3rd Generation Partnership Project; Technical Specification Group Radio Access Network; 5GS; User Equipment (UE) conformance specification; Part 1: Common test environment (Release 16)

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Technical Specification





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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is part 1 of a multi-part deliverable covering the 5G System (5GS) User Equipment (UE) conformance specification, as identified below:

- **3GPP TS 38.508-1: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment"** (the present document).
- 3GPP TS 38.508-2 [10]: "5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma".

1 Scope

The present document defines the test environment for the 5G System.

This specification covers all aspects, including NG-RAN, 5GC and interworking between 5GS and EPS used for conformance tests of User Equipment (UE).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common test environments for User Equipment (UE) conformance testing".

[3] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Overall description; Stage 2".

[4] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[5] 3GPP TS 38.300: "NR; Overall description; Stage 2".

[6] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[7] 3GPP TS 38.101-1: “NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone”.

[8] 3GPP TS 38.101-2: “NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone”.

[9] 3GPP TS 38.101-3: “NR; User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios”.

[10] 3GPP TS 38.508-2: "5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma".

[11] 3GPP TS 38.509: "5GS; Special conformance testing functions for User Equipment (UE)".

[12] 3GPP TS 38.523-1: "5GS; User Equipment (UE) conformance specification; Part 1: Protocol".

[13] 3GPP TS 38.133: “NR; Requirements for support of radio resource management”.

[14] 3GPP TS 38.521-1: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone".

[15] 3GPP TS 38.521-2: “NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 Standalone”.

[16] 3GPP TS 38.521-3: “NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios”.

[17] 3GPP TS 38.521-4: “NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 4: Performance”.

[18] 3GPP TS 38.533: “NR; User Equipment (UE) conformance specification; Radio resource management”.

[19] 3GPP TS 38.523-2: “5GS; User Equipment (UE) conformance specification; Part 2: Applicability of protocol test cases”.

[20] 3GPP TS 38.321: “NR; Medium Access Control (MAC) protocol specification”.

[21] 3GPP TS 38.214: “NR; Physical layer procedures for data”.

[22] 3GPP TS 38.213: “NR; Physical layer procedures for control”.

[23] 3GPP TS 38.523-3: "5GS; UE conformance specification; Part 3: Protocol Test Suites".

[24] 3GPP TR 38.810: “NR; Study on test methods”

[25] 3GPP TS 23.041: “Technical realization of Cell Broadcast Service (CBS)”

[26] 3GPP TS 23.003: “Numbering, addressing and identification”

[27] 3GPP TS 38.212: "NR; Multiplexing and channel coding"

[28] 3GPP TS 24.501: “Non-Access-Stratum (NAS) protocol for 5G System (5GS);Stage 3”

[29] 3GPP TS 38.211: "NR; Physical channels and modulation".

[30] IETF RFC 4187: " Extensible Authentication Protocol Method for 3rd Generation Authentication and Key Agreement (EAP-AKA) ".

[31] IETF RFC 5448: "Improved Extensible Authentication Protocol Method for 3rd Generation Authentication and Key Agreement (EAP-AKA)".

[32] IETF RFC 3748: "Extensible Authentication Protocol (EAP)".

[33] 3GPP TS 23.502: "Procedures for the 5G System (5GS); Stage 2".

[34] IETF RFC 7296: "Internet Key Exchange Protocol Version 2 (IKEv2)".

[35] 3GPP TS 24.502: “Access to the 3GPP 5G Core Network (5GCN) via Non-3GPP Access Networks (N3AN); Stage 3”

[36] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification ".

[37] 3GPP TS 36.523-2: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[38] 3GPP TR 38.903: “NR; Derivation of test tolerances and measurement uncertainty for User Equipment (UE) conformance test cases”

[39] 3GPP TS 37. 571-1: "Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 1: Conformance test specification".

[40] 3GPP TS 37. 571-2: "Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 2: Protocol conformance".

[41] 3GPP TS 36.523-3: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 3: Test Suites".

[42] 3GPP TS 36.523-1: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[43] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

[44] 3GPP TS 34.229-1: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[45] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS);Multimedia Telephony;Media handling and interaction".

[46] IETF RFC 4566: "SDP: Session Description Protocol".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

B: a value followed by "B" is a binary value.

H: a value followed by "H" is a hexadecimal value.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5GC	5G Core Network
5GMM	5GS Mobility Management
5GS	5G System
5GSM	5GS Session Management
EN-DC	E-UTRA-NR Dual Connectivity
MCG	Master Cell Group
MR-DC	Multi-RAT Dual Connectivity
NE-DC	NR-E-UTRA Dual Connectivity
NGC	NG Core Network. Synonym of 5GC.
NGEN-DC	NG-RAN E-UTRA-NR Dual Connectivity
NG-RAN	NG Radio Access Network
NR	NR Radio Access
RRC	Radio Resource Control
SCG	Secondary Cell Group
SS	System Simulator

4 Common test environments

4.1 Environmental conditions

The requirements in this clause apply to all types of UE(s).

4.1.1 Temperature

Regarding FR1 the UE shall fulfil all the requirements in the full temperature range of:

Table 4.1.1-1: Temperature conditions for FR1

+15°C to +35°C	For normal conditions (with relative humidity of 25 % to 75 %)
-10°C to +55°C	For extreme conditions (see IEC publications 68-2-1 and 68-2-2)

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-1 [7] clause 6.2 for extreme operation.

The normative reference for this requirement is TS 38.101-1 [7] Annex E.2.

All RF requirements for UEs operating in FR2 are defined over the air and can only be tested in an OTA chamber.

Regarding FR2 the UE shall fulfil all requirements in the temperature range defined in Table 4.1.1-2.

Table 4.1.1-2: Temperature conditions for FR2

+ 25 °C ±10 °C	For normal (room temperature) conditions with relative humidity of 25% to 75%
-10°C to +55°C	For extreme conditions

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-2[8] clause 6.2 for extreme operation.

The normative reference for this requirement is TS 38.101-2 [8] Annex E.2.

Some tests are performed also in extreme temperature conditions. These test conditions are denoted as TL (temperature low, -10°C) and TH (temperature high, +55°C).

4.1.2 Voltage

Editor's Note: This clause is incomplete. The following items are missing or are incomplete:

- Methodology to control the voltage in a case which a power cable is not connected to DUT is FFS since it is not agreed whether we can connect the power cable to DUT at the OTA measurement situation yet.

Regarding both FR1 and FR2 the UE shall fulfil all the requirements in the full voltage range, i.e. the voltage range between the extreme voltages.

The manufacturer shall declare the lower and higher extreme voltages and the approximate shutdown voltage. For the equipment that can be operated from one or more of the power sources listed below, the lower extreme voltage shall not be higher, and the higher extreme voltage shall not be lower than that specified below.

Table 4.1.2-1: Voltage conditions

Power source	Lower extreme voltage	Higher extreme voltage	Normal conditions voltage
AC mains	0,9 * nominal	1,1 * nominal	nominal
Regulated lead acid battery	0,9 * nominal	1,3 * nominal	1,1 * nominal
Non regulated batteries: Leclanché Lithium Mercury/nickel & cadmium	 0,85 * nominal 0,95 * nominal 0,90 * nominal	 Nominal 1,1 * Nominal	 Nominal 1,1 * Nominal Nominal

Outside this voltage range the UE if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 38.101-1[7] and TS 38.101-2[8] clause 6.2 for extreme operation. In particular, the UE shall inhibit all RF transmissions when the power supply voltage is below the manufacturer declared shutdown voltage.

The normative reference for this requirement is TS 38.101-1 [7] Annex E.2 and TS 38.101-2 [8] Annex E.2.

Some tests are performed also in extreme voltage conditions. These test conditions are denoted as VL (lower extreme voltage) and VH (higher extreme voltage).

4.2 Common requirements of test equipment

Mobile conformance testing can be categorized into 3 distinct areas:

- RF Conformance Testing consisting of:
  - Transmission and Reception Conformance Testing.
  - Performance Conformance Testing.
- RRM Conformance Testing.
- Signalling Conformance Testing.

The test equipment required for each category of testing may or not be different, depending on the supplier of the test equipment. However, there will be some generic requirements of the test equipment that are essential for all three categories of test, and these are specified in this clause.

In addition, there will be requirements to test operation in multi-system configurations other than E-UTRA and NR dual connectivity (EN-DC). However, these would not form a common test equipment requirement for the three test areas and are not considered in the present document.

4.2.1 General functional requirements

NOTE: This clause has been written such that it does not constrain the implementation of different architectures and designs of test equipment.

All test equipment used to perform conformance testing for frequency range 1 on a UE shall provide the following minimum functionality:

- Conducted test method

All test equipment used to perform conformance testing for frequency range 2 on a UE shall provide the following minimum functionality:

- OTA test method

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either:

- non-standalone(NSA) mode; or
- standalone(SA) mode.

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either of following duplex mode for NR and E-UTRA (NSA only) respectively.

a) FDD Mode; or

b) TDD Mode; or

c) both FDD/TDD Modes.

All test equipment shall provide the following minimum functionality.

- The capability of emulating a single NR cell and a single E-UTRA (for NSA mode only) cell with the appropriate channels to allow the UE to register on the cell.
- The capability to allow the UE to set up an RRC connection with the system simulator, and to maintain the connection for the duration of the test.
- The capability (for the specific test):
  - to select and support an appropriate radio bearer for the downlink;
  - to set up and support the appropriate radio bearer for the uplink;

4.2.2 Minimum functional requirements

4.2.2.1 Supported Cell Configuration

The System Simulator shall provide the capability to simulate a minimum number of cells whose number and capabilities are governed by the test cases that need to be performed (test cases are defined in TS 38.523-1 [12] (Signalling), TS 38.521-1 [14], TS 38.521-2 [15], TS 38.521-3 [16] (TRx), TS 38.521-4 [17] (Performance), TS 38.533 [18] (RRM), TS 37. 571-1 [39] and TS 37. 571-2 [40] (Positioning)).

To perform test cases requiring multiple cell(s), the system simulator shall provide multiple cells offering the capabilities as required by the test case.

The type and number of channels (especially physical channels) constitute an important set of capabilities for a cell. The following clauses list possible channels that may be supported by the SS. Each channel type, however, and the minimum number of channels needed are only mandatory if specific test cases require them.

The mapping between Logical and Transport channels is as described in TS 38.321 [20]. Similarly, the mapping between Transport channels and Physical channels is as described in TS 38.211, TS 38.302 and TS 38.212. The reference measurement channels (mapping between Transport channels and Physical channels for PDSCH/PDCCH) are defined in TS 38.521-1 [14] annex A

4.2.2.1.1 Supported Channels for an E-UTRA cell (NSA mode only)

Requirement for supported channels for E-UTRA cell is described in TS 36.508[2].

4.2.2.1.2 Supported Channels for a NR cell

4.2.2.1.2.1 Logical channels

Logical channel	Minimum number	Comments
BCCH	0 for EN-DC, 1 for SA	
CCCH	0 for EN-DC, 1 for SA	
DCCH	0 for EN-DC, 2 for SA	Split SRB or SRB3 is optional in EN-DC
PCCH	0 for EN-DC, 1 for SA	
DTCH	n	Depending on SS's support for RB service testing

4.2.2.1.2.2 Transport channels

Transport channel	Minimum number	Comments

4.2.2.1.2.3 Physical channels

Physical channel	Minimum number	Comments
PBCH	1	Physical Broadcast Channel
PDCCH	1	The physical downlink control channel carries scheduling assignments and other control information.
PDSCH	1	Physical Downlink Shared Channel
PUCCH	1	The physical uplink control channel carries uplink control information
PUSCH	1	Physical Uplink Shared Channel
PRACH	1	Physical Random Access Channel

4.2.2.1.2.4 Physical signals

Physical signal	Minimum number	Comments
Demodulation reference signal	NA	UL
Sounding Reference signal	NA	UL, if applicable
Phase Tracking Reference Signal	NA	UL, if applicable
Demodulation reference signal(PDSCH)	NA	DL
Demodulation reference signal(PDCCH)	NA	DL
Demodulation reference signal(PBCH)	NA	DL
Phase Tracking Reference Signal	NA	DL, if applicable
CSI reference signal	NA	DL
Primary synchronisation signal	NA	DL
Secondary synchronisation signal	NA	DL

4.3 Reference test conditions

4.3.1 Test frequencies

4.3.1.0 General

The test frequencies are based on operating bands defined in TS 38.101-1 [7], TS 38.101-2 [8] and TS 38.101-3 [9].

4.3.1.0A Mid test channel bandwidth

The Mid test channel bandwidth definition for RF is given in Table 4.3.1-1 and Table 4.3.1-2 for FR1 and FR2 respectively.

Table 4.3.1-1: Mid Test Channel bandwidths for each NR band, FR1

NR band / UE Mid Test Channel bandwidth	
NR Band	**Mid [MHz]**
n1	15
n2	15
n3	15
n5	15
n7	15
n8	15
n12	10
n20	15
n25	15
n28	15
n34	10
n38	15
n39	20
n40	30
n41	60
n50	20
n51	5
n66	20
n70	15
n71	10
n74	15
n75	15[2]
n76	5[2]
n77	50
n78	50
n79	60
n80	20[3]
n81	15[3]
n82	15[3]
n83	15[3]
n84	15[3]
n86	20[3]
Note 1: For UEs with limited UE channel bandwidth capability, if mid channel BW is not supported by the UE, select the closest lower channel BW supported by the UE in both UL and DL. This shall apply only for Rel 15 UEs. Note 2: This UE channel bandwidth is applicable only to downlink. Note 3: This UE channel bandwidth is applicable only to uplink	

Table 4.3.1-2: Mid Test Channel bandwidths for each NR band, FR2

NR band / UE Mid Test Channel bandwidth	
NR Band	**Mid [MHz]**
n257	100
n258	[200]
n260	[200]
n261	[200]
NOTE 1:	For UEs with limited UE channel bandwidth capability, if mid channel BW is not supported by the UE, select the closest lower channel BW supported by the UE in both UL and DL. This shall apply only for Rel 15 UEs.

4.3.1.0B Low test channel bandwidth

The low test channel bandwidth definition for RF is given in Table 4.3.1.0B-1 and Table 4.3.1.0B-2 for FR1 and FR2 respectively.

Table 4.3.1.0B-1: Low Test Channel bandwidths for each NR band, FR1

NR band / UE Low Test Channel bandwidth	
NR Band	**Low [MHz]**
n1	5
n2	5
n3	5
n5	5
n7	5
n8	5
n12	5
n20	5
n25	5
n28	5
n34	5
n38	5
n39	5
n40	5
n41	10
n50	5
n51	5
n66	5
n70	5
n71	5
n74	5
n75	5[2]
n76	5[2]
n77	10
n78	10
n79	40
n80	5[3]
n81	5[3]
n82	5[3]
n83	5[3]
n84	5[3]
n86	5[3]
NOTE 1: For UEs with limited UE channel bandwidth capability, if the above defined low channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel.15 UEs..	
Note 2: This UE channel bandwidth is applicable only to downlink.	
Note 3: This UE channel bandwidth is applicable only to uplink.	

Table 4.3.1.0B-2: Low Test Channel bandwidths for each NR band, FR2

NR band / UE Low Test Channel bandwidth	
NR Band	**Low [MHz]**
n257	50
n258	50
n260	50
n261	50
NOTE 1: For UEs with limited UE channel bandwidth capability, if the above defined low channel bandwidth is not supported by the UE, select the closest channel bandwidth in both DL and UL. This shall apply only for Rel.15 UEs..	

4.3.1.0C High test channel bandwidth

The high test channel bandwidth definition for RF is given in Table 4.3.1.0C-1 and Table 4.3.1.0C-2 for FR1 and FR2 respectively.

Table 4.3.1.0C-1: High Test Channel bandwidths for each NR band, FR1

NR band / UE High Test Channel bandwidth	
NR Band	**High [MHz]**
n1	20
n2	20
n3	30
n5	20
n7	20
n8	20
n12	15
n20	20
n25	20
n28	20
n34	15
n38	20
n39	40
n40	80
n41	100
n50	80
n51	5
n66	40
n70	15[1]/25[2]
n71	20
n74	20
n75	20[2]
n76	5[2]
n77	100
n78	100
n79	100
n80	30[1]
n81	20[1]
n82	20[1]
n83	20[1]
n84	20[1]
n86	40[1]
NOTE 1: This UE channel bandwidth is applicable only to uplink. NOTE 2: This UE channel bandwidth is applicable only to downlink.	

Table 4.3.1.0C-2: High Test Channel bandwidths for each NR band, FR2

NR band / UE High Test Channel bandwidth	
NR Band	**High [MHz]**
n257	400
n258	400
n260	400
n261	400

4.3.1.0D Bandwidth part

The value of *locationAndBandwidth* in *BWP* for FR1 is given in Table 4.3.1.0D-1. The value of *locationAndBandwidth* in *BWP* for FR2 is given in Table 4.3.1.0D-2.

