-SN	16.6.0
2020-12	RAN#90	R5-206327	1761	1	F	Correction to NR PDCP test cases 7.1.3.2.x	16.6.0
2020-12	RAN#90	R5-206328	1762	1	F	Correction to NR PDCP test cases 7.1.3.3.x	16.6.0
2020-12	RAN#90	R5-206329	1863	1	F	Correction to NR PDCP test case 7.1.3.5.5 for NR-DC	16.6.0
2020-12	RAN#90	R5-206330	1886	1	F	Update to test case NR5GC 7.1.3.5.3 (NR-DC)	16.6.0
2020-12	RAN#90	R5-206331	1769	1	F	Correction to SDAP testcase 7.1.4.1 and 7.1.4.2	16.6.0
2020-12	RAN#90	R5-206332	1785	1	F	Correction to NR5G RRC TC 8.1.1.3.4	16.6.0
2020-12	RAN#90	R5-206333	1896	1	F	Correction to NR5GC test case 8.1.2.1.4	16.6.0
2020-12	RAN#90	R5-206334	1781	1	F	Correction to RRC TC 8.1.3.1.2	16.6.0
2020-12	RAN#90	R5-206335	1786	1	F	Correction to NR5G RRC TC 8.1.3.1.2, 8.1.3.1.3 and	16.6.0
						8.1.3.1.4	
2020-12	RAN#90	R5-206336	1900	1	F	Correction to NR5GC test case 8.1.4.1.5	16.6.0
2020-12	RAN#90	R5-206337	1806	1	F	Correction to NR TC 8.1.5.2.2-SI Change in NR	16.6.0
						RRC_CONNECTED state	
2020-12	RAN#90	R5-206338	1807	1	F	Correction to NR TC 8.1.5.7.1-MCG RLC failure	16.6.0
2020-12	RAN#90	R5-206339	1902	1	F	Correction to NR5GC test case 8.1.5.6.1	16.6.0
2020-12	RAN#90	R5-206340	1760	1	F	Correction to ENDC RRC test case 8.2.2.3.1	16.6.0
2020-12	RAN#90	R5-206341	1809	1	F	Correction to MRDC TC 8.2.2.9.2-split DRB	16.6.0
2020-12	RAN#90	R5-206342	1867	1	F	Correction to NRDC TC 8.2.2.4.2 and 8.2.2.5.2	16.6.0
2020-12	RAN#90	R5-206343	1890	1	F	Correction to NR5G RRC TC 8.2.2.1.2	16.6.0
2020-12	RAN#90	R5-206344	1911	1	F	Addition of NR-DC RRC test case 8.2.2.7.2	16.6.0
2020-12	RAN#90	R5-206345	1759	1	F	Correction to ENDC CA RRC test cases 8.2.4.3.1.x	16.6.0
2020-12	RAN#90	R5-206346	1777	1	F	Addition of new Test Case 8.2.5.1.2 Radio link failure /	16.6.0
				1		Random access problem / NR-DC	
2020-12	RAN#90	R5-206347	1789	1	F	Addition of NRDC TC 8.2.5.2.2	16.6.0
2020-12	RAN#90	R5-206348	1813	1	F	Correction to MRDC TC 8 2 6 1 X-SCG RLC failure	1660

2020-12	RAN#90	R5-206349	1773	1	F	Correction to 5GC TC 9.1.1.3	16.6.0
2020-12	RAN#90	R5-206350	1774	1	F	Correction to 5GC TC 9.1.1.6	16.6.0
2020-12	RAN#90	R5-206351	1766	1	F	Correction to NR5GC testcase 9.1.5.2.1	16.6.0
2020-12	RAN#90	R5-206352	1775	1	F	Correction to 5GC TC 9.1.5.1.3	16.6.0
2020-12	RAN#90	R5-206353	1859	1	F	Update preamble of 5GC TC 9.1.5.1.2. 9.1.5.1.4 and	16.6.0
				-	•	9.1.5.1.14	20.010
2020-12	RAN#90	R5-206354	1868	1	F	Correction to NR5GC testcase 10.1.1.2	16.6.0
2020-12	RAN#90	R5-206355	1767	1	F	Correction to NR5GC testcase 10.1.3.2	16.6.0
2020-12	RAN#90	R5-206356	1872	1	F	Correction to NR5GC testcase 10.1.2.2	16.6.0
2020-12	RAN#90	R5-206357	1873	1	F	Correction to NR5GC testcase 10.1.4.1	16.6.0
2020-12	RAN#90	R5-206358	1874	1	F	Correction to NR5GC testcase 10.1.6.1	16.6.0
2020-12	RAN#90	R5-206359	1875	1	F	Correction to NR5GC testcase 10.1.6.2	16.6.0
2020-12	RAN#90	R5-206360	1776	-	F	Correction to Multilaver TC 11 1 4	1660
2020-12	RAN#90	R5-206361	1817	1	F	Correction to NR TC 11 1 1-MO MMTEL voice call setun	1660
2020 12	10 11 100		1017	-	•	from NR RRC. IDLE with EPS Fallback	10.0.0
2020-12	RAN#90	R5-206362	1818	1	F	Correction to NR TC 11.1.3-MO MMTEL voice call setup	16.6.0
						from NR RRC CONNECTED with EPS Fallback	
2020-12	RAN#90	R5-206363	1784	1	F	Corrections to Unified Access Control test cases regarding	16.6.0
						IMS usage	
2020-12	RAN#90	R5-206364	1794	1	F	Correction to Access Barring test 11.3.4	16.6.0
2020-12	RAN#90	R5-206365	1876	1	F	Correction to Emergency Services testcase 11.4.1	16.6.0
2020-12	RAN#90	R5-206366	1877	1	F	Correction to Emergency Services testcase 11.4.4	16.6.0
2020-12	RAN#90	R5-206396	1820	1	F	Addition of TC for DL assignment Multi Semi-persistent	16.6.0
						configuration	
2020-12	RAN#90	R5-206397	1860	1	F	Addition of TC PDCP Duplication for Rel-16	16.6.0
2020-12	RAN#90	R5-206398	1908	1	F	New testcase for ethernet header compression and	16.6.0
						decompression for NR	
2020-12	RAN#90	R5-206405	1824	1	F	Addition of NR TC 8.1.4.3.1-MobEnh DAPS handover	16.6.0
2020-12	RAN#90	R5-206411	1822	1	F	Addition of NR V2X TC 12.1.2.1.3-Network Scheduling	16.6.0
2020-12	RAN#90	R5-206412	1823	1	F	Addition of NR V2X TC 12.1.2.3.1-C1 and C2	16.6.0
2020-12	RAN#90	R5-206415	1904	1	F	Addition of eMIMO MAC Test Case	16.6.0
2020-12	RAN#90	R5-206417	1780	1	F	Addition of UE power saving test case 7.1.1.12.1	16.6.0
2020-12	RAN#90	R5-206418	1782	1	F	Addition of UE power saving test case 7.1.1.12.3	16.6.0
2020-12	RAN#90	R5-206429	1764	1	F	Update test case 8.1.5.1.1 to add UE capability nr-HO-	16.6.0
						ToEN-DC-r16	
2020-12	RAN#90	R5-206430	1765	1	F	Update of test case 8.2.1.1.1 to support Inter-RAT handover	16.6.0
						from NR to EN-DC	
2020-12	RAN#90	R5-206431	1878	1	F	Correction to 5GS Non-3GPP Access Test Case 9.2.2.1	16.6.0
2021-03	RAN#91	R5-210022	1913	-	F	Correction to NR MAC test case 7.1.1.4.2.5	16.7.0
2021-03	RAN#91	R5-210032	1920	-	F	Addition of new MDT test case 8.1.6.1.2.4	16.7.0
2021-03	RAN#91	R5-210033	1921	-	F	Addition of new MDT test case 8.1.6.1.2.5	16.7.0
2021-03	RAN#91	R5-210034	1922	-	F	Addition of new MDT test case 8.1.6.1.2.6	16.7.0
2021-03	RAN#91	R5-210037	1925	-	F	Addition of new MDT test case 8.1.6.1.2.9	16.7.0
2021-03	RAN#91	R5-210038	1926	-	F	Addition of new MDT test case 8.1.6.1.2.10	16.7.0
2021-03	RAN#91	R5-210039	1927	-	F	Addition of new MDT test case 8.1.6.1.2.11	16.7.0
2021-03	RAN#91	R5-210062	1930	-	F	Correction to NR Idle mode test case 6.4.1.1	16.7.0
2021-03	RAN#91	R5-210066	1934	-	F	Correction to NR5GC IRAT test case 8.1.4.2.1.1	16.7.0
2021-03	RAN#91	R5-210131	1939	-	F	Correction of NR CA TC 8.1.4.1.7.x	16.7.0
2021-03	RAN#91	R5-210133	1941	-	F	Update of power level tables for Multilaver FPSFB TC 11 1 x	16.7.0
2021-03	RAN#91	R5-210159	1944	-	F	Editorial changes to 38 523-1 Section 8	1670
2021-02	RΔNI#01	R5-210160	19/5	-		Editorial changes to 38 523-1 Sections 0-12	1670
2021-03		R5-210162	10/6		E	Lindate of TC for IMS emergency TC 11 / 10 5CMM	1670
2021-03	11/11/11/11/11/11	1/2-510102	1540		1-	REGISTERED NORMAL SERVICE N26 interface not	10.7.0
						supported N1 to S1	
2021-03	RAN#91	R5-210164	1947	-	F	Update to indication of Max nr cells in emergency test cases	16.7.0
					-	being active during test execution	

2021-03	RAN#91	R5-210165	1948	-	F	Introduction of new IMS emergency TC 11.4.11 5GMM-	16.7.0
						REGISTERED.NORMAL-SERVICE N26 interface not	
						supported S1 to N1	
2021-03	RAN#91	R5-210191	1949	-	F	Correction of NR test case 9.1.5.1.8	16.7.0
2021-03	RAN#91	R5-210197	1950	-	F	Corrections to RLC test case 7.1.2.3.8	16.7.0
2021-03	RAN#91	R5-210200	1952	-	F	Corrections to test case 8.1.4.2.1.2	16.7.0
2021-03	RAN#91	R5-210320	1957	-	F	Correction to NR Idle mode test cases	16.7.0
2021-03	RAN#91	R5-210321	1958	-	F	Correction to UL-SCH TBS selection test cases common clause 7.1.1.4.2.0	16.7.0
2021-03	RAN#91	R5-210322	1959	-	F	Correction to 5GMM Initial Registration test cases	16.7.0
2021-03	RAN#91	R5-210356	1964	-	F	Corrections to test case 11.3.1	16.7.0
2021-03	RAN#91	R5-210361	1966	-	F	Correction to NR5G RRC TC 8.1.1.3.3	16.7.0
2021-03	RAN#91	R5-210366	1971	-	F	Correction to NR-DC RRC TC 8.2.5.2.2	16.7.0
2021-03	RAN#91	R5-210367	1972	-	F	Correction to NR5G RRC IRAT TC 8.1.4.2.1.1	16.7.0
2021-03	RAN#91	R5-210378	1974	-	F	Update of RRC TC 8.2.3.12.1	16.7.0
2021-03	RAN#91	R5-210379	1975	-	F	Update of RRC TC 8.1.5.6.5.1	16.7.0
2021-03	RAN#91	R5-210389	1977	-	F	Correction to MR-DC test case 8.2.3.2.1	16.7.0
2021-03	RAN#91	R5-210390	1978	-	F	Correction to MR-DC test case 8 2 3 6 1a and 8 2 3 6 1b	1670
2021-03	RAN#91	R5-210392	1980	-	F	Correction to MR-DC test case 8 2 3 9 1	1670
2021-03	PAN#01	R5-210397	1081	-		Correction to NR-DC Test case 8.2.2.8.2	1670
2021-03	DANI#01	P5-210308	1082			Correction to NRECC NAS test cases for handling additional	1670
2021-03	KAN#91	R5-210390	1902	-		PDN	10.7.0
2021-03	RAN#91	R5-210401	1983	-	F	Correction to NR Idle mode test case 6.1.1.6	16.7.0
2021-03	RAN#91	R5-210430	1985	-	F	Addition of new NAS Test case 9.1.9.2 for testing RACS UE	16.7.0
0001.00	D N 1/104	55.0105.10	1000			Configuration Update	1070
2021-03	RAN#91	R5-210542	1986	-		Corrections to MAC RACH Beam Failure test case	16.7.0
2021-03	RAN#91	R5-210561	1987	-	F	Correction to EN-DC test case 8.2.4.3.1.3	16.7.0
2021-03	RAN#91	R5-210567	1988	-	F	Corrections to DL SPS test case	16.7.0
2021-03	RAN#91	R5-210568	1989	-	F	Corrections to UL configured grant type 1 test case	16.7.0
2021-03	RAN#91	R5-210569	1990	-	F	Corrections to UL configured grant type 2 test case	16.7.0
2021-03	RAN#91	R5-210571	1991	-	F	Correction to 11.4.8	16.7.0
2021-03	RAN#91	R5-210575	1994	-	F	Correction to NR5G MAC TC 7.1.1.1.3	16.7.0
2021-03	RAN#91	R5-210610	1998	-	F	Correction to Inter-RAT Cell Reselection Test Case 6.4.3.1	16.7.0
2021-03	RAN#91	R5-210628	2002	-	F	Correction to NR TC 6.1.1.6-PLMN Selection with	16.7.0
						MinimumPeriodicSearchTimer	
2021-03	RAN#91	R5-210630	2004	-	F	Correction to NR TC 6.1.2.9-Cell Reselection	16.7.0
2021-03	RAN#91	R5-210631	2005	-	F	Correction to NR TC 6.2.3.2-L2N cell reselection	16.7.0
2021-03	RAN#91	R5-210632	2006	-	F	Correction to NR TC 6.2.3.4-N2L cell reselection	16.7.0
2021-03	RAN#91	R5-210643	2017	-	F	Correction to NR TC 8.1.3.1.15A-bliacklisting	16.7.0
2021-03	RAN#91	R5-210644	2018	-	F	Correction to NR TC 8.1.3.2.2-Event B2	16.7.0
2021-03	RAN#91	R5-210645	2019	-	F	Correction to NR TC 8.1.5.6.1-RLF	16.7.0
2021-03	RAN#91	R5-210648	2022	-	F	Addition of NR TC 8.1.5.8.2.2-inter-band SCell Latency check	16.7.0
2021-03	RAN#91	R5-210649	2023	-	F	Addition of NR TC 8.1.5.8.2.3-intra-band non-contiguous	16.7.0
2021-03	RAN#91	R5-210650	2024	-	F	Correction to NR-DC TC 8.2.2.7.2-bearer type change	16.7.0
2021.02			2025			Without security key change	1670
2021-03		R5-210051	2025	-			10.7.0
2021-03	RAN#91	K5-210652	2026	-		Conection to NR-DC TC 8.2.3.10.2-Intra NR measurements	10.7.0
2021-03	RAN#91	R5-210/99	2044	-			10.7.0
2021-03	RAN#91	R5-210807	2046	-		Correction to NR Idle Mode Test Case 6.3.1.7	16.7.0
2021-03	RAN#91	R5-210809	2048	-		Correction to 5GS Non-3GPP Access Test Case 9.2.4.1	16.7.0
2021-03	RAN#91	R5-210810	2049	-	F	Correction to 5GS Non-3GPP Access Test Case 9.2.5.1.4	16.7.0
2021-03	RAN#91	R5-210880	2051	-	F	Correction to MultipleCoreset test case	16.7.0
2021-03	RAN#91	R5-211022	2056	-	F	Update to idle mode test cases 6.2.1.2, 6.2.1.3, 6.4.3.1	16.7.0
2021-03	RAN#91	R5-211173	2059	-	F	Correction NR RRC idle mode test case 6.1.2.14	16.7.0
2021-03	RAN#91	R5-211234	2060	-	F	Update to NR RRC UE capability transfer test case 8.1.5.1.1	16.7.0

2021-03	RAN#91	R5-211246	2061	-	F	Update to MR-DC RRC UE capability transfer test case	16.7.0
2021-03	R ΔNI#91	R5-211312	2064	-	F	Correction to NR5GC RRC test case 8.1.1.2.4	1670
2021-03	RAN#91	R5-211313	2065	-	F	Addition of TC 7 1 1 3 11 - III, grant prioritization	1670
2021-03	RAN#91	R5-211321	2069	-	F	Voiding 5GS Non-3GPP Access Test Case 9 2 5 2 1	1670
2021-03	RAN#91	R5-211329	1993	1	F	Correction to test case 6.1.1.3	1670
2021-03	RAN#91	R5-211330	1995	1	F	Correction to test case 6.1.2.8	1670
2021-03	RΔN#91	R5-211331	1996	1		Correction to test case 6.4.1.2	1670
2021-03		P5-211332	1035	1		Correction of NP PPC test case 81415	1670
2021-03		P5-211332	1002	1		Pemoving test case 0.1.5.2.0	1670
2021-03		R5-211355	2070	<u> </u>		Adding now test cases of SCall Darmaney Indication for LIE	1670
2021-03	KAN#91	K5-211556	2070	-		nower saving in NR	10.7.0
2021-03	RAN#91	R5-211377	1942	1	F	Editorial changes to 38.523-1 Section 6	16.7.0
2021-03	RAN#91	R5-211378	1968	1	F	Correction to NR5G Idle mode TCs	16.7.0
2021-03	RAN#91	R5-211379	2007	1	F	Correction to NR TC 6.3.1.1-SoR security check successful	1670
2021-03	RAN#91	R5-211380	2008	1	F	Correction to NR TC 6.3.1.2-SoR ACK has NOT requested	1670
2021-03	RAN#91	R5-211381	2000	1		Remove Idle Mode test case 6.2.3.9	1670
2021-03	PAN#91	R5-211301	1031	1		Correction to NP MAC test case 7.1.1.8.1	1670
2021-02	RΔNI#01	R5-211292	10/2	1		Editorial changes to 38 523-1 Section 7	1670
2021-03	RAN#01	R5-211294	2012	1		Correction to NR TC 7.1.1.2.2-DDSCH Aggregate	1670
2021-03	DAN#01	R5-211304	2012			Correction to NR TC 7.1.1.2.2-PDSCH Aggregate	16.7.0
2021-03	RAN#91	R5-211365	2013			Correction to NR TC 7.1.2.3.8.A-PHR Tepolt	10.7.0
2021-03	RAN#91	R5-211380	2014	1		Confection to NR TC 7.1.2.3.3 and 7.1.2.3.4-RLC SN	10.7.0
2021-03	R4N#91	R5-211387	2015	1	F	Correction to NR TC 7 1 3 1 1 and 7 1 3 1 2-PDCP SN	1670
2021 00	I O UNIT JI		2015	1	'		10.7.0
2021-03	RAN#91	R5-211388	2054	1	F	Update to NR RRC test case 8.1.1.3.2	16.7.0
2021-03	RAN#91	R5-211389	1967	1	F	Correction to NR5G TCs 8.1.X on SINR reporting	16.7.0
2021-03	RAN#91	R5-211390	2016	1	F	Correction to NR test case 8.1.3.1.13-CSI-RS based intra-	16.7.0
						freq measure	
2021-03	RAN#91	R5-211391	1940	1	F	Correction of NR CA TC 8.1.4.1.9.x	16.7.0
2021-03	RAN#91	R5-211392	2020	1	F	Correction to NR TC 8.1.5.8.1-Latency check	16.7.0
2021-03	RAN#91	R5-211393	2021	1	F	Addition of NR TC 8.1.5.8.2.1-intra-band SCell Latency	16.7.0
						check	
2021-03	RAN#91	R5-211394	2062	1	F	Correction to test case 8.1.5.1.1	16.7.0
2021-03	RAN#91	R5-211395	2063	1	F	Correction to test case 8.2.1.1.1	16.7.0
2021-03	RAN#91	R5-211396	1979	1	F	Correction to MR-DC test case 8.2.3.7.1	16.7.0
2021-03	RAN#91	R5-211397	2000	1	F	Correction to NR-DC RRC test case 8.2.3.14.2	16.7.0
2021-03	RAN#91	R5-211398	1953	1	F	Addition of NR-DC RRC TC 8.2.5.3.2	16.7.0
2021-03	RAN#91	R5-211399	1954	1	F	Addition of NR-DC RRC TC 8.2.5.4.2	16.7.0
2021-03	RAN#91	R5-211400	1970	1	F	Correction to NR-DC RRC TC 8.2.5.1.2	16.7.0
2021-03	RAN#91	R5-211401	2027	1	F	Correction to NR-DC TC 8.2.6.1.2.1-RLC failure	16.7.0
2021-03	RAN#91	R5-211402	1914	1	F	Addition of new 5GS NAS test case to test handling of	16.7.0
						extended octets	
2021-03	RAN#91	R5-211403	2053	1	F	Correction to NR TC 9.1.8.1-SMS	16.7.0
2021-03	RAN#91	R5-211404	2042	1	F	Correction to 5GMM Inter-system mobility test case 9.3.1.2	16.7.0
2021-03	RAN#91	R5-211405	2055	1	F	Update of Inter system mobility test case 9.3.1.1	16.7.0
2021-03	RAN#91	R5-211406	2028	1	F	Correction to NR TC 11.1.3-EPS Fallback with handover	16.7.0
2021-03	RAN#91	R5-211407	2068	1	F	Correction to EPS FallBack test cases 11.1.X	16.7.0
2021-03	RAN#91	R5-211408	1969	1	F	Correction to NR5G UAC TC 11.3.4	16.7.0
2021-03	RAN#91	R5-211409	2057	1	F	Update of UAC test case 11.3.6	16.7.0
2021-03	RAN#91	R5-211410	2067	1	F	Correction to NR5GC UAC test case 11.3.7	16.7.0
2021-03	RAN#91	R5-211411	1976	1	F	Correction to 11.4.2 and 11.4.3	16.7 0
2021-03	RAN#91	R5-211454	2041	1	F	Corrections to DL Multi SPS test case	16.7 0
2021-03		R5-211458	2038	1		Addition of NR TC 8 1 4 4 1-Conditional handover Success	1670
2021-03	RAN#01	R5-211/50	2030	1		Addition of NR TC 8 1 4 4 2 -Conditional handover modify	1670
2021-03	11/11/#91	113-211439	2039	-		conditional handover configuration	10.7.0
2021-03	RAN#91	R5-211460	2040	1	F	Addition of NR TC 8.1.4.4.3-Conditional handover Failure	1670

2021-03	RAN#91	R5-211470	1917	1	F	Addition of new MDT test case 8.1.6.1.2.1	16.7.0
2021-03	RAN#91	R5-211471	1918	1	F	Addition of new MDT test case 8.1.6.1.2.2	16.7.0
2021-03	RAN#91	R5-211472	1919	1	F	Addition of new MDT test case 8.1.6.1.2.3	16.7.0
2021-03	RAN#91	R5-211473	1923	1	F	Addition of new MDT test case 8.1.6.1.2.7	16.7.0
2021-03	RAN#91	R5-211474	1924	1	F	Addition of new MDT test case 8.1.6.1.2.8	16.7.0
2021-03	RAN#91	R5-211475	1928	1	F	Addition of new MDT test case 8.1.6.1.2.12	16.7.0
2021-03	RAN#91	R5-211476	1929	1	F	Addition of new MDT test case 8.1.6.1.2.13	16.7.0
2021-03	RAN#91	R5-211477	1937	1	F	Addition of new test case 8.1.6.1.1.1 for NR Immediate MDT	16.7.0
2021-03	RAN#91	R5-211478	1938	1	F	Addition of new test case 8.1.6.1.1.2 for NR L2	16.7.0
						measurement	
2021-03	RAN#91	R5-211479	2030	1	F	Addition of MDT TC 8.1.6.1.4.3-CEF-intra-NR handover	16.7.0
2021-03	RAN#91	R5-211480	2031	1	F	Addition of MDT TC 8.1.6.1.4.4-CEF-RRC re-establishment	16.7.0
2021-03	RAN#91	R5-211481	2032	1	F	Addition of MDT TC 8.1.6.1.4.5-CEF-location info	16.7.0
2021-03	RAN#91	R5-211482	2033	1	F	Addition of MDT TC 8.1.6.1.4.6-CEF-intra-freq	16.7.0
						measurements	
2021-03	RAN#91	R5-211483	2034	1	F	Addition of MDT TC 8.1.6.1.4.7-CEF-inter-freq	16.7.0
2021.02		DE 211404	2025	1	-	Measurements	1670
2021-03	RAN#91	R3-211484	2035			Addition of NDT TC 8.1.6.1.4.8-CEF-racin failure	16.7.0
2021-03	RAN#91	R5-211485	2043			Addition of new MDT TC 8.1.6.1.3.1	16.7.0
2021-03	RAN#91	R5-211480	2045			Addition of a resultant acce for EC CDV/CC from NC DAN to	16.7.0
2021-03	RAN#91	R5-211493	1984	1	F	Addition of a new test case for 5G-SRVCC from NG-RAN to	16.7.0
2021-03	RAN#91	R5-211494	2036	1	F	Addition of 5G SRVCC TC 8.1.3.2.6-NR to LIMTS Inter-RAT	1670
2021-05		110-211404	2000	-		measurements-Event B1	10.7.0
2021-03	RAN#91	R5-211495	2037	1	F	Addition of 5G SRVCC TC 8.1.3.2.7-NR to UMTS Inter-RAT	16.7.0
						measurements-Event B2	
2021-03	RAN#91	R5-211500	1916	1	F	Update test case 8.1.5.1.1 to add UE capability nr-HO-	16.7.0
						ToEN-DC-r16	
2021-03	RAN#91	R5-211501	1915	1	F	Update of test case 8.2.1.1.1 to support Inter-RAT handover	16.7.0
						from NR to EN-DC	
2021-03	RAN#91	R5-211502	2047	1	F	Correction to 5GS Non-3GPP Access Test Case 9.2.2.2	16.7.0
2021-03	RAN#91	R5-211503	1963	1	F	Introduction of a new test case for voice fallback indication	16.7.0
2021.02		DE 211E47	1056	1		Under EPS Fallback with handover	1670
2021-03	RAN#91	R3-211347	1950	1		Confection to EPS Failback Test Case 11.1.1	16.0.0
2021-00		R3-212040	2070	-		Correction to ND DC DDC TC 9.2 5.2.2	16.0.0
2021-00	RAN#92	R5-212079	2011	-		Correction to Idle made TC 6.4.2.1	16.0.0
2021-00		R5-212004	2000	-		Undets of DCDD threshold in MAC TC 7.1.1.1.4	16.0.0
2021-06		R3-212085	2081	-		Update of RSRP tilleshold in MAC TC 7.1.1.1.4	16.0.0
2021-06		R3-212080	2082	-		Undete of entrype in DDC TC 9.1.1.2.2	16.0.0
2021-06		R3-212087	2083	-		Undets of DDC measure in DDC TC 9.1.1.3.2	16.0.0
2021-06		R3-212088	2084	-		Update of RRC message in RRC TC 8.1.1.3.3	16.0.0
2021-06	RAN#92	R0-212089	2085	-	F	0 1 2 1 10 1	10.8.0
2021-06	RAN#92	R5-212090	2086	-	F	Update of MeasurementReport in RRC TC 8 1 3 1 20	16.8.0
2021-06	RAN#92	R5-212091	2087	-	F	Undate of RRC messages in RRC TC 8 1 3 1 21 8 1 3 3 1	1680
2021 00	TO UN#52		2007			and 8 1 3 3 2	10.0.0
2021-06	RAN#92	R5-212092	2088	-	F	Update of RRC message in RRC TC 8.1.4.1.9.1	16.8.0
2021-06	RAN#92	R5-212093	2089	-	F	Update of TAU Reg for I-RAT TC 8.1.4.2.1.1	16.8.0
2021-06	RAN#92	R5-212094	2090	-	F	Update of RRC message in RRC TC 8.1.5.6.1	16.8.0
2021-06	RAN#92	R5-212095	2091	-	F	Correction of MR-DC RRC TC 8.2.3.1.1	16.8.0
2021-06	RAN#92	R5-212096	2092	-	F	Editorial correction of MR-DC RRC TC 8.2.3.6.1b and	16.8.0
					-	8.2.3.7.1	
2021-06	RAN#92	R5-212098	2094	-	F	Update of RSRP threshold in MR-DC RRC TC 8.2.3.8.1a	16.8.0
						and 8.2.3.15.1	
2021-06	RAN#92	R5-212100	2096	-	F	Update of RSRP threshold in MR-DC RRC 8.2.4.3.1.3	16.8.0
2021-06	RAN#92	R5-212101	2097	-	F	Update of SMS over NAS TC 9.1.8.1	16.8.0
2021-06	RAN#92	R5-212106	2100	-	F	Editorial update TP of MDT TC 8.1.6.1.3.2	16.8.0