Table 4.3.1.0D-1: locationAndBandwidth in BWP for FR1

BW [MHz]	SCS [kHz]	L_RBs (MAX N_{RB})	locationAndBandwidth (Note 1)
5	15	25	6600
5	30	11	2750
5	60	N/A	N/A
10	15	52	14025
10	30	24	6325
10	60	11	2750
15	15	79	21450
15	30	38	10175
15	60	18	4675
20	15	106	28875
20	30	51	13750
20	60	24	6325
25	15	133	36300
25	30	65	17600
25	60	31	8250
30	15	160	32174
30	30	78	21175
30	60	38	10175
40	15	216	16774
40	30	106	28875
40	60	51	13750
50	15	270	1924
50	30	133	36300
50	60	65	17600
60	15	N/A	N/A
60	30	162	31624
60	60	79	21450
80	15	N/A	N/A
80	30	217	16499
80	60	107	29150
90	15	N/A	N/A
90	30	245	8799
90	60	121	33000
100	15	N/A	N/A
100	30	273	1099
100	60	135	36850
Note 1: The value for *locationAndBandwidth* parameter is calculated as the RIV value in accordance to [21] TS 38.214 with N_{BWP}^{size} = 275, RB_{start} =0 and L_{RBs} = Max N_{RB} for each bandwidth and subcarrier spacing.			

Table 4.3.1.0D-2: locationAndBandwidth in BWP for FR2

BW [MHz]	SCS [kHz]	L_RBs (MAX N_{RB})	locationAndBandwidth (Note 1)
50	60	66	17875
50	120	32	8525
100	60	132	36025
100	120	66	17875
200	60	264	3574
200	120	132	36025
400	60	N/A	N/A
400	120	264	3574
Note 1: The value for *locationAndBandwidth* parameter is calculated as the RIV value in accordance to [21] TS 38.214 with N_{BWP}^{size} = 275, RB_{start} =0 and L_{RBs} = Max N_{RB} for each bandwidth and subcarrier spacing.			

4.3.1.1 Test frequencies for NR operating bands in FR1

4.3.1.1.1 NR operating bands in FR1

4.3.1.1.1.1 Reference test frequencies for NR operating band n1

Table 4.3.1.1.1.1-1: Test frequencies for NR operating band n1 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0	0
			Mid	2140	428000	2118.49	423698	107		5350	427970	8	0	0	108
			High	2167.5	433500	2073.63	414726	509		5418	433470	8	0	0	510
		Uplink	Low	1922.5	384500	1920.25	384050	0	-	-	-	-	-	-	-
			Mid	1950	390000	1857.03	371406	504		-	-	-	-	-	-
			High	1977.5	395500	1974.17	394834	6		-	-	-	-	-	-
10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0	0
			Mid	2140	428000	2116.06	423212	107		5344	427490	10	0	0	108
			High	2165	433000	2068.7	413740	509		5405	432490	10	0	0	510
		Uplink	Low	1925	385000	1920.32	384064	0	-	-	-	-	-	-	-
			Mid	1950	390000	1854.6	370920	504		-	-	-	-	-	-
			High	1975	395000	1969.24	393848	6		-	-	-	-	-	-
15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0	0
			Mid	2140	428000	2114.53	422906	102		5338	427010	0	2	1	104
			High	2162.5	432500	2063.77	4412754	509		5395	431570	8	2	1	512
		Uplink	Low	1927.5	385500	1920.39	384078	0	-	-	-	-	-	-	-
			Mid	1950	390000	1852.17	370434	504		-	-	-	-	-	-
			High	1972.5	394500	1964.31	392862	6		-	-	-	-	-	-
20	106	Downlink	Low	2120	424000	2109.56	421912	5	15	5282	422650	6	4	2	10
			Mid	2140	428000	2112.1	422420	102		5332	426530	2	2	1	104
			High	2160	432000	2058.84	411768	509		5382	430590	10	2	1	512
		Uplink	Low	1930	386000	1920.46	384092	0	-	-	-	-	-	-	-
			Mid	1950	390000	1849.74	369948	504		-	-	-	-	-	-
			High	1970	394000	1959.38	391876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.1-2: Test frequencies for NR operating band n1 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	5	0	10
			Mid	2140	428000	2098.96	419792	102		5350	427970	14	6	1	216
			High	2165	433000	1979.24	395848	504		5411	432970	14	6	1	1020
		Uplink	Low	1925	385000	1920.68	384136	0	-	-	-	-	-	-	-
			Mid	1950	390000	1764.24	352848	504		-	-	-	-	-	-
			High	1975	395000	1968.52	393704	6		-	-	-	-	-	-
15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	6	1	12
			Mid	2140	428000	2096.44	419288	102		5344	427490	22	6	1	216
			High	2162.5	432500	1974.22	394844	504		5401	432050	18	7	2	1022
		Uplink	Low	1927.5	385500	1920.66	384132	0	-	-	-	-	-	-	-
			Mid	1950	390000	1761.72	352344	504		-	-	-	-	-	-
			High	1972.5	394500	1963.5	392700	6		-	-	-	-	-	-
20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	5	0	10
			Mid	2140	428000	2094.1	418820	102		5338	427010	18	6	1	216
			High	2160	432000	1969.38	393876	504		5388	431070	14	7	2	1022
		Uplink	Low	1930	386000	1920.82	384164	0	-	-	-	-	-	-	-
			Mid	1950	390000	1759.38	351876	504		-	-	-	-	-	-
			High	1970	394000	1958.66	391732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.1-3: Test frequencies for NR operating band n1 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
			Mid	2140	428000	2062.6	412520	102		-	427568
			High	2165	433000	1798.16	359632	504		-	432568
		Uplink	Low	1925	385000	1921.04	384208	0	-	-	-
			Mid	1950	390000	1583.16	316632	504		-	-
			High	1975	395000	1966.72	393344	6		-	-
15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
			Mid	2140	428000	2060.08	412016	102		-	427064
			High	2162.5	432500	1793.14	358628	504		-	431564
		Uplink	Low	1927.5	385500	1921.02	384204	0	-	-	-
			Mid	1950	390000	1580.64	316128	504		-	-
			High	1972.5	394500	1961.7	392340	6		-	-
20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
			Mid	2140	428000	2057.92	411584	102		-	426632
			High	2160	432000	1788.48	357696	504		-	430632
		Uplink	Low	1930	386000	1921.36	384272	0	-	-	-
			Mid	1950	390000	1578.48	315696	504		-	-
			High	1970	394000	1957.04	391408	6		-	-

4.3.1.1.1.2 Reference test frequencies for NR operating band n2

Table 4.3.1.1.1.2-1: Test frequencies for NR operating band n2 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1932.5	386500	1930.25	386050	0	15	4829	386410	0	0	0	0
			Mid	1960	392000	1938.49	387698	107		4900	391970	8	0	0	108
			High	1987.5	397500	1893.63	378726	509		4968	397470	8	0	0	510
		Uplink	Low	1852.5	370500	1850.25	370050	0	-	-	-	-	-	-	-
			Mid	1880	376000	1787.03	357406	504		-	-	-	-	-	-
			High	1907.5	381500	1904.17	380834	6		-	-	-	-	-	-
10	52	Downlink	Low	1935	387000	1930.32	386064	0	15	4830	386430	2	0	0	0
			Mid	1960	392000	1936.06	387212	107		4894	391490	10	0	0	108
			High	1985	397000	1888.7	377740	509		4955	396490	10	0	0	510
		Uplink	Low	1855	371000	1850.32	370064	0	-	-	-	-	-	-	-
			Mid	1880	376000	1784.6	356920	504		-	-	-	-	-	-
			High	1905	381000	1899.24	379848	6		-	-	-	-	-	-
15	79	Downlink	Low	1937.5	387500	1930.39	386078	0	15	4831	386450	4	0	0	0
			Mid	1960	392000	1934.53	386906	102		4888	391010	0	2	1	104
			High	1982.5	396500	1883.77	376754	509		4945	395570	8	2	1	512
		Uplink	Low	1857.5	371500	1850.39	370078	0	-	-	-	-	-	-	-
			Mid	1880	376000	1782.17	356434	504		-	-	-	-	-	-
			High	1902.5	380500	1894.31	378862	6		-	-	-	-	-	-
20	106	Downlink	Low	1940	388000	1929.56	385912	5	15	4832	386650	6	4	2	10
			Mid	1960	392000	1932.1	386420	102		4882	390530	2	2	1	104
			High	1980	396000	1878.84	375768	509		4932	394590	10	2	1	512
		Uplink	Low	1860	372000	1850.46	370092	0	-	-	-	-	-	-	-
			Mid	1880	376000	1779.74	355948	504		-	-	-	-	-	-
			High	1900	380000	1889.38	377876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.2-2: Test frequencies for NR operating band n2 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1935	387000	1930.68	386136	0	15	4836	386910	18	5	0	10
			Mid	1960	392000	1918.96	383792	102		4900	391970	14	6	1	216
			High	1985	397000	1799.24	359848	504		4961	396970	14	6	1	1020
		Uplink	Low	1855	371000	1850.68	370136	0	-	-	-	-	-	-	-
			Mid	1880	376000	1694.24	338848	504		-	-	-	-	-	-
			High	1905	381000	1898.52	379704	6		-	-	-	-	-	-
15	38	Downlink	Low	1937.5	387500	1930.66	386132	0	15	4837	386930	2	6	1	12
			Mid	1960	392000	1916.44	383288	102		4894	391490	22	6	1	216
			High	1982.5	396500	1794.22	358844	504		4951	396050	18	7	2	1022
		Uplink	Low	1857.5	371500	1850.66	370132	0	-	-	-	-	-	-	-
			Mid	1880	376000	1691.72	338344	504		-	-	-	-	-	-
			High	1902.5	380500	1893.5	378700	6		-	-	-	-	-	-
20	51	Downlink	Low	1940	388000	1930.82	386164	0	15	4835	386890	2	5	0	10
			Mid	1960	392000	1914.1	382820	102		4888	391010	18	6	1	216
			High	1980	396000	1789.38	357876	504		4938	395070	14	7	2	1022
		Uplink	Low	1860	372000	1850.82	370164	0	-	-	-	-	-	-	-
			Mid	1880	376000	1689.38	337876	504		-	-	-	-	-	-
			High	1900	380000	1888.66	377732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.2-3: Test frequencies for NR operating band n2 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	1935	387000	1931.04	386208	0	15	-	386568
			Mid	1960	392000	1882.6	376520	102		-	391568
			High	1985	397000	1618.16	323632	504		-	396568
		Uplink	Low	1855	371000	1851.04	370208	0	-	-	-
			Mid	1880	376000	1513.16	302632	504		-	-
			High	1905	381000	1896.72	379344	6		-	-
15	18	Downlink	Low	1937.5	387500	1931.02	386204	0	15	-	386564
			Mid	1960	392000	1880.08	376016	102		-	391064
			High	1982.5	396500	1613.14	322628	504		-	395564
		Uplink	Low	1857.5	371500	1851.02	370204	0	-	-	-
			Mid	1880	376000	1510.64	302128	504		-	-
			High	1902.5	380500	1891.7	378340	6		-	-
20	24	Downlink	Low	1940	388000	1931.36	386272	0	15	-	386632
			Mid	1960	392000	1877.92	375584	102		-	390632
			High	1980	396000	1608.48	321696	504		-	394632
		Uplink	Low	1860	372000	1851.36	370272	0	-	-	-
			Mid	1880	376000	1508.48	301696	504		-	-
			High	1900	380000	1887.04	377408	6		-	-

4.3.1.1.1.3 Reference test frequencies for NR operating band n3

Table 4.3.1.1.1.3-1: Test frequencies for NR operating band n3 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1807.5	361500	1804.35	360870	5	15	4518	361470	8	0	0	6
			Mid	1842.5	368500	1821.89	364378	102		4604	368410	0	0	0	102
			High	1877.5	375500	1784.53	356906	504		4693	375410	0	0	0	504
		Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1654.53	330906	504		-	-	-	-	-	-
			High	1782.5	356500	1779.17	355834	6		-	-	-	-	-	-
10	52	Downlink	Low	1810	362000	1804.42	360884	5	15	4519	361490	10	0	0	6
			Mid	1842.5	368500	1819.46	363892	102		4598	367930	2	0	0	102
			High	1875	375000	1779.6	355920	504		4680	374430	2	0	0	504
		Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1652.1	330420	504		-	-	-	-	-	-
			High	1780	356000	1774.24	354848	6		-	-	-	-	-	-
15	79	Downlink	Low	1812.5	362500	1805.39	361078	0	15	4517	361450	4	0	0	0
			Mid	1842.5	368500	1817.03	363406	102		4592	367450	4	0	0	102
			High	1872.5	374500	1774.67	354934	504		4667	373450	4	0	0	504
		Uplink	Low	1717.5	343500	1710.39	342078	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1649.67	329934	504		-	-	-	-	-	-
			High	1777.5	355500	1769.31	353862	6		-	-	-	-	-	-
20	106	Downlink	Low	1815	363000	1805.46	361092	0	15	4518	361470	6	0	0	0
			Mid	1842.5	368500	1814.6	362920	102		4586	366970	6	0	0	102
			High	1870	374000	1769.74	353948	504		4657	372530	2	2	1	506
		Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1647.24	329448	504		-	-	-	-	-	-
			High	1775	355000	1764.38	352876	6		-	-	-	-	-	-
25	133	Downlink	Low	1817.5	363500	1805.53	361106	0	15	4519	361490	8	0	0	0
			Mid	1842.5	368500	1812.17	362434	102		4580	366490	8	0	0	102
			High	1867.5	373500	1764.81	352962	504		4644	371550	4	2	1	506
		Uplink	Low	1722.5	344500	1710.53	342106	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1644.81	328962	504		-	-	-	-	-	-
			High	1772.5	354500	1759.45	351890	6		-	-	-	-	-	-
30	160	Downlink	Low	1820	364000	1804.7	360940	5	15	4520	361690	10	4	2	10
			Mid	1842.5	368500	1809.74	361948	102		4574	366010	10	0	0	102
			High	1865	373000	1759.88	351976	504		4631	370570	6	2	1	506
		Uplink	Low	1725	345000	1710.6	342120	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1642.38	328476	504		-	-	-	-	-	-

			High	1770	354000	1754.52	350904	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.1.1.3-2: Test frequencies for NR operating band n3 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1810	362000	1805.68	361136	0	15	4525	361970	14	6	1	12
			Mid	1842.5	368500	1801.46	360292	102		4604	368410	18	5	0	214
			High	1875	375000	1689.24	337848	504		4686	374910	18	5	0	1018
		Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1561.74	312348	504		-	-	-	-	-	-
			High	1780	356000	1773.52	354704	6		-	-	-	-	-	-
15	38	Downlink	Low	1812.5	362500	1805.66	361132	0	15	4523	361930	2	6	1	12
			Mid	1842.5	368500	1798.94	359788	102		4598	367930	2	6	1	216
			High	1872.5	374500	1684.22	336844	504		4673	373930	2	6	1	1020
		Uplink	Low	1717.5	343500	1710.66	342132	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1559.22	311844	504		-	-	-	-	-	-
			High	1777.5	355500	1768.5	353700	6		-	-	-	-	-	-
20	51	Downlink	Low	1815	363000	1805.82	361164	0	15	4524	361950	22	5	0	10
			Mid	1842.5	368500	1796.6	359320	102		4592	367450	22	5	0	214
			High	1870	374000	1679.38	335876	504		4663	373010	18	6	1	1020
		Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1556.88	311376	504		-	-	-	-	-	-
			High	1775	355000	1763.66	352732	6		-	-	-	-	-	-
25	65	Downlink	Low	1817.5	363500	1805.8	361160	0	15	4525	361970	6	6	1	12
			Mid	1842.5	368500	1794.08	358816	102		4586	366970	6	6	1	216
			High	1867.5	373500	1674.36	334872	504		4650	372030	2	7	2	1022
		Uplink	Low	1722.5	344500	1710.8	342160	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1554.36	310872	504		-	-	-	-	-	-
			High	1772.5	354500	1758.64	351728	6		-	-	-	-	-	-
30	78	Downlink	Low	1820	364000	1805.96	361192	0	15	4523	361930	6	5	0	10
			Mid	1842.5	368500	1791.74	358348	102		4580	366490	2	6	1	216
			High	1865	373000	1669.52	333904	504		4637	371050	22	6	1	1020
		Uplink	Low	1725	345000	1710.96	342192	0	-	-	-	-	-	-	-
			Mid	1747.5	349500	1552.02	310404	504		-	-	-	-	-	-
			High	1770	354000	1753.8	350760	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.3-3: Test frequencies for NR operating band n3 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	1810	362000	1806.04	361208	0	15	-	361568
			Mid	1842.5	368500	1765.1	353020	102		-	368068
			High	1875	375000	1508.16	301632	504		-	374568
		Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
			Mid	1747.5	349500	1380.66	276132	504		-	-
			High	1780	356000	1771.72	354344	6		-	-
15	18	Downlink	Low	1812.5	362500	1806.02	361204	0	15	-	361564
			Mid	1842.5	368500	1762.58	352516	102		-	367564
			High	1872.5	374500	1503.14	300628	504		-	373564
		Uplink	Low	1717.5	343500	1711.02	342204	0	-	-	-
			Mid	1747.5	349500	1378.14	275628	504		-	-
			High	1777.5	355500	1766.7	353340	6		-	-
20	24	Downlink	Low	1815	363000	1806.36	361272	0	15	-	361632
			Mid	1842.5	368500	1760.42	352084	102		-	367132
			High	1870	374000	1498.48	299696	504		-	372632
		Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
			Mid	1747.5	349500	1375.98	275196	504		-	-
			High	1775	355000	1762.04	352408	6		-	-
25	31	Downlink	Low	1817.5	363500	1806.34	361268	0	15	-	361628
			Mid	1842.5	368500	1757.9	351580	102		-	366628
			High	1867.5	373500	1493.46	298692	504		-	371628
		Uplink	Low	1722.5	344500	1711.34	342268	0	-	-	-
			Mid	1747.5	349500	1373.46	274692	504		-	-
			High	1772.5	354500	1757.02	351404	6		-	-
30	38	Downlink	Low	1820	364000	1806.32	361264	0	15	-	361624
			Mid	1842.5	368500	1755.38	351076	102		-	366124
			High	1865	373000	1488.44	297688	504		-	370624
		Uplink	Low	1725	345000	1711.32	342264	0	-	-	-
			Mid	1747.5	349500	1370.94	274188	504		-	-
			High	1770	354000	1752	350400	6		-	-

4.3.1.1.1.4 FFS

4.3.1.1.1.5 Reference test frequencies for NR operating band n5

Table 4.3.1.1.1.5-1: Test frequencies for NR operating band n5 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	871.5	174300	868.35	173670	5	15	2178	174270	8	0	0	6
			Mid	881.5	176300	860.89	172178	102		2203	176210	0	0	0	102
			High	891.5	178300	797.63	159526	509		2228	178330	4	2	1	512
		Uplink	Low	826.5	165300	824.25	164850	0	-	-	-	-	-	-	-
			Mid	836.5	167300	743.53	148706	504		-	-	-	-	-	-
			High	846.5	169300	843.17	168634	6		-	-	-	-	-	-
10	52	Downlink	Low	874	174800	868.42	173684	5	15	2179	174290	10	0	0	6
			Mid	881.5	176300	858.46	171692	102		2197	175730	2	0	0	102
			High	889	177800	792.7	158540	509		2218	177410	2	4	2	514
		Uplink	Low	829	165800	824.32	164864	0	-	-	-	-	-	-	-
			Mid	836.5	167300	741.1	148220	504		-	-	-	-	-	-
			High	844	168800	838.24	167648	6		-	-	-	-	-	-
15	79	Downlink	Low	876.5	175300	869.39	173878	0	15	2177	174250	4	0	0	0
			Mid	881.5	176300	856.03	171206	102		2191	175250	4	0	0	102
			High	886.5	177300	787.77	157554	509		2205	176430	4	4	2	514
		Uplink	Low	831.5	166300	824.39	164878	0	-	-	-	-	-	-	-
			Mid	836.5	167300	738.67	147734	504		-	-	-	-	-	-
			High	841.5	168300	833.31	166662	6		-	-	-	-	-	-
20	106	Downlink	Low	879	175800	869.46	173892	0	15	2178	174270	6	0	0	0
			Mid	881.5	176300	853.6	170720	102		2185	174770	6	0	0	102
			High	884	176800	782.84	156568	509		2192	175450	6	4	2	514
		Uplink	Low	834	166800	824.46	164892	0	-	-	-	-	-	-	-
			Mid	836.5	167300	736.24	147248	504		-	-	-	-	-	-
			High	839	167800	828.38	165676	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.5-2: Test frequencies for NR operating band n5 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	874	174800	869.68	173936	0	30	2185	174770	14	1	1	2
			Mid	881.5	176300	840.46	168092	102		2203	176210	18	0	0	204
			High	889	177800	703.24	140648	504		2224	177890	6	3	3	1014
		Uplink	Low	829	165800	824.68	164936	0	-	-	-	-	-	-	-
			Mid	836.5	167300	650.74	130148	504		-	-	-	-	-	-
			High	844	168800	837.52	167504	6		-	-	-	-	-	-
15	38	Downlink	Low	876.5	175300	869.66	173932	0	30	2183	174730	2	1	1	2
			Mid	881.5	176300	837.94	167588	102		2197	175730	2	1	1	206
			High	886.5	177300	698.22	139644	504		2208	176670	6	0	0	1008
		Uplink	Low	831.5	166300	824.66	164932	0	-	-	-	-	-	-	-
			Mid	836.5	167300	648.22	129644	504		-	-	-	-	-	-
			High	841.5	168300	832.5	166500	6		-	-	-	-	-	-
20	51	Downlink	Low	879	175800	869.82	173964	0	30	2184	174750	22	0	0	0
			Mid	881.5	176300	835.6	167120	102		2191	175250	22	0	0	204
			High	884	176800	693.38	138676	504		2195	175690	2	0	0	1008
		Uplink	Low	834	166800	824.82	164964	0	-	-	-	-	-	-	-
			Mid	836.5	167300	645.88	129176	504		-	-	-	-	-	-
			High	839	167800	827.66	165532	6		-	-	-	-	-	-

"Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2."

4.3.1.1.1.6 FFS

4.3.1.1.1.7 Reference test frequencies for NR operating band n7

Table 4.3.1.1.1.7-1: Test frequencies for NR operating band n7 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2622.5	524500	2620.25	524050	0	15	6554	524410	0	0	0	0
			Mid	2655	531000	2634.39	526878	102		6636	530910	0	0	0	102
			High	2687.5	537500	2594.53	518906	504		6718	537410	0	0	0	504
		Uplink	Low	2502.5	500500	2500.25	500050	0	-	-	-	-	-	-	-
			Mid	2535	507000	2442.03	488406	504		-	-	-	-	-	-
			High	2567.5	513500	2564.17	512834	6		-	-	-	-	-	-
10	52	Downlink	Low	2625	525000	2620.32	524064	0	15	6555	524430	2	0	0	0
			Mid	2655	531000	2631.96	526392	102		6630	530430	2	0	0	102
			High	2685	537000	2589.6	517920	504		6705	536430	2	0	0	504
		Uplink	Low	2505	501000	2500.32	500064	0	-	-	-	-	-	-	-
			Mid	2535	507000	2439.6	487920	504		-	-	-	-	-	-
			High	2565	513000	2559.24	511848	6		-	-	-	-	-	-
15	79	Downlink	Low	2627.5	525500	2620.39	524078	0	15	6556	524450	4	0	0	0
			Mid	2655	531000	2629.53	525906	102		6624	529950	4	0	0	102
			High	2682.5	536500	2584.67	516934	504		6692	535450	4	0	0	504
		Uplink	Low	2507.5	501500	2500.39	500078	0	-	-	-	-	-	-	-
			Mid	2535	507000	2437.17	487434	504		-	-	-	-	-	-
			High	2562.5	512500	2554.31	510862	6		-	-	-	-	-	-
20	106	Downlink	Low	2630	526000	2619.56	523912	5	15	6557	524650	6	4	2	10
			Mid	2655	531000	2627.1	525420	102		6618	529470	6	0	0	102
			High	2680	536000	2579.74	515948	504		6682	534530	2	2	1	506
		Uplink	Low	2510	502000	2500.46	500092	0	-	-	-	-	-	-	-
			Mid	2535	507000	2434.74	486948	504		-	-	-	-	-	-
			High	2560	512000	2549.38	509876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.7-2: Test frequencies for NR operating band n7 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2625	525000	2620.68	524136	0	15	6561	524910	18	5	0	10
			Mid	2655	531000	2613.96	522792	102		6636	530910	18	5	0	214
			High	2685	537000	2499.24	499848	504		6711	536910	18	5	0	1018
		Uplink	Low	2505	501000	2500.68	500136	0	-	-	-	-	-	-	-
			Mid	2535	507000	2349.24	469848	504		-	-	-	-	-	-
			High	2565	513000	2558.52	511704	6		-	-	-	-	-	-
15	38	Downlink	Low	2627.5	525500	2620.66	524132	0	15	6562	524930	2	6	1	12
			Mid	2655	531000	2611.44	522288	102		6630	530430	2	6	1	216
			High	2682.5	536500	2494.22	498844	504		6698	535930	2	6	1	1020
		Uplink	Low	2507.5	501500	2500.66	500132	0	-	-	-	-	-	-	-
			Mid	2535	507000	2346.72	469344	504		-	-	-	-	-	-
			High	2562.5	512500	2553.5	510700	6		-	-	-	-	-	-
20	51	Downlink	Low	2630	526000	2620.82	524164	0	15	6560	524890	2	5	0	10
			Mid	2655	531000	2609.1	521820	102		6624	529950	22	5	0	214
			High	2680	536000	2489.38	497876	504		6688	535010	18	6	1	1020
		Uplink	Low	2510	502000	2500.82	500164	0	-	-	-	-	-	-	-
			Mid	2535	507000	2344.38	468876	504		-	-	-	-	-	-
			High	2560	512000	2548.66	509732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.7-3: Test frequencies for NR operating band n7 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	2625	525000	2621.04	524208	0	15	-	524568
			Mid	2655	531000	2577.6	515520	102		-	530568
			High	2685	537000	2318.16	463632	504		-	536568
		Uplink	Low	2505	501000	2501.04	500208	0	-	-	-
			Mid	2535	507000	2168.16	433632	504		-	-
			High	2565	513000	2556.72	511344	6		-	-
15	18	Downlink	Low	2627.5	525500	2621.02	524204	0	15	-	524564
			Mid	2655	531000	2575.08	515016	102		-	530064
			High	2682.5	536500	2313.14	462628	504		-	535564
		Uplink	Low	2507.5	501500	2501.02	500204	0	-	-	-
			Mid	2535	507000	2165.64	433128	504		-	-
			High	2562.5	512500	2551.7	510340	6		-	-
20	24	Downlink	Low	2630	526000	2621.36	524272	0	15	-	524632
			Mid	2655	531000	2572.92	514584	102		-	529632
			High	2680	536000	2308.48	461696	504		-	534632
		Uplink	Low	2510	502000	2501.36	500272	0	-	-	-
			Mid	2535	507000	2163.48	432696	504		-	-
			High	2560	512000	2547.04	509408	6		-	-

4.3.1.1.1.8 Reference test frequencies for NR operating band n8

Table 4.3.1.1.1.8-1: Test frequencies for NR operating band n8 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	927.5	185500	924.35	184870	5	15	2318	185530	4	2	1	8
			Mid	942.5	188500	921.89	184378	102		2354	188410	0	0	0	102
			High	957.5	191500	863.63	172726	509		2393	191530	4	2	1	512
		Uplink	Low	882.5	176500	880.25	176050	0	-	-	-	-	-	-	-
			Mid	897.5	179500	804.53	160906	504		-	-	-	-	-	-
			High	912.5	182500	909.17	181834	6		-	-	-	-	-	-
10	52	Downlink	Low	930	186000	924.42	184884	5	15	2319	185550	6	2	1	8
			Mid	942.5	188500	919.46	183892	102		2348	187930	2	0	0	102
			High	955	191000	858.7	171740	509		2383	190610	2	4	2	514
		Uplink	Low	885	177000	880.32	176064	0	-	-	-	-	-	-	-
			Mid	897.5	179500	802.1	160420	504		-	-	-	-	-	-
			High	910	182000	904.24	180848	6		-	-	-	-	-	-
15	79	Downlink	Low	932.5	186500	924.49	184898	5	15	2320	185570	8	2	1	8
			Mid	942.5	188500	917.03	183406	102		2342	187450	4	0	0	102
			High	952.5	190500	853.77	170754	509		2370	189630	4	4	2	514
		Uplink	Low	887.5	177500	880.39	176078	0	-	-	-	-	-	-	-
			Mid	897.5	179500	799.67	159934	504		-	-	-	-	-	-
			High	907.5	181500	899.31	179862	6		-	-	-	-	-	-
20	106	Downlink	Low	935	187000	925.46	185092	0	15	2318	185530	2	2	1	2
			Mid	942.5	188500	914.6	182920	102		2336	186970	6	0	0	102
			High	950	190000	848.84	169768	509		2357	188650	6	4	2	514
		Uplink	Low	890	178000	880.46	176092	0	-	-	-	-	-	-	-
			Mid	897.5	179500	797.24	159448	504		-	-	-	-	-	-
			High	905	181000	894.38	178876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.8-2: Test frequencies for NR operating band n8 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	930	186000	925.68	185136	0	15	2325	186030	10	7	2	14
			Mid	942.5	188500	901.46	180292	102		2354	188410	18	5	0	214
			High	955	191000	769.24	153848	504		2389	191090	6	8	3	1024
		Uplink	Low	885	177000	880.68	176136	0	-	-	-	-	-	-	-
			Mid	897.5	179500	711.74	142348	504		-	-	-	-	-	-
			High	910	182000	903.52	180704	6		-	-	-	-	-	-
15	38	Downlink	Low	932.5	186500	925.66	185132	0	15	2326	186050	18	7	2	14
			Mid	942.5	188500	898.94	179788	102		2348	187930	2	6	1	216
			High	952.5	190500	764.22	152844	504		2373	189870	6	5	0	1018
		Uplink	Low	887.5	177500	880.66	176132	0	-	-	-	-	-	-	-
			Mid	897.5	179500	709.22	141844	504		-	-	-	-	-	-
			High	907.5	181500	898.5	179700	6		-	-	-	-	-	-
20	51	Downlink	Low	935	187000	925.82	185164	0	15	2324	186010	18	6	1	12
			Mid	942.5	188500	896.6	179320	102		2342	187450	22	5	0	214
			High	950	190000	759.38	151876	504		2360	188890	2	5	0	1018
		Uplink	Low	890	178000	880.82	176164	0	-	-	-	-	-	-	-
			Mid	897.5	179500	706.88	141376	504		-	-	-	-	-	-
			High	905	181000	893.66	178732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.1.1.9 to 4.3.1.1.1.11 FFS

4.3.1.1.1.12 Reference test frequencies for NR operating band n12

Table 4.3.1.1.1.12-1: Test frequencies for NR operating band n12 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	731.5	146300	729.25	145850	0	15	1828	146210	0	0	0	0
			Mid	737.5	147500	716.89	143378	102		1843	147410	0	0	0	102
			High	743.5	148700	650.53	130106	504		1858	148610	0	0	0	504
		Uplink	Low	701.5	140300	699.25	139850	0	-	-	-	-	-	-	-
			Mid	707.5	141500	614.53	122906	504		-	-	-	-	-	-
			High	713.5	142700	710.17	142034	6		-	-	-	-	-	-
10	52	Downlink	Low	734	146800	728.42	145684	5	15	1829	146410	2	4	2	10
			Mid	737.5	147500	714.46	142892	102		1837	146930	2	0	0	102
			High	741	148200	645.6	129120	504		1845	147630	2	0	0	504
		Uplink	Low	704	140800	699.32	139864	0	-	-	-	-	-	-	-
			Mid	707.5	141500	612.1	122420	504		-	-	-	-	-	-
			High	711	142200	705.24	141048	6		-	-	-	-	-	-
15	79	Downlink	Low	736.5	147300	728.49	145698	5	15	1830	146430	4	4	2	10
			Mid	737.5	147500	712.03	142406	102		1831	146450	4	0	0	102
			High	738.5	147700	640.67	128134	504		1832	146650	4	0	0	504
		Uplink	Low	706.5	141300	699.39	139878	0	-	-	-	-	-	-	-
			Mid	707.5	141500	609.67	121934	504		-	-	-	-	-	-
			High	708.5	141700	700.31	140062	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.12-2: Test frequencies for NR operating band n12 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	734	146800	729.68	145936	0	15	1835	146890	6	8	3	16
			Mid	737.5	147500	696.46	139292	102		1843	147410	18	5	0	214
			High	741	148200	555.24	111048	504		1851	148110	18	5	0	1018
		Uplink	Low	704	140800	699.68	139936	0	-	-	-	-	-	-	-
			Mid	707.5	141500	521.74	104348	504		-	-	-	-	-	-
			High	711	142200	704.52	140904	6		-	-	-	-	-	-
15	38	Downlink	Low	736.5	147300	729.66	145932	0	15	1833	146670	6	5	0	10
			Mid	737.5	147500	693.94	138788	102		1837	146930	2	6	1	216
			High	738.5	147700	550.22	110044	504		1838	147130	2	6	1	1020
		Uplink	Low	706.5	141300	699.66	139932	0	-	-	-	-	-	-	-
			Mid	707.5	141500	519.22	103844	504		-	-	-	-	-	-
			High	708.5	141700	699.5	139900	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