2021-06	RAN#92	R5-212107	2101	-	F	Update of RRC messages in MDT TC 8.1.6.1.2.7,	16.8.0
						8.1.6.1.2.8, and 8.1.6.1.4.8	
2021-06	RAN#92	R5-212113	2106	-	F	Update of EPSFB TC 11.1.8	16.8.0
2021-06	RAN#92	R5-212115	2107	-	F	Correction to test case 8.1.6.1.4.3	16.8.0
2021-06	RAN#92	R5-212116	2108	-	F	Correction to test case 8.1.6.1.4.8	16.8.0
2021-06	RAN#92	R5-212118	2109	-	F	Correction to NSSAI Test Case 9.1.5.1.3	16.8.0
2021-06	RAN#92	R5-212130	2111	-	F	Addition of 5G SRVCC TC 8.1.3.2.8-NR to UMTS Inter-RAT	16.8.0
0001.00	D A N 1// 0.0	55.010155				measurements-Periodic reporting	1000
2021-06	RAN#92	R5-212155	2114	-		Editorial update of EPS Fallback test cases	16.8.0
2021-06	RAN#92	R5-212156	2115	-		Correction of IC 11.4.8 Handling of Local and extended	16.8.0
2021.06	DANI#02	DE 2121E0	2116			emergency numbers	16.9.0
2021-06	RAN#92	R5-212159	2110	-		Demoval of technical content in 20 522 1 v15 4.0 and	10.8.0
2021-00	RAN#92	R5-212173		-		Removal of technical content in 38.523-1 V15.4.0 and	10.8.0
2021-06	RAN#92	R5-212368	2128	-	F	Correction to NR Idle mode test case 6.4.3.1	1680
2021-06	RAN#92	R5-212369	2120	-		Correction to NR Idle mode test case 6.2.3.4	1680
2021-06	RΔNI#92	R5-212300	2120	-		Correction to NR PDCP test case 7.1.3.2 v	16.8.0
2021-00	RAN#92 RΔN#92	P5-212370	2130			Correction to NR PDCP test case 7.1.3.2.x	16.8.0
2021-00	DANI#02	D5-212371	2131			Correction to NP5CC IPAT test case 8.1.4.2.2.1	16.8.0
2021-00	RAN#92	RJ-212374	2134	-		Correction of TC 11.4.10 N26 interface net supported. N1 to	16.0.0
2021-00	RAN#92	R5-212303	2130	-		S1 transfer of an existing emergency PDU session	10.0.0
2021-06	RAN#92	R5-212384	2139	-	F	Correction of TC 11 4 11 N26 interface not supported - S1 to	1680
2021 00	10 00002		2100		.	N1 transfer of an existing emergency PDN connection	10.0.0
2021-06	RAN#92	R5-212392	2142	-	F	Updates to NR-DC MAC TC 7.1.1.11.1	16.8.0
2021-06	RAN#92	R5-212393	2143	-	F	Updates to NR-DC RRC test cases for SysInfo combination	16.8.0
2021-06	RAN#92	R5-212411	2146	-	F	Correction to NR TC 6.1.2.2-Cell Selection Oqualmin	16.8.0
2021-06	RAN#92	R5-212413	2148	-	F	Correction to NR TC 6.3.1.7-Emergency service pending to	16.8.0
						be activated	
2021-06	RAN#92	R5-212415	2150	-	F	Correction to NR TC 7.1.1.5.4-DRX command MAC control	16.8.0
						element reception	
2021-06	RAN#92	R5-212417	2152	-	F	Correction to NR TC 7.1.3.3.1-Ciphering and deciphering	16.8.0
						SNOW3G	
2021-06	RAN#92	R5-212420	2155	-	F	Correction to NR TC 8.1.5.8.1-Latency check	16.8.0
2021-06	RAN#92	R5-212424	2159	-	F	Correction to NR TC 11.1.2-EPS Fallback with redirection	16.8.0
0001.00	DANU/00	DF 010405	01.00			without N26	10.0.0
2021-06	RAN#92	R5-212425	2160	-		Correction to NR TC 11.1.4-Failback with redirection	16.8.0
2021-06	RAN#92	R5-212431	2100	-		Correction to NR TC 11.3.8-UAC AID Cell re-selection while	16.8.0
2021.06		DE 212404	2176			Addition of NP MDT TC 9 1 6 2 1 2 inter system immediate	1690
2021-00	RAN#92	K3-212494	21/0	-		Addition of NR MD1 TC 8.1.0.3.1.3-Intel system inimediate-	10.0.0
2021-06	RAN#92	R5-212495	2177	-	F	Addition of NR MDT TC 8 1 6 3 2 1-inter system logged-	1680
2021 00	10.000					bluetooth	10.0.0
2021-06	RAN#92	R5-212538	2188	-	F	Remove MAC cross slot scheduling test cases	16.8.0
2021-06	RAN#92	R5-212763	2207	-	F	Editorial updates to NR5G Idle Mode Test Case 6.1.2.23	16.8.0
2021-06	RAN#92	R5-212764	2208	-	F	Void NR5G Idle Mode Test Cases 6.3.1.6, 6.1.2.6 and	16.8.0
	_					6.1.2.10	
2021-06	RAN#92	R5-212767	2211	-	F	Void NR5G RRC Test Case 8.1.5.2.1	16.8.0
2021-06	RAN#92	R5-212791	2222	-	F	Addition of NR5G RRC Test Case 8.1.1.3.7	16.8.0
2021-06	RAN#92	R5-212847	2233	-	F	Update of test case titles of 5GC	16.8.0
2021-06	RAN#92	R5-213064	2238	-	F	Addition of NR-DC TC 8.2.2.3.2-SRB3 and split SRB	16.8.0
2021-06	RAN#92	R5-213078	2242	-	F	Update test case 8.2.4.2.1.1	16.8.0
2021-06	RAN#92	R5-213108	2247	-	F	Correction to 5GMM test case 9.1.5.1.3	16.8.0
2021-06	RAN#92	R5-213111	2249	-	F	Correction to EN-DC SM Test case 10.2.2.1	16.8.0
2021-06	RAN#92	R5-213112	2250	-	F	Update to NR RRC test cases 8.1.1.1.1 and 8.1.1.1.2	16.8.0
2021-06	RAN#92	R5-213113	2251	-	F	Update to NR RRC test cases 8.1.3.1.23	16.8.0
2021-06	RAN#92	R5-213117	2252	-	F	Correction of NR test cases 9 1 5 1 3a	1680
2021-06	RANI#92	R5-213121	2254	-	F	Editorial Correction to NR RRC test case 8 1 5 1 1	1680
2021-06	RANI#92	R5-213132	2255	-	F	Correction to NR MAC test case 7 1 1 9 1	1680
1		1.10 210102					

2021-06 RAN#92 R5-213161 2256 - F U	Jpdate test case 10.2.1.1	16.8.0
2021-06 RAN#92 R5-213163 2257 - F C	Correction to test case 6.4.1.2	16.8.0
2021-06 RAN#92 R5-213164 2258 - F U	Jpdate test case 10.2.1.2	16.8.0
2021-06 RAN#92 R5-213185 2262 - F N	New MAC test case on 2-Step RACH	16.8.0
2021-06 RAN#92 R5-213186 2263 - F N	New MAC test case on 2-Step RACH Explicitly signalled	16.8.0
2021-06 RAN#92 R5-213277 2270 - F E	Editorial correction to NR RRC test case 8.1.2.1.1	16.8.0
2021-06 RAN#92 R5-213349 2271 - F C	Correction to NR Idle mode SOR test case 6.3.1.1	16.8.0
2021-06 RAN#92 R5-213384 2273 - F U	Jpdate of CellGroupConfig for RRC TC 8.1.4.1.8.1	16.8.0
2021-06 RAN#92 R5-213401 2274 - F A	Addition of unrestricted nr PDN parameter for Idle Mode TCs	16.8.0
2021-06 RAN#92 R5-213402 2275 - F A	Addition of unrestricted nr PDN parameter for RRC	16.8.0
	Connection Management Procedures TCs	
2021-06 RAN#92 R5-213403 2276 - F A	Addition of unrestricted nr PDN parameter for RRC	16.8.0
	landover TCs	1000
2021-06 RAN#92 R5-213404 2277 - F A	Addition of unrestricted nr PDN parameter for RRC Others	16.8.0
	US	16 9 0
2021-00 RAN#92 R5-213410 2125 1 F C	Corrections to NR MAC TC 7.1.1.3.9	16.0.0
2021-00 RAN#92 R5-213411 2153 1 F C	based intra-frequency measurements	10.0.0
2021-06 BAN#92 B5-213412 2156 1 E C	Correction to ENDC TC 8 2 2 3 1-SRB3 and Split SRB	1680
2021-06 RAN#92 R5-213413 2135 1 F C	Correction to 5GMM test case 915115	1680
2021-06 RAN#92 R5-213422 2174 1 F C	Correction to 5G-SRVCC TC 8.1.3.2.6-MkHz typo	1680
2021-06 RAN#92 R5-213455 2147 1 F	Correction to NR TC 6.2.3.4-N2L cell reselection	1680
2021-06 RAN#92 R5-213456 2203 1 E A	Addition of new test case 6.3.1.10	16.8.0
2021-06 RAN#92 R5-213457 2234 1 F II	Indate of clearing RPI MN in Idle mode TCs	16.8.0
2021-06 RAN#92 R5-213458 2149 1 F C	Correction to NR TC 7.1.1.3.2b-Logical channel prioritization	16.8.0
2021-06 PAN#92 P5-213450 2149 1 F C	Corrections to NIPEG MAC BWP TC 7.1.1.8.1	16.8.0
2021-06 PAN#92 P5-213460 2144 1 E C	Correction to PLC TCs to clarify recention of LL PDUs	16.8.0
2021-06 PAN#02 P5-213461 2132 1 E C	Correction to NE PDCP test case 7.1.3.5.5	16.8.0
2021-00 RAN#92 R5-213401 2132 1 F C	Correction to PDCP TCs to clarify reception of LIL PDUs	16.0.0
2021-00 RAN#92 R5-213402 2143 1 F C	Correction of NP PPC test case 9.1.1.2.2	16.0.0
2021-00 RAN#92 R5-213403 2133 1 F C	ditorial Undates to NEEG PEC Test Cases 9.1.1.2.1	16.0.0
	1133 and 81134	10.0.0
2021-06 RAN#92 R5-213465 2210 1 F U	Jodates to NR5G RRC Test Case 8.1.1.4.1	16.8.0
2021-06 RAN#92 R5-213466 2237 1 F C	Correction to NR SA TC 8.1.1.2.1-T300 expiry	16.8.0
2021-06 RAN#92 R5-213467 2246 1 F C	Correction to test case RRC NR5GC TC 8.1.1.2.4	16.8.0
2021-06 RAN#92 R5-213468 2260 1 F C	Correction to test case 8.2.1.1.1	16.8.0
2021-06 RAN#92 R5-213469 2119 1 F U	Jodate test case 8.2.2.4.1	16.8.0
2021-06 RAN#92 R5-213470 2127 1 F U	Jodate test case 8.2.2.5.1	16.8.0
2021-06 RAN#92 R5-213471 2137 1 F U	Judate test case 8.2.2.6.1	16.8.0
2021-06 RAN#92 R5-213472 2205 1 F C	Correction to MR-DC RRC test case 8.2.2.2.1	16.8.0
2021-06 RAN#92 R5-213473 2272 1 F C	Correction to NR CA RRC test cases 8.1.3.1.18.x	16.8.0
2021-06 RAN#92 R5-213474 2093 1 F C	Correction to MR-DC RRC TC 8.2.3.9.1 and 8.2.3.10.1	16.8.0
2021-06 RAN#92 R5-213476 2216 1 F U	Indate test case 8.2.3.1.1	16.8.0
2021-06 RAN#92 R5-213477 2217 1 F U	Judate test case 8.2.3.2.1	16.8.0
2021-06 RAN#92 R5-213478 2218 1 F U	Judate test case 8.2.3.3.1	16.8.0
2021-06 RAN#92 R5-213479 2219 1 F U	Indate test case 8 2 3 12 1	1680
2021-06 RAN#92 R5-213480 2126 1 F C	Correction to NR CA test case 8.2.4.3.1.1	16.8.0
2021-06 RAN#92 R5-213481 2253 1 F	Correction to NR RRC testcase 81541	1680
2021-06 RAN#92 R5-213482 2259 1 F	Correction to test case 8.1.5.1.1	16.8.0
2021-06 RAN#92 R5-213483 2223 1 F A	Addition of NRDC Test Case 8 2 6 2 2	1680
2021-06 RAN#92 R5-213484 2245 1 F	Indate test case 8 2 6 2 1	1680
2021-06 RAN#92 R5-213485 2110 1 E	Correction of TC 9 1 5 1 15	16.8.0
2021-06 RAN#92 R5-213486 2157 1 E	Correction to NR TC 9 1 5 2 2-Periodic registration undate	16.8.0
	incremented	10.0.0
2021-06 RAN#92 R5-213487 2158 1 F C	Correction to NR TC 9.1.5.2.4-Mobility registration update	16.8.0
2021-06 RAN#92 R5-213488 2113 1 F U	Jpdate test case 9.3.1.1	16.8.0
2021-06 RAN#92 R5-213489 2120 1 F U	Jpdate test case 9.3.1.3	16.8.0

2021-06	RAN#92	R5-213490	2187	1	F	Correction to NR TC 10.1.4.1-T3580	16.8.0
2021-06	RAN#92	R5-213491	2278	1	F	Updates to test case 10.2.2.1	16.8.0
2021-06	RAN#92	R5-213492	2121	1	F	Update test case 11.1.1	16.8.0
2021-06	RAN#92	R5-213493	2122	1	F	Update test case 11.1.2	16.8.0
2021-06	RAN#92	R5-213494	2140	1	F	Update test case 11.1.3	16.8.0
2021-06	RAN#92	R5-213495	2141	1	F	Update test case 11.1.4	16.8.0
2021-06	RAN#92	R5-213496	2161	1	F	Correction to NR TC 11.1.5-Fallback with redirection without	16.8.0
2021-06	RΔN#92	R5-213497	2162	1	F	Correction to NR TC 11 1 7-Emergency Services Fallback to	1680
2021-00	1171117732	110-210401	2102	-		EPS with redirection	10.0.0
2021-06	RAN#92	R5-213498	2204	1	F	Update test case 11.1.5	16.8.0
2021-06	RAN#92	R5-213499	2206	1	F	Update test case 11.1.6	16.8.0
2021-06	RAN#92	R5-213500	2213	1	F	Update test case 11.1.7	16.8.0
2021-06	RAN#92	R5-213501	2136	1	F	Correction to UAC test case 11.3.8	16.8.0
2021-06	RAN#92	R5-213502	2163	1	F	Correction to NR TC 11.3.1-UAC AIO with 0 percentage	16.8.0
						access probability	
2021-06	RAN#92	R5-213503	2165	1	F	Correction to NR TC 11.3.5-UAC AI1 MPS	16.8.0
2021-06	RAN#92	R5-213504	2220	1	F	Corrections to NR5G UAC TC 11.3.7	16.8.0
2021-06	RAN#92	R5-213505	2224	1	F	Corrections to NR5G UAC TC 11.3.2	16.8.0
2021-06	RAN#92	R5-213506	2239	1	F	Correction to NR TC 11.3.6-UAC AI2 MCS	16.8.0
2021-06	RAN#92	R5-213507	2243	1	F	Correction to NR5GC testcase 11.3.9	16.8.0
2021-06	RAN#92	R5-213508	2169	1	F	Correction to NR TC 11.4.4-Emergency call establishment	16.8.0
						before T3396 expiry	
2021-06	RAN#92	R5-213510	2171	1	F	Correction to NR TC 11.4.6-Handling of non-allowed tracking	16.8.0
2021.00		DF 010510	22.41	1		areas	1000
2021-06	RAN#92	R5-213512	2241	T	F	Correction to NR TC 11.4.1-Emergency Call with Network	16.8.0
2021-06	RAN#92	R5-213553	2112	1	F	Addition of NR TC 8 1 4 3 4 for Mobility Enhancement Inter-	1680
2021 00	10 00002			-		frequency DAPS handover	10.0.0
2021-06	RAN#92	R5-213554	2173	1	F	Correction to NR TC 8.1.4.3.1-DAPS handover Success	16.8.0
2021-06	RAN#92	R5-213555	2236	1	F	Addition to NR TC 7.1.3.4.3-PDCP DAPS handover for Intra-	16.8.0
						frequency	
2021-06	RAN#92	R5-213570	2268	1	В	Addition of NR V2X test case 12.1.7.1	16.8.0
2021-06	RAN#92	R5-213576	2228	1	F	Addition of Rel-16 NPN TC 6.5.1.2	16.8.0
2021-06	RAN#92	R5-213577	2229	1	F	Addition of Rel-16 NPN TC 6.5.2.2	16.8.0
2021-06	RAN#92	R5-213578	2230	1	F	Addition of Rel-16 NPN TC 6.5.1.1	16.8.0
2021-06	RAN#92	R5-213579	2231	1	F	Addition of Rel-16 NPN TC 6.5.2.1	16.8.0
2021-06	RAN#92	R5-213583	2225	1	F	Addition of Rel-16 RACS RRC TC 8.1.5.9.1	16.8.0
2021-06	RAN#92	R5-213584	2226	1	F	Addition of Rel-16 RACS TC 9.1.9.5	16.8.0
2021-06	RAN#92	R5-213585	2227	1	F	Addition of Rel-16 RACS TC 9.1.9.1	16.8.0
2021-06	RAN#92	R5-213603	2072	1	F	Addition of new test case 8.1.6.1.4.1 for Connection	16.8.0
2021.06		DE 212604	2072	1		Establishment Failure	16.0.0
2021-06	RAN#92	R5-213004	2073	T	F	Addition of new test case 8.1.6.1.4.2 for Connection	16.8.0
2021-06	RAN#92	R5-213605	2074	1	F	Addition of new test case 8 1 6 3 1 1 for Bluetooth	1680
2021 00	10.000			-	•	measurement collection in Immediate MDT	10.010
2021-06	RAN#92	R5-213606	2075	1	F	Addition of new test case 8.1.6.3.1.2 for WLAN	16.8.0
						measurement collection in Immediate MDT	
2021-06	RAN#92	R5-213607	2099	1	F	Update of MDT TC 8.1.6.1.3.1	16.8.0
2021-06	RAN#92	R5-213608	2102	1	F	Addition of new MDT TC 8.1.6.1.3.4	16.8.0
2021-06	RAN#92	R5-213609	2103	1	F	Addition of new MDT TC 8.1.6.1.3.5	16.8.0
2021-06	RAN#92	R5-213610	2104	1	F	Addition of new MDT TC 8.1.6.1.3.6	16.8.0
2021-06	RAN#92	R5-213611	2105	1	F	Addition of new MDT TC 8.1.6.1.3.7	16.8.0
2021-06	RAN#92	R5-213612	2178	1	F	Addition of NR MDT TC 8.1.6.3.2.2-inter system logged-	16.8.0
						WLAN	
2021-06	RAN#92	R5-213613	2179	1	F	Addition of NR MDT TC 8.1.6.3.2.3-inter system logged-	16.8.0
						sensor	1

2021-06	RAN#92	R5-213614	2180	1	F	Addition of NR MDT TC 8.1.6.3.3.1-inter system RLF-	16.8.0
2021.00		DF 01001F	21.01	1			10.0.0
2021-00	RAN#92	R5-213015	2181			Addition of ND MDT TC 8.1.6.3.3.2-Inter system RLF-WLAN	10.8.0
2021-06	RAN#92	R5-213616	2182			Addition of NR MDT TC 8.1.6.3.3-Inter system RLF-sensor	16.8.0
2021-06	RAN#92	R5-213017	2183	1		Correction to NR MDT TC 8.1.6.1.4.4-CEF-RRC re-	16.8.0
2021-06	RANI#92	R5-213618	2184	1	F	Correction to NR MDT TC 8 1 6 1 4 5-CEE-location info	1680
2021-06	RΔNI#92	R5-213619	2185	1		Correction to NR MDT TC 8 1 6 1 4 6-CEE-intra-freq	16.8.0
2021-00	11/11/17/32		2105	1	'		10.0.0
2021-06	RAN#92	R5-213620	2186	1	F	Correction to NR MDT TC 8.1.6.1.4.7-CEF-inter-freq	16.8.0
						measurements	
2021-06	RAN#92	R5-213621	2189	1	F	Update of MDT test case 8.1.6.1.2.1	16.8.0
2021-06	RAN#92	R5-213622	2190	1	F	Update of MDT test case 8.1.6.1.2.2	16.8.0
2021-06	RAN#92	R5-213623	2191	1	F	Update of MDT test case 8.1.6.1.2.3	16.8.0
2021-06	RAN#92	R5-213624	2192	1	F	Update of MDT test case 8.1.6.1.2.4	16.8.0
2021-06	RAN#92	R5-213625	2193	1	F	Update of MDT test case 8.1.6.1.2.5	16.8.0
2021-06	RAN#92	R5-213626	2194	1	F	Update of MDT test case 8.1.6.1.2.6	16.8.0
2021-06	RAN#92	R5-213627	2195	1	F	Update of MDT test case 8.1.6.1.2.7	16.8.0
2021-06	RAN#92	R5-213628	2196	1	F	Update of MDT test case 8.1.6.1.2.8	16.8.0
2021-06	RAN#92	R5-213629	2197	1	F	Update of MDT test case 8.1.6.1.2.9	16.8.0
2021-06	RAN#92	R5-213630	2198	1	F	Update of MDT test case 8.1.6.1.2.10	16.8.0
2021-06	RAN#92	R5-213631	2199	1	F	Update of MDT test case 8.1.6.1.2.11	16.8.0
2021-06	RAN#92	R5-213632	2200	1	F	Update of MDT test case 8.1.6.1.2.12	16.8.0
2021-06	RAN#92	R5-213633	2201	1	F	Update of MDT test case 8.1.6.1.2.13	16.8.0
2021-06	RAN#92	R5-213637	2267	1	F	New MAC test case for NR URLLC	16.8.0
2021-06	RAN#92	R5-213647	2214	1	F	Update test case 11.1.8	16.8.0
2021-06	RAN#92	R5-213648	2215	1	F	Update test case 11.1.9	16.8.0
2021-06	RAN#92	R5-213673	2079	1	F	Correction to Idle mode TC 6.1.1.1, 6.1.1.5 and 6.1.1.6	16.8.0
2021-09	RAN#93	R5-214208	2279	-	F	Addition of new test case 7.1.1.6.5 for Multi configured uplink	16.9.0
						grants in NR IIoT	
2021-09	RAN#93	R5-214390	2284	-	F	Add test case 8.1.1.4.4	16.9.0
2021-09	RAN#93	R5-214391	2285	-	F	Add test case 8.1.1.4.5	16.9.0
2021-09	RAN#93	R5-214392	2286	-	F	Add test case 8.1.1.4.6	16.9.0
2021-09	RAN#93	R5-214433	2289	-	F	Add test case 8.1.1.4.7	16.9.0
2021-09	RAN#93	R5-214434	2290	-	F	Add test case 8.1.1.4.8	16.9.0
2021-09	RAN#93	R5-214435	2291	-	F	Add test case 8.1.1.4.9	16.9.0
2021-09	RAN#93	R5-214512	2296	-	F	Editorial changes of the title for subclause 8.1.6.3.2 and 8.1.6.3.3 in Inter-System MDT	16.9.0
2021-09	RAN#93	R5-214547	2297	-	F	Update of RSRP threshold for RRC TC 8.1.3.1.13	16.9.0
2021-09	RAN#93	R5-214548	2298	-	F	Correction of 5GMM TC 9.1.5.1.8	16.9.0
2021-09	RAN#93	R5-214550	2300	-	F	Update of MDT TC 8.1.6.1.3.2	16.9.0
2021-09	RAN#93	R5-214587	2303	-	F	Correction to NR MAC test cases 7.1.1.7.1.x	16.9.0
2021-09	RAN#93	R5-214588	2304	-	F	Correction to NR MAC test case 7.1.1.4.2.3	16.9.0
2021-09	RAN#93	R5-214591	2307	-	F	Correction to NR RRC test case 8.1.1.2.3	16.9.0
2021-09	RAN#93	R5-214592	2308	-	F	Correction to NR RRC test case 8.1.1.4.1	16.9.0
2021-09	RAN#93	R5-214593	2309	-	F	Correction to EPS fallback test case 11.1.4	16.9.0
2021-09	RAN#93	R5-214614	2312	-	F	Updates to NR CA test cases 8.1.3.1.18.x	16.9.0
2021-09	RAN#93	R5-214615	2313	-	F	Updates to NR CA test cases 8.1.4.1.8.x	16.9.0
2021-09	RAN#93	R5-214616	2314	-	F	Updates to NR CA test cases 8.1.5.6.5.x	16.9.0
2021-09	RAN#93	R5-214617	2315	-	F	Updates to NR CA test cases 8.1.5.7.1.x	16.9.0
2021-09	RAN#93	R5-214618	2316	-	F	Updates to NR CA test cases 8.1.5.8.2.x	16.9.0
2021-09	RAN#93	R5-214698	2319	-	F	Update of MDT TC 8.1.6.1.3.5	16.9.0
2021-09	RAN#93	R5-214703	2324	-	F	Correction of SIB1 for NR RRC TC 8.1.1.4.1	16.9.0
2021-09	RAN#93	R5-214704	2325	-	F	Correction of SIB1 for NR RRC TC 8.1.5.2.2	16.9.0
2021-09	RAN#93	R5-214707	2328	-	F	Update of TP for EPSFB TC 11.1.3	16.9.0
2021-09	RAN#93	R5-214708	2329	-	F	Update of TP for EPSFB TC 11.1.8	16.9.0
2021-09	RAN#93	R5-214739	2332	-	F	Updates to NR-DC RRC TC 8.2.6.2.2	16.9.0

2021-09	RAN#93	R5-214742	2335	-	F	Corrections to NR5G UAC TC 11.3.7	16.9.0
2021-09	RAN#93	R5-214746	2338	-	F	Update of Rel-16 NPN TC 6.5.2.2	16.9.0
2021-09	RAN#93	R5-214747	2339	-	F	Update of Rel-16 NPN TC 6.5.2.1	16.9.0
2021-09	RAN#93	R5-214749	2340	-	F	Correction to NR-DC RRC test case 8.2.2.4.2	16.9.0
2021-09	RAN#93	R5-214750	2341	-	F	Correction to NR-DC RRC test case 8.2.2.5.2	16.9.0
2021-09	RAN#93	R5-214751	2342	-	F	Correction to NR-DC RRC test case 8.2.2.9.2	16.9.0
2021-09	RAN#93	R5-214752	2343	-	F	Correction to NR-DC RRC test case 8.2.5.1.2	16.9.0
2021-09	RAN#93	R5-214753	2344	-	F	Correction to NR-DC RRC test case 8.2.5.3.2	16.9.0
2021-09	RAN#93	R5-214756	2346	-	F	Correction to MDT TC 8.1.6.1.1.1	16.9.0
2021-09	RAN#93	R5-214764	2352	-	F	Correction to NR TC 7.1.1.7.1.1-sCellDeactivationTimer	16.9.0
2021-09	RAN#93	R5-214767	2355	-	F	Correction to NR TC 8.1.1.3.7-Deprioritisation	16.9.0
2021-09	RAN#93	R5-214769	2357	-	F	Correction to NR TC 8.1.5.8.1-Latency check	16.9.0
2021-09	RAN#93	R5-214783	2369	-	F	Correction to NR TC 11.3.9-UAC for Operator Defined	16.9.0
						Access Category	
2021-09	RAN#93	R5-214829	2386	-	F	Addition of MDT NR TC 8.1.6.3.4.2-Inter System_CEF_wlan	16.9.0
2021-09	RAN#93	R5-214830	2387	-	F	Addition of MDT NR TC 8.1.6.3.4.3-Inter	16.9.0
0001.00	DANUKOO	DE 04 4070	0.400		_	System_CEF_sensor	10.0.0
2021-09	RAN#93	R5-214872	2400	-		Addition of new NR 2-step RACH test case 7.1.1.1.10	16.9.0
2021-09	RAN#93	R5-214890	2401	-	-	Void NR5G RRC TC 8.1.3.1.22	16.9.0
2021-09	RAN#93	R5-214894	2402	-	F	Editorial Updates to NR5G NPN TC 6.5.1.1	16.9.0
2021-09	RAN#93	R5-214895	2403	-	F	Updates to NR5G NPN TC 6.5.1.2	16.9.0
2021-09	RAN#93	R5-214899	2407	-	F	Addition of NR-DC TC 8.2.3.11.3	16.9.0
2021-09	RAN#93	R5-214946	2414	-	F	Addition of new NR 2-step RACH test case 7.1.1.1.9	16.9.0
2021-09	RAN#93	R5-215149	2427	-	F	Update to title of test case 8.1.3.1.23	16.9.0
2021-09	RAN#93	R5-215171	2431	-	F	Correction to NR MAC test case 7.1.1.9.1	16.9.0
2021-09	RAN#93	R5-215356	2437	-	F	Correction to 8.1.4.1.5	16.9.0
2021-09	RAN#93	R5-215404	2439	-	F	Correction to 5GMM TC 9.1.5.1.1	16.9.0
2021-09	RAN#93	R5-215407	2440	-	F	Correction to NR MAC test case 7.1.1.3.2	16.9.0
2021-09	RAN#93	R5-215437	2441	-	F	Update of specific message content for MAC TC 7.1.1.1.2	16.9.0
2021-09	RAN#93	R5-215507	2448	-	F	Update to test case 6.2.1.4	16.9.0
2021-09	RAN#93	R5-215578	2452	-	F	Resubmission of New MAC test case on 2-Step RACH	16.9.0
2021-09	RAN#93	R5-215579	2453	-	F	Resubmission of New MAC test case on 2-Step RACH	16.9.0
2021.00		DE 015671	2455			Explicitly signalled	16.0.0
2021-09		R5-2150/1	2455	-		Addition of ReF16 SNPN TC 9.1.10.2	16.9.0
2021-09	RAN#93	R5-215075	2450	-	F	Contiguous CA	10.9.0
2021-09	RAN#93	R5-215677	2457	-	F	Addition of NR TC 8 2 3 18 1-Conditional PSCell change	1690
2021 00	10 11 100		2-01			Success	10.0.0
2021-09	RAN#93	R5-215680	2458	-	F	Update of System information combination for NR-DC PDCP	16.9.0
						test cases	
2021-09	RAN#93	R5-215681	2459	-	F	Corrections to Rel-16 MDT TC 8.1.6.1.4.4	16.9.0
2021-09	RAN#93	R5-215685	2460	-	F	Correction to NR testcase 8.1.5.4.1	16.9.0
2021-09	RAN#93	R5-215696	2462	-	F	Update of RRC messages for MAC TC 7.1.1.5.1 and	16.9.0
						7.1.1.5.2	
2021-09	RAN#93	R5-215697	2463	-	F	Update of RRC messages for MAC TC 7.1.1.3.11	16.9.0
2021-09	RAN#93	R5-215698	2464	-	F	Correction to NR TC 7.1.1.3.2b-Logical channel prioritization	16.9.0
0001.00	DAN //00	DE 045000	0.405			handling with Mapping restrictions	10.0.0
2021-09	RAN#93	R5-215699	2465	-	F	Correction to NR TC 6.4.1.2-Cell reselection of ePLMN in	16.9.0
2021-00	ΡΔΝΙ#Ω 2	P5-215714	2/20	1	F	Correction to SDAP TC 7.1.4.1	1600
2021-09	RANI#93	R5-215714	2315	1		Correction to NR-DC RPC test case 8.2.5.2.2 and 8.2.5.4.2	1600
2021-09	DVN1422	D5-215716	2/06	1		Correction to NR5G NAS TO 0.1.5.1.2.2 and 0.2.3.4.2	1600
2021-09	DAN#93	D5-210/10	2400			Correction to NP Idle mode test case 6.2.1.5	1600
2021-09	DAN#93	D5-210102	2002			Correction of Styley for Idle TC 6.1.2.2	1600
2021-09		R5-210103	2322			Correction to NP TC 6.2.2.10 Inter DAT cell recelection	1600
2021-09	RAN#93	K3-210104	2348	1		schedulingInfolist_v120	T0.9.0
2021-09	RAN#93	R5-216165	2349	1	F	Correction to NR TC 6.3.1.7-Emergency service pending to	1690
				1		be activated	_0.0.0