ss4.3.1.1.1.13 to 4.3.1.1.1.19 FFS

4.3.1.1.1.20 Reference test frequencies for NR operating band n20

Table 4.3.1.1.1.20-1: Test frequencies for NR operating band n20 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	793.5	158700	790.35	158070	5	15	1983	158670	8	0	0	6
			Mid	806	161200	784.49	156898	107		2015	161290	0	4	2	112
			High	818.5	163700	724.63	144926	509		2047	163730	4	2	1	512
		Uplink	Low	834.5	166900	832.25	166450	0	-	-	-	-	-	-	-
			Mid	847	169400	754.03	150806	504		-	-	-	-	-	-
			High	859.5	171900	856.17	171234	6		-	-	-	-	-	-
10	52	Downlink	Low	796	159200	790.42	158084	5	15	1984	158690	10	0	0	6
			Mid	806	161200	782.06	156412	107		2009	160810	2	4	2	112
			High	816	163200	719.7	143940	509		2034	162750	6	2	1	512
		Uplink	Low	837	167400	832.32	166464	0	-	-	-	-	-	-	-
			Mid	847	169400	751.6	150320	504		-	-	-	-	-	-
			High	857	171400	851.24	170248	6		-	-	-	-	-	-
15	79	Downlink	Low	798.5	159700	791.39	158278	0	15	1982	158650	4	0	0	0
			Mid	806	161200	779.63	155926	107		2003	160330	4	4	2	112
			High	813.5	162700	714.77	142954	509		2021	161770	8	2	1	512
		Uplink	Low	839.5	167900	832.39	166478	0	-	-	-	-	-	-	-
			Mid	847	169400	749.17	149834	504		-	-	-	-	-	-
			High	854.5	170900	846.31	169262	6		-	-	-	-	-	-
20	106	Downlink	Low	801	160200	791.46	158292	0	15	1983	158670	6	0	0	0
			Mid	806	161200	777.2	155440	107		1997	159850	6	4	2	112
			High	811	162200	709.84	141968	509		2011	160850	6	4	2	514
		Uplink	Low	842	168400	832.46	166492	0	-	-	-	-	-	-	-
			Mid	847	169400	746.74	149348	504		-	-	-	-	-	-
			High	852	170400	841.38	168276	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.20-2: Test frequencies for NR operating band n20 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	796	159200	791.68	158336	0	15	1990	159170	14	6	1	12
			Mid	806	161200	764.96	152992	102		2015	161290	6	8	3	220
			High	816	163200	630.24	126048	504		2040	163230	10	7	2	1022
		Uplink	Low	837	167400	832.68	166536	0	-	-	-	-	-	-	-
			Mid	847	169400	661.24	132248	504		-	-	-	-	-	-
			High	857	171400	850.52	170104	6		-	-	-	-	-	-
15	38	Downlink	Low	798.5	159700	791.66	158332	0	15	1988	159130	2	6	1	12
			Mid	806	161200	762.44	152488	102		2006	160570	6	5	0	214
			High	813.5	162700	625.22	125044	504		2027	162250	18	7	2	1022
		Uplink	Low	839.5	167900	832.66	166532	0	-	-	-	-	-	-	-
			Mid	847	169400	658.72	131744	504		-	-	-	-	-	-
			High	854.5	170900	845.5	169100	6		-	-	-	-	-	-
20	51	Downlink	Low	801	160200	791.82	158364	0	15	1989	159150	22	5	0	10
			Mid	806	161200	760.1	152020	102		2000	160090	2	5	0	214
			High	811	162200	620.38	124076	504		2014	161090	2	5	0	1018
		Uplink	Low	842	168400	832.82	166564	0	-	-	-	-	-	-	-
			Mid	847	169400	656.38	131276	504		-	-	-	-	-	-
			High	852	170400	840.66	168132	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.1.1.21 to 4.3.1.1.1.24 FFS

4.3.1.1.1.25 Reference test frequencies for NR operating band n25

Table 4.3.1.1.1.25-1: Test frequencies for NR operating band n25 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1932.5	386500	1930.25	386050	0	15	4829	386410	0	0	0	0
			Mid	1962.5	392500	1941.89	388378	102		4904	392410	0	0	0	102
			High	1992.5	398500	1899.53	379906	504		4979	398410	0	0	0	504
		Uplink	Low	1852.5	370500	1850.25	370050	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1789.53	357906	504		-	-	-	-	-	-
			High	1912.5	382500	1909.17	381834	6		-	-	-	-	-	-
10	52	Downlink	Low	1935	387000	1930.32	386064	0	15	4830	386430	2	0	0	0
			Mid	1962.5	392500	1939.46	387892	102		4898	391930	2	0	0	102
			High	1990	398000	1893.7	378740	509		4969	397490	10	0	0	510
		Uplink	Low	1855	371000	1850.32	370064	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1787.1	357420	504		-	-	-	-	-	-
			High	1910	382000	1904.24	380848	6		-	-	-	-	-	-
15	79	Downlink	Low	1937.5	387500	1930.39	386078	0	15	4831	386450	4	0	0	0
			Mid	1962.5	392500	1937.03	387406	102		4892	391450	4	0	0	102
			High	1987.5	397500	1889.67	377934	504		4956	396510	0	2	1	506
		Uplink	Low	1857.5	371500	1850.39	370078	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1784.67	356934	504		-	-	-	-	-	-
			High	1907.5	381500	1899.31	379862	6		-	-	-	-	-	-
20	106	Downlink	Low	1940	388000	1929.56	385912	5	15	4832	386650	6	4	2	10
			Mid	1962.5	392500	1934.6	386920	102		4886	390970	6	0	0	102
			High	1985	397000	1884.74	376948	504		4943	395530	2	2	1	506
		Uplink	Low	1860	372000	1850.46	370092	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1782.24	356448	504		-	-	-	-	-	-
			High	1905	381000	1894.38	378876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.25-2: Test frequencies for NR operating band n25 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1935	387000	1930.68	386136	0	15	4836	386910	18	5	0	10
			Mid	1962.5	392500	1921.46	384292	102		4904	392410	18	5	0	214
			High	1990	398000	1804.24	360848	504		4975	397970	14	6	1	1020
		Uplink	Low	1855	371000	1850.68	370136	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1696.74	339348	504		-	-	-	-	-	-
			High	1910	382000	1903.52	380704	6		-	-	-	-	-	-
15	38	Downlink	Low	1937.5	387500	1930.66	386132	0	15	4837	386930	2	6	1	12
			Mid	1962.5	392500	1918.94	383788	102		4898	391930	2	6	1	216
			High	1987.5	397500	1799.22	359844	504		4962	396990	22	6	1	1020
		Uplink	Low	1857.5	371500	1850.66	370132	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1694.22	338844	504		-	-	-	-	-	-
			High	1907.5	381500	1898.5	379700	6		-	-	-	-	-	-
20	51	Downlink	Low	1940	388000	1930.82	386164	0	15	4835	386890	2	5	0	10
			Mid	1962.5	392500	1916.6	383320	102		4892	391450	22	5	0	214
			High	1985	397000	1794.38	358876	504		4949	396010	18	6	1	1020
		Uplink	Low	1860	372000	1850.82	370164	0	-	-	-	-	-	-	-
			Mid	1882.5	376500	1691.88	338376	504		-	-	-	-	-	-
			High	1905	381000	1893.66	378732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.25-3: Test frequencies for NR operating band n25 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	1935	387000	1931.04	386208	0	15	-	386568
			Mid	1962.5	392500	1885.1	377020	102		-	392068
			High	1990	398000	1623.16	324632	504		-	397568
		Uplink	Low	1855	371000	1851.04	370208	0	-	-	-
			Mid	1882.5	376500	1515.66	303132	504		-	-
			High	1910	382000	1901.72	380344	6		-	-
15	18	Downlink	Low	1937.5	387500	1931.02	386204	0	15	-	386564
			Mid	1962.5	392500	1882.58	376516	102		-	391564
			High	1987.5	397500	1618.14	323628	504		-	396564
		Uplink	Low	1857.5	371500	1851.02	370204	0	-	-	-
			Mid	1882.5	376500	1513.14	302628	504		-	-
			High	1907.5	381500	1896.7	379340	6		-	-
20	24	Downlink	Low	1940	388000	1931.36	386272	0	15	-	386632
			Mid	1962.5	392500	1880.42	376084	102		-	391132
			High	1985	397000	1613.48	322696	504		-	395632
		Uplink	Low	1860	372000	1851.36	370272	0	-	-	-
			Mid	1882.5	376500	1510.98	302196	504		-	-
			High	1905	381000	1892.04	378408	6		-	-

4.3.1.1.1.26 to 4.3.1.1.1.27 FFS

4.3.1.1.1.28 Reference test frequencies for NR operating band n28

Table 4.3.1.1.1.28-1: Test frequencies for NR operating band n28 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	760.5	152100	757.35	151470	5	15	1902	152190	0	4	2	10
			Mid	780.5	156100	759.89	151978	102		1949	156010	0	0	0	102
			High	800.5	160100	706.63	141326	509		2002	160130	4	2	1	512
		Uplink	Low	705.5	141100	703.25	140650	0	-	-	-	-	-	-	-
			Mid	725.5	145100	632.53	126506	504		-	-	-	-	-	-
			High	745.5	149100	742.17	148434	6		-	-	-	-	-	-
10	52	Downlink	Low	763	152600	757.42	151484	5	15	1903	152210	2	4	2	10
			Mid	780.5	156100	757.46	151492	102		1943	155530	2	0	0	102
			High	798	159600	701.7	140340	509		1989	159150	6	2	1	512
		Uplink	Low	708	141600	703.32	140664	0	-	-	-	-	-	-	-
			Mid	725.5	145100	630.1	126020	504		-	-	-	-	-	-
			High	743	148600	737.24	147448	6		-	-	-	-	-	-
15	79	Downlink	Low	765.5	153100	757.49	151498	5	15	1901	152170	8	2	1	8
			Mid	780.5	156100	755.03	151006	102		1937	155050	4	0	0	102
			High	795.5	159100	696.77	139354	509		1976	158170	8	2	1	512
		Uplink	Low	710.5	142100	703.39	140678	0	-	-	-	-	-	-	-
			Mid	725.5	145100	627.67	125534	504		-	-	-	-	-	-
			High	740.5	148100	732.31	146462	6		-	-	-	-	-	-
20	106	Downlink	Low	768	153600	757.56	151512	5	15	1902	152190	10	2	1	8
			Mid	780.5	156100	752.6	150520	102		1931	154570	6	0	0	102
			High	793	158600	691.84	138368	509		1966	157250	6	4	2	514
		Uplink	Low	713	142600	703.46	140692	0	-	-	-	-	-	-	-
			Mid	725.5	145100	625.24	125048	504		-	-	-	-	-	-
			High	738	147600	727.38	145476	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.28-2: Test frequencies for NR operating band n28 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	763	152600	758.68	151736	0	15	1909	152690	6	8	3	16
			Mid	780.5	156100	739.46	147892	102		1949	156010	18	5	0	214
			High	798	159600	612.24	122448	504		1995	159630	10	7	2	1022
		Uplink	Low	708	141600	703.68	140736	0	-	-	-	-	-	-	-
			Mid	725.5	145100	539.74	107948	504		-	-	-	-	-	-
			High	743	148600	736.52	147304	6		-	-	-	-	-	-
15	38	Downlink	Low	765.5	153100	758.66	151732	0	15	1907	152650	18	7	2	14
			Mid	780.5	156100	736.94	147388	102		1943	155530	2	6	1	216
			High	795.5	159100	607.22	121444	504		1982	158650	18	7	2	1022
		Uplink	Low	710.5	142100	703.66	140732	0	-	-	-	-	-	-	-
			Mid	725.5	145100	537.22	107444	504		-	-	-	-	-	-
			High	740.5	148100	731.5	146300	6		-	-	-	-	-	-
20	51	Downlink	Low	768	153600	758.82	151764	0	15	1908	152670	14	7	2	14
			Mid	780.5	156100	734.6	146920	102		1937	155050	22	5	0	214
			High	793	158600	602.38	120476	504		1969	157490	2	5	0	1018
		Uplink	Low	713	142600	703.82	140764	0	-	-	-	-	-	-	-
			Mid	725.5	145100	534.88	106976	504		-	-	-	-	-	-
			High	738	147600	726.66	145332	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.1.1.29 Reference test frequencies for NR operating band n29 (SDL)

Table 4.3.1.1.1.29-1: Test frequencies for NR operating band n29 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
5	25	Downlink	Low	719.5	143900	717.25	143450	0	15	-	143810
			Mid	722.5	144500	701.89	140378	102		-	144410
			High	725.5	145100	632.53	126506	504		-	145010
10	52	Downlink	Low	722	144400	717.32	143464	0	15	-	143824
			Mid	722.5	144500	699.46	139892	102		-	143924
			High	723	144600	627.6	125520	504		-	144024

Table 4.3.1.1.1.29-2: Test frequencies for NR operating band n29 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	24	Downlink	Low	722	144400	717.68	143536	0	15	-	143896
			Mid	722.5	144500	681.46	136292	102		-	143996
			High	723	144600	537.24	107448	504		-	144096

4.3.1.1.1.30 to 4.3.1.1.1.33 FFS

4.3.1.1.1.34 Reference test frequencies for NR operating band n34

Table 4.3.1.1.1.34-1: Test frequencies for NR operating band n34 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2012.5	402500	2009.35	401870	5	15	5032	402530	4	2	1	8
			Mid	2017.5	403500	1995.99	399198	107		5043	403470	8	0	0	108
			High	2022.5	404500	1929.53	385906	504		5054	404410	0	0	0	504
10	52	Downlink & Uplink	Low	2015	403000	2009.42	401884	5	15	5030	402490	10	0	0	6
			Mid	2017.5	403500	1993.56	398712	107		5037	402990	10	0	0	108
			High	2020	404000	1923.7	384740	509		5044	403490	10	0	0	510
15	79	Downlink & Uplink	Low	2017.5	403500	2010.39	402078	0	15	5031	402510	0	2	1	2
			Mid	2017.5	403500	1992.03	398406	102		5031	402510	0	2	1	104
			High	2017.5	403500	1919.67	383934	504		5031	402510	0	2	1	506
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.1.1.34-2: Test frequencies for NR operating band n34 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2015	403000	2010.68	402136	0	15	5036	402970	14	6	1	12
			Mid	2017.5	403500	1976.46	395292	102		5043	403470	14	6	1	216
			High	2020	404000	1834.24	366848	504		5050	403970	14	6	1	1020
15	38	Downlink & Uplink	Low	2017.5	403500	2010.66	402132	0	15	5037	402990	22	6	1	12
			Mid	2017.5	403500	1973.94	394788	102		5037	402990	22	6	1	216
			High	2017.5	403500	1829.22	365844	504		5037	402990	22	6	1	1020
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.1.1.34-3: Test frequencies for NR operating band n34 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	2015	403000	2011.04	402208	0	15	-	4402568
			Mid	2017.5	403500	1940.1	388020	102		-	403068
			High	2020	404000	1653.16	330632	504		-	403568
15	18	Downlink & Uplink	Low	2017.5	403500	2011.02	402204	0	15	-	402564
			Mid	2017.5	403500	1937.58	387516	102		-	402564
			High	2017.5	403500	1648.14	329628	504		-	402564

4.3.1.1.1.35 to 4.3.1.1.1.37 FFS

4.3.1.1.1.38 Reference test frequencies for NR operating band n38

Table 4.3.1.1.1.38-1: Test frequencies for NR operating band n38 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2572.5	514500	2569.35	513870	5	15	6432	514590	0	4	2	10
			Mid	2595	519000	2574.39	514878	102		6486	518910	0	0	0	102
			High	2617.5	523500	2523.63	504726	509		6543	523470	8	0	0	510
10	52	Downlink & Uplink	Low	2575	515000	2569.42	513884	5	15	6433	514610	2	4	2	10
			Mid	2595	519000	2571.96	514392	102		6480	518430	2	0	0	102
			High	2615	523000	2518.7	503740	509		6530	522490	10	0	0	510
15	79	Downlink & Uplink	Low	2577.5	515500	2569.49	513898	5	15	6431	514570	8	2	1	8
			Mid	2595	519000	2569.53	513906	102		6474	517950	4	0	0	102
			High	2612.5	522500	2513.77	502754	509		6520	521570	8	2	1	512
20	106	Downlink & Uplink	Low	2580	516000	2569.56	513912	5	15	6432	514590	10	2	1	8
			Mid	2595	519000	2567.1	513420	102		6468	517470	6	0	0	102
			High	2610	522000	2508.84	501768	509		6507	520590	10	2	1	512

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.38-2: Test frequencies for NR operating band n38 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2575	515000	2570.68	514136	0	15	6439	515090	6	8	3	16
			Mid	2595	519000	2553.96	510792	102		6486	518910	18	5	0	214
			High	2615	523000	2429.24	485848	504		6536	522970	14	6	1	1020
15	38	Downlink & Uplink	Low	2577.5	515500	2570.66	514132	0	15	6437	515050	18	7	2	14
			Mid	2595	519000	2551.44	510288	102		6480	518430	2	6	1	216
			High	2612.5	522500	2424.22	484844	504		6526	522050	18	7	2	1022
20	51	Downlink & Uplink	Low	2580	516000	2570.82	514164	0	15	6438	515070	14	7	2	14
			Mid	2595	519000	2549.1	509820	102		6474	517950	22	5	0	214
			High	2610	522000	2419.38	483876	504		6513	521070	14	7	2	1022
"Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2."															