2021-00	DANI#02	D5-216166	2405	1	E	Corrections to Idle mode TC 6 2 3 10 and 6 2 3 11	1600
2021-03		D5 216169	2403			Correction to Idle TC 6.2.1.10 and 0.2.0.11	1600
2021-09	RAN#93	R5-210108	2442	1		Corrections to NEEC MAC PWD TC 7.1.1.9.1	16.9.0
2021-09	RAN#93	R5-210109	2331			Corrections to NR3G MAC BWF TC 7.1.1.0.1	16.0.0
2021-09	RAN#93	R5-216170	2424			Correction to NR MAC 7.1.1.4.X lest cases	16.9.0
2021-09	RAN#93	R5-210171	2401			Corrections to the test esses 7.1.2.2.5 and 7.1.2.2.5	10.9.0
2021-09	RAN#93	R5-216172	2426			Correction to the test cases 7.1.2.3.5 and 7.1.2.3.5a	16.9.0
2021-09	RAN#93	R5-216173	2305	1		Correction to NR PDCP test case 7.1.3.5.5	16.9.0
2021-09	RAN#93	R5-216174	2330	1		Updates to NR RRC TC 8.1.1.3.7	16.9.0
2021-09	RAN#93	R5-216175	2354	1	F	Correction to NR TC 8.1.1.2.1-T300 expired	16.9.0
2021-09	RAN#93	R5-216176	2466	1	F	Addition of NR5G RRC TC 8.1.1.3.7a	16.9.0
2021-09	RAN#93	R5-216177	2287	1	F	Correction to RRC reconfiguration Test Case 8.1.2.1.1	16.9.0
2021-09	RAN#93	R5-216178	2359	1	F	Addition of NR SA TC 8.1.3.1.19-SFTD	16.9.0
2021-09	RAN#93	R5-216179	2423	1	F	Update to NR RRC test cases 8.1.3.1.11 and 8.1.3.1.12	16.9.0
2021-09	RAN#93	R5-216180	2356	1	F	Correction to NR TC 8.1.4.1.9.1-Reestablish intra-band	16.9.0
2021-09	RAN#93	R5-216181	2358	1	F	Correction to NR-DC TC 8.2.2.3.2-Split SRB and SRB3	16.9.0
2021-09	RAN#93	R5-216182	2360	1	F	Addition of EN-DC TC 8.2.3.17.1-SFTD	16.9.0
2021-09	RAN#93	R5-216183	2361	1	F	Addition of NR-DC TC 8.2.3.17.2-SFTD	16.9.0
2021-09	RAN#93	R5-216184	2288	1	F	Correction to Carrier Aggregation Test Case 8.2.4.1.1.1	16.9.0
2021-09	RAN#93	R5-216185	2326	1	F	Correction of 5GMM capability for 5GMM TC 9.3.1.2	16.9.0
2021-09	RAN#93	R5-216186	2362	1	F	Correction to NR TC 10.1.1.1 and 10.3.1.1-PDU Establish	16.9.0
						Accept	
2021-09	RAN#93	R5-216187	2327	1	F	Correction of 5GMM capability for EPSFB TC 11.1.7	16.9.0
2021-09	RAN#93	R5-216188	2363	1	F	Correction to NR TC 11.1.2-EPS Fallback from NR Idle	16.9.0
2021-09	RAN#93	R5-216189	2364	1	F	Correction to NR TC 11.1.5-EPS Fallback from NR	16.9.0
						connected	
2021-09	RAN#93	R5-216190	2450	1	F	Correction to EPS FB Testcases 11.1.x for FR2	16.9.0
2021-09	RAN#93	R5-216191	2293	1	F	Corrections to NR5GC testcase 11.3.2	16.9.0
2021-09	RAN#93	R5-216192	2365	1	F	Correction to NR TC 11.3.1-UAC AI0 with 0 percentage	16.9.0
						access probability	
2021-09	RAN#93	R5-216193	2367	1	F	Correction to NR TC 11.3.5-UAC Access Identity 1	16.9.0
2021-09	RAN#93	R5-216194	2368	1	F	Correction to NR TC 11.3.6-UAC AI2 MCS	16.9.0
2021-09	RAN#93	R5-216195	2422	1	F	Addition of new RRC Inactive UAC test case 11.3.1a	16.9.0
2021-09	RAN#93	R5-216196	2292	1	F	Correction to NR5GC testcase 11.4.6	16.9.0
2021-09	RAN#93	R5-216198	2371	1	F	Correction to NR TC 11.4.2-Handling of forbidden PLMNs	16.9.0
2021-09	RAN#93	R5-216199	2372	1	F	Correction to NR TC 11.4.3-Initial registration for emergency	16.9.0
						services	
2021-09	RAN#93	R5-216200	2373	1	F	Correction to NR TC 11.4.4-T3346, T3396	16.9.0
2021-09	RAN#93	R5-216201	2374	1	F	Correction to NR TC 11.4.5-Handling of 5GS forbidden	16.9.0
						tracking areas for roaming	
2021-09	RAN#93	R5-216202	2375	1	F	Correction to NR TC 11.4.9-Emergency call establishment	16.9.0
0001.00	DAN //00	55.010000				and release	10.0.0
2021-09	RAN#93	R5-216203	2413	1	F	Correction of Emergency Number list for TC 11.4.8	16.9.0
2021-09	RAN#93	R5-216259	2376	1	F	Correction to NR TC 7.1.3.4.3-DAPS handover L2	16.9.0
2021-09	RAN#93	R5-216260	2377	1	F	Correction to NR TC 8.1.4.3.1-DAPS handover Success	16.9.0
2021-09	RAN#93	R5-216261	2378	1	F	Addition of NR TC 8.1.4.3.2-DAPS handover Success RLF	16.9.0
0001.00	DAN //00	55.010070	00.17		_	in source	10.0.0
2021-09	RAN#93	R5-216272	2347	1	F	Addition of NR5G Power saving TC 8.1.5.10.1	16.9.0
2021-09	RAN#93	R5-216273	2454	1	F	Addition of Rel-16 SNPN TC 9.1.11.1	16.9.0
2021-09	RAN#93	R5-216276	2294	1	F	Update Test Case 8.1.5.1.1 to allow segmentation of UE	16.9.0
0001.00	DANUGO		0005		-	Capability Information	10.0.0
2021-09	KAN#93	R5-2162/7	2295	1		Involutication of the TC 8.2.1.1.1 to allow uplink	то.9.0
2021.00	DAN#02	D5-016070	2226	1		Segmentation for Rel-16 RACS	16.0.0
2021-09		DE 216270	2000			Undates to Pol 16 PACS TO 0.1.0.9.1	16.0.0
2021-09		R5-2102/9	2331			Addition of now toot accord 0.1.0.0.1 for large distant MDT	10.9.0
2021-09	KAN#93	K2-210285	2280	-		Addition of new test case 8.1.6.2.1 for immediate MDT IN	то.9.0
2021 00	DVN1405	D5-216206	2201	1		Addition of new test case 8 1 6 2 2 for Loggod MDT in Inter	1600
2021-03	10.110#33	1.02 210200	2201	-		RAT MDT	10.0.0
1		1	1	1			

2021-09	RAN#93	R5-216287	2282	1	F	Addition of new test case 8.1.6.2.3 for Radio Link Failure in	16.9.0
0001.00	DANUUQQ	55.04.0000	0000		_	Inter-RAT MDT	1000
2021-09	RAN#93	R5-216288	2283	1		Addition of new test case 8.1.6.2.4 for Connection	16.9.0
2021.00	DANI#02	DE 216200	2200	1		Establishment Failure in Inter-RAT MDT	1600
2021-09	RAN#93	R5-210209	2299			Update of MDT TC 8.1.6.1.3.1	16.0.0
2021-09	RAN#93	R5-210290	2301			Update of MDT TC 8.1.6.1.3.5	16.9.0
2021-09	RAN#93	R5-216291	2318				10.9.0
2021-09	RAN#93	R5-216292	2320				16.9.0
2021-09	RAN#93	R5-216293	2381			Correction to NR TC 8.1.6.1.3.7-PLMN list	16.9.0
2021-09	RAN#93	R5-216294	2382	1		Correction to MDT NR TC 8.1.6.3.1.3-Inter system	16.9.0
2021.00		DE 21620E	2204	1		Immediate-sensor	1600
2021-09	RAN#95	R5-210295	2304	1		measurements	10.9.0
2021-09	RAN#93	R5-216296	2385	1	F	Addition of MDT NR TC 8 1 6 3 4 1-Inter	1690
2021 00				-		System CEE bluetooth	10.0.0
2021-09	RAN#93	R5-216297	2389	1	F	Update of MDT test case 8.1.6.1.2.1	16.9.0
2021-09	RAN#93	R5-216298	2390	1	F	Update of MDT test case 8.1.6.1.2.2	16.9.0
2021-09	RAN#93	R5-216299	2391	1	F	Update of MDT test case 8.1.6.1.2.3	16.9.0
2021-09	RAN#93	R5-216300	2392	1	F	Update of MDT test case 8.1.6.1.2.4	16.9.0
2021-09	RAN#93	R5-216301	2393	1	F	Update of MDT test case 8.1.6.1.2.5	16.9.0
2021-09	RAN#93	R5-216302	2394	1	F	Undate of MDT test case 8 1 6 1 2 6	1690
2021-00	PAN#03	R5-216303	2305	1		Undate of MDT test case 8.1.6.1.2.7	1690
2021-09	PAN#93	R5-216304	2333	1		Undate of MDT test case 8.1.6.1.2.9	1690
2021-00	DANI#03	P5-216305	2308	1		Undate of MDT test case 8.1.6.1.2.0	1600
2021-09	RAN#93	R5-210305	2390	1		Update of MDT test case 8.1.0.1.2.10	16.9.0
2021-09	RAN#93	R5-210300	2399			Correction to MDT TC 0.1.6.1.4.2	16.0.0
2021-09	RAN#93	R5-216307	2411			Correction to MDT tost appe 9.1.6.1.2.9	16.9.0
2021-09	RAN#93	R5-210308	2415				10.9.0
2021-09	RAN#93	R5-216309	2416			Correction to MDT test case 8.1.6.1.2.12	16.9.0
2021-09	RAN#93	R5-210310	2417				16.9.0
2021-09	RAN#93	R5-216311	2443			Correction of MDT Test Case 8.1.6.1.4.1 and 8.1.6.1.4.4	16.9.0
2021-09	RAN#93	R5-216312	2444	1		Correction of MDT Test Case 8.1.6.1.4.2 and 8.1.6.1.4.3	16.9.0
2021-09	RAN#93	R5-216313	2445	1		Correction of MDT Test Case 8.1.6.1.4.5	16.9.0
2021-09	RAN#93	R5-216314	2446	1		Correction of MDT Test Case 8.1.6.1.4.6 and 8.1.6.1.4.7	16.9.0
2021-09	RAN#93	R5-216316	2428	1	F	Correction to test case 11.2.1 5G-SRVCC from NG-RAN to 3GPP UTRAN	16.9.0
2021-09	RAN#93	R5-216317	2408	1	F	New UL TBS MAC test Case for NR URLLC	16.9.0
2021-09	RAN#93	R5-216318	2409	1	F	Addition of New DL MAC NR URLLC Test Case	16.9.0
2021-09	RAN#93	R5-216319	2410	1	F	Correction to NR URLLC Test Case	16.9.0
2021-09	RAN#93	R5-216325	2433	1	F	Addition of new test case 9.1.10.1 for R16 eNS	16.9.0
2021-09	RAN#93	R5-216326	2434	1	F	Addition of new test case 9.1.10.6 for R16 eNS	16.9.0
2021-12	RAN#94	R5-216480	2468	-	F	Correction to 5G-SRVCC test case 11.2.1	16.10.0
2021-12	RAN#94	R5-216482	2470	-	F	Update to 5GC test case 9.1.4.1	16.10.0
2021-12	RAN#94	R5-216483	2471	-	F	Update to 5GC test case 9.1.5.1.3	16.10.0
2021-12	RAN#94	R5-216484	2472	-	F	Update to 5GC test case 9.1.5.1.4	16.10.0
2021-12	RAN#94	R5-216490	2474	-	F	Update to 5GC test case 9.1.5.1.11	16.10.0
2021-12	RAN#94	R5-216491	2475	-	F	Update to 5GC test case 9.1.5.1.12	16.10.0
2021-12	RAN#94	R5-216492	2476	-	F	Update to 5GC test case 9.1.5.1.13	16.10.0
2021-12	RAN#94	R5-216493	2477	-	F	Update to 5GC test case 9.1.5.1.14	16.10.0
2021-12	RAN#94	R5-216494	2478	-	F	Update to 5GC test case 9.1.5.2.1	16.10.0
2021-12	RANI#94	R5-216406	2479	-		Undate of cell power level for FR2 in NR Immediate MDT TC	16 10 0
2021 12	10 (10/754	110 210 430	2475		<u>'</u>	8.1.6.1.1.1	10.10.0
2021-12	RAN#94	R5-216497	2480	-	F	Correction to Inter-RAT Immediate MDT TC 8.1.6.2.1	16.10.0
2021-12	RAN#94	R5-216498	2481	-	F	Update of cell power level for FR2 in Inter-RAT Logged MDT	16.10.0
2021-12	RAN#94	R5-216499	2482	-	F	Update of cell power level for FR2 in Radio Link Failure TC	16.10.0
						8.1.6.2.3	

2021-12	RAN#94	R5-216500	2483	-	F	Update of cell power level for FR2 in BT measurement	16.10.0
						collection TC 8.1.6.3.1.1	
2021-12	RAN#94	R5-216501	2484	-	F	Update of cell power level for FR2 in WLAN measurement	16.10.0
						collection TC 8.1.6.3.1.2	
2021-12	RAN#94	R5-216508	2485	-	F	Addition to NR TC 7.1.3.4.4-PDCP DAPS handover for Inter-	16.10.0
						frequency	
2021-12	RAN#94	R5-216509	2486	-	F	Addition of NR TC 8.1.4.3.5-DAPS handover Success RLF	16.10.0
						in source for Inter-frequency	
2021-12	RAN#94	R5-216560	2496	-	F	Update of MDT test case 8.1.6.1.2.7	16.10.0
2021-12	RAN#94	R5-216562	2498	-	F	Update of MDT test case 8.1.6.1.2.11	16.10.0
2021-12	RAN#94	R5-216637	2500	-	F	Removal of DL-only reference for neighbour cells in NR	16.10.0
						Measurements test cases	
2021-12	RAN#94	R5-216639	2502	-	F	Introducing SCell types in Pre-test conditions in TC	16.10.0
						8.2.4.3.1.1	
2021-12	RAN#94	R5-216640	2503	-	F	Updates to NR/5GC TC 11.3.1a	16.10.0
2021-12	RAN#94	R5-216775	2505	-	F	Correction to NR RRC TC 8.1.1.2.1	16.10.0
2021-12	RANI#94	R5-216797	2510	-	F	Editorial changes to ENS TC 9.1.10.1 and 9.1.10.6	16 10 0
2021 12		DE 216700	2510			Lindates to ND massurement test asses for event A2	16 10 0
2021-12	RAN#94	R5-210799	2511	-			10.10.0
2021-12	RAN#94	R5-216806	2514	-		Correction to EPS Fallback TC 11.1.8 and 11.1.9	16.10.0
2021-12	RAN#94	R5-216814	2516	-	F	Update to NR-DC TC 8.2.6.2.2	16.10.0
2021-12	RAN#94	R5-216816	2518	-	F	Correction to NR5G RRC TC 8.1.4.1.7.1	16.10.0
2021-12	RAN#94	R5-216995	2556	-	F	Correction to NR TC 6.4.1.1-PLMN Selection Higher priority	16.10.0
2021-12	RAN#94	R5-216996	2557	-	F	Correction to NR TC 6.1.2.9-Cell Selection Qqualmin	16.10.0
2021-12	RAN#94	R5-217001	2561	-	F	Correction to NR TC 11.3.2-Emergency Call	16.10.0
2021-12	RAN#94	R5-217002	2562	-	F	Correction to NR TC 11 3 5-UAC Access Identity 1	16 10 0
2021-12	RΔNI#Q/	R5-217011	2566	-		Correction to NR RPC TC 8 1 4 4 1-Conditional handover	16 10 0
2021-12	r\ ∧ in#34		2300	-			10.10.0
2021-12	ΡΔΝΙ#Ω Λ	R5-217012	2567	-		Correction to NR RRC TC 8 1 4 4 2-Conditional handover	16 10 0
2021-12	1171117734		2307		'		10.10.0
2021-12	ΡΔΝΙ#Ω Λ	R5-217013	2568	-		Correction to NR RPC TC 8 1 4 4 3-Conditional handover	16 10 0
2021-12	1171117734		2300		'		10.10.0
2021-12		R5-217014	2569	-	F	Correction to NR RRC TC 8 2 3 18 1-Conditional PSCell	16 10 0
2021 12			2000		'	change	10.10.0
2021-12	RAN#94	R5-217053	2577	-	F	Correction to NR MDT TC 8 1 6 3 2 1-Inter System-Logged-	16 10 0
2021 12					'	Bluetooth	10.10.0
2021-12	RAN#94	R5-217054	2578	-	F	Correction to NR MDT TC 8 1 6 3 2 3-Inter System-Logged-	16 10 0
2021 12	10 000-		2010		'	Sensor	10.10.0
2021-12	RAN#94	R5-217055	2579	-	F	Correction to NR MDT TC 8 1 6 3 3 1-Inter System-RI E-	16 10 0
					·	Bluetooth	10.10.0
2021-12	RAN#94	R5-217056	2580	-	F	Correction to NR MDT TC 8 1 6 3 3 3-Inter System-RI E-	16 10 0
					.	sensor	10.10.0
2021-12	RAN#94	R5-217069	2582	-	F	Undate of NR 2-step RACH test case 7 1 1 1 10	16 10 0
2021-12	RANI#9/	R5-217075	2583	-		Undate of ER2 g-Ryl evMin for Idle mode TC 6.1.2.1	16 10 0
2021-12		DE 217075	2505	_		Editorial undate of Idle mode TC 6.1.2 v	16 10.0
2021-12	RAN#94	R5-217070	2504	-		Eulonal update of fulle mode TC 0.1.2.X	10.10.0
2021-12	RAN#94	K5-21/0//	2585	-		Upuale of exception for NRRC TC 8.1.4.2.2.1	10.10.0
2021-12	RAN#94	R5-217078	2586	-	F	Update of ServingCellConfig for MR-DC RRC TC 8.2.4.1.1.1	16.10.0
2021-12	RAN#94	R5-217079	2587	-	F	Update of TP for 5GC TC 9.1.5.1.15	16.10.0
2021-12	RAN#94	R5-217080	2588	-	F	Update of missing NAS message for 5GC TC 9.1.5.2.2	16.10.0
2021-12	RAN#94	R5-217081	2589	-	F	Update of step 5C for UAC TC 11.3.8	16.10.0
2021-12	RAN#94	R5-217188	2599	-	F	Editorial update of table numbers for Idle mode TC 6.2.3.3	16.10.0
						and 6.2.3.4	
2021-12	RAN#94	R5-217254	2600	-	F	Update of NR 2-step RACH test case 7.1.1.1.9	16.10.0
2021-12	RAN#94	R5-217275	2607	-	F	Correction to RRC test case 8.1.1.4.1	16.10.0
2021-12	RAN#94	R5-217279	2611	-	F	Correction to 5GSM test case 10 1 1 1	16 10 0
2021-12	RANI#04	R5-217290	2612	-		Correction to 5GSM test case 10.1.4.1	16 10 0
2021-12		DE 217201	2012	Ē		Correction to ECSM test case 10.1.4.1	16 10 0
2021-12		R3-21/281	2013	<u> </u>			10.10.0
2021-12	RAN#94	K5-21/288	2010	-		Upuales to NR5G NPN TC 6.5.1.2	10.10.0
2021-12	RAN#94	R5-217290	2618	-	F	Corrections to MDT TC 8.1.6.3.1.3	16.10.0

2021-12	RAN#94	R5-217413	2627	-	F	Correction to NPN TC 6.5.2.2	16.10.0
2021-12	RAN#94	R5-217546	2636	-	F	Correction to NR TC 11.3.6	16.10.0
2021-12	RAN#94	R5-217683	2647	-	F	Correction of MFBI test case 6.1.2.23	16.10.0
2021-12	RAN#94	R5-217689	2648	-	F	Update of NR RRC test case 8.1.5.1.1	16.10.0
2021-12	RAN#94	R5-217690	2649	-	F	Update of MRDC RRC test case 8.2.1.1.1	16.10.0
2021-12	RAN#94	R5-217714	2652	-	F	Correction to EPS Fallback test case 11.1.7	16.10.0
2021-12	RAN#94	R5-217765	2659	-	F	Addition of RRC Resume NR DC Test Case	16.10.0
2021-12	RAN#94	R5-217771	2501	1	F	Update to SCell configuration in 8.1.4.1.7.x, 8.1.4.1.8.x and	16.10.0
2021-12	RAN#94	R5-217772	2653	1	F	Correction to Split SRB Establishment and Release Test	16.10.0
2021-12	RAN#94	R5-217775	2643	1	F	New testcase for Idle/Inactive measurements on E-UTRA	16.10.0
2021-12	RAN#94	R5-217776	2644	1	F	New testcase for Idle/Inactive measurements on NR cells in	16.10.0
2021 12		DE 217777	2645	1		RRC_IDLE state with configuration through RRCRelease	16 10 0
2021-12	RAN#94	R5-21////	2045			cells in RRC_IDLE state with configuration through	10.10.0
2021-12	RAN#94	R5-217805	2558	1	F	Correction to System Information Combination of SOR TCs	16.10.0
2021-12	RAN#94	R5-217806	2595	1	F	Correction to NR-DC testcase 7.1.1.11.1	16.10.0
2021-12	RAN#94	R5-217807	2633	1	F	NE-DC specific enhancements test case pre-conditions	16.10.0
2021-12	RAN#94	R5-217808	2634	1	F	NE-DC specific enhancements PDCP test case pre-	16.10.0
2021-12	RAN#94	R5-217809	2519	1	F	Correction to SDAP TC 7.1.4.1	16.10.0
2021-12	RAN#94	R5-217810	2517	1	F	Addition of NR5G RRC TC 8.1.1.3.7b	16.10.0
2021-12	RAN#94	R5-217811	2507	1	F	Addition of new test case 8.2.1.1.2 for UE capability transfer	16.10.0
2021-12	RAN#94	R5-217812	2594	1	F	Correction to NR test Case 8.1.2.1.1	16.10.0
2021-12	RAN#94	R5-217813	2508	1	F	Addition of new test case 8.2.2.4.3 for SCG DRB in NE-DC	16.10.0
2021-12	RAN#94	R5-217814	2509	1	F	Addition of new test case 8.2.2.5.3 for Split DRB in NE-DC	16.10.0
2021-12	RAN#94	R5-217815	2559	1	F	Correction to NR TC 8.1.5.8.1 Latency check	16.10.0
2021-12	RAN#94	R5-217816	2560	1	F	Correction to NR TC 9.1.5.1.8-Serving network not	16.10.0
2021-12	RAN#94	R5-217817	2654	1	F	Correction to PDU session authentication and authorization	16.10.0
2021-12	RAN#94	R5-217818	2655	1	F	Correction to PDU session authentication and authorization	16.10.0
2021-12	RAN#94	R5-217820	2564	1	F	Correction to NR TC 11.4.5-Handling of 5GS forbidden	16.10.0
2021-12	RAN#94	R5-217821	2591	1	F	Correction to NR5GC testcase 11.4.3	16.10.0
2021-12	RAN#94	R5-217823	2593	1	F	Correction to NR5GC testcase 11.4.9	16.10.0
2021-12	RAN#94	R5-217824	2657	1	F	New Test Case 11.6.2 Data Off / MO Video Call	16.10.0
2021-12	RAN#94	R5-217825	2658	1	F	New Test Case 11.6.1 Data Off / MO Voice Call	16.10.0
2021-12	RAN#94	R5-217874	2565	1	F	Correction to NR TC 8.1.4.3.2-DAPS handover	16.10.0
2021-12	RAN#94	R5-217875	2570	1	F	Addition of NR RRC TC 8.1.4.4.4-Conditional handover and	16.10.0
2021-12	RAN#94	R5-217876	2572	1	F	Addition of NR RRC TC 8.2.3.18.2-Conditional PSCell	16.10.0
2021-12	RAN#94	R5-217890	2573	1	F	Addition of NR V2X TC 13.1.1-V2X policy delivery	16.10.0
2021-12	RAN#94	R5-217891	2601	1	F	Addition of NR V2X test case 12.1.3.2	16.10.0
2021-12	RAN#94	R5-217892	2603	1	F	Addition of NR V2X test case 12.2.3.2	16.10.0
2021-12	RAN#94	R5-217893	2615	1	F	Addition of NR V2X test case 13.2.5	16.10.0
2021-12	RAN#94	R5-217894	2617	1	F	Addition of NR V2X test case 12.1.1.2	16.10.0
2021-12	RAN#94	R5-217897	2522	1	F	Addition of NR5G SNPN TC 6.5.1.3	16.10.0
2021-12	RAN#94	R5-217898	2523	1	F	Addition of NR5G NPN TC 6.5.2.4	16.10.0
2021-12	RAN#94	R5-217899	2524	1	F	Addition of NR5G NPN TC 8.1.7.1.1	16.10.0
2021-12	RAN#94	R5-217901	2520	1	F	Correction to Rel-16 RACS TC 9.1.9.1, 9.1.9.2 and 9.1.9.5	16.10.0