Table 4.3.1.1.1.38-3: Test frequencies for NR operating band n38 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	2575	515000	2571.04	514208	0	15	-	514568
			Mid	2595	519000	2517.6	503520	102		-	518568
			High	2615	523000	2248.16	449632	504		-	522568
15	18	Downlink & Uplink	Low	2577.5	515500	2571.02	514204	0	15	-	514564
			Mid	2595	519000	2515.08	503016	102		-	518064
			High	2612.5	522500	2243.14	448628	504		-	521564
20	24	Downlink & Uplink	Low	2580	516000	2571.36	514272	0	15	-	514632
			Mid	2595	519000	2512.92	502584	102		-	517632
			High	2610	522000	2238.48	447696	504		-	520632

4.3.1.1.1.39 Reference test frequencies for NR operating band n39

Table 4.3.1.1.1.39-1: Test frequencies for NR operating band n39 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	1882.5	376500	1879.35	375870	5	15	4707	376590	0	4	2	10
			Mid	1900	380000	1878.49	375698	107		4750	379970	8	0	0	108
			High	1917.5	383500	1823.63	364726	509		4793	383530	4	2	1	512
10	52	Downlink & Uplink	Low	1885	377000	1879.42	375884	5	15	4708	376610	2	4	2	10
			Mid	1900	380000	1876.06	375212	107		4744	379490	10	0	0	108
			High	1915	383000	1818.7	363740	509		4783	382610	2	4	2	514
15	79	Downlink & Uplink	Low	1887.5	377500	1879.49	375898	5	15	4706	376570	8	2	1	8
			Mid	1900	380000	1874.53	374906	102		4738	379010	0	2	1	104
			High	1912.5	382500	1813.77	362754	509		4770	381630	4	4	2	514
20	106	Downlink & Uplink	Low	1890	378000	1879.56	375912	5	15	4707	376590	10	2	1	8
			Mid	1900	380000	1872.1	374420	102		4732	378530	2	2	1	104
			High	1910	382000	1808.84	361768	509		4757	380650	6	4	2	514
25	133	Downlink & Uplink	Low	1892.5	378500	1880.53	376106	0	15	4708	376610	0	4	2	4
			Mid	1900	380000	1869.67	373934	102		4726	378050	4	2	1	104
			High	1907.5	381500	1804.81	360962	504		4744	379490	8	0	0	504
30	160	Downlink & Uplink	Low	1895	379000	1880.6	376120	0	15	4706	376570	6	2	1	2
			Mid	1900	380000	1867.24	373448	102		4720	377570	6	2	1	104
			High	1905	381000	1799.88	359976	504		4731	378510	10	0	0	504
40	216	Downlink & Uplink	Low	1900	380000	1879.66	375932	5	15	4708	376610	10	2	1	8
			Mid	1900	380000	1861.3	372260	107		4708	376610	10	2	1	110
			High	1900	380000	1788.94	357788	509		4708	376610	10	2	1	512

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.39-2: Test frequencies for NR operating band n39 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	1885	377000	1880.68	376136	0	15	4714	377090	6	8	3	16
			Mid	1900	380000	1858.96	371792	102		4750	379970	14	6	1	216
			High	1915	383000	1729.24	345848	504		4789	383090	6	8	3	1024
15	38	Downlink & Uplink	Low	1887.5	377500	1880.66	376132	0	15	4712	377050	18	7	2	14
			Mid	1900	380000	1856.44	371288	102		4744	379490	22	6	1	216
			High	1912.5	382500	1724.22	344844	504		4773	381870	6	5	0	1018
20	51	Downlink & Uplink	Low	1890	378000	1880.82	376164	0	15	4713	377070	14	7	2	14
			Mid	1900	380000	1854.1	370820	102		4738	379010	18	6	1	216
			High	1910	382000	1719.38	343876	504		4760	380890	2	5	0	1018
25	65	Downlink & Uplink	Low	1892.5	378500	1880.8	376160	0	15	4714	377090	22	7	2	14
			Mid	1900	380000	1851.58	370316	102		4732	378530	2	7	2	218
			High	1907.5	381500	1714.36	342872	504		4750	379970	6	6	1	1020
30	78	Downlink & Uplink	Low	1895	379000	1880.96	376192	0	15	4712	377050	22	6	1	12
			Mid	1900	380000	1849.24	369848	102		4726	378050	22	6	1	216
			High	1905	381000	1709.52	341904	504		4737	378990	2	6	1	1020
40	106	Downlink & Uplink	Low	1900	380000	1880.92	376184	0	15	4714	377090	14	7	2	14
			Mid	1900	380000	1844.2	368840	102		4714	377090	14	7	2	218
			High	1900	380000	1699.48	339896	504		4714	377090	14	7	2	1022

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.39-3: Test frequencies for NR operating band n39 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	1885	377000	1881.04	376208	0	15	-	376568
			Mid	1900	380000	1822.6	364520	102		-	379568
			High	1915	383000	1548.16	309632	504		-	382568
15	18	Downlink & Uplink	Low	1887.5	377500	1881.02	376204	0	15	-	376564
			Mid	1900	380000	1820.08	364016	102		-	379064
			High	1912.5	382500	1543.14	308628	504		-	381564
20	24	Downlink & Uplink	Low	1890	378000	1881.36	376272	0	15	-	376632
			Mid	1900	380000	1817.92	363584	102		-	378632
			High	1910	382000	1538.48	307696	504		-	380632
25	31	Downlink & Uplink	Low	1892.5	378500	1881.34	376268	0	15	-	376628
			Mid	1900	380000	1815.4	363080	102		-	378128
			High	1907.5	381500	1533.46	306692	504		-	379628
30	38	Downlink & Uplink	Low	1895	379000	1881.32	376264	0	15	-	376624
			Mid	1900	380000	1812.88	362576	102		-	377624
			High	1905	381000	1528.44	305688	504		-	378624
40	51	Downlink & Uplink	Low	1900	380000	1881.64	376328	0	15	-	376688
			Mid	1900	380000	1808.2	361640	102		-	376688
			High	1900	380000	1518.76	303752	504		-	376688

4.3.1.1.1.40 Reference test frequencies for NR operating band n40

Table 4.3.1.1.1.40-1: Test frequencies for NR operating band n40 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	2302.5	460500	2299.35	459870	5	15	5757	460590	0	4	2	10
			Mid	2350	470000	2328.49	465698	107		5875	469970	8	0	0	108
			High	2397.5	479500	2303.63	460726	509		5993	479530	4	2	1	512
10	52	Downlink & Uplink	Low	2305	461000	2299.42	459884	5	15	5758	460610	2	4	2	10
			Mid	2350	470000	2326.06	465212	107		5869	469490	10	0	0	108
			High	2395	479000	2298.7	459740	509		5983	478610	2	4	2	514
15	79	Downlink & Uplink	Low	2307.5	461500	2299.49	459898	5	15	5756	460570	8	2	1	8
			Mid	2350	470000	2324.53	464906	102		5863	469010	0	2	1	104
			High	2392.5	478500	2293.77	458754	509		5970	477630	4	4	2	514
20	106	Downlink & Uplink	Low	2310	462000	2299.56	459912	5	15	5757	460590	10	2	1	8
			Mid	2350	470000	2322.1	464420	102		5857	468530	2	2	1	104
			High	2390	478000	2288.84	457768	509		5957	476650	6	4	2	514
25	133	Downlink & Uplink	Low	2312.5	462500	2300.53	460106	0	15	5758	460610	0	4	2	4
			Mid	2350	470000	2319.67	463934	102		5851	468050	4	2	1	104
			High	2387.5	477500	2284.81	456962	504		5944	475490	8	0	0	504
30	160	Downlink & Uplink	Low	2315	463000	2300.6	460120	0	15	5756	460570	6	2	1	2
			Mid	2350	470000	2317.24	463448	102		5845	467570	6	2	1	104
			High	2385	477000	2279.88	455976	504		5931	474510	10	0	0	504
40	216	Downlink & Uplink	Low	2320	464000	2299.66	459932	5	15	5758	460610	10	2	1	8
			Mid	2350	470000	2311.3	462260	107		5833	466610	10	2	1	110
			High	2380	476000	2268.94	453788	509		5908	472610	10	2	1	512
50	270	Downlink & Uplink	Low	2325	465000	2300.7	460140	0	15	5757	460590	6	2	1	2
			Mid	2350	470000	2307.34	461468	102		5821	465650	2	4	2	106
			High	2375	475000	2259.98	451996	504		5882	470650	2	4	2	508

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.40-2: Test frequencies for NR operating band n40 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2305	461000	2300.68	460136	0	15	5764	461090	6	8	3	16
			Mid	2350	470000	2308.96	461792	102		5875	469970	14	6	1	216
			High	2395	479000	2209.24	441848	504		5989	479090	6	8	3	1024
15	38	Downlink & Uplink	Low	2307.5	461500	2300.66	460132	0	15	5762	461050	18	7	2	14
			Mid	2350	470000	2306.44	461288	102		5869	469490	22	6	1	216
			High	2392.5	478500	2204.22	440844	504		5973	477870	6	5	0	1018
20	51	Downlink & Uplink	Low	2310	462000	2300.82	460164	0	15	5763	461070	14	7	2	14
			Mid	2350	470000	2304.1	460820	102		5863	469010	18	6	1	216
			High	2390	478000	2199.38	439876	504		5960	476890	2	5	0	1018
25	65	Downlink & Uplink	Low	2312.5	462500	2300.8	460160	0	15	5764	461090	22	7	2	14
			Mid	2350	470000	2301.58	460316	102		5857	468530	2	7	2	218
			High	2387.5	477500	2194.36	438872	504		5950	475970	6	6	1	1020
30	78	Downlink & Uplink	Low	2315	463000	2300.96	460192	0	15	5762	461050	22	6	1	12
			Mid	2350	470000	2299.24	459848	102		5851	468050	22	6	1	216
			High	2385	477000	2189.52	437904	504		5937	474990	2	6	1	1020
40	106	Downlink & Uplink	Low	2320	464000	2300.92	460184	0	15	5764	461090	14	7	2	14
			Mid	2350	470000	2294.2	458840	102		5839	467090	14	7	2	218
			High	2380	476000	2179.48	435896	504		5914	473090	14	7	2	1022
50	133	Downlink & Uplink	Low	2325	465000	2301.06	460212	0	15	5763	461070	22	6	1	12
			Mid	2350	470000	2289.34	457868	102		5827	466130	18	7	2	218
			High	2375	475000	2169.62	433924	504		5888	471130	18	7	2	1022
60	162	Downlink & Uplink	Low	2330	466000	2300.84	460168	0	15	5762	461050	6	7	2	14
			Mid	2350	470000	2284.12	456824	102		5812	464930	14	5	0	214
			High	2370	474000	2159.4	431880	504		5862	468990	10	6	1	1020
80	217	Downlink & Uplink	Low	2340	468000	2300.94	460188	0	15	5763	461070	6	7	2	14
			Mid	2350	470000	2274.22	454844	102		5788	463010	10	6	1	216
			High	2360	472000	2139.5	427900	504		5813	465130	2	8	3	1024

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.40-3: Test frequencies for NR operating band n40 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	2305	461000	2301.04	460208	0	15	-	460568
			Mid	2350	470000	2272.6	454520	102		-	469568
			High	2395	479000	2028.16	405632	504		-	478568
15	18	Downlink & Uplink	Low	2307.5	461500	2301.02	460204	0	15	-	460564
			Mid	2350	470000	2270.08	454016	102		-	469064
			High	2392.5	478500	2023.14	404628	504		-	477564
20	24	Downlink & Uplink	Low	2310	462000	2301.36	460272	0	15	-	460632
			Mid	2350	470000	2267.92	453584	102		-	468632
			High	2390	478000	2018.48	403696	504		-	476632
25	31	Downlink & Uplink	Low	2312.5	462500	2301.34	460268	0	15	-	460628
			Mid	2350	470000	2265.4	453080	102		-	468128
			High	2387.5	477500	2013.46	402692	504		-	475628
30	38	Downlink & Uplink	Low	2315	463000	2301.32	460264	0	15	-	460624
			Mid	2350	470000	2262.88	452576	102		-	467624
			High	2385	477000	2008.44	401688	504		-	474624
40	51	Downlink & Uplink	Low	2320	464000	2301.64	460328	0	15	-	460688
			Mid	2350	470000	2258.2	451640	102		-	466688
			High	2380	476000	1998.76	399752	504		-	472688
50	65	Downlink & Uplink	Low	2325	465000	2301.6	460320	0	15	-	460680
			Mid	2350	470000	2253.16	450632	102		-	465680
			High	2375	475000	1988.72	397744	504		-	470680
60	79	Downlink & Uplink	Low	2330	466000	2301.56	460312	0	15	-	460672
			Mid	2350	470000	2248.12	449624	102		-	464672
			High	2370	474000	1978.68	395736	504		-	468672
80	107	Downlink & Uplink	Low	2340	468000	2301.48	460296	0	15	-	460656
			Mid	2350	470000	2238.04	447608	102		-	462656
			High	2360	472000	1958.6	391720	504		-	464656

4.3.1.1.1.41 Reference test frequencies for NR operating band n41

Table 4.3.1.1.1.41-1: Test frequencies for NR operating band n41 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	2501.01	500202	2496.33	499266	0	15	6246	499710	4	2	1	2
			Mid	2593.005	518601	2569.965	513993	102		6477	518190	7	4	2	106
			High	2685	537000	2589.6	517920	504		6705	536430	2	0	0	504
15	79	Downlink & Uplink	Low	2503.5	500700	2496.39	499278	0	15	6246	499710	0	2	1	2
			Mid	2593.005	518601	2567.535	513507	102		6471	517710	9	4	2	106
			High	2682.495	536499	2584.665	516933	504		6693	535470	11	0	0	504
20	106	Downlink & Uplink	Low	2506.005	501201	2495.565	499113	5	15	6246	499710	7	0	0	6
			Mid	2593.005	518601	2565.105	513021	102		6465	517230	11	4	2	106
			High	2679.99	535998	2578.83	515766	509		6681	534510	8	0	0	510
30	160	Downlink	Low	2511	502200	2496.6	499320	0	15	6246	499710	10	0	0	0
		&	Mid	2593.005	518601	2559.345	511869	107		6453	516270	3	4	2	112
		Uplink	High	2674.995	534999	2568.975	513795	509		6657	532590	1	2	1	512
40	216	Downlink & Uplink	Low	2516.01	503202	2495.67	499134	5	15	6246	499710	0	0	0	6
			Mid	2592.99	518598	2555.19	511038	102		6438	515070	0	0	0	102
			High	2670	534000	2558.94	511788	509		6633	530670	6	4	2	514
50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	0	0
			Mid	2593.005	518601	2550.345	510069	102		6426	514110	3	0	0	102
			High	2664.99	532998	2549.97	509994	504		6606	528510	4	0	0	504

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.41-2: Test frequencies for NR operating band n41 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	2501.01	500202	2496.69	499338	0	30	6252	500190	20	1	1	2
			Mid	2592.99	518598	2551.95	510390	102		6483	518670	0	3	3	210
			High	2685	537000	2499.24	499848	504		6711	536910	18	0	0	1008
15	38	Downlink & Uplink	Low	2503.5	500700	2496.66	499332	0	30	6252	500190	22	1	1	2
			Mid	2592.99	518598	2549.43	509886	102		6474	517950	0	0	0	204
			High	2682.48	536496	2494.2	498840	504		6699	535950	10	1	1	1010
20	51	Downlink & Uplink	Low	2506.02	501204	2496.84	499368	0	30	6252	500190	10	1	1	2
			Mid	2592.99	518598	2547.09	509418	102		6471	517710	4	3	3	210
			High	2679.99	535998	2489.37	497874	504		6687	534990	12	1	1	1010
30	78	Downlink & Uplink	Low	2511	502200	2496.96	499392	0	30	6252	500190	2	1	1	2
			Mid	2592.99	518598	2542.23	508446	102		6456	516510	0	0	0	204
			High	2674.98	534996	2479.5	495900	504		6663	533070	6	2	2	1012
40	106	Downlink & Uplink	Low	2516.01	503202	2496.93	499386	0	30	6252	500190	4	1	1	2
			Mid	2592.99	518598	2537.19	507438	102		6444	515550	16	0	0	204
			High	2670	534000	2469.48	493896	504		6636	530910	2	0	0	1008
50	133	Downlink & Uplink	Low	2521.02	504204	2497.08	499416	0	30	6252	500190	18	0	0	0
			Mid	2592.99	518598	2532.33	506466	102		6432	514590	20	0	0	204
			High	2664.99	532998	2459.61	491922	504		6612	528990	20	0	0	1008
60	162	Downlink & Uplink	Low	2526	505200	2496.84	499368	0	30	6252	500190	10	1	1	2
			Mid	2592.99	518598	2527.11	505422	102		6420	513630	0	2	2	208
			High	2659.98	531996	2449.38	489876	504		6588	527070	14	2	2	1012
80	217	Downlink & Uplink	Low	2536.02	507204	2496.96	499392	0	30	6252	500190	2	1	1	2
			Mid	2592.99	518598	2517.21	503442	102		6396	511710	20	2	2	208
			High	2649.99	529998	2429.49	485898	504		6537	522990	4	1	1	1010
90	245	Downlink & Uplink	Low	2541	508200	2496.9	499380	0	30	6252	500190	6	1	1	2
			Mid	2592.99	518598	2512.17	502434	102		6381	510510	4	0	0	204
			High	2644.98	528996	2419.44	483888	504		6513	521070	10	2	2	1012
100	273	Downlink & Uplink	Low	2546.01	509202	2496.87	499374	0	30	6252	500190	8	1	1	2
			Mid	2592.99	518598	2507.13	501426	102		6369	509550	20	0	0	204
			High	2640	528000	2409.42	481884	504		6486	518910	6	0	0	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.41-3: Test frequencies for NR operating band n41 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	2501.01	500202	2497.05	499410	0	15	-	499770
			Mid	2593.005	518601	2515.605	503121	102		-	518169
			High	2685	537000	2318.16	463632	504		-	536568
15	18	Downlink & Uplink	Low	2503.5	500700	2497.02	499404	0	15	-	499764
			Mid	2593.005	518601	2513.085	502617	102		-	517665
			High	2682.495	536499	2313.135	462627	504		-	535563
20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
			Mid	2593.005	518601	2510.925	502185	102		-	517233
			High	2679.99	535998	2308.47	461694	504		-	534630
30	38	Downlink	Low	2511	502200	2497.32	499464	0	15	-	499824
		&	Mid	2593.005	518601	2505.885	501177	102		-	516225
		Uplink	High	2674.995	534999	2298.435	459687	504		-	532623
40	51	Downlink & Uplink	Low	2516.01	503202	2497.65	499530	0	15	-	499890
			Mid	2593.005	518601	2501.205	500241	102		-	515289
			High	2670	534000	2288.76	457752	504		-	530688
50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
			Mid	2593.005	518601	2496.165	499233	102		-	514281
			High	2664.99	532998	2278.71	455742	504		-	528678
60	79	Downlink & Uplink	Low	2526	505200	2497.56	499512	0	15	-	499872
			Mid	2593.005	518601	2491.125	498225	102		-	513273
			High	2659.995	531999	2268.675	453735	504		-	526671
80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857
			Mid	2593.005	518601	2481.045	496209	102		-	511257
			High	2649.99	529998	2248.59	449718	504		-	522654
90	121	Downlink & Uplink	Low	2541	508200	2497.44	499488	0	15	-	499848
			Mid	2593.005	518601	2476.005	495201	102		-	510249
			High	2644.995	528999	2238.555	447711	504		-	520647
100	135	Downlink & Uplink	Low	2546.01	509202	2497.41	499482	0	15	-	499842
			Mid	2593.005	518601	2470.965	494193	102		-	509241
			High	2640	528000	2228.52	445704	504		-	518640

4.3.1.1.1.42 to 4.3.1.1.1.47 FFS

4.3.1.1.1.48 Reference test frequencies for NR operating band n48

Table 4.3.1.1.1.48-1: Test frequencies for NR operating band n48 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	3552.51	636834	3549.36	636624	5	30	7884	636960	0	2	0	8
			Mid	3625.065	641671	3603.555	640237	107		7935	641856	11	6	1	114
			High	3697.41	646494	3604.44	640296	504		7985	646656	0	6	1	510
10	52	Downlink & Uplink	Low	3555	637000	3550.32	636688	0	30	7884	636960	8	2	0	2
			Mid	3624.96	641664	3601.92	640128	102		7933	641664	0	6	1	108
			High	3695.175	646345	3598.875	639925	509		7982	646368	11	6	1	516
15	79	Downlink & Uplink	Low	3557.505	637167	3550.395	636693	0	30	7884	636960	3	2	0	2
			Mid	3625.005	641667	3598.635	639909	107		7931	641472	3	2	0	110
			High	3692.565	646171	3593.835	639589	509		7978	645984	11	2	0	512
20	106	Downlink & Uplink	Low	3559.98	637332	3550.44	636696	0	30	7884	636960	0	2	0	2
			Mid	3625.155	641677	3596.355	639757	107		7930	641376	11	6	1	114
			High	3690	646000	3588.84	639256	509		7975	645696	8	6	1	516
40	216	Downlink & Uplink	Low	3569.88	637992	3550.44	636696	0	30	7884	636960	0	2	0	2
			Mid	3625.005	641667	3586.305	639087	107		7923	640704	9	6	1	114
			High	3679.995	645333	3569.835	637989	504		7961	644352	3	6	1	510
50	270	Downlink & Uplink	Low	3575.115	638341	3549.915	636661	5	30	7885	637056	11	6	1	12
			Mid	3625.005	641667	3582.345	638823	102		7919	640320	9	2	0	104
			High	3674.82	644988	3559.8	637320	504		7954	643680	0	6	1	510

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.48-2: Test frequencies for NR operating band n48 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3555	637000	3550.68	636712	0	30	7884	636960	8	0	0	0
			Mid	3624.99	641666	3583.95	638930	102		7933	641664	22	1	1	206
			High	3694.98	646332	3509.22	633948	504		7982	646368	12	3	3	1014
15	38	Downlink & Uplink	Low	3557.52	637168	3550.68	636712	0	30	7884	636960	8	0	0	0
			Mid	3624.99	641666	3581.43	638762	102		7931	641472	22	0	0	204
			High	3692.49	646166	3504.21	633614	504		7978	645984	10	1	1	1010
20	51	Downlink & Uplink	Low	3560.01	637334	3550.83	636722	0	30	7885	637056	22	3	3	6
			Mid	3624.99	641666	3579.09	638606	102		7930	641376	10	3	3	210
			High	3690	646000	3499.38	633292	504		7975	645696	20	2	2	1012
40	106	Downlink & Uplink	Low	3570	638000	3550.92	636728	0	30	7885	637056	16	3	3	6
			Mid	3624.99	641666	3569.19	637946	102		7923	640704	22	2	2	208
			High	3679.98	645332	3479.46	631964	504		7961	644352	4	2	2	1012
50	133	Downlink & Uplink	Low	3575.01	638334	3551.07	636738	0	30	7885	637056	6	3	3	6
			Mid	3624.99	641666	3564.33	637622	102		7919	640320	10	0	0	204
			High	3675	645000	3469.62	631308	504		7954	643680	12	1	1	1010
60	162	Downlink & Uplink	Low	3580.02	638668	3550.86	636724	0	30	7885	637056	20	3	3	6
			Mid	3624.99	641666	3559.11	637274	102		7916	640032	22	2	2	208
			High	3669.99	644666	3459.39	630626	504		7947	643008	22	1	1	1010
80	217	Downlink & Uplink	Low	3590.01	639334	3550.95	636730	0	30	7885	637056	14	3	3	6
			Mid	3624.99	641666	3549.21	636614	102		7909	639360	10	2	2	208
			High	3660	644000	3439.5	629300	504		7933	641664	4	1	1	1010
90	245	Downlink & Uplink	Low	3595.02	639668	3550.92	636728	0	30	7885	637056	16	3	3	6
			Mid	3624.99	641666	3544.17	636278	102		7905	638976	10	0	0	204
			High	3654.99	643666	3429.45	628630	504		7926	640992	2	1	1	1010
100	273	Downlink & Uplink	Low	3600	640000	3550.86	636724	0	30	7885	637056	20	3	3	6
			Mid	3624.99	641666	3539.13	635942	102		7902	638688	10	2	2	208
			High	3649.98	643332	3419.4	627960	504		7919	640320	0	1	1	1010

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.48-3: Test frequencies for NR operating band n48 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	3555	637000	3551.04	636736	0	30	-	636976
			Mid	3625.005	641667	3547.605	636507	102		-	641643
			High	3694.995	646333	3328.155	621877	504		-	646309
15	18	Downlink & Uplink	Low	3557.505	637167	3551.025	636735	0	30	-	636975
			Mid	3625.005	641667	3545.085	636339	102		-	641475
			High	3692.49	646166	3323.13	621542	504		-	645974
20	24	Downlink & Uplink	Low	3560.01	637334	3551.37	636758	0	30	-	636998
			Mid	3625.005	641667	3542.925	636195	102		-	641331
			High	3690	646000	3318.48	621232	504		-	645664
40	51	Downlink & Uplink	Low	3570	638000	3551.64	636776	0	30	-	637016
			Mid	3625.005	641667	3533.205	635547	102		-	640683
			High	3679.995	645333	3298.755	619917	504		-	644349
50	65	Downlink & Uplink	Low	3575.01	638334	3551.61	636774	0	30	-	637014
			Mid	3625.005	641667	3528.165	635211	102		-	640347
			High	3675	645000	3288.72	619248	504		-	643680
60	79	Downlink & Uplink	Low	3580.005	638667	3551.565	636771	0	30	-	637011
			Mid	3625.005	641667	3523.125	634875	102		-	640011
			High	3669.99	644666	3278.67	618578	504		-	643010
80	107	Downlink & Uplink	Low	3590.01	639334	3551.49	636766	0	30	-	637006
			Mid	3625.005	641667	3513.045	634203	102		-	639339
			High	3660	644000	3258.6	617240	504		-	641672
90	121	Downlink & Uplink	Low	3595.005	639667	3551.445	636763	0	30	-	637003
			Mid	3625.005	641667	3508.005	633867	102		-	639003
			High	3654.99	643666	3248.55	616570	504		-	641002
100	135	Downlink & Uplink	Low	3600	640000	3551.4	636760	0	30	-	637000
			Mid	3625.005	641667	3502.965	633531	102		-	638667
			High	3649.995	643333	3238.515	615901	504		-	640333

4.3.1.1.1.49 FFS

4.3.1.1.1.50 Reference test frequencies for NR operating band n50

Table 4.3.1.1.1.50-1: Test frequencies for NR operating band n50 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	1434.5	286900	1432.25	286450	0	15	3584	286810	0	0	0	0
			Mid	1474.5	294900	1452.99	290598	107		3687	294990	0	4	2	112
			High	1514.5	302900	1420.63	284126	509		3787	302930	4	2	1	512
10	52	Downlink & Uplink	Low	1437	287400	1432.32	286464	0	15	3585	286830	2	0	0	0
			Mid	1474.5	294900	1450.56	290112	107		3681	294510	2	4	2	112
			High	1512	302400	1415.7	283140	509		3774	301950	6	2	1	512
15	79	Downlink & Uplink	Low	1439.5	287900	1432.39	286478	0	15	3586	286850	4	0	0	0
			Mid	1474.5	294900	1448.13	289626	107		3675	294030	4	4	2	112
			High	1509.5	301900	1410.77	282154	509		3761	300970	8	2	1	512
20	106	Downlink & Uplink	Low	1442	288400	1431.56	286312	5	15	3587	287050	6	4	2	10
			Mid	1474.5	294900	1445.7	289140	107		3669	293550	6	4	2	112
			High	1507	301400	1405.84	281168	509		3751	300050	6	4	2	514
40	216	Downlink & Uplink	Low	1452	290400	1431.66	286332	5	15	3588	287070	6	4	2	10
			Mid	1474.5	294900	1436.7	287340	102		3642	291390	6	0	0	102
			High	1497	299400	1386.84	277368	504		3699	295950	2	2	1	506
50	270	Downlink & Uplink	Low	1457	291400	1432.7	286540	0	15	3587	287050	2	4	2	4
			Mid	1474.5	294900	1431.84	286368	102		3630	290430	10	0	0	102
			High	1492	298400	1376.98	275396	504		3676	294050	2	4	2	508

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.50-2: Test frequencies for NR operating band n50 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	1437	287400	1432.68	286536	0	15	3591	287310	18	5	0	10
			Mid	1474.5	294900	1433.46	286692	102		3687	294990	6	8	3	220
			High	1512	302400	1326.24	265248	504		3780	302430	10	7	2	1022
15	38	Downlink & Uplink	Low	1439.5	287900	1432.66	286532	0	15	3592	287330	2	6	1	12
			Mid	1474.5	294900	1430.94	286188	102		3678	294270	6	5	0	214
			High	1509.5	301900	1321.22	264244	504		3767	301450	18	7	2	1022
20	51	Downlink & Uplink	Low	1442	288400	1432.82	286564	0	15	3590	287290	2	5	0	10
			Mid	1474.5	294900	1428.6	285720	102		3672	293790	2	5	0	214
			High	1507	301400	1316.38	263276	504		3754	300290	2	5	0	1018
40	106	Downlink & Uplink	Low	1452	290400	1432.92	286584	0	15	3591	287310	2	5	0	10
			Mid	1474.5	294900	1418.7	283740	102		3648	291870	22	5	0	214
			High	1497	299400	1296.48	259296	504		3705	296430	18	6	1	1020
50	133	Downlink & Uplink	Low	1457	291400	1433.06	286612	0	15	3593	287530	18	7	2	14
			Mid	1474.5	294900	1413.84	282768	102		3636	290910	2	6	1	216
			High	1492	298400	1286.62	257324	504		3682	294530	18	7	2	1022
60	162	Downlink & Uplink	Low	1462	292400	1432.84	286568	0	15	3592	287330	14	5	0	10
			Mid	1474.5	294900	1408.62	281724	102		3624	289950	6	7	2	218
			High	1487	297400	1276.4	255280	504		3653	292330	14	5	0	1018
80	217	Downlink & Uplink	Low	1472	294400	1432.94	286588	0	15	3593	287530	2	8	3	16
			Mid	1474.5	294900	1398.72	279744	102		3600	288030	2	8	3	220
			High	1477	295400	1256.5	251300	504		3607	288530	2	8	3	1024

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.50-3: Test frequencies for NR operating band n50 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	1437	287400	1433.04	286608	0	15	-	286968
			Mid	1474.5	294900	1397.1	279420	102		-	294468
			High	1512	302400	1145.16	229032	504		-	301968
15	18	Downlink & Uplink	Low	1439.5	287900	1433.02	286604	0	15	-	286964
			Mid	1474.5	294900	1394.58	278916	102		-	293964
			High	1509.5	301900	1140.14	228028	504		-	300964
20	24	Downlink & Uplink	Low	1442	288400	1433.36	286672	0	15	-	287032
			Mid	1474.5	294900	1392.42	278484	102		-	293532
			High	1507	301400	1135.48	227096	504		-	300032
40	51	Downlink & Uplink	Low	1452	290400	1433.64	286728	0	15	-	287024
			Mid	1474.5	294900	1382.7	276540	102		-	292524
			High	1497	299400	1115.76	223152	504		-	298024
50	65	Downlink & Uplink	Low	1457	291400	1433.6	286720	0	15	-	287088
			Mid	1474.5	294900	1377.66	275532	102		-	291588
			High	1492	298400	1105.72	221144	504		-	296088
60	79	Downlink & Uplink	Low	1462	292400	1433.56	286712	0	15	-	287080
			Mid	1474.5	294900	1372.62	274524	102		-	290580
			High	1487	297400	1095.68	219136	504		-	294080
80	107	Downlink & Uplink	Low	1472	294400	1433.48	286696	0	15	-	287072
			Mid	1474.5	294900	1362.54	272508	102		-	289572
			High	1477	295400	1075.6	215120	504		-	292072

4.3.1.1.1.51 Reference test frequencies for NR operating band n51

Table 4.3.1.1.1.51-1: Test frequencies for NR operating band n51 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink & Uplink	Low	1429.5	285900	1335.63	267126	509	15	3573	285870	8	0	0	510
			Mid												
			High												
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

4.3.1.1.1.52 to 4.3.1.1.1.64 FFS

4.3.1.1.1.65 Reference test frequencies for NR operating band n65

Table 4.3.1.1.1.65-1: Test frequencies for NR operating band n65 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0	0
			Mid	2155	431000	2133.49	426698	107		5389	431090	0	4	2	112
			High	2197.5	439500	2103.63	420726	509		5493	439470	8	0	0	510
		Uplink	Low	1922.5	384500	1920.25	384050	0	-	-	-	-	-	-	-
			Mid	1965	393000	1872.03	374406	504		-	-	-	-	-	-
			High	2007.5	401500	2004.17	400834	6		-	-	-	-	-	-
10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0	0
			Mid	2155	431000	2131.06	426212	107		5383	430610	2	4	2	112
			High	2195	439000	2098.7	419740	509		5480	438490	10	0	0	510
		Uplink	Low	1925	385000	1920.32	384064	0	-	-	-	-	-	-	-
			Mid	1965	393000	1869.6	373920	504		-	-	-	-	-	-
			High	2005	401000	1999.24	399848	6		-	-	-	-	-	-
15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0	0
			Mid	2155	431000	2128.63	425726	107		5377	430130	4	4	2	112
			High	2192.5	438500	2093.77	418754	509		5470	437570	8	2	1	512
		Uplink	Low	1927.5	385500	1920.39	384078	0	-	-	-	-	-	-	-
			Mid	1965	393000	1867.17	373434	504		-	-	-	-	-	-
			High	2002.5	400500	1994.31	398862	6		-	-	-	-	-	-
20	106	Downlink	Low	2120	424000	2109.56	421912	5	15	5282	422650	6	4	2	10
			Mid	2155	431000	2126.2	425240	107		5371	429650	6	4	2	112
			High	2190	438000	2088.84	417768	509		5457	436590	10	2	1	512
		Uplink	Low	1930	386000	1920.46	384092	0	-	-	-	-	-	-	-
			Mid	1965	393000	1864.74	372948	504		-	-	-	-	-	-
			High	2000	400000	1989.38	397876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.65-2: Test frequencies for NR operating band n65 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	5	0	10
			Mid	2155	431000	2113.96	422792	102		5389	431090	6	8	3	220
			High	2195	439000	2009.24	401848	504		5486	438970	14	6	1	1020
		Uplink	Low	1925	385000	1920.68	384136	0	-	-	-	-	-	-	-
			Mid	1965	393000	1779.24	355848	504		-	-	-	-	-	-
			High	2005	401000	1998.52	399704	6		-	-	-	-	-	-
15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	6	1	12
			Mid	2155	431000	2111.44	422288	102		5380	430370	6	5	0	214
			High	2192.5	438500	2004.22	400844	504		5476	438050	18	7	2	1022
		Uplink	Low	1927.5	385500	1920.66	384132	0	-	-	-	-	-	-	-
			Mid	1965	393000	1776.72	355344	504		-	-	-	-	-	-
			High	2002.5	400500	1993.5	398700	6		-	-	-	-	-	-
20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	5	0	10
			Mid	2155	431000	2109.1	421820	102		5374	429890	2	5	0	214
			High	2190	438000	1999.38	399876	504		5463	437070	14	7	2	1022
		Uplink	Low	1930	386000	1920.82	384164	0	-	-	-	-	-	-	-
			Mid	1965	393000	1774.38	354876	504		-	-	-	-	-	-
			High	2000	400000	1988.66	397732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.65-3: Test frequencies for NR operating band n65 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
			Mid	2155	431000	2077.6	415520	102		-	430568
			High	2195	439000	1828.16	365632	504		-	438568
		Uplink	Low	1925	385000	1921.04	384208	0	-	-	-
			Mid	1965	393000	1598.16	319632	504		-	-
			High	2005	401000	1996.72	399344	6		-	-
15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
			Mid	2155	431000	2075.08	415016	102		-	430064
			High	2192.5	438500	1823.14	364628	504		-	437564
		Uplink	Low	1927.5	385500	1921.02	384204	0	-	-	-
			Mid	1965	393000	1595.64	319128	504		-	-
			High	2002.5	400500	1991.7	398340	6		-	-
20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
			Mid	2155	431000	2072.92	414584	102		-	429632
			High	2190	438000	1818.48	363696	504		-	436632
		Uplink	Low	1930	386000	1921.36	384272	0	-	-	-
			Mid	1965	393000	1593.48	318696	504		-	-
			High	2000	400000	1987.04	397408	6		-	-