2021-12	RAN#94	R5-217902	2521	1	F	Correction to Rel-16 RACS TC 8.1.5.9.1	16.10.0
2021-12	RAN#94	R5-217916	2469	1	F	Update of TC Title for matching TC content in TC 8.1.6.2.4	16.10.0
2021-12	RAN#94	R5-217917	2495	1	F	Update of MDT test case 8.1.6.1.2.3	16.10.0
2021-12	RAN#94	R5-217918	2497	1	F	Update of MDT test case 8.1.6.1.2.10	16.10.0
2021-12	RAN#94	R5-217919	2499	1	F	Addition of new test case 8.1.6.4.1 for RACH logging and	16.10.0
						reporting in NR SON/MDT	
2021-12	RAN#94	R5-217920	2513	1	F	Correction to NR MDT test case 8.1.6.1.4.2	16.10.0
2021-12	RAN#94	R5-217921	2525	1	F	Correction to MDT TC 8.1.6.1.3.1 and 8.1.6.1.3.2	16.10.0
2021-12	RAN#94	R5-217922	2526	1	F	Correction to MDT TC 8.1.6.1.3.3	16.10.0
2021-12	RAN#94	R5-217923	2528	1	F	Correction to MDT TC 8.1.6.1.1.1, 8.1.6.1.3.5 and	16.10.0
2021 12		DE 217024	2574	1	Е	8.1.6.1.4.5	16 10 0
2021-12	RAN#94	K3-217924	2574	1	Г	Conection to MDT NR TC 6.1.0.1.4.0-CEF Initia-Freq	10.10.0
2021-12	RAN#94	R5-217925	2575	1	F	Correction to MDT NR TC 8.1.6.1.4.7-CEE Inter-Freq	16.10.0
				-	•	measurements	
2021-12	RAN#94	R5-217926	2590	1	F	Correction of MDT TC 8.1.6.1.4.8	16.10.0
2021-12	RAN#94	R5-217927	2596	1	F	Corrections to MDT TC 8.1.6.3.4.1	16.10.0
2021-12	RAN#94	R5-217928	2597	1	F	Corrections to MDT TC 8.1.6.3.4.2	16.10.0
2021-12	RAN#94	R5-217929	2598	1	F	Corrections to MDT TC 8.1.6.3.4.3	16.10.0
2021-12	RAN#94	R5-217930	2619	1	F	Corrections to MDT TC 8.1.6.3.2.2	16.10.0
2021-12	RAN#94	R5-217931	2620	1	F	Corrections to MDT TC 8.1.6.3.3.2	16.10.0
2021-12	RAN#94	R5-217934	2581	1	F	Correction to SRVCC TC 8.1.3.2.X - UTRA Inter-RAT	16.10.0
2021-12	RAN#94	R5-217939	2529	1	F	Correction to R16 eNS TC 9.1.10.1	16.10.0
2021-12	RAN#94	R5-217940	2631	1	F	New Test Case 9.1.10.3 NSSAA / Initial registration /	16.10.0
						Rejected NSSAI, pending NSSAI	
2021-12	RAN#94	R5-217941	2632	1	F	New Test Case 9.1.10.4 NSSAA / Initial registration / Reject	16.10.0
2021-12	RAN#94	R5-217945	2650	1	F	Addition of new NR EIEI eCall only mode test case 11.5.1	16.10.0
2021-12	RAN#94	R5-217946	2651	1	F	Addition of new NR EIEI eCall only mode test case 11.5.2	16.10.0
2021-12	RAN#94	R5-217952	2642	1	F	New testcase for Idle/Inactive measurements on NR cells in	16.10.0
0001.10	DAN //04	55.017000	0000			RRC_IDLE state with configuration through SIB11	10.10.0
2021-12	RAN#94	R5-217988	2628	1	F	NE-DC specific enhancements for UE power headroom test	16.10.0
2021-12	ΡΔΝ#ΩΛ	P5-217080	2625	1	F	Case	16 10 0
2021 12	10.00		2025	-		case	10.10.0
2021-12	RAN#94	R5-217996	2605	1	F	Correction to SOR test case 6.3.1.3	16.10.0
2021-12	RAN#94	R5-217997	2660	1	F	Correction to NR TC 8.1.4.1.9.1-Reestablish intra-band	16.10.0
2021-12	RAN#94	R5-217999	2621	1	F	Addition of new CVX TC 12.1.3.1-PC5-only operation /	16.10.0
						Measurement configuration and reporting via PC5 RRC /	
						PSBCH-RSRP measurement configuration	
2021-12	RAN#94	R5-218000	2622	1	F	Addition of new CVX TC 12.1.5.1-PC5-only operation /	16.10.0
0001.10	DANUOA	DE 010001	0000			Sidelink CSI reporting / Configuration	10.10.0
2021-12	RAN#94	R5-218001	2623	1	F	Addition of new CVX TC 12.1.5.2- PC5-only operation /	16.10.0
2021-12	ΡΔΝ#ΩΛ	P5-218002	2624	1	F	Addition of new CVX TC 12.2.4.1-Inter-carrier concurrent	16 10 0
2021-12	117111734		2024	-		operation / Sidelink Reconfiguration via Llu RRC / SL DRB	10.10.0
						management / transmission side	
2021-12	RAN#94	R5-218003	2626	1	F	Addition of new CVX TC 12.2.5.3-Inter-carrier concurrent	16.10.0
						operation / Measurement configuration and reporting via	
						PC5 RRC / PSBCH-RSRP measurement reporting /	
						Periodical reporting	
2021-12	RAN#94	R5-218004	2637	1	F	Addition of NR V2X TC 12.2.6.1	16.10.0
2021-12	RAN#94	R5-218005	2638	1	F	Addition of NR V2X TC 12.2.7.1	16.10.0
2021-12	RAN#94	R5-218006	2639	1	F	Addition of NR V2X TC 12.2.8.2	16.10.0
2021-12	RAN#94	R5-218007	2640	1	F	Addition of NR V2X TC 12.1.3.3	16.10.0
2021-12	RAN#94	R5-218012	2635	2	F	Addition of new eNS Abnormal test case	16.10.0
2022-03	RAN#95	R5-220046	2663	-	F	Addition of new test case for PDCP Duplication 3 RLC	16.11.0
1							
2022.02			2604			entities with NR intra-band non-contiguous CA in NR IIoT	16 11 0

2022-03	RAN#95	R5-220052	2666	-	F	Update of cell power level for FR2 in NR Immediate MDT TC	16.11.0
2022.02			2007			8.1.0.2.3	10110
2022-03	RAN#95	R5-220053	2007	-		TO polate of cell power level for FR2 in NR immediate MDT TC	10.11.0
2022-03	PAN#95	P5-220054	2668	_	F	0.1.0.1.3.1	16 11 0
2022 00	10/11/1/05	110 220004	2000			8 1 6 1 3 4	
2022-03	RAN#95	R5-220095	2670	-	F	Update the ER2 cell powers of test case 11.2.1	16.11.0
2022-03	RAN#95	R5-220098	2671	-	F	Undate the ER2 cell powers of test case 8 1.3.2.6	16 11 0
2022-03	RAN#95	R5-220100	2673	-	F	Undate the ER2 cell powers of test case 8.1.3.2.8	16 11 0
2022-03	RAN#95	R5-220156	2692	-	F	Correction to NR-DC TC 8 2 7 2 1	16 11 0
2022-03	RAN#95	R5-220188	2698	-	F	Editorial undate of NR BRC TC 81 4 1 7 1	16 11 0
2022-03	PAN#95	R5-220180	2600	_		Editorial update of NR RPC TC 81/1181	16 11 0
2022 00	DANI#05	P5-220103	2705	_		Correction to NP MAC test case 7.1.1.3.8 x	16 11 0
2022-03		P5-220207	2703	_		Correction to NP MDT test case 8.1.6.1.4.6	16 11 0
2022-03	RAN#95	RJ-220209	2707	-		Undete of MDT test eace 9.1.6.1.2.1	16 11 0
2022-03		R5-220329	2710	-		Update of MDT test case 0.1.0.1.2.1	16 11 0
2022-03	RAN#95	R5-220330	2719	-		Update of MDT test case 8.1.6.1.2.3	16.11.0
2022-03	RAN#95	R5-220331	2720	-		Update of MDT test case 8.1.6.1.2.4	10.11.0
2022-03	RAN#95	R5-220333	2722	-		Update of MDT test case 8.1.6.1.2.8	16.11.0
2022-03	RAN#95	R5-220334	2723	-	⊢ 	Update of MDT test case 8.1.6.1.2.9	16.11.0
2022-03	RAN#95	R5-220367	2726	-	F	Correction to NAS 5GMM test case 9.1.5.1.15	16.11.0
2022-03	RAN#95	R5-220392	2733	-	F	Align the terminology being used for OTA environment (MAC TCs)	16.11.0
2022-03	RAN#95	R5-220397	2738	-	F	Align the terminology being used for OTA environment (RRC 8.2.4.x)	16.11.0
2022-03	RAN#95	R5-220398	2739	-	F	Align the terminology being used for OTA environment (EPS Fallback TCs)	16.11.0
2022-03	RAN#95	R5-220453	2742	-	F	Deletion of Editor's Note below clause 7.1.2	16.11.0
2022-03	RAN#95	R5-220454	2743	-	F	Correction to 5GC test case 9.1.1.3	16 11 0
2022-03	RAN#95	R5-220531	2750	-	F	Undate of NR5G NPN TC 6.5.2.2	16 11 0
2022-03	RAN#95	R5-220532	2751	-	F	Undate of NR5G NPN TC 6.5.2.4	16 11 0
2022-03	RAN#95	R5-220543	2752	-	F	Correction to NR TC 6.4.1.1-PLMN Selection-Higher priority	16 11 0
2022 00	10 11 100		2102			PI MN	10.11.0
2022-03	RAN#95	R5-220544	2753	-	F	Correction to NR TC 7.1.1.5.3-Short Cycle DRX	16.11.0
2022-03	RAN#95	R5-220545	2754	-	F	Correction to NR SA TC 8.1.1.3.7-RRC release	16.11.0
2022-03	RAN#95	R5-220548	2757	-	F	Correction to NR SA TC 8.2.2.2.1-Split SRB	16.11.0
2022-03	RAN#95	R5-220549	2758	-	F	Correction to NR TC 9.1.4.1-Generic UE configuration	16.11.0
						update	
2022-03	RAN#95	R5-220550	2759	-	F	Correction to NR TC 10.1.1.1-PDU session authentication	16.11.0
						and authorization	
2022-03	RAN#95	R5-220551	2760	-	F	Correction to NR TC 10.1.1.2-After the UE-requested PDU	16.11.0
						session procedure	
2022-03	RAN#95	R5-220552	2761	-	F	Correction to ENDC TC 10.2.2.1-EPS bearer resource allocation	16.11.0
2022-03	RAN#95	R5-220557	2766	-	F	Correction to NR TC 11.3.5-UAC New cell not in the country	16.11.0
						of its HPLMN	
2022-03	RAN#95	R5-220559	2768	-	F	Correction to NR TC 11.3.9-UAC for ODAC	16.11.0
2022-03	RAN#95	R5-220560	2769	-	F	Correction to NR TC 11.4.1-emergency call and	16.11.0
2022-03		P5-220612	2780			Correction to NP MDT TC 8 1.6 1.4 3-Intra NP. Connection	16 11 0
2022-03	RAN#95	RJ-220012	2780	-		Establishment Failure, Reporting at intra-NR bandover	
2022-03	RAN#95	R5-220613	2781	-	F	Correction to NR MDT TC 8 1 6 1 4 4-Intra NR Connection	16 11 0
	10.000		2.01		'	Establishment Failure RRC connection re-establishment	-0.11.0
2022-03	RAN#95	R5-220641	2790	-	F	Correction to NR PDCP test case 7.1.3.5.2	16.11.0
2022-03	RAN#95	R5-220644	2791	-	F	Correction to NR5GC testcase 11.1.7	16.11.0
2022-03	RAN#95	R5-220648	2792	-	F	Correction to NR MAC testcase 7.1.1.3.3	16.11 0
2022-03	RAN#95	R5-220682	2800	-	F	Correction to NR5GC testcase 6.5.1.2	16.11 0
2022-03	RAN#95	R5-220849	2812	-	F	Editorial Updates to Clause 8.2	16.11.0
2022-03	RAN#95	R5-221041	2813	-	F	Updates to Inter-System MDT test cases 8.1.6.3.1.x	16.11.0

2022-03	RAN#95	R5-221105	2831	-	F	Correction to NR testcase 8.1.5.2.2	16.11.0
2022-03	RAN#95	R5-221238	2851	-	F	Addition of new test case 11.6.3 Data Off / SMSoIP	16.11.0
2022-03	RAN#95	R5-221368	2857	-	F	Correction to NR RRC test case 8.1.5.2.2	16.11.0
2022-03	RAN#95	R5-221391	2860	-	F	Correction to NR RRC test cases 8.2.1.1.1 and 8.2.1.1.2	16.11.0
2022-03	RAN#95	R5-221392	2861	-	F	Correction to the NR5GC testcases 8.1.4.1.9.1, 8.1.4.1.9.2	16.11.0
						and 8.1.4.1.9.3	
2022-03	RAN#95	R5-221406	2821	-	F	Correction to NR TC 11.1.2-EPS Fallback with redirection	16.11.0
2022.02		DE 201410	200.4			without N26	10110
2022-03	RAN#95	R5-221418	2864	-		Removal of test case 11.4.10 - N26 not supported - N1 to S1	16.11.0
2022-03	RAN#95	R5-221431	2697	1	F	Undate of SIB modification steps for Idle TC 6.1.2.9	16 11 0
	10.000		2001	-	.	6.1.2.18, 6.2.3.1 and 6.2.3.3	10.11.0
2022-03	RAN#95	R5-221432	2715	1	F	Correction to Idle Mode SOR test case 6.3.1.5	16.11.0
2022-03	RAN#95	R5-221433	2732	1	F	Align the terminology being used for OTA environment (Idle	16.11.0
						Mode TCs)	
2022-03	RAN#95	R5-221434	2789	1	F	Correction to NR-DC testcase 7.1.1.11.1	16.11.0
2022-03	RAN#95	R5-221435	2716	1	F	Correction to NR SDAP test case 7.1.4.1	16.11.0
2022-03	RAN#95	R5-221436	2734	1	F	Align the terminology being used for OTA environment (RRC	16.11.0
2022.02		DE 221427	2702	1		8.1.1.X TCS)	16 11 0
2022-03	RAN#95	R5-221437	2793			Correction to NR test case 8.1.1.4.1	16.11.0
2022-03		R5-221438	2755			Correction to NR TC 8.1.2.1.1-RRC Recomiguration	10.11.0
2022-03	RAN#95	R5-221439	2735	1			16.11.0
2022-03	RAN#95	R5-221440	2706	1	F	Correction to NR RRC test case 8 1 4 1 2	16 11 0
2022-03	RAN#95	R5-221441	2736	1	F	Align the terminology being used for OTA environment (RRC.	16 11 0
			2.00	-	.	8.1.4.x TCs)	10.11.0
2022-03	RAN#95	R5-221442	2756	1	F	Correction to NR SA TC 8.1.4.1.7.x-SCell release	16.11.0
2022-03	RAN#95	R5-221443	2675	1	F	Addition of new test case 8.2.3.6.2 for Intra-frequency	16.11.0
						measurements Event A3 in NE-DC	
2022-03	RAN#95	R5-221444	2676	1	F	Addition of new test case 8.2.3.6.2a for Inter-frequency	16.11.0
0000.00	DANIMOL	DE 004 445	0000		_	measurements Event A3 in NE-DC	10110
2022-03	RAN#95	R5-221445	2696	1		Addition of new test case 8.2.3.6.20 for Inter-band	16.11.0
2022-03	RANI#95	R5-221446	2709	1	F	Correction to NR-DC RRC test case 8 2 3 14 2	16 11 0
2022-03	RAN#95	R5-221447	2737	1	F	Align the terminology being used for OTA environment (RRC	16 11 0
	10		2101	1	'	8.2.3.x)	10.11.0
2022-03	RAN#95	R5-221448	2804	1	F	Correction to NR-DC RRC test case 8.2.3.11.3	16.11.0
2022-03	RAN#95	R5-221449	2795	1	F	Correction to NR testcases 8.2.4.1.1.1, 8.2.4.1.1.2 and	16.11.0
						8.2.4.1.1.3	
2022-03	RAN#95	R5-221450	2704	1	F	Clarifications on 5G NR connectivity options for SIG	16.11.0
2022-03	RAN#95	R5-221451	2677	1	F	Update of date for 5GC TC 9.1.4.1	16.11.0
2022-03	RAN#95	R5-221452	2703	1	F	Add test case 11.1.1a	16.11.0
2022-03	RAN#95	R5-221453	2762	1	F	Correction to NR TC 11.1.5-EPS Fallback from NR	16.11.0
2022.02		DE 2214E4	2762	1		Connected without N26	16 11 0
2022-03	RAN#95	R5-221454	2703	1		without N26	10.11.0
2022-03	RAN#95	R5-221455	2833	1	F	Update to test cases 11.1.1. 11.1.3. 11.1.4. 11.1.8 and	16.11.0
				-		11.1.9	
2022-03	RAN#95	R5-221456	2713	1	F	Correction to UAC test case 11.3.2	16.11.0
2022-03	RAN#95	R5-221457	2714	1	F	Correction to UAC test case 11.3.6	16.11.0
2022-03	RAN#95	R5-221459	2764	1	F	Correction to NR TC 11.3.1-UAC for MO Speech Call and	16.11.0
						SMSoIP	
2022-03	RAN#95	R5-221460	2741	1	F	Addition of new 5GS IMS test case 11.4.12	16.11.0
2022-03	RAN#95	R5-221461	2836	1	F	Update to test case 11.6.1	16.11.0
2022-03	RAN#95	R5-221494	2821	1	F	Update of TC 7.1.3.5.6 for PDCP Duplication 3 RLC entities	16.11.0
2022.02		DE 201405	2054	1		IN NK IIOT	16 1 1 0
2022-03	RAN#95	173-221495	2004	_		recompression and decompression / Correct functionality of	10.11.0
						ethernet header compression and decompression	
1	1	1	1	1	1		ı I

2022-03	RAN#95	R5-221496	2669	1	F	Addition of Rel-16 NR Mobility Enhancement test case for Conditional PSCell change / PCell change / PSCell change /	16.11.0
2022.02		DE 221407	2777	1		EN-DC	16 11 0
2022-03	RAN#95	KJ-221497	2111	1		Inter-frequency	10.11.0
2022-03	RAN#95	R5-221498	2779	1	F	Correction to NR TC 8.2.3.18.1-Conditional PSCell change	16.11.0
2022-03	RAN#95	R5-221518	2674	1	F	Addition of new CVX TC 12.2.1.6- Inter-carrier concurrent	16.11.0
						operation / Sidelink communication / RRC_CONNECTED /	
0000.00	DANUUOE	DE 001510	0000	1		Reception	10.11.0
2022-03	RAN#95	R5-221519	2693	1		Addition of sub-clause titles for NR V2X TCs	16.11.0
2022-03	RAN#95	R5-221520	2771	1		Addition of V2X TC 13.2.1-Conflict Layer 2 ID	16.11.0
2022-03	RAN#95	R5-221521	2772			Addition of V2X TC 13.2.2-Security Mode	16.11.0
2022-03	RAN#95	R5-221522	2704			Addition of V2X TC 13.2.0-Link keep alive	16.11.0
2022-03	RAN#95	R5-221523	2794			Addition of new ND V2X TC 13.1.1-policy provisioning	16.11.0
2022-03	RAN#95	R5-221524	2827	1		Initiating UE side	10.11.0
2022-03	RAN#95	R5-221525	2828			Addition of new NR V2X PC5 RRC reconfiguration failure /	16.11.0
2022-03	RANI#95	R5-221526	2829	1	F	Addition of new NR V2X Sidelink radio link failure /	16 11 0
2022 00	10.00		2025	-	'	Transmission side test case	10.11.0
2022-03	RAN#95	R5-221530	2748	1	F	Correction to TC 7.1.1.12.3 DRX adaptation / UE wakeup	16.11.0
						indication	
2022-03	RAN#95	R5-221531	2749	1	F	Update of NR5G NPN TC 6.5.2.1	16.11.0
2022-03	RAN#95	R5-221532	2799	1	F	Correction to NR5GC testcase 6.5.1.3	16.11.0
2022-03	RAN#95	R5-221533	2801	1	F	Correction to NR5GC testcase 6.5.1.1	16.11.0
2022-03	RAN#95	R5-221534	2826	1	F	Addition of new SNPN test case for EAP based primary	16.11.0
						authentication and key agreement	
2022-03	RAN#95	R5-221536	2730	1	F	Addition of Rel-16 RACS TC 9.1.9.6	16.11.0
2022-03	RAN#95	R5-221537	2731	1	F	Addition of Rel-16 RACS TC 9.1.9.3	16.11.0
2022-03	RAN#95	R5-221538	2802	1	F	Correction to RACS test case 9.1.9.5	16.11.0
2022-03	RAN#95	R5-221539	2830	1	F	Addition of new RACS test case 9.1.9.4	16.11.0
2022-03	RAN#95	R5-221540	2863	1	F	Correction to NR5GC testcase 8.1.5.9.1	16.11.0
2022-03	RAN#95	R5-221556	2665	1	F	Update of cell power level for FR2 in NR Immediate MDT TC 8.1.6.2.2	16.11.0
2022-03	RAN#95	R5-221557	2679	1	F	Update of MDT TC 8.1.6.1.2.1	16.11.0
2022-03	RAN#95	R5-221558	2680	1	F	Update of MDT TC 8.1.6.1.2.2	16.11.0
2022-03	RAN#95	R5-221559	2681	1	F	Update of MDT TC 8.1.6.1.2.3	16.11.0
2022-03	RAN#95	R5-221560	2682	1	F	Update of MDT TC 8.1.6.1.2.4	16.11.0
2022-03	RAN#95	R5-221561	2683	1	F	Update of MDT TC 8.1.6.1.2.5	16.11.0
2022-03	RAN#95	R5-221562	2684	1	F	Update of MDT TC 8.1.6.1.2.6	16.11.0
2022-03	RAN#95	R5-221563	2685	1	F	Update of MDT TC 8.1.6.1.2.7	16.11.0
2022-03	RAN#95	R5-221564	2686	1	F	Update of MDT TC 8.1.6.1.2.8	16.11.0
2022-03	RAN#95	R5-221565	2687	1	F	Update of MDT TC 8.1.6.1.2.9	16.11.0
2022-03	RAN#95	R5-221566	2688	1	F	Update of MDT TC 8.1.6.1.2.10	16.11.0
2022-03	RAN#95	R5-221567	2689	1	F	Update of MDT TC 8.1.6.1.2.11	16.11.0
2022-03	RAN#95	R5-221568	2690	1	F	Update of MDT TC 8.1.6.1.2.12	16.11.0
2022-03	RAN#95	R5-221569	2691	1	F	Update of MDT TC 8.1.6.1.2.13	16.11.0
2022-03	RAN#95	R5-221570	2701	1	F	Update of MDT TC 8.1.6.1.4.7	16.11.0
2022-03	RAN#95	R5-221571	2724	1	F	Update of MDT test case 8.1.6.1.2.12	16.11.0
2022-03	RAN#95	R5-221572	2725	1	F	Update of MDT test case 8.1.6.1.2.13	16.11.0
2022-03	RAN#95	R5-221573	2746	1	F	Correction to SON-MDT test case 8.1.6.1.4.2	16.11.0
2022-03	RAN#95	R5-221574	2747	1	F	Update to test case 8.1.6.1.3.7	16.11.0
2022-03	RAN#95	R5-221575	2783	1	F	Correction to NR MDT TC 8.1.6.3.1.3-Inter	16.11.0
						System_Immediate MDT_Sensor	
2022-03	RAN#95	R5-221576	2785	1	F	Correction to NR MDT TC 8.1.6.3.2.3-Inter	16.11.0
	B • • • • = =		0=7-	-		System_Logged_Sensor	
2022-03	RAN#95	R5-221577	2786	1	ΙF	Correction to NR MDT TC 8.1.6.3.3.3-Inter	16.11.0

						System_RLF_Sensor	
2022-03	RAN#95	R5-221578	2787	1	F	Correction to NR MDT TC 8.1.6.3.4.3-Inter	16.11.0
						System_Connection Establishment Failure_Sensor	
2022-03	RAN#95	R5-221579	2796	1	F	Correction to MDT test case 8.1.6.1.3.3	16.11.0
2022-03	RAN#95	R5-221580	2808	1	F	Correction to NR MDT test case 8.1.6.1.3.4	16.11.0
2022-03	RAN#95	R5-221581	2814	1	F	Updates to Inter-System MDT test cases 8.1.6.3.2.x	16.11.0
2022-03	RAN#95	R5-221582	2815	1	F	Updates to Inter-System MDT test cases 8.1.6.3.3.x	16.11.0
2022-03	RAN#95	R5-221583	2816	1	F	Updates to Inter-System MDT test cases 8.1.6.3.4.x	16.11.0
2022-03	RAN#95	R5-221586	2822	1	F	Correction to NR URLLC MAC Test Case 7.1.1.4.1.5	16.11.0
2022-03	RAN#95	R5-221587	2823	1	F	Addition of new NR URLLC MAC Test Case for DL Grant	16.11.0
						Prioritisation	
2022-03	RAN#95	R5-221588	2824	1	F	Addition of new NR URLLC MAC Test Case for UL Data	16.11.0
2022.02		DE 221500	2022	1		prioritisation	16 11 0
2022-03		R3-221509	2032			Addition of new ND EIEL test ease 11 5 5	16 11 0
2022-03		R5-221595	2017			Addition of new NR ETER lest case 11.5.5	16 11 0
2022-03	RAN#95	R5-222003	2834	1		INEW LESICASE IOF IUIE/INACLIVE MEASUREMENTS OF NR CERS IN	10.11.0
2022-03	R ΔN#95	R5-222004	2835	1	F	New testcase for Idle/Inactive measurements on E-LITRA	16 11 0
	10.111755		2000	-	'	cells in RRC_INACTIVE state with configuration through	10.11.0
						ISIB11	
2022-03	RAN#95	R5-222005	2855	1	F	New testcase for Idle/Inactive measurements on NR cells in	16.11.0
						RRC_INACTIVE state with configuration through	
						RRCRelease	
2022-03	RAN#95	R5-222006	2856	1	F	New testcase for Idle/Inactive measurements on E-UTRA	16.11.0
						cells in RRC_INACTIVE state with configuration through	
						RRCRelease	
2022-03	RAN#95	R5-222007	2805	1	F	Correction to R16 eNS TC 9.1.10.6	16.11.0
2022-03	RAN#95	R5-222008	2806	1	F	Correction to R16 eNS TC 9.1.10.3	16.11.0
2022-03	RAN#95	R5-222009	2807	1	F	Correction to R16 eNS TC 9.1.10.1	16.11.0
2022-03	RAN#95	R5-222010	2818	1	F	Correction to test case name of TC 9.1.10.3 and TC 9.1.10.4	16.11.0
2022-03	RAN#95	R5-222011	2825	1	F	Correction to Rel16 eNS EPS Mobility Management test case	16.11.0
2022-03	RAN#95	R5-222012	2853	1	F	Updates to test case 9.1.10.4	16.11.0
2022-03	RAN#95	R5-222013	2678	1	F	Update of date for 5GC TC 9.2.4.1	16.11.0
2022-03	RAN#95	R5-222014	2788	1	F	Correction to NR SRVCC TC 8.1.3.2.8-Inter RAT	16.11.0
2022-03	RAN#95	R5-222040	2775	1	F	Correction to NR TC 8.1.4.3.1-RRC DAPS HO Success	16.11.0
2022-03	RAN#95	R5-222041	2776	1	F	Correction to NR TC 8.1.4.3.2-RRC DAPS HO Failure	16.11.0
2022-03	RAN#95	R5-222042	2778	1	F	Correction to NR TC 8.1.4.4.4-Conditional handover and	16.11.0
						legacy handover	
2022-03	RAN#95	R5-222043	2858	1	F	Correction to NR TCs 7.1.3.4.3 and TC 7.1.3.4.4 - PDCP	16.11.0
2022-03	RAN#95	R5-222044	2797	1	F	Correction to NR test case 7.1.1.9.1	16.11.0
2022-03	RAN#95	R5-222047	2710	1	F	Addition of new RACS test case 9.1.9.7	16.11.0
2022-03	RAN#95	R5-222048	2712	1	F	Correction to UAC test case 11.3.1a	16.11.0
2022-03	RAN#95	R5-222049	2695	1	F	Addition of NR V2X test case 12.2.1.2	16.11.0
2022-06	RAN#96	R5-222113	2880	-	F	Correction to NR MAC test case 7.1.1.2.4	16.12.0
2022-06	RAN#96	R5-222114	2881	-	F	Correction to NR SDAP test case 7.1.4.1	16.12.0
2022-06	RAN#96	R5-222115	2882	-	F	Correction to NR RRC test case 8.1.5.2.2	16.12.0
2022-06	RAN#96	R5-222116	2883	-	F	Correction to SON-MDT test case 8.1.6.1.2.1	16.12.0
2022-06	RAN#96	R5-222117	2884	-	F	Correction to SON-MDT test case 8.1.6.1.2.3	16.12.0
2022-06	RAN#96	R5-222118	2885	-	F	Correction to SON-MDT test case 8.1.6.1.2.4	16.12.0
2022-06	RAN#96	R5-222119	2886	-	F	Correction to SON-MDT test case 8.1.6.1.2.9	16.12.0
2022-06	RAN#96	R5-222120	2887	-	F	Correction to RACS test case 9.1.9.7	16.12.0
2022-06	RAN#96	R5-222178	2889	-	F	Update to Rel-16 NR Mobility Enhancement test case	16.12.0
	10.00/00		2000		'	8.2.3.18.3	
2022-06	RAN#96	R5-222261	2894	-	F	Editorial update of NR RRC TC 8.1.1.3.7b	16.12.0
2022-06	RAN#96	R5-222262	2895	-	F	Editorial update of NR RRC TC 8.1.3.1.20	16.12.0
2022-06	RAN#96	R5-222271	2900	-	F	Correction to R16 eNS TC 9.1 10 1	16.12.0