4.3.1.1.1.66 Reference test frequencies for NR operating band n66

Table 4.3.1.1.1.66-1: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 15 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5/5	5	25	Downlink	Low	2112.5	422500	2110.25	422050	0	15	5279	422410	0	0	0	0
				Mid	2145	429000	2124.39	424878	102		5361	428910	0	0	0	102
				High	2177.5	435500	2084.53	416906	504		5443	435410	0	0	0	504
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1745	349000	1652.03	330406	504		-	-	-	-	-	-
				High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
5/20	20	106	Downlink	Low	2120	424000	2109.56	421912	5	15	5282	422650	6	4	2	10
				Mid	2152.5	430500	2123.7	424740	107		5364	429150	6	4	2	112
				High	2185	437000	2083.84	416768	509		5446	435650	6	4	2	514
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1745	349000	1652.03	330406	504		-	-	-	-	-	-
				High	1777.5	355500	1774.17	354834	6		-	-	-	-	-	-
5/40	40	216	Downlink	Low	2130	426000	2109.66	421932	5	15	5283	422670	6	4	2	10
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0	504
	5	25	Uplink	Low	1712.5	342500	1710.25	342050	0	-	-	-	-	-	-	-
				Mid	1737.5	347500	1644.53	328906	504		-	-	-	-	-	-
				High	1762.5	352500	1759.17	351834	6		-	-	-	-	-	-
10/10	10	52	Downlink	Low	2115	423000	2110.32	422064	0	15	5280	422430	2	0	0	0
				Mid	2145	429000	2121.96	424392	102		5355	428430	2	0	0	102
				High	2175	435000	2079.6	415920	504		5430	434430	2	0	0	504
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/20	20	106	Downlink	Low	2120	424000	2109.56	421912	5	15	5282	422650	6	4	2	10
				Mid	2150	430000	2121.2	424240	107		5357	428650	6	4	2	112
				High	2180	436000	2078.84	415768	509		5432	434650	6	4	2	514
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1745	349000	1649.6	329920	504		-	-	-	-	-	-
				High	1775	355000	1769.24	353848	6		-	-	-	-	-	-
10/40	40	216	Downlink	Low	2130	426000	2109.66	421932	5	15	5283	422670	6	4	2	10
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0	504
	10	52	Uplink	Low	1715	343000	1710.32	342064	0	-	-	-	-	-	-	-
				Mid	1740	348000	1644.6	328920	504		-	-	-	-	-	-

				High	1765	353000	1759.24	351848	6		-	-	-	-	-	-
15/15	15	79	Downlink	Low	2117.5	423500	2110.39	422078	0	15	5281	422450	4	0	0	0
				Mid	2145	429000	2119.53	423906	102		5349	427950	4	0	0	102
				High	2172.5	434500	2074.67	414934	504		5417	433450	4	0	0	504
	15	79	Uplink	Low	1717.5	343500	1710.39	342078	0	-	-	-	-	-	-	-
				Mid	1745	349000	1647.17	329434	504		-	-	-	-	-	-
				High	1772.5	354500	1764.31	352862	6		-	-	-	-	-	-
20/20	20	106	Downlink	Low	2120	424000	2109.56	421912	5	15	5282	422650	6	4	2	10
				Mid	2145	429000	2117.1	423420	102		5343	427470	6	0	0	102
				High	2170	434000	2069.74	413948	504		5407	432530	2	2	1	506
	20	106	Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-
				Mid	1745	349000	1644.74	328948	504		-	-	-	-	-	-
				High	1770	354000	1759.38	351876	6		-	-	-	-	-	-
20/40	40	216	Downlink	Low	2130	426000	2109.66	421932	5	15	5283	422670	6	4	2	10
				Mid	2155	431000	2117.2	423440	102		5344	427490	6	0	0	102
				High	2180	436000	2069.84	413968	504		5405	432490	6	0	0	504
	20	106	Uplink	Low	1720	344000	1710.46	342092	0	-	-	-	-	-	-	-
				Mid	1745	349000	1644.74	328948	504		-	-	-	-	-	-
				High	1770	354000	1759.38	351876	6		-	-	-	-	-	-
40/40	40	216	Downlink	Low	2130	426000	2109.66	421932	5	15	5283	422670	6	4	2	10
				Mid	2145	429000	2107.2	421440	102		5319	425550	2	2	1	104
				High	2160	432000	2048.94	409788	509		5358	428670	6	4	2	514
	40	216	Uplink	Low	1730	346000	1710.56	342112	0	-	-	-	-	-	-	-
				Mid	1745	349000	1634.84	326968	504		-	-	-	-	-	-
				High	1760	352000	1739.48	347896	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.66-2: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 30 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10/10	10	24	Downlink	Low	2115	423000	2110.68	422136	0	15	5286	422910	18	5	0	10
				Mid	2145	429000	2103.96	420792	102		5361	428910	18	5	0	214
				High	2175	435000	1989.24	397848	504		5436	434910	18	5	0	1018
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-
10/20	20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	5	0	10
				Mid	2150	430000	2104.1	420820	102		5360	428890	2	5	0	214
				High	2180	436000	1989.38	397876	504		5435	434890	2	5	0	1018
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1745	349000	1559.24	311848	504		-	-	-	-	-	-
				High	1775	355000	1768.52	353704	6		-	-	-	-	-	-
10/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	5	0	10
				Mid	2155	431000	2099.2	419840	102		5350	427970	22	5	0	214
				High	2180	436000	1979.48	395896	504		5411	432970	22	5	0	1018
	10	24	Uplink	Low	1715	343000	1710.68	342136	0	-	-	-	-	-	-	-
				Mid	1740	348000	1554.24	310848	504		-	-	-	-	-	-
				High	1765	353000	1758.52	351704	6		-	-	-	-	-	-
15/15	15	38	Downlink	Low	2117.5	423500	2110.66	422132	0	15	5287	422930	2	6	1	12
				Mid	2145	429000	2101.44	420288	102		5355	428430	2	6	1	216
				High	2172.5	434500	1984.22	396844	504		5423	433930	2	6	1	1020
	15	38	Uplink	Low	1717.5	343500	1710.66	342132	0	-	-	-	-	-	-	-
				Mid	1745	349000	1556.72	311344	504		-	-	-	-	-	-
				High	1772.5	354500	1763.5	352700	6		-	-	-	-	-	-
20/20	20	51	Downlink	Low	2120	424000	2110.82	422164	0	15	5285	422890	2	5	0	10
				Mid	2145	429000	2099.1	419820	102		5349	427950	22	5	0	214
				High	2170	434000	1979.38	395876	504		5413	433010	18	6	1	1020
	20	51	Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-
				Mid	1745	349000	1554.38	310876	504		-	-	-	-	-	-
				High	1770	354000	1758.66	351732	6		-	-	-	-	-	-
20/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	5	0	10
				Mid	2155	431000	2099.2	419840	102		5350	427970	22	5	0	214
				High	2180	436000	1979.48	395896	504		5411	432970	22	5	0	1018
	20	51	Uplink	Low	1720	344000	1710.82	342164	0	-	-	-	-	-	-	-
				Mid	1745	349000	1554.38	310876	504		-	-	-	-	-	-
				High	1770	354000	1758.66	351732	6		-	-	-	-	-	-
40/40	40	106	Downlink	Low	2130	426000	2110.92	422184	0	15	5286	422910	2	5	0	10

				Mid	2145	429000	2089.2	417840	102		5325	426030	18	6	1	216
				High	2160	432000	1959.48	391896	504		5361	428910	2	5	0	1018
	40	106	Uplink	Low	1730	346000	1710.92	342184	0	-	-	-	-	-	-	-
				Mid	1745	349000	1544.48	308896	504		-	-	-	-	-	-
				High	1760	352000	1738.76	347752	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.66-3: Test frequencies for NR operating band n66, uplink and downlink channel bandwidth combinations and SCS 60 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10/10	10	11	Downlink	Low	2115	423000	2111.04	422208	0	15	-	422568
				Mid	2145	429000	2067.6	413520	102		-	428568
				High	2175	435000	1808.16	361632	504		-	434568
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
10/20	20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
				Mid	2150	430000	2067.92	413584	102		-	428632
				High	2180	436000	1808.48	361696	504		-	434632
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1745	349000	1378.16	275632	504		-	-
				High	1775	355000	1766.72	353344	6		-	-
10/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688
				Mid	2155	431000	2063.2	412640	102		-	427688
				High	2180	436000	1798.76	359752	504		-	432688
	10	11	Uplink	Low	1715	343000	1711.04	342208	0	-	-	-
				Mid	1740	348000	1373.16	274632	504		-	-
				High	1765	353000	1756.72	351344	6		-	-
15/15	15	18	Downlink	Low	2117.5	423500	2111.02	422204	0	15	-	422564
				Mid	2145	429000	2065.08	413016	102		-	428064
				High	2172.5	434500	1803.14	360628	504		-	433564
	15	18	Uplink	Low	1717.5	343500	1711.02	342204	0	-	-	-
				Mid	1745	349000	1375.64	275128	504		-	-
				High	1772.5	354500	1761.7	352340	6		-	-
20/20	20	24	Downlink	Low	2120	424000	2111.36	422272	0	15	-	422632
				Mid	2145	429000	2062.92	412584	102		-	427632
				High	2170	434000	1798.48	359696	504		-	432632
	20	24	Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
				Mid	1745	349000	1373.48	274696	504		-	-
				High	1770	354000	1757.04	351408	6		-	-
20/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	426632
				Mid	2155	431000	2063.2	412640	102		-	429632
				High	2180	436000	1798.76	359752	504		-	432632
	20	24	Uplink	Low	1720	344000	1711.36	342272	0	-	-	-
				Mid	1745	349000	1373.48	274696	504		-	-
				High	1770	354000	1757.04	351408	6		-	-
40/40	40	51	Downlink	Low	2130	426000	2111.64	422328	0	15	-	422688

				Mid	2145	429000	2053.2	410640	102		-	425688
				High	2160	432000	1778.76	355752	504		-	428688
	40	51	Uplink	Low	1730	346000	1711.64	342328	0	-	-	-
				Mid	1745	349000	1363.76	272752	504		-	-
				High	1760	352000	1737.32	347464	6		-	-

4.3.1.1.1.67 – 4.3.1.1.1.69 FFS

4.3.1.1.1.70 Reference test frequencies for NR operating band n70

Editor’s note: Test frequencies for the Tx-RX frequency separation of 295 Mhz option as specified in TS 38.101-1, Table 5.4.4-1 is FFS.

Table 4.3.1.1.1.70-1: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 15 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5/5	5	25	Downlink	Low	1997.5	399500	1995.25	399050	0	15	4993	399410	0	0	0	0
				Mid	2002.5	400500	1980.99	396198	107		5007	400590	0	4	2	112
				High	2007.5	401500	1913.63	382726	509		5018	401530	4	2	1	512
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/10	10	52	Downlink	Low	2000	400000	1994.42	398884	5	15	4994	399610	2	4	2	10
				Mid	2005	401000	1981.06	396212	107		5008	400610	2	4	2	112
				High	2010	402000	1913.7	382740	509		5019	401550	6	2	1	512
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/15	15	79	Downlink	Low	2002.5	400500	1994.49	398898	5	15	4995	399630	4	4	2	10
				Mid	2007.5	401500	1981.13	396226	107		5006	400570	8	2	1	110
				High	2012.5	402500	1913.77	382754	509		5020	401570	8	2	1	512
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1609.53	321906	504		-	-	-	-	-	-
				High	1707.5	341500	1704.17	340834	6		-	-	-	-	-	-
5/20	20	106	Downlink	Low	2005	401000	1994.56	398912	5	15	4996	399650	6	4	2	10
				Mid	2007.5	401500	1978.7	395740	107		5000	400090	10	2	1	110
				High	2010	402000	1908.84	381768	509		5007	400590	10	2	1	512
	5	25	Uplink	Low	1697.5	339500	1695.25	339050	0	-	-	-	-	-	-	-
				Mid	1700	340000	1607.03	321406	504		-	-	-	-	-	-
				High	1702.5	340500	1699.17	339834	6		-	-	-	-	-	-
5/25	25	133	Downlink	Low	2007.5	401500	1977.17	395434	102		4994	399610	0	4	2	106
				Mid												
				High												
	5	25	Uplink	Low	1697.5	339500	1604.53	320906	504	-	-	-	-	-	-	-
				Mid												
				High												
10/10	10	52	Downlink	Low	2000	400000	1994.42	398884	5	15	4994	399610	2	4	2	10
				Mid	2002.5	400500	1978.56	395712	107		5001	400110	2	4	2	112
				High	2005	401000	1908.7	381740	509		5008	400610	2	4	2	514
	10	52	Uplink	Low	1700	340000	1695.32	339064	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1607.1	321420	504		-	-	-	-	-	-
				High	1705	341000	1699.24	339848	6		-	-	-	-	-	-

10/20	20	106	Downlink	Low	2005	401000	1994.56	398912	5	15	4996	399650	6	4	2	10
				Mid	2007.5	401500	1978.7	395740	107		5000	400090	10	2	1	110
				High	2010	402000	1908.84	381768	509		5007	400590	10	2	1	512
	10	52	Uplink	Low	1700	340000	1695.32	339064	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1607.1	321420	504		-	-	-	-	-	-
				High	1705	341000	1699.24	339848	6		-	-	-	-	-	-
10/25	25	133	Downlink	Low	2007.5	401500	1977.17	395434	102	15	4994	399610	0	4	2	106
				Mid												
				High												
	10	52	Uplink	Low	1700	340000	1604.6	320920	504	-	-	-	-	-	-	-
				Mid												
				High												
15/15	15	79	Downlink	Low	2002.5	400500	1976.13	395226	107	15	4995	399630	4	4	2	112
				Mid												
				High												
	15	79	Uplink	Low	1702.5	340500	1604.67	320934	504	-	-	-	-	-	-	-
				Mid												
				High												
15/20	20	106	Downlink	Low	2005	401000	1976.2	395240	107	15	4996	399650	6	4	2	112
				Mid												
				High												
	15	79	Uplink	Low	2005	401000	1976.2	395240	107	-	4996	399650	6	4	2	112
				Mid												
				High												
15/25	25	133	Downlink	Low	2007.5	401500	1977.17	395434	102	15	4994	399610	0	4	2	106
				Mid												
				High												
	15	79	Uplink	Low	1702.5	340500	1604.67	320934	504	-	-	-	-	-	-	-
				Mid												
				High												

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.70-2: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 30 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10/10	10	24	Downlink	Low	2000	400000	1995.68	399136	0	15	5000	400090	6	8	3	16
				Mid	2002.5	400500	1961.46	392292	102		5007	400590	6	8	3	220
				High	2005	401000	1819.24	363848	504		5014	401090	6	8	3	1024
	10	24	Uplink	Low	1700	340000	1695.68	339136	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1516.74	303348	504		-	-	-	-	-	-
				High	1705	341000	1698.52	339704	6		-	-	-	-	-	-
10/20	20	51	Downlink	Low	2005	401000	1995.82	399164	0	15	4999	399890	2	5	0	10
				Mid	2007.5	401500	1961.6	392320	102		5006	400570	14	7	2	218
				High	2010	402000	1819.38	363876	504		5013	401070	14	7	2	1022
	10	24	Uplink	Low	1700	340000	1695.68	339136	0	-	-	-	-	-	-	-
				Mid	1702.5	340500	1516.74	303348	504		-	-	-	-	-	-
				High	1705	341000	1698.52	339704	6		-	-	-	-	-	-
10/25	25	65	Downlink	Low	2007.5	401500	1959.08	391816	102	15	5000	400090	22	7	2	218
				Mid												
				High												
	10	24	Uplink	Low	1700	340000	1514.24	302848	504	-	-	-	-	-	-	-
				Mid												
				High												
15/15	15	38	Downlink	Low	2002.5	400500	1958.94	391788	102	15	4998	399870	6	5	0	214
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												
15/20	20	51	Downlink	Low	2005	401000	1959.1	391820	102	15	4999	399890	2	5	0	214
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												
15/25	25	65	Downlink	Low	2007.5	401500	1959.08	391816	102	15	5000	400090	22	7	2	218
				Mid												
				High												
	15	38	Uplink	Low	1702.5	340500	1514.22	302844	504	-	-	-	-	-	-	-
				Mid												
				High												