2022-06	RAN#96	R5-222272	2901	-	F	Correction to EN-DC RRC TC 8.2.3.17.1	16.12.0
2022-06	RAN#96	R5-222273	2902	-	F	Editorial update of NR TC 10.1.3.2	16.12.0
2022-06	RAN#96	R5-222277	2903	-	F	Editorial update of NR TC 11.1.1	16.12.0
2022-06	RAN#96	R5-222362	2906	-	F	Correction to DRX adaptation test case 7.1.1.12.3	16.12.0
2022-06	RAN#96	R5-222376	2907	-	F	Correction to Inter-System MDT test case 8.1.6.3.3.3	16.12.0
2022-06	RAN#96	R5-222382	2908	-	F	Correction to NR PDCP test case 7.1.3.5.2	16.12.0
2022-06	RAN#96	R5-222384	2910	-	F	Update to UE Radio Capability Id field in RACS test cases	16.12.0
2022-06	RAN#96	R5-222418	2912	-	F	Correction to NR5GC testcase 8.1.5.9.1	16.12.0
2022-06	RAN#96	R5-222430	2913	-	F	Update test case 11.1.1a	16.12.0
2022-06	RAN#96	R5-222446	2915	-	F	Correction to NR testcase 8.1.4.4.2	16.12.0
2022-06	RAN#96	R5-222470	2921	-	F	Update of test case 8.2.2.4.3 for SCG DRB in NE-DC	16.12.0
2022-06	RAN#96	R5-222511	2923	-	F	Correction to NR PDCP test case 7.1.3.4.1	16.12.0
2022-06	RAN#96	R5-222653	2925	-	F	Correction to EN-DC TC 8.2.6.1.1.x - RLC failure	16.12.0
2022-06	RAN#96	R5-222715	2936	-	F	Update of TC 12.2.4.1- Inter-carrier concurrent operation /	16.12.0
						Sidelink Reconfiguration via Uu RRC / SL DRB management	
						/ transmission side	
2022-06	RAN#96	R5-222811	2941	-	F	Correction to NR TC 7.1.1.10.1-DataInactivityTimer expiry	16.12.0
2022-06	RAN#96	R5-222813	2943	-	F	Correction to NR TC 11.3.1-UAC for MO Speech Call and	16.12.0
						SMSoIP	
2022-06	RAN#96	R5-222941	2954	-	F	Correction to NR V2X test case 12.1.6.2	16.12.0
2022-06	RAN#96	R5-222942	2955	-	F	Correction to NR V2X test case 12.1.6.1	16.12.0
2022-06	RAN#96	R5-222953	2961	-	F	Correction to NR URLLC MAC Test Case 7.1.1.4.1.5	16.12.0
2022-06	RAN#96	R5-222954	2962	-	F	Correction to NR URLLC MAC Test Case 7.1.1.4.2.6	16.12.0
2022-06	RAN#96	R5-222995	2964	-	F	Correction to MDT test case 8.1.6.1.3.3	16.12.0
2022-06	RAN#96	R5-223052	2970	-	F	Update of NR MDT test case 8.1.6.1.4.5	16.12.0
2022-06	RAN#96	R5-223059	2971	-	F	Update of NR MDT test case 8.1.6.3.4.x	16.12.0
2022-06	RAN#96	R5-223064	2974	-	F	Correction to NR V2X NAS TC 13.2.1-Conflict Layer 2 ID	16.12.0
2022-06	RAN#96	R5-223065	2975	-	F	Correction to NR V2X NAS TC 13.2.2-link security mode	16.12.0
2022-06	RAN#96	R5-223085	2981	-	F	Correction to NR RLC test case 7.1.2.3.7	16.12.0
2022-06	RAN#96	R5-223249	2986	-	F	Update to NR EIEI test cases 11.5.1, 11.5.2, 11.5.5	16.12.0
2022-06	RAN#96	R5-223252	2987	-	F	Correction of USIM configuration in RACS test case 9.1.9.4	16.12.0
2022-06	RAN#96	R5-223264	2991	-	F	Update of test case 8.1.6.1.1.2	16.12.0
2022-06	RAN#96	R5-223273	2996	-	F	Update of test case TC 8.1.6.2.3	16.12.0
2022-06	RAN#96	R5-223274	2997	-	F	Update to test case 8.1.6.1.3.6	16.12.0
2022-06	RAN#96	R5-223340	2911	1	F	Editorial Correction to NR Test case 8.1.4.4.3	16.12.0
2022-06	RAN#96	R5-223342	2890	1	F	Update to SRVCC from 5G to 3G test case 8.1.3.2.6 and	16.12.0
						8.1.3.2.7	
2022-06	RAN#96	R5-223343	2977	1	F	Correction of cell number in the test procedure of	16.12.0
						8.1.3.1.15A	
2022-06	RAN#96	R5-223344	2920	1	F	Update of test case 8.2.1.1.2 for UE capability transfer in NE	16.12.0
					_	-DC	
2022-06	RAN#96	R5-223345	2917	1	F	Update of test case 8.2.3.6.2 for Intra-frequency measureme	16.12.0
2022.00		DE 222240	2010	1		nts Event A3 in NE-DC	10100
2022-06	RAN#90	R5-223340	2918	1		opticate of test case 8.2.3.6.2a for inter-inequency measurem	10.12.0
2022-06	PAN#96	P5-2233/7	2010	1		Undate of test case 8.2.3.6.2b for Inter-band measurements	16120
2022-00	117111#30	110-220047	2313	1		Event A3 in NE-DC	10.12.0
2022-06	RAN#96	R5-223350	2920	-	F	Correction to emergency services test case 11.4.4	16.12.0
2022-06	RAN#96	R5-223358	2914	1	F	Correction to NR testcase 8.1.4.4.4	16.12.0
2022-06	RAN#96	R5-223366	2932	1	F	Update of TC 12.1.3.1- PC5-only operation / Measurement	16.12.0
2022 00			2002	-		configuration and reporting via PC5 RRC / PSBCH-RSRP	10.12.0
						measurement configuration	
2022-06	RAN#96	R5-223367	2933	1	F	Update of TC 12.1.5.1- PC5-only operation / Sidelink CSI	16.12.0
			'			reporting	
2022-06	RAN#96	R5-223368	2934	1	F	Update of TC 12.1.5.2- PC5-only operation / Sidelink CSI	16.12.0
						reporting	
2022-06	RAN#96	R5-223369	2935	1	F	Update of TC 12.2.1.6- Inter-carrier concurrent operation /	16.12.0
						Sidelink communication / RRC_CONNECTED / Reception	

2022-06	RAN#96	R5-223370	2937	1	F	Update of TC 12.2.5.3- Inter-carrier concurrent operation /	16.12.0
						Measurement configuration and reporting via PC5 RRC /	
						PSBCH-RSRP measurement reporting / Periodical reporting	
2022-06	RAN#96	R5-223371	2956	1	F	Addition of new NR V2X test case 12.1.4.1	16.12.0
2022-06	RAN#96	R5-223372	2957	1	F	Addition of new NR V2X test case 13.2.3	16.12.0
2022-06	RAN#96	R5-223373	2958	1	F	Addition of new NR V2X test case 13.2.4	16.12.0
2022-06	RAN#96	R5-223374	2963	1	F	Addition of new NR V2X test case 12.1.4.2	16.12.0
2022-06	RAN#96	R5-223375	2965	1	F	Update of NR V2X TC 12.1.3.3	16.12.0
2022-06	RAN#96	R5-223376	2976	1	F	Correction to NR V2X NAS TC 13.2.6-link keep alive	16.12.0
2022-06	RAN#96	R5-223379	2896	1	F	Addition of new NR5G NPN TC 6.5.2.3	16.12.0
2022-06	RAN#96	R5-223380	2922	1	В	Addition of new NR5GC CAG testcase 6.5.2.6	16.12.0
2022-06	RAN#96	R5-223381	2924	1	F	Correction to NR5GC CAG testcase 6.5.2.1	16.12.0
2022-06	RAN#96	R5-223382	2953	1	F	Undate of NR5G NPN TC 6.5.2.2 and 6.5.2.4	16 12 0
2022-06	RAN#96	R5-223385	2904	1	F	Correction to NR MDT test case 8 1 6 1 4 8	16 12 0
2022-06	RAN#96	R5-223386	2979	1	, F	Undate of NR MDT test case 81632 x	16 12 0
2022-06		P5-223300	2000	1		Addition of new NP EIEI test case 8.1.4.1.10	16 12 0
2022-00		RJ-223392	2900	1		Addition of ND EIEI test case 0.1.4.1.10	16 12 0
2022-00		RJ-223393	2909	1		Addition of ND EIEI test case 11.5.0	16 12 0
2022-00		R5-223394	2990	1		Addition of NR EIEI test case 11.5.7	10.12.0
2022-06		R5-223395	2992			Addition of NR EIEI test case 11.5.9	10.12.0
2022-06	RAN#96	R5-223396	2993	1		Addition of NR EIEI test case 11.5.10	16.12.0
2022-06	RAN#96	R5-223397	2994	1	F	Addition of NR EIEI test case 11.5.11	16.12.0
2022-06	RAN#96	R5-223398	2995	1	F	Addition of NR EIEI test case 11.5.13	16.12.0
2022-06	RAN#96	R5-223402	2926	1	F	Modification of testcase 8.1.5.11.2 Idle/Inactive	16.12.0
0000.00	DANUUQQ	55 000 400	0000			measurements	10.10.0
2022-06	RAN#96	R5-223403	2929	1		Modification of testcase 8.1.5.11.3 Idle/Inactive	16.12.0
2022.06		DE 222404	2072	1		Medification of testages 0.1 E.11.4 idle/insetive	16 1 2 0
2022-06	RAN#90	R5-223404	2973	L T		modification of testcase 8.1.5.11.4 Idie/Inactive	10.12.0
2022-06	PAN#96	P5-223405	208/	1	F	Modification of testcase 8 1 5 11 5 idle/inactive	16120
2022 00		110 220400	2004	1		measurements	10.12.0
2022-06	RAN#96	R5-223406	2985	1	F	Modification of testcase 8.1.5.11.6 idle/inactive	16.12.0
					-	measurements	
2022-06	RAN#96	R5-223418	2983	1	F	Correction to SOR test case 6.3.1.10	16.12.0
2022-06	RAN#96	R5-223419	2878	1	F	Correction to NR MAC test case 7.1.1.1.2	16.12.0
2022-06	RAN#96	R5-223420	2879	1	F	Correction to NR MAC test case 7.1.1.3.3	16.12.0
2022-06	RAN#96	R5-223421	2909	1	F	Corrections to NR IIoT PDCP test cases 7.1.3.5.6.x	16.12.0
2022-06	RAN#96	R5-223422	2916	1	F	Correction to NR5GC testcase 7.1.3.4.1	16.12.0
2022-06	RAN#96	R5-223423	2949	1	F	Correction to NR5GC testcase 8 1 1 2 4	16 12 0
2022-06	RAN#96	R5-223424	2946	1	F	Correction to NR CA TC 8 1 5 7 1-CA duplication	16 12 0
2022-06	PAN#96	R5 223424	2040	1		Undate of RACS TC 8 1 5 9 1	16 12 0
2022-00		RJ-223425	2931	1		Addition of now tost case 9.2.5.2.2	16 12 0
2022-00		R5-223420	2930			Addition of new lest case 6.2.3.3.3	16 12 0
2022-06		R5-223427	2952	1		Opuale of 56 min TC 9.1.5.1.15	10.12.0
2022-06	RAN#90	R5-223428	2978	1		Correction of Equivalent PLMN ID in the test procedure of	10.12.0
2022-06	RANI#06	R5-222420	2800	1		S.L.J.L.Z	16120
2022-00		D5-223429	2005	1		Correction to ND5CC toctors 11.1.2	16 12 0
2022-00		R5-223430	2905	1		Correction to NR 5GC testcase 11.1.2	10.12.0
2022-06	RAN#90	R5-223431	2945	1		Correction to NR TC 11.1.2-EPS Failback with redirection	10.12.0
2022 06		P5-222422	2050	1			16120
2022-00	DANI#30	D5-000400	2900	1		Lindate of 5C-SDVCC TC 11.2.1	16 12 0
2022-00		DE 202424	2900			Correction to TC 11.2.9 LIAC / Access Identity 0 / ND	16 12 0
2022-06	KAN#90	KO-223434	2092	+		DURECTION TO TE 3.8 UAC / ACCESS IDENTITY U / NR	10.12.0
2022-06	RANI#06	R5-222125	2028	1			16120
2022-00		DE 222400	2020			Correction to NP TC 11.2.5 LIAC New cell not in the country	16 12 0
2022-00	RAN#90	170-223430	2939	-			
2022-06	RANI#96	R5-223437	2940	1	F	Correction to NR TC 11 3 6-LIAC for Access Identity 2	16 12 0
2022-06	RΔNI#06	R5-223/22	2801	1		Correction of 5GS IMS test case 11 4 12	16 12 0
2022-00		P5-223430	2031	1		Correction to Emergency Call test cases 11.4 v	16 12 0
1 2022-00	1 TAN#30	113-223439	2312	1 -		Conscion to Emergency Call lest cases 11.4.X	1 10.12.0

2022-06	RAN#96	R5-223440	2898	1	F	Correction to NR5GC testcase 11.6.x	16.12.0
2022-06	RAN#96	R5-223441	2980	1	F	Updates to test case 11.6.1	16.12.0
2022-06	RAN#96	R5-223495	2959	1	F	Addition of new SNPN test case	16.12.0
2022-06	RAN#96	R5-223496	2927	1	F	Correction to SON-MDT test case 8.1.6.1.2.x	16.12.0
2022-06	RAN#96	R5-223497	2960	1	F	Addition of new NR-NR Dual Connectivity test case	16.12.0
2022-09	RAN#97	R5-223931	3004	-	F	Corrections to NR MAC TC 7.1.1.3.12	16.13.0
2022-09	RAN#97	R5-223935	3005	-	F	Correction to NR MAC TC 7.1.1.1.3	16.13.0
2022-09	RAN#97	R5-223986	3009	-	F	Update of NR5GC CAG TC 6.5.2.4	16.13.0
2022-09	RAN#97	R5-223990	3010	-	F	Update of SRVCC TC 8.1.3.2.6	16.13.0
2022-09	RAN#97	R5-223991	3011	-	F	Update of SRVCC TC 8.1.3.2.7	16.13.0
2022-09	RAN#97	R5-223992	3012	-	F	Update of SRVCC TC 8.1.3.2.8	16.13.0
2022-09	RAN#97	R5-223993	3013	-	F	Update of NR MDT TC 8.1.6.1.2.7	16.13.0
2022-09	RAN#97	R5-223994	3014	-	F	Update of NR MDT TC 8.1.6.1.4.3	16.13.0
2022-09	RAN#97	R5-223995	3015	-	F	Undate of NR MDT TC 816144	16 13 0
2022-09	RAN#97	R5-223997	3017	-	F	Editorial undate of UAC TC 11.3.2	16 13 0
2022-09	RAN#97	R5-224007	3018	-	F	Undate of NR MDT TC 816313	16 13 0
2022-09	RANI#97	R5-224029	3019	_	F	Undate to 5GC test case 9.1.6.1.3	16 13 0
2022-09	RΔNI#97	R5-224023	3021	_	r F	Editorial undate to LIAC test case titles in 38 523-1	16 13 0
2022-00	RΔNI#07	R5-224048	3021	_		New NE-DC RRC Radio Rearer test case 8 2 2 2 3	16 13 0
2022-03		P5-224040	2025	_		New NE-DC PRC Padio Bearer test case 0.2.2.2.3	16 12 0
2022-09		R5-224050	2025	-		New NE-DC RRC Radio Bearer test case 0.2.2.0.3	16 12 0
2022-09	RAN#97	RJ-224051	2015	-		Correction to NP MAC test case 7.1.1.1.1	16 12 0
2022-09		R3-224127	2045	-		Editorial correction to NB MAC test case 7.1.1.1.1	16 12 0
2022-09		R5-224128	3040	-		Eulonal correction to NR MAC test case 7.1.1.2.0	16.13.0
2022-09		R5-224129	3047	-		Correction to NR MAC lest case 7.1.1.3.9	10.13.0
2022-09		R5-224130	3048	-		Correction to NR RRC test cases 8.1.4.1.5 and 8.1.4.1.6	10.13.0
2022-09		R5-224131	3049	-		Correction to Inter-RAT SON-MDT test case 8.1.6.2.1	16.13.0
2022-09		R5-224165	3052	-		Correction to NR5GC testcase 9.1.10.3	16.13.0
2022-09		R5-224180	3053	-		Correction to NR5GC MDT testcase 8.1.6.1.4.8	16.13.0
2022-09		R5-224191	3054	-		Correction to NR5GC MDT testcase 8.1.6.1.1.2	16.13.0
2022-09	RAN#97	R5-224192	3055	-		Correction to NR5GC MD1 testcase 8.1.6.1.3.4	16.13.0
2022-09	RAN#97	R5-224195	3056	-	F	Correction to NR testcase 9.1.4.1	16.13.0
2022-09	RAN#97	R5-224200	3058	-	F	Correction to NR test case 8.1.5.2.2	16.13.0
2022-09	RAN#97	R5-224201	3059	-	F	Correction to NR test case 8.1.1.4.1	16.13.0
2022-09	RAN#97	R5-224202	3060	-	F	Correction to NR test case 7.1.1.1.2	16.13.0
2022-09	RAN#97	R5-224203	3061	-	F	Correction to NR testcase 7.1.1.1.1a	16.13.0
2022-09	RAN#97	R5-224340	3066	-	F	Editorial Correction - Add VOID to CAG TC 6.5.2.5	16.13.0
2022-09	RAN#97	R5-224342	3067	-	F	Correction to NR 5GC CAG TC 6.5.2.4	16.13.0
2022-09	RAN#97	R5-224344	3068	-	F	Correction to SNPN NAS test case 9.1.11.1	16.13.0
2022-09	RAN#97	R5-224352	3074	-	F	Editorial update to UAC test case 11.3.8	16.13.0
2022-09	RAN#97	R5-224354	3076	-	F	Corrections to NR TC 8.1.4.4.2	16.13.0
2022-09	RAN#97	R5-224355	3077	-	F	Correction to NR TC 8.1.4.4.4	16.13.0
2022-09	RAN#97	R5-224383	3080	-	F	Correction to NR testcase 8.2.6.2.2	16.13.0
2022-09	RAN#97	R5-224388	3084	-	F	Correction to NR5GC CAG TC 6.5.2.3	16.13.0
2022-09	RAN#97	R5-224440	3089	-	F	Addition of new NR EIEI test case 11.5.8	16.13.0
2022-09	RAN#97	R5-224445	3092	-	F	Addition of NR EIEI test case 11.5.12	16.13.0
2022-09	RAN#97	R5-224446	3093	-	F	Update to NR EIEI test case 11.5.5	16.13.0
2022-09	RAN#97	R5-224447	3094	-	F	Update to NR EIEI test cases 11.5.1, 11.5.2	16.13.0
2022-09	RAN#97	R5-224448	3095	-	F	Update to SDAP test case 7.1.4.1	16.13.0
2022-09	RAN#97	R5-224449	3096	-	F	Editorial update to test case 9.1.5.2.7	16.13.0
2022-09	RAN#97	R5-224450	3097	-	F	Editorial update to UAC Test Case 11.3.1a	16.13.0
2022-09	RAN#97	R5-224452	3098	-	F	Correction to NR DC test case 8.2.3.14.2	16.13.0
2022-09	RAN#97	R5-224455	3100	-	F	Editorial update to test case 11.3.6	16.13.0
2022-09	RAN#97	R5-224456	3101	-	F	Updates to NR MAC TC 7.1.1.3.9	16.13.0
2022-09	RAN#97	R5-224482	3104	-	F	Correction to 5GS Test case 11.3.4	16.13.0
2022-09	RAN#97	R5-224485	3107	-	F	Update of test case 8.1.6.4.1	16.13.0

2022-09	RAN#97	R5-224559	3110	-	F	Addition of NR SL SIG TC 12.1.2.1 - PC5 only SyncRef	16.13.0
0000.00	DANUOZ	DF 004500	0111		_		10.10.0
2022-09	RAN#97	R5-224560	3111	-	+ 	Addition of NR SL SIG TC 12.1.2.2 - PC5 only S-SSB Tx	16.13.0
2022-09	RAN#97	R5-224561	3112	-	F	Addition of NR SL SIG TC 12.2.2.1 - Concurrent SyncRef	16.13.0
2022.00		DE 224562	2112		-	reeselection	16 12 0
2022-09		R5-224502	3113	-		Addition of NR SE SIG TC 12.2.2.2 - Concurrent System C1	16 12 0
2022-09	RAN#97	R5-224563	3114	-	F	Correction to NR SE SIG TO 12.2.3.1 - Concurrent Event C1	10.13.0
2022-00		D5-224564	2115	_		Addition of NP SL SIG TC 12.2.5.1 - Concurrent SL-PSPP	16 12 0
2022-03		113-224304	5115	_	l'	Config	10.13.0
2022-09	RAN#97	R5-224565	3116	-	F	Addition of NR SL SIG TC 12.2.5.2 - Concurrent Event S1	16.13.0
					[·	and S2	
2022-09	RAN#97	R5-224567	3118	-	F	Addition of NR SL SIG TC 12.2.8.1 - Concurrent Reconfig	16.13.0
						failure	
2022-09	RAN#97	R5-224568	3119	-	F	Addition of NR SL SIG TC 12.2.8.3 - Concurrent SL radio	16.13.0
						link failure	
2022-09	RAN#97	R5-224571	3121	-	F	Correction to NR TC 6.4.1.1- Automatic PLMN Selection	16.13.0
2022-09	RAN#97	R5-224572	3122	-	F	Correction to NR TC 6.4.1.2- ePLMN manual selection	16.13.0
2022-09	RAN#97	R5-224573	3123	-	F	Correction to NR TC 6.4.2.1- Cell Reselection	16.13.0
2022-09	RAN#97	R5-224574	3124	-	F	Correction to NR TC 6.4.2.2- Cell Reselection SIB priority	16.13.0
2022-09	RAN#97	R5-224575	3125	-	F	Correction to NR TC 8.1.3.1.12 - SINR A5	16.13.0
2022-09	RAN#97	R5-224577	3127	-	F	Correction to NE-DC TC 8.2.2.5.3 - Split DRB	16.13.0
2022-09	RAN#97	R5-224581	3130	-	F	Update of TC 12.2.1.2- Inter-carrier concurrent operation /	16.13.0
						Sidelink communication / RRC_IDLE / Reception	
2022-09	RAN#97	R5-224582	3131	-	F	Update of TC 12.1.3.2- PC5-only operation / Measurement	16.13.0
						configuration and reporting via PC5 RRC / PSBCH-RSRP	
						measurement reporting / Event S1 and S2	
2022-09	RAN#97	R5-224597	3141	-	F	Addition of new NE-DC test case 8.2.3.12.2	16.13.0
2022-09	RAN#97	R5-224598	3142	-	F	Update of NE-DC test case 8.2.3.6.2	16.13.0
2022-09	RAN#97	R5-224599	3143	-	F	Update of test case 8.2.3.4.1	16.13.0
2022-09	RAN#97	R5-224713	3154	-	F	Correction to NR TC 7.1.1.4.2.4 - DCI format 0_1 256QAM	16.13.0
2022-09	RAN#97	R5-224716	3157	-	F	Correction to NR TC 11.3.7 - 0 accessibility for AC2	16.13.0
2022-09	RAN#97	R5-224717	3158	-	F	Correction to NR TC 11.3.9 - ODAC	16.13.0
2022-09	RAN#97	R5-224718	3159	-	F	Correction to NR TC 11.4.1 - Emergency call and AKA fail	16.13.0
2022-09	RAN#97	R5-224720	3161	-	F	Addition NR TC 11.4.10 back and rename it to 11.4.10a	16.13.0
2022-09	RAN#97	R5-224921	3174	-	F	Update to NR EIEI test case 11.5.6	16.13.0
2022-09	RAN#97	R5-224928	3179	-	F	Correction of UL Grant Prioritization MAC test case	16.13.0
2022-09	RAN#97	R5-224929	3180	-	F	Addition of new NR-NR Dual Connectivity test case	16.13.0
2022-09	RAN#97	R5-225052	3189	-	F	38523-1 correction of Back-off timer value in the test	16.13.0
						procedure of 10.1.3.2	
2022-09	RAN#97	R5-225129	3195	-	F	38523-1 correction on handover type in test case 8.1.4.4.4	16.13.0
2022-09	RAN#97	R5-225171	3197	-	F	38523-1 power level adjustment in test case 8.1.4.4.3	16.13.0
2022-09	RAN#97	R5-225199	3201	-	F	Updates to test case 8.1.1.4.4	16.13.0
2022-09	RAN#97	R5-225200	3202	-	F	Updates to test case 8.1.1.4.7	16.13.0
2022-09	RAN#97	R5-225245	3204	-	F	Update test case 11.1.3a	16.13.0
2022-09	RAN#97	R5-225246	3205	-	F	Correction to the test case 8.1.4.2.1.2	16.13.0
2022-09	RAN#97	R5-225260	3206	-	F	Addition of new test case 11.3.10 for access category 9 on	16.13.0
						Access identitiy 0	
2022-09	RAN#97	R5-225281	3057	1	F	Correction to NR testcases 8.1.5.7.1.1, 8.1.5.7.1.2 and	16.13.0
						8.1.5.7.1.3	
2022-09	RAN#97	R5-225282	3144	1	F	Correction to NR5GC RRC test case 8.2.2.1.1	16.13.0
2022-09	RAN#97	R5-225283	3073	1	F	Editorial Corrections for TC 9.1.2.6	16.13.0
2022-09	RAN#97	R5-225292	3128	1	F	Update of TC 13.2.5- PC5 unicast / link identifier update	16.13.0
2022-09	RAN#97	R5-225293	3129	1	F	Update of TC 12.2.3.2- Inter-carrier concurrent operation /	16.13.0
						Measurement configuration and reporting via Uu RRC / CBR	
						measurement reporting / Periodical reporting	
2022-09	RAN#97	R5-225294	3175	1	F	Correction of NR V2X test case 12.1.6.3	16.13.0
2022-09	RAN#97	R5-225295	3176	1	F	Correction of NR V2X test case 13.2.4	16.13.0

2022-09	RAN#97	R5-225297	3086	1	F	Correction of test cases 7.1.1.12.4	16.13.0
2022-09	RAN#97	R5-225302	3064	1	F	Correction to Idle Mode Test Case to enable SNPN Only UE	16.13.0
2022-09	RAN#97	R5-225303	3065	1	F	Correction to SNPN TC 6.5.1.2	16.13.0
2022-09	RAN#97	R5-225304	3069	1	F	Correction to NR 5GC CAG testcase 8.1.7.1.1	16.13.0
2022-09	RAN#97	R5-225305	3082	1	F	Correction to NR CAG testcase 6.5.2.1	16.13.0
2022-09	RAN#97	R5-225306	3203	1	F	Correction to NR CAG testcase 6.5.2.2	16.13.0
2022-09	RAN#97	R5-225307	3085	1	F	Correction to NR CAG testcase 6.5.2.6	16.13.0
2022-09	RAN#97	R5-225308	3177	1	F	Correction of NR SNPN test case 10.1.7.1	16.13.0
2022-09	RAN#97	R5-225317	3038	1	F	Update 2-step RACH test case 7.1.1.1.7	16.13.0
2022-09	RAN#97	R5-225318	3039	1	F	Update 2-step RACH test case 7.1.1.1.8	16.13.0
2022-09	RAN#97	R5-225319	3040	1	F	Update 2-step RACH test case 7.1.1.1.10	16.13.0
2022-09	RAN#97	R5-225320	3090	1	F	Addition of NR EIEI test case 11.5.4	16.13.0
2022-09	RAN#97	R5-225323	3062	1	F	Update RRC UE capability for PC1.5 duty cycle	16.13.0
2022-09	RAN#97	R5-225372	3103	1	F	Correction to idle mode test cases (applicable only for FR1	16.13.0
						bands)	
2022-09	RAN#97	R5-225373	3120	1	F	Correction to NR TC 6.1.2.11 - Area Specific SIBs	16.13.0
2022-09	RAN#97	R5-225374	3191	1	F	38523-1 correction on pre-test conditions of test case 6.1.1.1	16.13.0
2022-09	RAN#97	R5-225375	3196	1	F	Correction to NR testcase 6.3.1.3	16.13.0
2022-09	RAN#97	R5-225376	3200	1	F	Correction to NR testcase 6.3.1.5	16.13.0
2022-09	RAN#97	R5-225377	3081	1	F	Correction to NR testcase 7.1.1.6.3	16.13.0
2022-09	RAN#97	R5-225378	3155	1	F	Correction to NR TC 7.1.1.6.1 - SPS	16.13.0
2022-09	RAN#97	R5-225379	3099	1	F	Correction to PDCP test case 7.1.3.5.2	16.13.0
2022-09	RAN#97	R5-225380	3105	1	F	Correction to RRC Connection Management test cases	16.13.0
						(applicable only for FR1 bands)	
2022-09	RAN#97	R5-225381	3194	1	F	Correction to NR5GC RRC test case 8.1.1.2.3	16.13.0
2022-09	RAN#97	R5-225382	3190	1	F	38523-1 correction to test case 8.1.2.1.1	16.13.0
2022-09	RAN#97	R5-225383	3106	1	F	Correction to RRC Measurement test cases (applicable only	16.13.0
						for FR1 bands)	
2022-09	RAN#97	R5-225384	3006	1	F	Updates for NR RRC test case 8.1.5.1.1	16.13.0
2022-09	RAN#97	R5-225385	3193	1	F	Addition of test case for RRC downlink segmentation	16.13.0
2022-09	RAN#97	R5-225386	3016	1	F	Update of NR MDT TC 8.1.6.2.3	16.13.0
2022-09	RAN#97	R5-225387	3041	1	F	Update of Inter-RAT MDT test cases 8.1.6.2.x	16.13.0
2022-09	RAN#97	R5-225388	3042	1	F	Update of Inter-System MDT test cases 8.1.6.3.x	16.13.0
2022-09	RAN#97	R5-225389	3079	1	F	Correction to Intra NR MDT test cases 8.1.6.1.x	16.13.0
2022-09	RAN#97	R5-225390	3186	1	F	Update of NR MDT test case 8.1.6.1.3.6	16.13.0
2022-09	RAN#97	R5-225391	3007	1	F	Updates for EN-DC RRC test case 8.2.1.1.1	16.13.0
2022-09	RAN#97	R5-225392	3008	1	F	Updates for NE-DC RRC test case 8.2.1.1.2	16.13.0
2022-09	RAN#97	R5-225393	3022	1	F	New NR-DC RRC Radio Bearer test case 8.2.2.2.2	16.13.0
2022-09	RAN#97	R5-225394	3024	1	F	New NE-DC RRC Radio Bearer test case 8.2.2.7.3	16.13.0
2022-09	RAN#97	R5-225395	3027	1	F	New NE-DC measurements test case 8.2.3.1.2	16.13.0
2022-09	RAN#97	R5-225396	3030	1	F	New NE-DC measurements test case 8.2.3.2.2	16.13.0
2022-09	RAN#97	R5-225397	3031	1	F	New NE-DC measurements test case 8.2.3.7.2	16.13.0
2022-09	RAN#97	R5-225398	3032	1	F	New NE-DC measurements test case 8.2.3.7.2a	16.13.0
2022-09	RAN#97	R5-225399	3033	1	F	New NE-DC measurements test case 8.2.3.7.2b	16.13.0
2022-09	RAN#97	R5-225400	3034	1	F	New NE-DC measurements test case 8.2.3.8.2	16.13.0
2022-09	RAN#97	R5-225401	3035	1	F	New NE-DC measurements test case 8.2.3.8.2a	16.13.0
2022-09	RAN#97	R5-225402	3036	1	F	New NE-DC measurements test case 8.2.3.8.2b	16.13.0
2022-09	RAN#97	R5-225403	3108	1	F	Correction to ENDC Measurement test cases (applicable	16.13.0
0000 55			04.05		-	only for FR1 bands)	
2022-09	RAN#97	R5-225404	3139	1	F	Addition of new NE-DC test case 8.2.3.4.2	16.13.0
2022-09	RAN#97	R5-225405	3140	1	+ 	Addition of new NE-DC test case 8.2.3.5.2	16.13.0
2022-09	RAN#97	R5-225406	3050	1	F	Correction to ENDC test cases 8.2.4.2.1.x	16.13.0
2022-09	RAN#97	R5-225407	3078	1	F	Editorial update to NR Test case 9.1.6.1.3	16.13.0
2022-09	RAN#97	R5-225408	3188	1	F	Update of test case 9.1.10.6	16.13.0
2022-09	RAN#97	R5-225409	3051	1	F	Correction to NR5GC IRAT test case 11.4.11	16.13.0
2022-09	RAN#97	R5-225410	3160	1	F	Correction to NR TC 11.4.5 - Emergency call and forbidden	16.13.0

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2022-09	RAN#97	R5-225411	3192	1	F	Update of test case 11.4.5	16.13.0
2022-09	RAN#97	R5-225412	3183	1	F	Add new test case 11.8.5 Inter-system mobility between	16.13.0
						untrusted Non-3GPP and 3GPP system/Handover from 5GS	
						to EPC/ePDG	
2022-09	RAN#97	R5-225448	3117	1	F	Addition of NR SL SIG TC 12.2.7.2 - Concurrent SL CSI	16.13.0
2022.00		DE 225440	2002	1		reporting	16 12 0
2022-09		R5-225449	3083	T		Confection to EPS FB rest case 11.1.2	17.0.0
2022-09		R5-224209	3063	-		Add Msg3 repetition protocol test case	17.0.0
2022-09		R5-225173	3199	-		New RedCap lest case 11.7.2	17.0.0
2022-09		R5-225335	3133	1 T		Addition of new test case 10.1.8.1- NASC / PDU session	17.0.0
						reached / Back-off timer is neither zero nor deactivated	
2022-09	RAN#97	R5-225336	3135	1	F	Addition of new test case 10.1.8.2- NASC / PDU session	17.0.0
						establishment reject / Maximum number of PDU sessions	
						reached / Back-off timer is deactivated	
2022-09	RAN#97	R5-225337	3136	1	F	Addition of new test case 10.1.8.3-NASC / PDU session	17.0.0
						establishment reject / Maximum number of PDU sessions	
						reached / Back-off timer is zero or not included	
2022-09	RAN#97	R5-225338	3137	1	F	Addition of new eNS Ph2 test case 9.1.12.1	17.0.0
2022-09	RAN#97	R5-225339	3138	1	F	Addition of new eNS Ph2 test case 9.1.12.2	17.0.0
2022-09	RAN#97	R5-225340	3178	1	F	Addition of new eNS Test Case for NSAC Initial registration	17.0.0
2022.00		DE 005044	0150	1	_	rejected	1700
2022-09		R5-225344	3152			Addition of RedCap TC 7.1.1.8.3 - Separate BWP	17.0.0
2022-09	RAN#97	R5-225345	3153	1 I		Addition of RedCap TC 7.1.1.1.16 - MSG3 identification on	17.0.0
2022-00	Ρ ΔΝΙ#07	P5-2253/6	3171	1		Addition of RedCan TC 6.1.2.26 - Cell Selection	1700
2022-09		D5-225340	2172	1		Addition of RedCap TC 7.1.1.1.17 - Msg1-based LIE	17.0.0
2022-09		113-223347	5172	1		identification	117.0.0
2022-09	RAN#97	R5-225348	3198	1	F	New RedCap test case 8.1.3.4.1	17.0.0
2022-12	RAN#98	R5-226018	3208		F	Correction of SIB1 for CAG TC 6.5.2.x	17.1.0
2022-12	RAN#98	R5-226019	3209		F	Correction of NR URLLC MAC TC 7.1.1.4.1.5	17.1.0
2022-12	RAN#98	R5-226021	3210		F	Correction of NR MAC TC 7.1.1.7.1.3	17.1.0
2022-12	RAN#98	R5-226023	3212		F	Correction of NAS MICO test case 9.1.5.1.4	17.1.0
2022-12	RAN#98	R5-226042	3214		F	Correction to test case 11.4.10a	17.1.0
2022-12	RAN#98	R5-226043	3215		F	Corrections to NR PDCP test case 7.1.3.5.6	17.1.0
2022-12	RAN#98	R5-226044	3216		F	Corrections to NR PDCP test case 7.1.3.5.7	17.1.0
2022-12	RAN#98	R5-226045	3217		F	Updates to NR RRC TC 8.1.1.2.4	17.1.0
2022-12	RAN#98	R5-226047	3219		F	Updates to NR RRC TC 8.1.5.8.1	17.1.0
2022-12	RAN#98	R5-226235	3224		F	Correction of NR5GC CAG TC 6.5.2.4	17.1.0
2022-12	RAN#98	R5-226241	3230		F	Update of reference in Emergency Services TC 11.4.10a	17.1.0
						and 11.4.11	
2022-12	RAN#98	R5-226302	3232		F	Correction to NR testcase 6.5.2.1	17.1.0
2022-12	RAN#98	R5-226304	3234		F	Correction to NR testcases 11.4.3 and 11.4.5	17.1.0
2022-12	RAN#98	R5-226306	3236		F	Correction to NR5GC testcase 11.4.12	17.1.0
2022-12	RAN#98	R5-226307	3237		F	Correction to NR testcase 6.3.1.5	17.1.0
2022-12	RAN#98	R5-226313	3239		F	Update test case 8.1.1.4.7	17.1.0
2022-12	RAN#98	R5-226315	3241		F	Add test case 8.1.2.1.5.5	17.1.0
2022-12	RAN#98	R5-226316	3242		F	Add test case 8.1.2.1.5.6	17.1.0
2022-12	RAN#98	R5-226394	3256		F	Correction to NR testcase 7.1.1.2.2	17.1.0
2022-12	RAN#98	R5-226407	3259		F	Correction to NR5GC MDT Test case 8.1.6.1.2.7	17.1.0
2022-12	RAN#98	R5-226408	3260		F	Correction to RRC test case 8.1.5.9.1	17.1.0
2022-12	RAN#98	R5-226603	3282		F	Update of SNPN TC 6.5.1.3- SNPN / User Reselection in	17.1.0
						Automatic Mode	
2022-12	RAN#98	R5-226605	3284		F	Correction to EPS Fallback test case 11.1.5	17.1.0
2022-12	RAN#98	R5-226607	3286		F	Correction to NR5GC RRC test case 8.1.1.2.3	17.1.0
2022-12	RAN#98	R5-226608	3287		F	Correction to NR MAC test case 7.1.1.4.2.4	17.1.0
2022-12	RAN#98	R5-226618	3289		F	Update of TC 12.1.3.2- PC5-only operation / Measurement	17.1.0

						configuration and reporting via PC5 RRC / PSBCH-RSRP	
						measurement reporting / Event S1 and S2	
2022-12	RAN#98	R5-226619	3290		F	Update of V2X TC 12.1.4.1- PC5-only operation / Sidelink	17.1.0
						Reconfiguration via PC5 RRC / SL-DRB management /	
						initiating UE side	
2022-12	RAN#98	R5-226620	3291		F	Update of V2X TC 12.1.4.2- PC5-only operation / Sidelink	17.1.0
						Reconfiguration via PC5 RRC / SL DRB management / Peer	
0000.40	DANUUGO	55.000001	0000		_		1710
2022-12	RAN#98	R5-226621	3292		F	Update of TC 12.2.1.2- Inter-carrier concurrent operation /	17.1.0
2022-12		D5-226780	3208			Undate of TC 10 1.8 1, NASC / DDL session establishment	1710
2022-12		15-220700	5290			reject / Maximum number of PDU sessions reached / Back-	11.1.0
						off timer is neither zero nor deactivated	
2022-12	RAN#98	R5-226783	3299		F	Update of TC 10.1.8.2-NSAC / PDU session establishment	17.1.0
						reject / Maximum number of PDU sessions reached / Back-	
						off timer is deactivated	
2022-12	RAN#98	R5-226897	3313		F	Updates to Correct Handling of HARQ process / Multiple	17.1.0
						CORESETPoolIndex	
2022-12	RAN#98	R5-226943	3316		F	Correction to Mob_Enh SIG TC 7.1.3.4.3-DAPS PDCP HO	17.1.0
2022-12	RAN#98	R5-226944	3317		F	Correction to Mob_Enh SIG TC 8.1.4.4.4-Conditional HO	17.1.0
2022-12	RAN#98	R5-226947	3320		F	Update to NR TC 7.1.2.3.6 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-226948	3321		F	Update to NR TC 7.1.2.3.8 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-226953	3324		F	Correction to NR RACS test case 9.1.9.1	17.1.0
2022-12	RAN#98	R5-226954	3325		F	Correction to NR RACS test case 9.1.9.2	17.1.0
2022-12	RAN#98	R5-226955	3326		F	Correction to NR RACS test case 9.1.9.3	17.1.0
2022-12	RAN#98	R5-226956	3327		F	Correction to NR RACS test case 9.1.9.4	17.1.0
2022-12	RAN#98	R5-226957	3328		F	Correction to NR RACS test case 9.1.9.5	17.1.0
2022-12	RAN#98	R5-226959	3330		F	Correction to NR RACS test case 9.1.9.7	17.1.0
2022-12	RAN#98	R5-226964	3332		F	Inclusive Language review_38523-1_s06	17.1.0
2022-12	RAN#98	R5-226965	3333		F	Inclusive Language review_38523-1_s08_01_01	17.1.0
2022-12	RAN#98	R5-226967	3335		F	Inclusive Language review_38523-1_s08_01_06	17.1.0
2022-12	RAN#98	R5-226968	3336		F	Inclusive Language review 38523-1 s08 02 03	17.1.0
2022-12	RAN#98	R5-226969	3337		F	Inclusive Language review 38523-1 s08 02 05	17.1.0
2022-12	RAN#98	R5-227018	3341		F	Corrections to UL Multi configured Grant test case	17.1.0
2022-12	RAN#98	R5-227022	3344		F	Corrections to mapping restriction test case	17.1.0
2022-12	RAN#98	R5-227051	3358		F	Update NE-DC RRC Radio Bearer test case 8.2.2.2.1	17.1.0
2022-12	RAN#98	R5-227053	3360		F	Update NE-DC RRC Radio Bearer test case 8.2.2.2.3	17.1.0
2022-12	RAN#98	R5-227054	3361		F	Update NE-DC RRC Radio Bearer test case 8.2.2.7.3	17.1.0
2022-12	RAN#98	R5-227055	3362		F	Update NE-DC RRC Radio Bearer test case 8.2.2.9.3	17.1.0
2022-12	RAN#98	R5-227056	3363		F	Update NE-DC RRC Radio Bearer test case 8.2.3.2.2	17.1.0
2022-12	RAN#98	R5-227058	3365		F	New MR-DC handover test case 8.2.3.14.3	17.1.0
2022-12	RAN#98	R5-227126	3374		F	Correction to NR TC 10.1.1.1-PDU session authentication	17.1.0
						and authorization	
2022-12	RAN#98	R5-227127	3375		F	Correction to NR TC 9.1.4.1-Generic UE configuration	17.1.0
						update	
2022-12	RAN#98	R5-227130	3378		F	Addition of MBS Broadcast TC 14.1.1.1-acquire MCCH	17.1.0
						information after enter a Cell providing SIB20	
2022-12	RAN#98	R5-227131	3379		F	Addition of MBS Broadcast TC 14.1.2.1-frequency	17.1.0
						prioritization for Cell reselection	
2022-12	RAN#98	R5-227132	3380		F	Addition of MBS Broadcast TC 14.1.2.2-MBS Interest	17.1.0
2022 12		DE 007100	2201		_	Indication-interfreq	1710
2022-12	RAN#98	R5-22/133	3381		F	Addition of MBS Broadcast TC 14.1.2.3-MBS Interest	17.1.0
2022.12	ΡΔΝΙ#ΩΟ	P5-227124	2200			Addition of MBS Broadcast TC 1/ 1 2 1 Hord	1710
2022-12	DVVIA 430	D5-227124	2202			Addition of MBS Broadcast TC 14.1.3.1-Day	1710
2022-12	DVN1#20	D5-007156	3300			Correction of PodCan TC 6.1.2.26 Coll Selection	1710
2022-12	DVVIA 430	P5-227162	2201				1710
2022-12	DANI#90	DE 227162	2205			Undate to NP TC 7.1.1.4.1.1 to test DedCap UE	1710
12022-12	rtAN#9ŏ	142-22/103	5395	I		UPUALE IN INT IC 1.1.1.4.1.1 IU LESI REUCAD UE	111.1.0

2022-12	RAN#98	R5-227164	3396		F	Update to NR TC 7.1.2.3.7 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227166	3398		F	Update to NR TC 7.1.1.4.2.1 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227167	3399		F	Update to NR TC 7.1.1.4.2.3 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227168	3400		F	Update to NR TC 7.1.1.4.2.4 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227169	3401		F	Update to NR TC 7.1.1.4.2.5 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227170	3402		F	Update to NR TC 7.1.1.9.1 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227171	3403		F	Correction of V2X TC 13.1.1-V2X policy provisioning.	17.1.0
2022-12	RAN#98	R5-227172	3404		F	Correction of V2X TC 13.2.1-PC5 unicast Conflict Layer 2 ID	17.1.0
2022-12	RAN#98	R5-227239	3408		F	Correction to SOR test case 6.3.1.7	17.1.0
2022-12	RAN#98	R5-227241	3410		F	Update to NR EIEI test case 11.5.7	17.1.0
2022-12	RAN#98	R5-227244	3411		F	Update to NR EIEI test case 11.5.5	17.1.0
2022-12	RAN#98	R5-227256	3413		F	Addition of NR EIEI test case 11.5.14	17.1.0
2022-12	RAN#98	R5-227280	3418		F	Addition of NR-U test case 8.1.8.2.1	17.1.0
2022-12	RAN#98	R5-227393	3426		F	Removal of Editors note in DL grant prioritization test case	17.1.0
2022-12	RAN#98	R5-227412	3272	1	F	Addition of new Idle mode TC 6.1.1.4a	17.1.0
2022-12	RAN#98	R5-227413	3273	1	F	Addition of new Idle mode TC 6.1.2.15a	17.1.0
2022-12	RAN#98	R5-227414	3211	1	F	Correction of NR MAC TC 7.1.1.7.1.x	17.1.0
2022-12	RAN#98	R5-227415	3255	1	F	Correction to NR testcase 7.1.1.6.3	17.1.0
2022-12	RAN#98	R5-227416	3257	1	F	Correction to NR testcases 7.1.1.4.2.x	17.1.0
2022-12	RAN#98	R5-227417	3270	1	F	Corrections to Bandwidth Part TC 7.1.1.8.1	17.1.0
2022-12	RAN#98	R5-227418	3422	1	F	Correction to NR MAC test case 7.1.1.9.1	17.1.0
2022-12	RAN#98	R5-227419	3340	1	F	Corrections to DL Multi Semi-persistent configuration test	17.1.0
			0010	1	Ľ	case	11.1.0
2022-12	RAN#98	R5-227420	3423	1	F	Correction to NR RLC test case 7.1.2.2.6	17.1.0
2022-12	RAN#98	R5-227421	3424	1	F	Correction to NR RLC test case 7.1.2.3.11	17.1.0
2022-12	RAN#98	R5-227422	3415	1	F	Editorial corrections to TC 8.1.2.1.5.1	17.1.0
2022-12	RAN#98	R5-227423	3226	1	F	Correction of NRRC TC 8.1.3.2.2	17.1.0
2022-12	RAN#98	R5-227424	3222	1	F	Correction to Mob Enh SIG TC 8.1.4.3.1 - DAPS HO key	17.1.0
						change	
2022-12	RAN#98	R5-227425	3223	1	F	Correction to Mob_Enh SIG TC 8.1.4.3.2 - DAPS HO failure	17.1.0
2022-12	RAN#98	R5-227426	3231	1	F	Correction to NR testcase 8.1.4.2.1.2	17.1.0
2022-12 2022-12	RAN#98 RAN#98	R5-227426 R5-227427	3231 3266	1 1	F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2	17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428	3231 3266 3271	1 1 1	F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1	17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429	3231 3266 3271 3227	1 1 1	F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3	17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430	3231 3266 3271 3227 3283	1 1 1 1	F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431	3231 3266 3271 3227 3283 3359	1 1 1 1 1	F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227430 R5-227431 R5-227432	3231 3266 3271 3227 3283 3359 3228	1 1 1 1 1 1	F F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431 R5-227432 R5-227433	3231 3266 3271 3227 3283 3359 3228 3364	1 1 1 1 1 1 1 1	F F F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431 R5-227432 R5-227433 R5-227433	3231 3266 3271 3227 3283 3359 3228 3364 3276	1 1 1 1 1 1 1 1	F F F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431 R5-227432 R5-227433 R5-227433 R5-227433	3231 3266 3271 3227 3283 3359 3228 3364 3276 3280	1 1 1 1 1 1 1 1 1 1	F F F F F F F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2 Editorial Correction to clause 8.2.7	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
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2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12 2022-12	RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431 R5-227432 R5-227433 R5-227433 R5-227435 R5-227436 R5-227437 R5-227438 R5-227439 R5-227440 R5-227441 R5-227442 R5-227443 R5-227444	3231 3266 3271 3227 3283 3359 3228 3364 3276 3280 3276 3280 3376 3213 3253 3377 3253 3406 3229 3285 3275	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2 Editorial Correction to clause 8.2.7 Correction to NR TC 9.1.5.1.3-request NSSAI Correction of NSSAI test case 9.1.10.2 Correction to NR testcases 9.1.10.1, 9.1.10.3, 9.1.10.4 and 9.1.10.6 Correction to NR eNS TC 9.1.10.4-NSSAA Editorial correction for test procedure sequence in 9.2.6.1.1.3.2 on TS38.523-1 Update of test case 9.1.10.6 Update of reference in EPS Fallback TC 11.1.x Correction to RFSGC test case 11.4.1	17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0 17.1.0
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2022-12 2022-12	RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227431 R5-227432 R5-227433 R5-227433 R5-227434 R5-227436 R5-227437 R5-227438 R5-227440 R5-227440 R5-227441 R5-227442 R5-227443 R5-227444 R5-227444 R5-227444	3231 3266 3271 3227 3283 3359 3228 3364 3276 3280 3276 3280 3276 3280 3275 3253 3406 3229 3285 3275 3265 3275 3366 3367	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2 Editorial Correction to clause 8.2.7 Correction to NR TC 9.1.5.1.3-request NSSAI Correction to NR TC 9.1.5.1.3-request NSSAI Correction to NR testcases 9.1.10.2 Correction to NR testcases 9.1.10.1, 9.1.10.3, 9.1.10.4 and 9.1.10.6 Correction to NR eNS TC 9.1.10.4-NSSAA Editorial correction for test procedure sequence in 9.2.6.1.1.3.2 on TS38.523-1 Update of test case 9.1.10.6 Update of reference in EPS Fallback TC 11.1.x Corrections to NR5GC test case 11.4.13 New IMS emergency call test case 11.4.14	17.1.0 17.1.0
2022-12 2022-12	RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227430 R5-227432 R5-227432 R5-227433 R5-227434 R5-227436 R5-227437 R5-227439 R5-227440 R5-227440 R5-227442 R5-227442 R5-227444 R5-227445 R5-227445	3231 3266 3271 3283 3359 3228 3364 3276 3280 3376 3213 3258 3377 3253 3377 3253 3406 3229 3285 3275 3366 3367 3354	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2 Editorial Correction to clause 8.2.7 Correction to NR TC 9.1.5.1.3-request NSSAI Correction to NR testcases 9.1.10.2 Correction to NR testcases 9.1.10.1, 9.1.10.3, 9.1.10.4 and 9.1.10.6 Correction to NR eNS TC 9.1.10.4-NSSAA Editorial correction for test procedure sequence in 9.2.6.1.1.3.2 on TS38.523-1 Update of test case 9.1.10.6 Update of reference in EPS Fallback TC 11.1.x Corrections to NR5GC test case 11.4.1 New IMS emergency call test case 11.4.13 New IMS emergency call test case 11.4.14 Correction to NR CAG Testcase 6.5.2.3	17.1.0 17.1.0
2022-12 2022-12	RAN#98 RAN#98	R5-227426 R5-227427 R5-227428 R5-227429 R5-227430 R5-227430 R5-227432 R5-227432 R5-227433 R5-227434 R5-227436 R5-227437 R5-227439 R5-227440 R5-227440 R5-227441 R5-227442 R5-227442 R5-227445 R5-227445 R5-227451 R5-227452	3231 3266 3271 3227 3283 3359 3228 3364 3276 3276 3276 3276 3275 3377 3253 3406 3229 3285 3275 3366 3275 3366 3367	1 1 1 1 1 1 1 1 1 1 1 1 1 1	F F	Correction to NR testcase 8.1.4.2.1.2 Editorial Corrections to RRC TC 8.1.4.4.2 Editorial Corrections to RRC TC 8.1.5.8.2.1 Correction of MDT TC 8.1.6.2.3 Correction to NR5GC SON-MDT test case 8.1.6.1.3.6 Update NE-DC RRC Radio Bearer test case 8.2.2.2.2 Correction of NRRC TC 8.2.3.12.2 New MR-DC handover test case 8.2.3.13.2 Correction to NR-DC TC 8.2.6.2.2 Editorial Correction to clause 8.2.7 Correction to NR TC 9.1.5.1.3-request NSSAI Correction to NR TC 9.1.5.1.3-request NSSAI Correction to NR testcases 9.1.10.2 Correction to NR testcases 9.1.10.1, 9.1.10.3, 9.1.10.4 and 9.1.10.6 Correction to NR eNS TC 9.1.10.4-NSSAA Editorial correction for test procedure sequence in 9.2.6.1.1.3.2 on TS38.523-1 Update of test case 9.1.10.6 Update of reference in EPS Fallback TC 11.1.x Corrections to NR5GC test case 11.4.1 New IMS emergency call test case 11.4.13 New IMS emergency call test case 11.4.14 Correction to NR CAG Testcase 6.5.2.3 Addition of new SNPN Multilayer UAC test case for Al2	17.1.0 17.1.0

2022-12	RAN#98	R5-227454	3274	1	F	Editorial Corrections to SNPN TC 9.1.11.3	17.1.0
2022-12	RAN#98	R5-227455	3277	1	F	Editorial update to UAC test case 11.3.4	17.1.0
2022-12	RAN#98	R5-227456	3278	1	F	Editorial update to UAC test case 11.3.8	17.1.0
2022-12	RAN#98	R5-227457	3279	1	F	Editorial update to UAC test case 11.3.1a	17.1.0
2022-12	RAN#98	R5-227458	3306	1	F	Correction of UAC TC 11.3.1a	17.1.0
2022-12	RAN#98	R5-227461	3416	1	F	Addition of NR-U test case 6.6.1.1	17.1.0
2022-12	RAN#98	R5-227462	3419	1	F	Addition of NR-U test case 8.1.5.6.6.1	17.1.0
2022-12	RAN#98	R5-227463	3288	1	F	Update of TC 12.1.1.2- PC5-only operation / Sidelink	17.1.0
						communication / Reception	
2022-12	RAN#98	R5-227464	3293	1	F	Update of TC 12.2.3.2- Inter-carrier concurrent operation /	17.1.0
						Sidelink communication / RRC_IDLE / Reception	
2022-12	RAN#98	R5-227465	3300	1	F	Update of TC 12.2.1.6- Inter-carrier concurrent operation /	17.1.0
0000.10	DANU/00	DE 007400	0000	1	_	Sidelink communication / RRC_CONNECTED / Reception	1710
2022-12	RAN#98	R5-22/400	3302	1		Opdate of TC 12.2.5.3- Inter-carner concurrent operation /	17.1.0
						DSBCH_DSDD measurement reporting / Deriodical reporting	
2022-12	RAN#98	R5-227467	3303	1	F	Undate of TC 12 2 8 1- Inter-carrier concurrent operation /	1710
			0000	1	l'	Sidelink CSI reporting / Reporting	17.1.0
2022-12	RAN#98	R5-227468	3305	1	F	Update of V2X TC 12.2.8.2	17.1.0
2022-12	RAN#98	R5-227469	3307	1	F	Addition of NR V2X TC 12.2.1.5 Inter-carrier concurrent	17.1.0
-						operation / Sidelink communication / RRC CONNECTED /	
						Transmission / Exceptional pool	
2022-12	RAN#98	R5-227470	3405	1	F	Update of TC 13.2.5-PC5 unicast link identifier update	17.1.0
2022-12	RAN#98	R5-227478	3420	1	F	Addition of MultiSIM test case 9.1.5.1.16	17.1.0
2022-12	RAN#98	R5-227479	3421	1	F	Addition of new MUSIM test case 9.1.7.4	17.1.0
2022-12	RAN#98	R5-227483	3345	1	F	Addition of new SDT 2-Step RACH test case	17.1.0
2022-12	RAN#98	R5-227484	3346	1	F	Addition of new SDT 4-Step RACH test case	17.1.0
2022-12	RAN#98	R5-227489	3412	1	F	Addition of NR EIEI test case 11.5.3	17.1.0
2022-12	RAN#98	R5-227496	3262	1	F	Addition of new test case 7.1.3.6.1 for PDCP UDC	17.1.0
2022-12	RAN#98	R5-227497	3263	1	F	Addition of new test case 7.1.3.6.2 for PDCP UDC	17.1.0
2022-12	RAN#98	R5-227498	3264	1	F	Addition of new test case 7.1.3.6.3 for PDCP UDC	17.1.0
2022-12	RAN#98	R5-227501	3407	1	F	Adding new test case 8.1.1.1a.1	17.1.0
2022-12	RAN#98	R5-227504	3310	1	F	Addition of new test case 6.3.2.3 for match all in SOR-CMCI	17.1.0
2022-12	RAN#98	R5-227505	3311	1	F	Addition of new test case 6.3.2.4 for updating Tsor-cm timer	17.1.0
						in SOR-CMCI	
2022-12	RAN#98	R5-227506	3312	1	F	Addition of new test case 6.3.2.5 for storing SOR-CMCI in	17.1.0
						the USIM after power off-on the UE	
2022-12	RAN#98	R5-227515	3384	1	F	Addition of MBS Multicast TC 14.2.1.1.1-PTM transmission	17.1.0
						and PTP transmission	
2022-12	RAN#98	R5-227516	3385	1	F	Addition of MBS Multicast TC 14.2.1.1.4-PTM retransmission	17.1.0
2022 12		DE 227517	2206	1		for multicast	1710
2022-12	RAN#98	R5-22/51/	3380	LT.		Audition of MBS Multicast TC 14.2.1.1.3-PTP retransmission	17.1.0
2022-12	RANI#98	R5-227522	3269	1	F	Addition of eDBX TC 11.7.1	1710
2022 12	PAN#98	R5-227522	3218	1			17.1.0
2022-12		D5-227529	2210	1		Undate to NR TC 7.1.2.3.5 to test RedCap UE	17.1.0
2022-12		D5-227520	2222	1		Undate to NR TC 7.1.2.3.3 to test RedCap UE	17.1.0
2022-12	DAN#90	DE 227520	2260	1		Correction to PodCan TC 7.1.1.9.2 Senarate PWP	17.1.0
2022-12		R3-227530	2222			Undete to ND TC 9.1.5.2.2 to tost DodCop LE	17.1.0
2022-12		R5-227531	3372	1		Opuale to NR TC 8.1.5.2.2 to test ReuCap DE	17.1.0
2022-12	RAN#98	153-22/533	<u>3392</u>	-		identification	11.1.0
2022-12	Β ΔΝ#ΩΩ	R5-227525	3207	1			1710
2022-12	PAN#90	D5-227000	3/1/	1		Addition of Cell Reselection DedCan TC 6 1 2 27	1710
2022-12	DAN#90	D5-227520	2427	 ⊥		Correction to NP PPC test case 9.1.1.4.1	1710
2022-12	DAN#90	D5-2275/2	22/7	1		Addition of new test case 8 1 6 1 2 14 for SON MDT	1710
2022-12	DAN#90	DE 227545	2241	1		Addition of new test case 0.1.0.1.2.14 IOI SOIN_WIDT	1710
2022-12		DE 227545	3240	1		Addition of now aNS Tast Case for NSAC Constinut	1710
2022-12	RAN#98	173-22/540	JJ42	-		Audition of new end residented NSSAL Generic DE	11.1.0
						Comiguration upuate rejected NOOAI	

2022-12	RAN#98	R5-227547	3343	1	F	Addition of new eNS Test Case for NSAC De-registration	17.1.0
						rejected NSSAI	
2022-12	RAN#98	R5-227550	3348	1	F	Update of testcase 8.1.5.11.1	17.1.0
2022-12	RAN#98	R5-227551	3349	1	F	Update of testcase 8.1.5.11.2	17.1.0
2022-12	RAN#98	R5-227552	3350	1	F	Update of testcase 8.1.5.11.3	17.1.0
2022-12	RAN#98	R5-227553	3351	1	F	Update of testcase 8.1.5.11.4	17.1.0
2022-12	RAN#98	R5-227554	3352	1	F	Addition of testcase 8.2.6.3.1	17.1.0
2022-12	RAN#98	R5-227555	3353	1	F	Addition of testcase 8.2.6.3.2	17.1.0
2022-12	RAN#98	R5-227556	3354	1	F	Update to testcase 8.2.6.3.3	17.1.0
2022-12	RAN#98	R5-227557	3355	1	F	Update to testcase 8.2.6.3.4	17.1.0
2022-12	RAN#98	R5-227558	3356	1	F	Undate to testcase 8 2 6 3 5	1710
2022-12	RAN#98	R5-227559	3357	1		Undate to testcase 8.2.6.3.6	1710
2022-12	PAN#98	R5-227561	3238	1		Update test case 8.1.1.4.4	1710
2022-12		P5-227562	3230	1		Add test case 8.1.2.1.5.4	1710
2022-12		RJ-227502	3240			Add lest case 0.1.2.1.3.4	17.1.0
2022-12		R5-227505	3347	1		Correction of NR-NR Dual Connectivity test cases	17.1.0
2022-12	RAN#98	R5-227570	3290			Correction to NR5GC RRC CA lest cases 8.1.4.1.9.X	17.1.0
2022-12	RAN#98	R5-227571	3218	T		Updates for NR RRC test case 8.1.5.1.1	17.1.0
2022-12	RAN#98	R5-227572	3220	1		Updates for EN-DC RRC test case 8.2.1.1.1	17.1.0
2022-12	RAN#98	R5-227573	3221	1	F	Updates for NE-DC RRC test case 8.2.1.1.2	17.1.0
2022-12	RAN#98	R5-227574	3261	1	F	Correction to NR5GC RACS test case 9.1.9.6	17.1.0
2022-12	RAN#98	R5-227575	3244	1	F	Correction to Emergency Services test case 11.4.5	17.1.0
2022-12	RAN#98	R5-227649	3281	2	F	Add new test case 11.8.6 Inter-system mobility between	17.1.0
						untrusted Non-3GPP and 3GPP system/Handover from	
						EPC/ePDG to 5GS/ UE in 5GMM-DEREGISTERED and	
						EMM-DEREGISTERED states	
2022-12	RAN#98	R5-227578	3225	1	F	Correction of NRRC TC 8.1.3.1.12	17.1.0
2022-12	RAN#98	R5-227580	3297	1	F	Update of V2X TC 12.2.6.1	17.1.0
2022-12	RAN#98	R5-227581	3301	1	F	Update of TC 12.2.4.1- Inter-carrier concurrent operation /	17.1.0
						Sidelink Reconfiguration via Uu RRC / SL DRB management	
						/ transmission side	
2022-12	RAN#98	R5-227582	3304	1	F	Update of V2X TC 12.2.7.1	17.1.0
2022-12	RAN#98	R5-227586	3417	1	F	Addition of NR-U test case 8.1.8.1.1	17.1.0
2022-12	RAN#98	R5-227589	3314	1	F	Updates to test case 8.1.3.4.1	17.1.0
2022-12	RAN#98	R5-227590	3315	1	F	Updates to test case 11.7.2	17.1.0
2022-12	RAN#98	R5-227594	3308	1	F	Addition of new test case 6.3.2.1 for DNN in SOR-CMCI	17.1.0
2022-12	RAN#98	R5-227595	3309	1	F	Addition of new test case 6.3.2.2 for MMTEL voice call in	17.1.0
						SOR-CMCI	
2022-12	RAN#98	R5-227601	3323	1	F	Update to NR TC 7.1.2.3.10 to test RedCap UE	17.1.0
2022-12	RAN#98	R5-227608	3334	1	F	Inclusive Language review_38523-1_s08_01_03	17.1.0
2023-03	RAN#99	R5-230094	3434	-	F	Update test case 8.1.1.4.4	17.2.0
2023-03	RAN#99	R5-230108	3437	-	F	Corrections to test case 11.4.13	17.2.0
2023-03	RAN#99	R5-230109	3438	-	F	Updates to NR RRC TC 8.1.1.2.4	17.2.0
2023-03	RAN#99	R5-230110	3439	-	F	Updates for NR RRC test case 8.1.5.1.1	17.2.0
2023-03	RAN#99	R5-230112	3441	-	F	Updates for NE-DC RRC test case 8.2.1.1.2	17.2.0
2023-03	RAN#99	R5-230113	3442	-	F	Update to NSSAA test case 9.1.10.2	17.2.0
2023-03	RAN#99	R5-230183	3443	-	F	Addition of ATSSS new TC 10.4.1.1	17.2.0
2023-03	RAN#99	R5-230275	3452	-	IF	VOID SNPN NR5GC TC 10 1 7 1	1720
2022-02	RAN#00	R5-220206	3/56	-		Correction to NR MDT TC 8 1 6 1 2 11	1720
2023-03	DVN1#99	D5-220280	2/57	Ē			1720
2023-03	DAN#99	DE 220237	3437	-		Undete the CCL energing elements in UE ND Canability for	17.2.0
2023-03	RAN#99	173-2303/6	3400	[11.2.0
2023-02	Ρ ΔΝΙ#00	P5-220277	3/67	-			1720
2023-03	DVN1#99	D5-200011	2/70	Ē			1720
2023-03	DAN#99	DE 220204	3470	-		Undetec to NE DC test case 9.2.2.5.4.2	17.2.0
2023-03		DE 200405	3411	-		Operation of Coll Decelection DedCor TO 6.4.9.07	17.2.0
2023-03		K5-230435	3472	-		Correction of Cell Reselection RedCap TC 6.1.2.27	17.2.0
2023-03	KAN#99	R5-230437	34/3	-	<u> </u> -	Update to NR unlicensed test case 8.1.8.1.1	17.2.0
2023-03	RAN#99	R5-230438	3474	-	١F	Correction of NR EIEI test case 11.5.3	17.2.0

2023-03	RAN#99	R5-230442	3475	-	F	Correction of Pre-test conditions on TC 6.3.2.x	17.2.0
2023-03	RAN#99	R5-230547	3485	-	F	Addition of NR MUSIM test case 9.1.5.2.10	17.2.0
2023-03	RAN#99	R5-230548	3486	-	F	Addition of NR MUSIM test case 9.1.7.3	17.2.0
2023-03	RAN#99	R5-230579	3488	-	F	Correction to NR5GC testcase 9.1.10.1	17.2.0
2023-03	RAN#99	R5-230581	3489	-	F	Correction to NR5GC testcase 9.1.10.4	17.2.0
2023-03	RAN#99	R5-230582	3490	-	F	Correction to NR5GC testcase 11.3.10	17.2.0
2023-03	RAN#99	R5-230583	3491	-	F	Correction to NR5GC testcase 11.4.1	17.2.0
2023-03	RAN#99	R5-230584	3492	-	F	Add test case 8.2.5.7.1	17.2.0
2023-03	RAN#99	R5-230585	3493	-	F	Add test case 8.2.5.7.2	17.2.0
2023-03	RAN#99	R5-230589	3494	-	F	Update test case 8.1.5.6.6.1	17.2.0
2023-03	RAN#99	R5-230592	3495	-	F	Undate NF-DC RRC Radio Bearer test case 8 2 3 7 2	1720
2023-03	RAN#99	R5-230593	3496	-	F	Undate NE-DC RRC Radio Bearer test case 8 2 3 7 2a	1720
2023-03	RAN#99	R5-230594	3/197	-	E	Undate NE-DC RRC Radio Bearer test case 8 2 3 8 2	17.2.0
2023-03	PAN#99	R5-230595	3/08	_		Undate NE-DC RRC Radio Bearer test case 8.2.3.8.2	17.2.0
2023-03		P5-230596	2400			Undate NE-DC RPC Padio Bearer test case 8.2.3.13.2	17.2.0
2023-03		R5-230590	2501	-		Editorial correction to NE DC RPC Padia Poaror test case	17.2.0
2023-03		KJ-230396	3501	-		8 2 3 17 2	17.2.0
2023-03	RAN#99	R5-230676	3534	-	F	Correction to ENDC CA testcases 8.2.4.2.1.x	17.2.0
2023-03	RAN#99	R5-230687	3536	-	F	Addition of testcase 7.1.1.3.16.1 Correct Handling of U	1720
2020 00			0000		Ľ	grant DRB configured with survival time on split DRB	1.1.2.10
2023-03	RAN#99	R5-230688	3537	-	F	Addition of testcase 7.1.1.3.16.2 Correct Handling of UL	17.2.0
						grant DRB configured with survival time on MCG or SCG	
						intra-band contiguous CA	
2023-03	RAN#99	R5-230689	3538	-	F	Addition of testcase 7.1.1.3.16.3 Correct Handling of UL	17.2.0
						grant DRB configured with survival time on MCG or SCG	
						intra-band non-contiguous CA	
2023-03	RAN#99	R5-230690	3539	-	F	Addition of testcase 7.1.1.3.16.4 correct Handling of UL	17.2.0
						grant DRB configured with survival time on MCG or SCG	
						inter-band CA	
2023-03	RAN#99	R5-230726	3547	-	F	Correction of MDT TC 8.1.6.1.2.3	17.2.0
2023-03	RAN#99	R5-230727	3548	-	F	Correction of MDT TC 8.1.6.1.2.8	17.2.0
2023-03	RAN#99	R5-230728	3549	-	F	Correction of NR5GC testcase 11.1.7	17.2.0
2023-03	RAN#99	R5-230729	3550	-	F	Correction of Emergency Services TC 11.4.4	17.2.0
2023-03	RAN#99	R5-230730	3551	-	F	Correction of Emergency Services TC 11.4.10a	17.2.0
2023-03	RAN#99	R5-230757	3553	-	F	Correction of MDT TC 8.1.6.1.2.12	17.2.0
2023-03	RAN#99	R5-230846	3554	-	F	Correction of MICO TC 9.1.5.1.4	17.2.0
2023-03	RAN#99	R5-230963	3567	-	F	Update of TC 12.1.3.2- PC5-only operation / Measurement	17.2.0
						configuration and reporting via PC5 RRC / PSBCH-RSRP	
						measurement reporting / Event S1 and S2	
2023-03	RAN#99	R5-231061	3570	-	F	Update to test case 8.1.1.3.1	17.2.0
2023-03	RAN#99	R5-231062	3571	-	F	Update to test case 8.1.4.2.1.2	17.2.0
2023-03	RAN#99	R5-231063	3572	-	F	Update to test case 8.1.4.3.1	17.2.0
2023-03	RAN#99	R5-231064	3573	-	F	Update to test case 8.1.4.3.2	17.2.0
2023-03	RAN#99	R5-231065	3574	-	F	Update to test case 8.1.4.4.1	17.2.0
2023-03	RAN#99	R5-231066	3575	-	F	Update to test case 8.1.4.4.2	17.2.0
2023-03	RAN#99	R5-231069	3578	-	F	Update to test case 8.1.5.6.5.1	17.2.0
2023-03	RAN#99	R5-231070	3579	-	F	Update to test case 8.2.2.4.1	17.2.0
2023-03	RAN#99	R5-231071	3580	-	F	Update to test case 8.2.2.4.2	17.2.0
2023-03	RAN#99	R5-231072	3581	-	F	Update to test case 8.2.2.4.3	17.2.0
2023-03	RAN#99	R5-231167	3589	-	F	Update to NR TC 9.1.10.6-NSSAA configuration update	17.2.0
2023-03	RAN#99	R5-231174	3592	-	F	Correction to Inter-Rat Cell Reselection test case 6.2.3.6	17.2.0
2023-03	RAN#99	R5-231194	3595	-	F	Correction to NR MDT test case 8.1.6.1.1.1	17.2.0
2023-03	RAN#99	R5-231195	3596	-	F	Correction to NR MDT test case 8.1.6.1.3.5	17.2.0
2023-03	RAN#99	R5-231107	3598	-	F	Correction to Inter RAT MDT test case 8.1.6.2.1	1720
2023-02	PAN#00	R5-231109	3500	-	I.	Correction to NR RRC SON-MDT test case 8.1.6.1.4.8	1720
2020-03				1	11		1 - 1 - 2 - 0
2023-02	RAN#00	R5-231202	3601	-	F	Addition of new NR unlicensed test case 6.6.2.1	1720
2023-03	RAN#99	R5-231202	3601	-	F	Addition of new NR unlicensed test case 6.6.2.1	17.2.0

2023-03	RAN#99	R5-231257	3606	-	F	Corrections to DL grant prioritization test case	17.2.0
2023-03	RAN#99	R5-231261	3610	-	F	Addition of new MAC test case for 4 step RACH with Slice	17.2.0
						specific RACH configuration	
2023-03	RAN#99	R5-231262	3611	-	F	Addition of new MAC test case for 4 step RACH with RACH	17.2.0
						Prioritization For Slicing	
2023-03	RAN#99	R5-231263	3612	-	F	Addition of new MAC test case for 2 step RACH with Slice	17.2.0
		55.004004	0010			specific RACH configuration	47.0.0
2023-03	RAN#99	R5-231264	3613	-	F	Addition of new MAC test case for 2 step RACH with RACH	17.2.0
2022.02		DE 221402	2455	1	-	Prioritization for Slicing	17.2.0
2023-03		R5-231402	3433				17.2.0
2023-03	RAN#99	R5-231404	3514				17.2.0
2023-03	RAN#99	R5-231405	3597	1	F	Correction to DAPS PDCP Test case 7.1.3.4.3 and 7.1.3.4.4	17.2.0
2023-03	RAN#99	R5-231406	3436	1	 	Update test case 8.1.2.1.5.1	17.2.0
2023-03	RAN#99	R5-231407	3513	1	F	Corrections to RRC TC 8.1.4.4.2	17.2.0
2023-03	RAN#99	R5-231408	3576	1	F	Update to test case 8.1.4.4.3	17.2.0
2023-03	RAN#99	R5-231409	3600	1	F	Correction to NR RRC IRAT HO test case 8.1.4.2.1.1	17.2.0
2023-03	RAN#99	R5-231410	3440	1	F	Updates for EN-DC RRC test case 8.2.1.1.1	17.2.0
2023-03	RAN#99	R5-231411	3535	1	F	Correction to NR5GC testcase 8.2.2.1.2	17.2.0
2023-03	RAN#99	R5-231412	3560	1	F	Correction to NR5GC RRC test case 8.2.2.3.1	17.2.0
2023-03	RAN#99	R5-231413	3587	1	F	Update to NR TC 9.1.10.2-NSSAA de-registration	17.2.0
2023-03	RAN#99	R5-231414	3588	1	F	Update to NR TC 9.1.10.3-NSSAA Rejected NSSAI	17.2.0
2023-03	RAN#99	R5-231415	3556	1	F	Correction to EPS Fallback test case 11.1.6	17.2.0
2023-03	RAN#99	R5-231416	3593	1	F	Correction to Emergency Services test case 11.4.12	17.2.0
2023-03	RAN#99	R5-231417	3594	1	F	Correction to emergency services test case 11.4.11	17.2.0
2023-03	RAN#99	R5-231418	3508	1	F	Addition of inter-system mobility test case 11.8.2	17.2.0
2023-03	RAN#99	R5-231419	3509	1	F	Addition of inter-system mobility test case 11.8.4	17.2.0
2023-03	RAN#99	R5-231425	3477	1	F	Correction to NR SL SIG TC 12.1.2.1 - SyncRef Reselect	17.2.0
			_			PC5 only	_
2023-03	RAN#99	R5-231426	3478	1	F	Correction to NR SL SIG TC 12.1.2.2 - SL-SSB Tx control	17.2.0
						PC5 only	
2023-03	RAN#99	R5-231427	3479	1	F	Correction to NR SL SIG TC 12.1.5.x and 12.2.7.x - SL CSI	17.2.0
						reporting	
2023-03	RAN#99	R5-231428	3480	1	F	Correction to NR SL SIG TC 12.2.2.1 - SyncRef Reselect	17.2.0
						Con-current	
2023-03	RAN#99	R5-231429	3481	1	F	Correction to NR SL SIG TC 12.2.2.2 - SL-SSB Tx control	17.2.0
0000.00	DANUUOO	DF 001 400	0.400	1	_	Con-current	17.0.0
2023-03	RAN#99	R5-231430	3482	1	-	Correction to NR SL SIG TO 12.2.3.1 – Event C1 and C2	17.2.0
2023-03	RAN#99	R5-231432	3484	1	+ 	Correction to NR SL SIG TC 12.2.8.3 - PC5 RLF	17.2.0
2023-03	RAN#99	R5-231433	3546	1	F	Update of TC 12.1.7.1 - PC5-only operation / Sidelink UE	17.2.0
						capability transfer via PC5 RRC / One-way and two-way	
2022 02		DE 221424	2564	1	-	Industry of TC 12.2.4.1 Inter carrier concurrent operation /	1720
2023-03	RAN#99	R5-231434	3504	1		Sidelink Reconfiguration via Lu RPC	11.2.0
2023-03	RAN#99	R5-231435	3565	1	F	Undate of TC 12 2 8 1- Inter-carrier concurrent operation /	1720
2020 00			0000	1	ľ	Sidelink CSI reporting / Reporting	11.2.0
2023-03	RAN#99	R5-231436	3566	1	F	Update of TC 12.2.3.2- Inter-carrier concurrent operation /	17.2.0
						Measurement configuration and reporting via Uu RRC / CBR	_
						measurement reporting / Periodical reporting	
2023-03	RAN#99	R5-231437	3568	1	F	Update of TC 12.2.1.5- Inter-carrier concurrent operation /	17.2.0
						Sidelink communication / RRC_CONNECTED /	
						Transmission / Exceptional pool	
2023-03	RAN#99	R5-231438	3602	1	F	Addition of NR unlicensed test case 6.6.2.3	17.2.0
2023-03	RAN#99	R5-231439	3603	1	F	Addition of NR-U test case 8.1.8.1.2	17.2.0
2023-03	RAN#99	R5-231440	3604	1	F	Addition of NR unlicensed test case 8.1.8.2.2	17.2.0
2023-03	RAN#99	R5-231442	3449	1	F	Addition of new MDT test case 8.1.6.1.4.9	17.2.0
2023-03	RAN#99	R5-231444	3614	1	F	Addition of new MAC test case for 2 step to 4 step RACH	17.2.0
						SDT fallback	
2023-03	RAN#99	R5-231445	3615	1	F	Addition of new MAC test case for 4 step RACH SDT with	17.2.0
						time alignment timer expiry	

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2023-03	RAN#99	R5-231449	3460	1	F	Addition of new test case 7.1.3.6.4 for PDCP UDC	17.2.0
2023-03	RAN#99	R5-231450	3461	1	F	Addition of new test case 7.1.3.6.5 for PDCP UDC	17.2.0
2023-03	RAN#99	R5-231451	3462	1	F	Addition of new test case 7.1.3.6.6 for PDCP UDC	17.2.0
2023-03	RAN#99	R5-231452	3463	1	F	Addition of new test case 7.1.3.6.7 for PDCP UDC	17.2.0
2023-03	RAN#99	R5-231454	3433	1	F	Addition of power saving enhancements new TC 8.1.1.1a.3	17.2.0
2023-03	RAN#99	R5-231455	3458	1	F	Correction to TC 8.1.1.1a.1	17.2.0
2023-03	RAN#99	R5-231456	3450	1	F	Addition of new powersaving TC 8.1.1.1a.2	17.2.0
2023-03	RAN#99	R5-231457	3617	1	F	Adding new test case 9.1.14.1	17.2.0
2023-03	RAN#99	R5-231459	3444	1	F	Addition of ATSSS new TC 10.4.1.2	17.2.0
2023-03	RAN#99	R5-231460	3451	1	F	Addition of new RRC test case 8.2.6.2.4	17.2.0
2023-03	RAN#99	R5-231462	3510	1	F	Addition of ATSSS test case 10.4.1.3	17.2.0
2023-03	RAN#99	R5-231463	3511	1	F	Addition of ATSSS test case 10.4.1.4	17.2.0
2023-03	RAN#99	R5-231474	3518	1	F	Addition of MBS Multicast TC 14.2.1.1.7-NACK-only	17.2.0
2023-03	RAN#99	R5-231475	3519	1	F	Addition of MBS Multicast TC 14.2.1.1.8-	17.2.0
						Multiplex_Multicast_and_Unicast_HARQ	
2023-03	RAN#99	R5-231476	3520	1	F	Addition of MBS Multicast TC 14.2.1.2.1-DRX PTM and PTP	17.2.0
	D 4 4 1/2 0	DE 001 177	0504			transmission	17.0.0
2023-03	RAN#99	R5-231477	3521	1	IF	Addition of MBS Multicast TC 14.2.2.1 and 14.2.2.2-RLC UM	17.2.0
2023-03	RAN#99	R5-231478	3522	1	F	Addition of MBS Multicast TC 14.2.3.1 and 14.2.3.2-PDCP	17.2.0
2022.02		DF 201470	2522	1		UM MRB	17.0.0
2023-03	RAN#99	R5-231479	3523	1 I		Addition of MBS Multicast TC 14.2.3.3 and 14.2.3.4-PDCP	17.2.0
2023-03		R5-231480	3524	1	F	Addition of MBS Multicast TC 14 2 4 1 1-group paging in	1720
2020 00			0024	1	'	IRRC. IDLE	11.2.0
2023-03	RAN#99	R5-231481	3525	1	F	Addition of MBS Multicast TC 14.2.4.1.2-group paging in	17.2.0
						RRC_INACTIVE	
2023-03	RAN#99	R5-231482	3526	1	F	Addition of MBS Multicast TC 14.2.4.2.1-MRB	17.2.0
						Reconfiguration	
2023-03	RAN#99	R5-231483	3527	1	F	Correction of MBS Multicast TC 14.2.1.1.1-14.2.1.1.4-	17.2.0
						14.2.1.1.5	
2023-03	RAN#99	R5-231510	3590	1	F	Correction to the eCall TC 11.5.1-T3444	17.2.0
2023-03	RAN#99	R5-231511	3591	1	F	Correction to the eCall TC 11.5.2-T3445	17.2.0
2023-03	RAN#99	R5-231514	3430	1	F	Add new NR Multi-SIM test case 8.1.2.1.6	17.2.0
2023-03	RAN#99	R5-231521	3561	1	F	Addition of New MUSIM TC 8.1.5.10.3- UE Assistance	17.2.0
						Information / MUSIM / Leaving RRC_CONNECTED / 1346g	
2022-03		D5-221520	3530	1		Correction of RedCan TC 7.1.1.1.17-LIE identification	1720
2023-03	PAN#99	R5-231520	3530	1		Correction of RedCap TC 7.1.1.8.3-BWP	17.2.0
2023-03		D5-231530	2522	1		Undate of PedCap TC 6.1.2.26-Cell Selection	17.2.0
2023-03		D5-231531	3582	1		Undate to NP TC 6.1.2.27 to test PedCan UE	17.2.0
2023-03	RAN#99	R0-201002	2502	1		Undate to NR TC 7.1.2.5.4 to test RedCap UE	17.2.0
2023-03		R5-231535	2503	1		Undate to NR PORY TC 11.7.1	17.2.0
2023-03	RAN#99	R0-201004	2505	1		Undate to NR oDRX TC 11.7.1	17.2.0
2023-03		R0-201000	2503	1		Addition of oNS tost case 0.1.12.2	17.2.0
2023-03	RAN#99	R0-201007	3504	1		Addition of oNS test case 9.1.13.2	17.2.0
2023-03		R5-231536	3505			Addition of eNS test case 9.5.1.4	17.2.0
2023-03		R5-231539	3500			Addition of eNS test case 10.1.8.4	17.2.0
2023-03	RAN#99	R5-231540	3507	1		Addition of eNS lest case10.1.8.5	17.2.0
2023-03	RAN#99	R5-231542	3515	1		Deiget	17.2.0
2023-03	RAN#99	R5-231543	3516	1	F	Correction of eNS_Ph2_TC 9.1.12.4-NSAC Configuration	1720
			0010	Ĺ	ľ		1
2023-03	RAN#99	R5-231544	3517	1	F	Correction of eNS Ph2 TC 9.1.12.5-NSAC De-registration	17.2.0
2023-03	RAN#99	R5-231545	3562	1	F	Update of TC 10.1.8.2- NSAC / PDU session establishment	17.2.0
						reject / Maximum number of PDU sessions reached / Back-	
						off timer is deactivated	
2023-03	RAN#99	R5-231546	3607	1	F	Correction to eNS test case 9.1.12.3	17.2.0
2023-03	RAN#99	R5-231553	3464	1	F	Update to eNS_Ph2 test case 9.1.12.1	17.2.0
2023-03	RAN#99	R5-231554	3465	1	F	Update to eNS_Ph2 test case 9.1.12.2	17.2.0

2023-03	RAN#99	R5-231555	3468	1	F	Addition of new test case 6.1.2.24 for NR slice	17.2.0
2023-03	RAN#99	R5-231556	3469	1	F	Addition of new test case 6.4.2.3 for NR slice	17.2.0
2023-03	RAN#99	R5-231573	3500	1	F	Update NE-DC RRC Radio Bearer test case 8.2.3.14.3	17.2.0
2023-03	RAN#99	R5-231574	3502	1	F	Addition of NE-DC RRC Radio Bearer test case 8.2.3.17.3	17.2.0
2023-03	RAN#99	R5-231576	3503	1	F	Addition of NE-DC RRC Radio Bearer test case 8.2.7.3.1	17.2.0
2023-03	RAN#99	R5-231578	3448	1	F	Corrections to Bandwidth Part TC 7.1.1.8.1	17.2.0
2023-03	RAN#99	R5-231579	3586	1	F	Correction to NR TC 8.1.4.4.3-Conditional Handover	17.2.0
2023-03	RAN#99	R5-231580	3618	1	F	Addition of test case for RRC downlink segmentation	17.2.0
2023-03	RAN#99	R5-231581	3555	1	F	Correction to EPS Fallback test case 11.1.2	17.2.0
2023-03	RAN#99	R5-231583	3563	1	F	Update of TC 12.2.1.6- Inter-carrier concurrent operation /	17.2.0
						Sidelink communication / RRC_CONNECTED / Reception	
2023-03	RAN#99	R5-231584	3542	1	F	Corrections to testcase 8.2.6.3.1	17.2.0
2023-03	RAN#99	R5-231585	3543	1	F	Corrections to testcase 8.2.6.3.2	17.2.0
2023-03	RAN#99	R5-231587	3569	1	F	Move RedCap TC 8.1.3.4.1	17.2.0
2023-03	RAN#99	R5-231589	3453	1	F	Corrections to SDT TC 7.1.1.13.1	17.2.0
2023-03	RAN#99	R5-231590	3454	1	F	Corrections to SDT TC 7.1.1.13.2	17.2.0
2023-03	RAN#99	R5-231591	3528	1	F	Addition of SDT TC 7.1.1.13.5-cg-SDT-TimeAlignmentTimer	17.2.0
2023-03	RAN#99	R5-231592	3529	1	F	Addition of SDT TC 8.1.5.13.1-CG-SDT Success	17.2.0
2023-03	RAN#99	R5-231594	3544	1	F	Addition of testcase 8.1.5.13.3 Data on non-SDT Radio	17.2.0
					[·	Bearers	
2023-03	RAN#99	R5-231595	3545	1	F	Addition of testcase 8.1.5.13.4 SDT-SRB2-Indication	17.2.0
2023-03	RAN#99	R5-231598	3619	1	F	Adding new test case 11.4.1a	17.2.0
2023-03	RAN#99	R5-231900	3476	1	F	Addition of new test case 6.3.2.6 for emergency call in SOR-	17.2.0
						CMCI	
2023-03	RAN#99	R5-231905	3558	1	F	Correction to NR MAC test case 7.1.1.9.1	17.2.0
2023-03	RAN#99	R5-231906	3559	1	F	Correction to NR MAC test case 7.1.1.12.3	17.2.0
2023-03	RAN#99	R5-231914	3557	1	F	Correction to UAC test case 11.3.7	17.2.0
2023-06	RAN#100	R5-232051	3627	-	F	Correction to power saving enhancements TC 8.1.1.1a.2	17.3.0
2023-06	RAN#100	R5-232052	3628	-	F	Correction to power saving enhancements TC 8.1.1.1a.3	17.3.0
2023-06	RAN#100	R5-232053	3629	-	F	Correction to power saving enhancements TC 9.1.14.1	17.3.0
2023-06	RAN#100	R5-232059	3631	-	F	Correction to Idle mode TC 6.1.1.4a and 6.1.2.15a	17.3.0
2023-06	RAN#100	R5-232060	3632	-	F	Correction to CAG TC 6.5.2.1	17.3.0
2023-06	RAN#100	R5-232062	3634	-	F	Correction to CAG TC 6 5 2 3	17.3.0
2023-06	RAN#100	R5-232063	3635	-	F	Correction to CAG TC 6 5 2 4	17.3.0
2023-06	RAN#100	R5-232064	3636	-	F	Correction to CAG TC 6.5.2.6	17.3.0
2023-06	RAN#100	R5-232065	3637	-		Correction to MAC TC 7.1.1.12.3	1730
2023-00		P5-232003	3630	_		Correction to MDT TC 8 1 6 2 4	17.3.0
2023-00	DANI#100	D5-232007	3642	-		Correction to 5GC TC 9 1 5 x	17.3.0
2023-00		R5-232070	2642	-			17.3.0
2023-00		R5-232071	3043	-			17.3.0
2023-00		R5-232073	3045	-			17.3.0
2023-00	RAN#100	R5-232085	3649	-			17.3.0
2023-06	RAN#100	R5-232092	3050	-			17.3.0
2023-06	RAN#100	R5-232093	3657	-			17.3.0
2023-06	RAN#100	R5-232095	3658	-	 	Correction to SDTTC 7.1.1.13.4	17.3.0
2023-06	RAN#100	R5-232096	3659	-	F	Editorial corrections to SDT TC 8.1.5.13.1	17.3.0
2023-06	RAN#100	R5-232131	3660	-	F	Correction to NR Inter-RAT test case 6.2.3.4	17.3.0
2023-06	RAN#100	R5-232155	3661	-	F	Correction to FR2 Power level tables for NR RRC test cases	17.3.0
2023-06	RAN#100	R5-232179	3662	-	F	Update to MAC test case for 4 step RACH with Slice specific	17.3.0
		55 000100				RACH configuration	17.0.0
2023-06	RAN#100	R5-232180	3663	-	F	Update to MAC test case for 4 step RACH with Slice specific	17.3.0
2022.06	DANI#100	DE 222101	2664			HACH CONINGURATION WITH RA-PRIORITIZATIONFORSHCING	1720
2023-00		102-232101	3004	[Devale to WAC lest case for 2 step RACH with Since Specific	11.3.0
2023-06	RANI#100	R5-232182	3665	-	F	Indate to MAC test case for 2 sten RACH with Slice specific	1730
2020-00		110 202102	0000	['	RACH configuration with ra-PrioritizationEorSlicing	11.5.0
2023-06	RAN#100	R5-232197	3671	-	F	Corrections to EN-DC test case 8.2.6.3.1	17,3.0
2023-06	RAN#100	R5-232200	3673	-	F	Corrections to NR MAC test cases 7.1.1.12.4 x	17.3.0
1-0-0 00	1	1.10 202200	12210	1	1.		
2023-06	RAN#100	R5-232202	3675	-	F	Updates for NR RRC test case 8.1.5.1.1	17.3.0
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2023-06	RAN#100	R5-232203	3676	-	F	Updates for EN-DC RRC test case 8.2.1.1.1	17.3.0
2023-06	RAN#100	R5-232204	3677	-	F	Updates for NE-DC RRC test case 8.2.1.1.2	17.3.0
2023-06	RAN#100	R5-232281	3683	-	F	Update NE-DC Handover test case 8.2.3.13.2	17.3.0
2023-06	RAN#100	R5-232282	3684	-	F	Update NE-DC Measurement Configuration Control and	17.3.0
						Reporting test case 8.2.3.7.2a	
2023-06	RAN#100	R5-232283	3685	-	F	Update NE-DC Measurement Configuration Control and	17.3.0
						Reporting test case 8.2.3.8.2a	
2023-06	RAN#100	R5-232317	3696	-	F	Update test case 8.1.1.4.8	17.3.0
2023-06	RAN#100	R5-232331	3699	-	F	Correction to NR RRC IRAT HO test case 8.1.4.2.1.2	17.3.0
2023-06	RAN#100	R5-232332	3700	-	F	Correction to NR5GC RACS Test case 9.1.9.5	17.3.0
2023-06	RAN#100	R5-232333	3701	-	F	Correction to Rel-16 MDT Test Case 8.1.6.2.2	17.3.0
2023-06	RAN#100	R5-232339	3702	-	F	Correction to NR5GC testcase 9.1.10.3	17.3.0
2023-06	RAN#100	R5-232361	3703	-	F	Correction to NR5GC testcase 11.3.5	17.3.0
2023-06	RAN#100	R5-232366	3704	-	F	Correction to NR testcase 7.1.1.6.2	17.3.0
2023-06	RAN#100	R5-232385	3706	-	F	Correction to RLC UM test case 7.1.2.2.5	17.3.0
2023-06	RAN#100	R5-232393	3709	-	F	Correction to FR2 Power level tables for NR MDT test cases	17.3.0
2023-06	RAN#100	R5-232397	3711	-	F	Correction to NR MAC test case 7.1.1.12.3	17.3.0
2023-06	RAN#100	R5-232425	3715	-	F	Corrections to NAS TC 9.1.2.1	17.3.0
2023-06	RAN#100	R5-232499	3723	-	F	Addition of NR cov enh SIG TC 7.1.1.2.6 dynamic PUCCH	17.3.0
						repetition	
2023-06	RAN#100	R5-232500	3724	-	F	Addition of NR cov enh SIG TC 7.1.1.3.14.1 DG PUSCH	17.3.0
						repetition 32	
2023-06	RAN#100	R5-232501	3725	-	F	Addition of NR cov enh SIG TC 7.1.1.3.14.2 CG PUSCH	17.3.0
						repetition 32	
2023-06	RAN#100	R5-232502	3726	-	F	Addition of NR cov enh SIG TC 7.1.1.3.14.3 DG PUSCH	17.3.0
2022.00			0707		-	availableSlotCouting	17.0.0
2023-06	RAN#100	R5-232503	3121	-	F	Addition of NR Cov entring	17.3.0
2023-06	RAN#100	R5-232504	3728	-	F	Addition of NR cov enh SIG TC 7 1 1 3 15 1 TRoMS	1730
2023-06	RAN#100	R5-232505	3729	-	F	Addition of NR cov enh SIG TC 7.1.1.3.15.2 TBoMS	1730
			5125		l'	repetition	11.0.0
2023-06	RAN#100	R5-232506	3730	-	F	Addition of NR cov enh SIG TC 7.1.1.4.2.7 TBoMS TBS	17.3.0
						selection	
2023-06	RAN#100	R5-232510	3733	-	F	Correction to NR SA SIG TC 8.1.3.1.18.x additional reporting	17.3.0
2023-06	RAN#100	R5-232641	3739	-	F	Correction to NR MAC test case 7.1.1.9.1	17.3.0
2023-06	RAN#100	R5-232643	3741	-	F	Addition of FR2 cell power levels for SON-MDT test cases	17.3.0
2023-06	RAN#100	R5-232682	3745	-	F	Corrections to MDT test case 8.1.6.1.4.9	17.3.0
2023-06	RAN#100	R5-232705	3749	-	F	Addition of ATSSS TC 10.4.1.5 - UE-requested MA PDU	17.3.0
						session modification / ATSSS / Success	
2023-06	RAN#100	R5-232716	3752	-	F	Correction to NR SL SIG TC 12.2.8.3 - PC5 RLF	17.3.0
2023-06	RAN#100	R5-232729	3754	-	F	Update of TC 8.1.5.11.3- Idle/Inactive measurements /	17.3.0
						Inactive mode / SIB11 configuration / Measurement of NR	
						cells	
2023-06	RAN#100	R5-232730	3755	-	F	Update of TC 8.1.5.11.4-Idle/Inactive measurements /	17.3.0
						Inactive mode / RRCRelease configuration / Measurement of	
2022.06	DAN#100	DE 222770	2757		-	INR Cells	1720
2023-00	RAN#100	R5-232778	3/3/	-		Opuale to ENS_Ph2 test case 9.1.12.2	17.3.0
2023-00	RAN#100	R5-232872	3701	-		Confection to NR testcase 7.1.1.3.20	17.3.0
2023-00		RDF 202040	3/0/	-		Audition of the Readeast Top 14.4	17.0.0
2023-06		R5-232948	3110	-		Correction of MBS Broaucast TCS 14.1.X	17.0
2023-06		R5-232949	3/11	-		Conection of MBS Multicast TC 14.2.4.1.X-group paging	17.0.0
2023-06	RAN#100	R5-232951	3773	-	F	Addition of MBS Broadcast TC 14.1.1.3-MCCH Information	17.3.0
2022.06	PAN#100	P5-222052	3774	-		Addition of MBS Broadcast TC 14.1.1.4 receiving SIP20 of	1730
2023-00		110-202902	5114	[an SCell via dedicated signalling	11.3.0
2023-06	RAN#100	R5-232953	3775	-	F	Addition of MBS Multicast TC 14.2.1.1 2-DCI format 4_2	17.3.0
2023-06	RAN#100	R5-232954	3776	-	F	Addition of MBS Multicast TC 14.2.1.1 6-DCI-based ACK-	17.3.0
					Ľ	NACK HARO feedback for Multicast	

2023-06	RAN#100	R5-232955	3777	-	F	Addition of MBS Multicast TC 14.2.1.1.9-DCI-based NACK-	17.3.0
						only HARQ feedback for Multicast	
2023-06	RAN#100	R5-232956	3778	-	F	Addition of MBS Multicast TC 14.2.1.2.2-DRX-PTM	17.3.0
						retransmission for multicast	
2023-06	RAN#100	R5-232957	3779	-	F	Addition of MBS Multicast TC 14.2.1.2.3-DRX-PTP	17.3.0
						retransmission for multicast	
2023-06	RAN#100	R5-232960	3782	-	F	Addition of MBS Multicast TC 14.2.4.3.3-Handover between	17.3.0
						Multicast-supporting cell and Multicast non-supporting cell	
2023-06	RAN#100	R5-232969	3788	-	F	Correction of SDT TC 7.1.1.13.5-cg-SDT-TATimer	17.3.0
2023-06	RAN#100	R5-232972	3789	-	F	Correction of NR TC 7.1.2.3.11-RLC re-establishment	17.3.0
2023-06	RAN#100	R5-232981	3793	-	F	Correction to RedCap testcase 6.1.2.26	17.3.0
2023-06	RAN#100	R5-233070	3796	-	F	Updates for NR RRC test case 8.1.5.1.1 for RedCap	17.3.0
2023-06	RAN#100	R5-233071	3797	-	F	Updates for NR RRC test case 8.1.5.8.1 for RedCap	17.3.0
2023-06	RAN#100	R5-233072	3798	-	F	Updates to MAC TC 7.1.1.5.3	17.3.0
2023-06	RAN#100	R5-233073	3799	-	F	Updates to MAC TC 7.1.3.3.1	17.3.0
2023-06	RAN#100	R5-233074	3800	-	F	Undates to RRC TC 81112	17.3.0
2023-06	RAN#100	R5-233076	3802	-	E	Undates to RRC TCs 8 2 2 4 1 and 8 2 2 5 1	1730
2023-00		DE 222077	2002	-		Undates to PBC TCs 9.2.2.4.1 and 9.2.2.4.1	17.3.0
2023-00		R5-233077	3003	-		Updates to RRC TCS 0.2.3.13.1 and 0.2.4.2.1.1	17.3.0
2023-06	RAN#100	R5-233078	3804	-			17.3.0
2023-06	RAN#100	R5-233080	3805	-	F	Addition of NR unlicensed test case 6.6.2.2	17.3.0
2023-06	RAN#100	R5-233081	3806	-	F	Addition of NR unlicensed test case 6.6.2.4	17.3.0
2023-06	RAN#100	R5-233143	3825	-	F	Update to NR MUSIM test case 9.1.5.1.16	17.3.0
2023-06	RAN#100	R5-233144	3826	-	F	Update to NR MUSIM test case 9.1.7.4	17.3.0
2023-06	RAN#100	R5-233145	3827	-	F	Update to NR MUSIM test case 9.1.7.3	17.3.0
2023-06	RAN#100	R5-233146	3828	-	F	Correction of multi layer test case 11.1.5	17.3.0
2023-06	RAN#100	R5-233147	3829	-	F	Correction of emergency services test case 11.4.11	17.3.0
2023-06	RAN#100	R5-233278	3834	-	F	Addition of new RRC test case for Logging and reporting of	17.3.0
						on-Demand SI	
2023-06	RAN#100	R5-233279	3835	-	F	Addition of new RRC test case for Logging and reporting of	17.3.0
						2-step RACH report	
2023-06	RAN#100	R5-233280	3836	-	F	Addition of new RRC test case for Logging and reporting	17.3.0
						fallback to 4-step RA	
2023-06	RAN#100	R5-233282	3837	-	F	Update NR 2 step RACH test case 7.1.1.1.7	17.3.0
2023-06	RAN#100	R5-233289	3841	-	F	Update of test case 8.1.5.9.2	17.3.0
2023-06	RAN#100	R5-233295	3842	-	F	Correction to NR SA SIG TC 8.1.5.1.1 UE capability transfer	17.3.0
2023-06	RAN#100	R5-233321	3633	1	F	Correction to CAG TC 6.5.2.2	17.3.0
2023-06	RAN#100	R5-233322	3732	1	F	Correction to NR SA SIG TC 6.1.2.2 Squal based	17.3.0
2023-06	RAN#100	R5-233323	3743	1	F	Addition of ER2 cell nower levels for SNPN test cases	17.3.0
2023-06	RANI#100	R5-233324	3738	1		Correction to NR MAC test cases 7.1.1.7.1 x	1730
2023-00		DE 222225	2020	1		Undate NR 2 stop BACH test case 7.1.1.1.	17.3.0
2023-00		R5-235325	3030	1		Addition of now ND 2 oton DACL toot append 7.1.1.1.0	17.3.0
2023-00		R5-233320	3844	-		Addition of new NR 2 step RACH lest case 7.1.1.1.9a	17.3.0
2023-06	RAN#100	R5-233327	3801	1	⊢	Updates to RRC TCs 8.1.3.1.17 and 8.1.3.1.18	17.3.0
2023-06	RAN#100	R5-233328	3845	-	F	Addition of new NR 2 step RACH test case 7.1.1.1.10a	17.3.0
2023-06	RAN#100	R5-233329	3682	1	F	Update NE-DC RRC Radio Bearer test case 8.2.2.7.3	17.3.0
2023-06	RAN#100	R5-233330	3807	1	F	Update to test case 8.2.2.5.1	17.3.0
2023-06	RAN#100	R5-233331	3808	1	F	Update to test case 8.2.2.5.2	17.3.0
2023-06	RAN#100	R5-233332	3809	1	F	Update to test case 8.2.2.5.3	17.3.0
2023-06	RAN#100	R5-233333	3810	1	F	Update to test case 8.2.2.6.1	17.3.0
2023-06	RAN#100	R5-233334	3811	1	F	Update to test case 8.2.2.7.1	17.3.0
2023-06	RAN#100	R5-233335	3812	1	F	Update to test case 8.2.2.7.2	17.3.0
2023-06	RAN#100	R5-233336	3814	1	F	Update to test case 8.2.2.8.1	17.3.0
2023-06	PAN#100	P5-222227	2815	1			1720
2023-00		DE_222222	2010	1		Undate to test case 0.2.2.0.2	1720
2023-00		RD-233338	2012	1		Upuale 10 lesi Lase 0.2.2.8.3	17.0
2023-06	RAN#100	R5-233339	3817			Upuale to test case 8.2.2.9.1	17.3.0
2023-06	RAN#100	R5-233340	3818	1		Update to test case 8.2.2.9.2	17.3.0
2023-06	RAN#100	R5-233341	3819	1	F	Update to test case 8.2.2.9.3	17.3.0
2023-06	RAN#100	R5-233342	3820	1	F	Update to test case 8.2.3.13.1	17.3.0

2023-06	RAN#100	R5-233343	3821	1	F	Update to test case 8.2.3.13.2	17.3.0
2023-06	RAN#100	R5-233344	3822	1	F	Update to test case 8.2.3.14.1	17.3.0
2023-06	RAN#100	R5-233345	3823	1	F	Update to test case 8.2.3.14.2	17.3.0
2023-06	RAN#100	R5-233346	3824	1	F	Update to test case 8.2.3.14.3	17.3.0
2023-06	RAN#100	R5-233347	3640	1	F	Correction to 5GC TC 9.1.1.2	17.3.0
2023-06	RAN#100	R5-233348	3641	1	F	Correction to MICO TC 9.1.5.1.4	17.3.0
2023-06	RAN#100	R5-233349	3646	1	F	Correction to 5GC TC 9.3.1.3	17.3.0
2023-06	RAN#100	R5-233350	3647	1	F	Correction to UAC TC 11.3.10	17.3.0
2023-06	RAN#100	R5-233351	3747	1	F	Corrections to SNPN TC 11.3.9a	17.3.0
2023-06	RAN#100	R5-233353	3648	1	F	Correction to emergency service TC 11.4.12	17.3.0
2023-06	RAN#100	R5-233354	3833	1	F	Update 5GMM Emergency Service test case 11.4.13	17.3.0
2023-06	RAN#100	R5-233355	3694	1	F	Addition of inter-system mobility test case 11.8.1	17.3.0
2023-06	RAN#100	R5-233356	3695	1	F	Addition of inter-system mobility test case 11.8.3	17.3.0
2023-06	RAN#100	R5-233358	3638	1	F	Correction to NR RRC TC 8.1.1.3.7a	17.3.0
2023-06	RAN#100	R5-233359	3736	1	F	Update test case 8.2.5.7.1	17.3.0
2023-06	RAN#100	R5-233360	3737	1	F	Update test case 8.2.5.7.2	17.3.0
2023-06	RAN#100	R5-233362	3680	1	F	Addition of new test case 7.1.3.6.8 for PDCP UDC	17.3.0
2023-06	RAN#100	R5-233363	3681	1	F	Addition of new test case 7.1.3.6.9 for PDCP UDC	17.3.0
2023-06	RAN#100	R5-233377	3758	1	F	Update of test case 8.1.6.1.2.15 for SON MDT	17.3.0
2023-06	RAN#100	R5-233378	3756	1	F	Update to eNS_Ph2 test case 9.1.12.1	17.3.0
2023-06	RAN#100	R5-233384	3772	1	F	Addition of MBS Broadcast TC 14.1.1.2-becoming interested	17.3.0
			_			to receive MBS broadcast services	
2023-06	RAN#100	R5-233385	3780	1	F	Addition of MBS Multicast TC 14.2.4.3.1-Handover between	17.3.0
						multicast supporting cell	
2023-06	RAN#100	R5-233386	3781	1	F	Addition of MBS Multicast TC 14.2.4.3.2-Re-establishment	17.3.0
2023-06	RAN#100	R5-233387	3783	1	F	Addition of MBS Multicast TC 14.2.5.1.1-Network-requested	17.3.0
						PDU session modification to remove UE from MBS session	
2023-06	RAN#100	R5-233388	3784	1	F	Addition of MBS Multicast TC 14.2.5.1.2-Network-requested	17.3.0
2022.06	DAN#100	DE 222200	2705	1	-	PDU session modification to update MBS service area	1720
2023-00	RAN#100	R5-233389	3/85	LT.		Addition of MBS Multicast TC 14.2.5.2.1-OE-requested to	11.3.0
2023-06	RAN#100	R5-233391	3786	1	F	Addition of LIPIP TC 8 2 6 4 2-RRC re-establishment	1730
2023-06	RAN#100	R5-233392	3787	1	F	Addition of LIPIP TC 8 2 6 4 3-HO	1730
2023-06	RAN#100	R5-233400	3690	1		Undate eNS test case 9 1 13 2	1730
2023-06	RANI#100	R5-233401	3692	1		Undate eNS test case 10.1.8.4	1730
2023-00	RAN#100	R5-233402	36032	1		Undate eNS test case 10.1.0.4	1730
2023-00	DAN#100	R5-233402	2752	1		Undate of TC 10 1 8 2 NSAC / PDU session establishment	17.3.0
2023-00		10-200400	5755	1	l.	reject / Maximum number of PDU sessions reached / Back-	11.3.0
						off timer is zero or not included	
2023-06	RAN#100	R5-233404	3790	1	F	Correction of NR TC 10.1.8.1-NSAC	17.3.0
2023-06	RAN#100	R5-233405	3791	1	F	Correction of NR TC 10.1.8.2-NSAC	17.3.0
2023-06	RAN#100	R5-233407	3765	1	F	Update NR MAC TC 7.1.1.1.1-7.1.1.1.1a-7.1.1.1.8 for HD-	17.3.0
				_	[·	FDD UE-PRACH	
2023-06	RAN#100	R5-233408	3766	1	F	Update NR MAC TC 7.1.1.1.2 and RRC TC 8.1.5.2.2 for HD-	17.3.0
						FDD UE-PRACH	
2023-06	RAN#100	R5-233409	3768	1	F	Update URLLC TC 7.1.1.3.12 for HD-FDD UE-PUSCH	17.3.0
						repetition Type B	
2023-06	RAN#100	R5-233410	3769	1	F	Correction of NR TC 7.1.2.3.6-Polling for status	17.3.0
2023-06	RAN#100	R5-233411	3653	1	F	Correction to RedCap test case 11.7.1	17.3.0
2023-06	RAN#100	R5-233412	3654	1	F	Correction to RedCap test case 11.7.2	17.3.0
2023-06	RAN#100	R5-233413	3655	1	F	Correction to SDT TC 7.1.1.13.1	17.3.0
2023-06	RAN#100	R5-233415	3666	1	F	Update to MAC test case for RA Based SDT / 2-step RACH	17.3.0
2023-06	RAN#100	R5-233416	3667	1	F	Update to MAC test case for RA Based SDT / 4-step RACH	17.3.0
2023-06	RAN#100	R5-233420	3678	1	F	Addition of Enhancement of RAN slicing for NR test case	17.3.0
					_	6.1.2.25	
2023-06	RAN#100	R5-233421	3759	1	F	Update of test case 6.1.2.24 for NR slice	17.3.0
2023-06	RAN#100	R5-233422	3760	1	F	Update of test case 6.4.2.3 for NR slice	17.3.0
2023-06	RAN#100	R5-233427	3626	1	F	Correction to power saving enhancements TC 8.1.1.1a.1	17.3.0

2023-06	RAN#100	R5-233428	3630	1	F	Correction to power saving enhancements TC 11.4.1a	17.3.0
2023-06	RAN#100	R5-233430	3625	1	F	Addition of ATSSS new TC 10.4.2.2	17.3.0
2023-06	RAN#100	R5-233431	3650	1	F	Correction to ATSSS TC 10.4.1.2	17.3.0
2023-06	RAN#100	R5-233432	3651	1	F	Correction to ATSSS TC 10.4.1.4	17.3.0
2023-06	RAN#100	R5-233433	3750	1	F	Addition of new ATSSS test case 10.4.1.6	17.3.0
2023-06	RAN#100	R5-233445	3698	1	F	Correction to FR2 Power level tables for NR Idle mode test	17.3.0
						cases	
2023-06	RAN#100	R5-233449	3705	1	F	Correction to NR testcase 7.1.3.5.3	17.3.0
2023-06	RAN#100	R5-233455	3672	1	F	Corrections to EN-DC test case 8.2.6.3.2	17.3.0
2023-06	RAN#100	R5-233456	3716	1	F	Correction of test procedure on TC 6.3.2.1	17.3.0
2023-06	RAN#100	R5-233457	3717	1	F	Correction of test procedure on TC 6.3.2.2	17.3.0
2023-06	RAN#100	R5-233458	3718	1	F	Correction of test procedure on TC 6.3.2.3	17.3.0
2023-06	RAN#100	R5-233459	3719	1	F	Correction of test procedure on TC 6.3.2.4	17.3.0
2023-06	RAN#100	R5-233460	3720	1	F	Correction of test procedure on TC 6.3.2.5	17.3.0
2023-06	RAN#100	R5-233461	3721	1	F	Correction of test procedure on TC 6.3.2.6	17.3.0
2023-06	RAN#100	R5-233462	3742	1	F	Addition of FR2 cell power levels for Idle mode test cases	17.3.0
2023-06	RAN#100	R5-233463	3748	1	F	Addition of new Idle mode TC to test the	17.3.0
						intraFreqReselection in MIB message is set to not allowed	
2023-06	RAN#100	R5-233467	3708	2	F	Correction to NR testcase 7.1.1.12.3	17.3.0
2023-06	RAN#100	R5-233468	3691	1	F	Update eNS test case 9.3.1.4	17.3.0
2023-06	RAN#100	R5-233469	3624	1	F	Add new NR Multi-SIM test case 8.1.5.10.2	17.3.0
2023-06	RAN#100	R5-233470	3751	1	F	Correction to NR MUSIM TC 8.1.5.10.3	17.3.0
2023-06	RAN#100	R5-233482	3679	1	F	Update test case 8.1.1.4.7	17.3.0
2023-06	RAN#100	R5-233483	3697	1	F	Update test case 8.1.1.4.9	17.3.0
2023-06	RAN#100	R5-233776	3843	2	F	Update of NR TC 6.1.2.3-Cell selection	17.3.0
2023-06	RAN#100	R5-233777	3746	1	F	Addition of new RRC TC for RRCRelease with redirection	17.3.0
						with mpsPriorityIndication-r16	
2023-06	RAN#100	R5-233779	3707	2	F	Correction to Emergency Services test case 11.4.1	17.3.0