Note 1:	The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.70-3: Test frequencies for NR operating band n70, default Tx-RX frequency separation 300MHz, uplink and downlink channel bandwidth combinations and SCS 60 kHz

UL/DL Bandwidth combination	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10/10	10	11	Downlink	Low	2000	400000	1996.04	399208	0	15	-	399568
				Mid	2002.5	400500	1925.1	385020	102		-	400068
				High	2005	401000	1638.16	327632	504		-	400568
	10	11	Uplink	Low	1700	340000	1696.04	339208	0	-	-	-
				Mid	1702.5	340500	1335.66	267132	504		-	-
				High	1705	341000	1696.72	339344	6		-	-
10/20	20	24	Downlink	Low	2005	401000	1996.36	399272	0	15	-	399632
				Mid	2007.5	401500	1925.42	385084	102		-	400132
				High	2010	402000	1638.48	327696	504		-	400632
	10	11	Uplink	Low	1700	340000	1696.04	339208	0	-	-	-
				Mid	1702.5	340500	1335.66	267132	504		-	-
				High	1705	341000	1696.72	339344	6		-	-
10/25	25	31	Downlink	Low	2007.5	401500	1922.9	384580	102	15	-	399628
				Mid								
				High								
	10	11	Uplink	Low	1700	340000	1333.16	266632	504	-	-	-
				Mid								
				High								
15/15	15	18	Downlink	Low	2002.5	400500	1922.58	384516	102	15	-	399564
				Mid								
				High								
	15	18	Uplink	Low	1702.5	340500	1333.14	266628	504	-	-	-
				Mid								
				High								
15/20	20	24	Downlink	Low	2005	401000	1922.92	384584	102	15	-	399632
				Mid								
				High								
	15	18	Uplink	Low	4996	399650	4996	399650	4996	-	-	-
				Mid								
				High								
15/25	25	31	Downlink	Low	2007.5	401500	1922.9	384580	102	15	-	399628
				Mid								

			High								
15	18	Uplink	Low	1702.5	340500	1333.14	266628	504	-	-	-
			Mid								
			High							-	399568

4.3.1.1.1.71 Reference test frequencies for NR operating band n71

Table 4.3.1.1.1.71-1: Test frequencies for NR operating band n71 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	619.5	123900	616.35	123270	5	15	1548	123870	8	0	0	6
			Mid	634.5	126900	612.99	122598	107		1587	126990	0	4	2	112
			High	649.5	129900	555.63	111126	509		1623	129870	8	0	0	510
		Uplink	Low	665.5	133100	663.25	132650	0	-	-	-	-	-	-	-
			Mid	680.5	136100	587.53	117506	504		-	-	-	-	-	-
			High	695.5	139100	692.17	138434	6		-	-	-	-	-	-
10	52	Downlink	Low	622	124400	616.42	123284	5	15	1549	123890	10	0	0	6
			Mid	634.5	126900	610.56	122112	107		1581	126510	2	4	2	112
			High	647	129400	550.7	110140	509		1610	128890	10	0	0	510
		Uplink	Low	668	133600	663.32	132664	0	-	-	-	-	-	-	-
			Mid	680.5	136100	585.1	117020	504		-	-	-	-	-	-
			High	693	138600	687.24	137448	6		-	-	-	-	-	-
15	79	Downlink	Low	624.5	124900	617.39	123478	0	15	1547	123850	4	0	0	0
			Mid	634.5	126900	608.13	121626	107		1575	126030	4	4	2	112
			High	644.5	128900	545.77	109154	509		1600	127970	8	2	1	512
		Uplink	Low	670.5	134100	663.39	132678	0	-	-	-	-	-	-	-
			Mid	680.5	136100	582.67	116534	504		-	-	-	-	-	-
			High	690.5	138100	682.31	136462	6		-	-	-	-	-	-
20	106	Downlink	Low	627	125400	617.46	123492	0	15	1548	123870	6	0	0	0
			Mid	634.5	126900	605.7	121140	107		1569	125550	6	4	2	112
			High	642	128400	540.84	108168	509		1587	126990	10	2	1	512
		Uplink	Low	673	134600	663.46	132692	0	-	-	-	-	-	-	-
			Mid	680.5	136100	580.24	116048	504		-	-	-	-	-	-
			High	688	137600	677.38	135476	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.71-2: Test frequencies for NR operating band n71 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	622	124400	617.68	123536	0	15	1555	124370	14	6	1	12
			Mid	634.5	126900	593.46	118692	102		1587	126990	6	8	3	220
			High	647	129400	461.24	92248	504		1616	129370	14	6	1	1020
		Uplink	Low	668	133600	663.68	132736	0	-	-	-	-	-	-	-
			Mid	680.5	136100	494.74	98948	504		-	-	-	-	-	-
			High	693	138600	686.52	137304	6		-	-	-	-	-	-
15	38	Downlink	Low	624.5	124900	617.66	123532	0	15	1553	124330	2	6	1	12
			Mid	634.5	126900	590.94	118188	102		1578	126270	6	5	0	214
			High	644.5	128900	456.22	91244	504		1606	128450	18	7	2	1022
		Uplink	Low	670.5	134100	663.66	132732	0	-	-	-	-	-	-	-
			Mid	680.5	136100	492.22	98444	504		-	-	-	-	-	-
			High	690.5	138100	681.5	136300	6		-	-	-	-	-	-
20	51	Downlink	Low	627	125400	617.82	123564	0	15	1554	124350	22	5	0	10
			Mid	634.5	126900	588.6	117720	102		1572	125790	2	5	0	214
			High	642	128400	451.38	90276	504		1593	127470	14	7	2	1022
		Uplink	Low	673	134600	663.82	132764	0	-	-	-	-	-	-	-
			Mid	680.5	136100	489.88	97976	504		-	-	-	-	-	-
			High	688	137600	676.66	135332	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

4.3.1.1.1.72 – 4.3.1.1.1.73

4.3.1.1.1.74 Reference test frequencies for NR operating band n74

Table 4.3.1.1.1.74-1: Test frequencies for NR operating band n74 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5	25	Downlink	Low	1477.5	295500	1474.35	294870	5	15	3693	295470	8	0	0	6
			Mid	1496.5	299300	1474.99	294998	107		3742	299330	4	2	1	110
			High	1515.5	303100	1421.63	284326	509		3788	303130	4	2	1	512
		Uplink	Low	1429.5	285900	1427.25	285450	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1355.53	271106	504		-	-	-	-	-	-
			High	1467.5	293500	1464.17	292834	6		-	-	-	-	-	-
10	52	Downlink	Low	1480	296000	1474.42	294884	5	15	3694	295490	10	0	0	6
			Mid	1496.5	299300	1472.56	294512	107		3736	298850	6	2	1	110
			High	1513	302600	1416.7	283340	509		3778	302210	2	4	2	514
		Uplink	Low	1432	286400	1427.32	285464	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1353.1	270620	504		-	-	-	-	-	-
			High	1465	293000	1459.24	291848	6		-	-	-	-	-	-
15	79	Downlink	Low	1482.5	296500	1475.39	295078	0	15	3692	295450	4	0	0	0
			Mid	1496.5	299300	1470.13	294026	107		3730	298370	8	2	1	110
			High	1510.5	302100	1411.77	282354	509		3765	301230	4	4	2	514
		Uplink	Low	1434.5	286900	1427.39	285478	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1350.67	270134	504		-	-	-	-	-	-
			High	1462.5	292500	1454.31	290862	6		-	-	-	-	-	-
20	106	Downlink	Low	1485	297000	1475.46	295092	0	15	3693	295470	6	0	0	0
			Mid	1496.5	299300	1467.7	293540	107		3724	297890	10	2	1	110
			High	1508	301600	1406.84	281368	509		3752	300250	6	4	2	514
		Uplink	Low	1437	287400	1427.46	285492	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1348.24	269648	504		-	-	-	-	-	-
			High	1460	292000	1449.38	289876	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.74-2: Test frequencies for NR operating band n74 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink	Low	1480	296000	1475.68	295136	0	15	3700	295970	14	6	1	12
			Mid	1496.5	299300	1455.46	291092	102		3742	299330	10	7	2	218
			High	1513	302600	1327.24	265448	504		3784	302690	6	8	3	1024
		Uplink	Low	1432	286400	1427.68	285536	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1262.74	252548	504		-	-	-	-	-	-
			High	1465	293000	1458.52	291704	6		-	-	-	-	-	-
15	38	Downlink	Low	1482.5	296500	1475.66	295132	0	15	3698	295930	2	6	1	12
			Mid	1496.5	299300	1452.94	290588	102		3736	298850	18	7	2	218
			High	1510.5	302100	1322.22	264444	504		3768	301470	6	5	0	1018
		Uplink	Low	1434.5	286900	1427.66	285532	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1260.22	252044	504		-	-	-	-	-	-
			High	1462.5	292500	1453.5	290700	6		-	-	-	-	-	-
20	51	Downlink	Low	1485	297000	1475.82	295164	0	15	3699	295950	22	5	0	10
			Mid	1496.5	299300	1450.6	290120	102		3730	298370	14	7	2	218
			High	1508	301600	1317.38	263476	504		3755	300490	2	5	0	1018
		Uplink	Low	1437	287400	1427.82	285564	0	-	-	-	-	-	-	-
			Mid	1448.5	289700	1257.88	251576	504		-	-	-	-	-	-
			High	1460	292000	1448.66	289732	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1 in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.74-3: Test frequencies for NR operating band n74 and SCS 60 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]
10	11	Downlink	Low	1480	296000	1476.04	295208	0	15	-	295568
			Mid	1496.5	299300	1419.1	283820	102		-	298868
			High	1513	302600	1146.16	229232	504		-	302168
		Uplink	Low	1432	286400	1428.04	285608	0	-	-	-
			Mid	1448.5	289700	1081.66	216332	504		-	-
			High	1465	293000	1456.72	291344	6		-	-
15	18	Downlink	Low	1482.5	296500	1476.02	295204	0	15	-	295564
			Mid	1496.5	299300	1416.58	283316	102		-	298364
			High	1510.5	302100	1141.14	228228	504		-	301164
		Uplink	Low	1434.5	286900	1428.02	285604	0	-	-	-
			Mid	1448.5	289700	1079.14	215828	504		-	-
			High	1462.5	292500	1451.7	290340	6		-	-
20	24	Downlink	Low	1485	297000	1476.36	295272	0	15	-	295632
			Mid	1496.5	299300	1414.42	282884	102		-	297932
			High	1508	301600	1136.48	227296	504		-	300232
		Uplink	Low	1437	287400	1428.36	285672	0	-	-	-
			Mid	1448.5	289700	1076.98	215396	504		-	-
			High	1460	292000	1447.04	289408	6		-	-

4.3.1.1.1.75 Reference test frequencies for NR operating band n75 (SDL)

Table 4.3.1.1.1.75-1: Test frequencies for NR operating band n75 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
5	25	Downlink	Low	1434.5	286900	1432.25	286450	0	15	-	286810
			Mid	1474.5	294900	1453.89	290778	102		-	294810
			High	1514.5	302900	1421.53	284306	504		-	302810
10	52	Downlink	Low	1437	287400	1432.32	286464	0	15	-	286824
			Mid	1474.5	294900	1451.46	290292	102		-	294324
			High	1512	302400	1416.6	283320	504		-	301824
15	79	Downlink	Low	1439.5	287900	1432.39	286478	0	15	-	286838
			Mid	1474.5	294900	1449.03	289806	102		-	293838
			High	1509.5	301900	1411.67	282334	504		-	300838
20	106	Downlink	Low	1442	288400	1432.46	286492	0	15	-	286852
			Mid	1474.5	294900	1446.6	289320	102		-	293352
			High	1507	301400	1406.74	281348	504		-	299852

Table 4.3.1.1.1.75-2: Test frequencies for NR operating band n75 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	24	Downlink	Low	1437	287400	1432.68	286536	0	15	-	286896
			Mid	1474.5	294900	1433.46	286692	102		-	294396
			High	1512	302400	1326.24	265248	504		-	301896
15	38	Downlink	Low	1439.5	287900	1432.66	286532	0	15	-	286892
			Mid	1474.5	294900	1430.94	286188	102		-	293892
			High	1509.5	301900	1321.22	264244	504		-	300892
20	51	Downlink	Low	1442	288400	1432.82	286564	0	15	-	286924
			Mid	1474.5	294900	1428.6	285720	102		-	293424
			High	1507	301400	1316.38	263276	504		-	299924

Table 4.3.1.1.1.75-3: Test frequencies for NR operating band n75 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink	Low	1437	287400	1433.04	286608	0	15	-	286968
			Mid	1474.5	294900	1397.1	279420	102		-	294468
			High	1512	302400	1145.16	229032	504		-	301968
15	18	Downlink	Low	1439.5	287900	1433.02	286604	0	15	-	286964
			Mid	1474.5	294900	1394.58	278916	102		-	293964
			High	1509.5	301900	1140.14	228028	504		-	300964
20	24	Downlink	Low	1442	288400	1433.36	286672	0	15	-	287032
			Mid	1474.5	294900	1392.42	278484	102		-	293532
			High	1507	301400	1135.48	227096	504		-	300032

4.3.1.1.1.76 Reference test frequencies for NR operating band n76 (SDL)

Table 4.3.1.1.1.76-1: Test frequencies for NR operating band n76 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
5	25	Downlink	Low, Mid, High	1429.5	285900	1427.25	285450	0	15	-	285810

4.3.1.1.1.77 Reference test frequencies for NR operating band n77

Table 4.3.1.1.1.77-1: Test frequencies for NR operating band n77 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	3305.01	620334	3299.43	619962	5	30	7711	620352	6	6	1	12
			Mid	3750	650000	3726.06	648404	107		8020	650016	4	6	1	114
			High	4194.99	679666	4098.69	673246	509		8329	679680	2	6	1	516
15	79	Downlink & Uplink	Low	3307.5	620500	3299.49	619966	5	30	7711	620352	2	6	1	12
			Mid	3750.165	650011	3723.795	648253	107		8018	649824	11	2	0	110
			High	4192.5	679500	4094.67	672978	504		8325	679296	6	2	0	506
20	106	Downlink & Uplink	Low	3310.005	620667	3300.465	620031	0	30	7711	620352	9	6	1	6
			Mid	3750	650000	3722.1	648140	102		8016	649632	4	2	0	104
			High	4189.98	679332	4089.72	672648	504		8322	679008	0	6	1	510
40	216	Downlink & Uplink	Low	3320.01	621334	3300.57	620038	0	30	7711	620352	2	6	1	6
			Mid	3749.88	649992	3712.08	647472	102		8009	648960	0	2	0	104
			High	4180.095	678673	4069.035	671269	509		8308	677664	11	2	0	512
50	270	Downlink & Uplink	Low	3324.9	621660	3300.6	620040	0	30	7711	620352	0	6	1	6
			Mid	3750.075	650005	3706.515	647101	107		8006	648672	11	2	0	110
			High	4174.995	678333	4059.075	670605	509		8301	676992	3	2	0	512

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.77-2: Test frequencies for NR operating band n77 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3305.01	620334	3300.69	620046	0	30	7711	620352	18	2	2	4
			Mid	3750	650000	3708.96	647264	102		8020	650016	16	2	2	208
			High	4194.99	679666	4009.23	667282	504		8329	679680	14	2	2	1012
15	38	Downlink & Uplink	Low	3307.5	620500	3300.66	620044	0	30	7711	620352	20	2	2	4
			Mid	3750	650000	3706.44	647096	102		8018	649824	16	1	1	206
			High	4192.5	679500	4004.22	666948	504		8325	679296	12	0	0	1008
20	51	Downlink & Uplink	Low	3310.02	620668	3300.84	620056	0	30	7711	620352	8	2	2	4
			Mid	3750	650000	3704.1	646940	102		8016	649632	4	0	0	204
			High	4189.98	679332	3999.36	666624	504		8322	679008	0	2	2	1012
40	106	Downlink & Uplink	Low	3320.01	621334	3300.93	620062	0	30	7711	620352	2	2	2	4
			Mid	3750	650000	3694.2	646280	102		8010	649056	16	3	3	210
			High	4179.99	678666	3979.47	665298	504		8308	677664	6	1	1	1010
50	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	1	1	2
			Mid	3750	650000	3689.34	645956	102		8006	648672	4	1	1	206
			High	4174.98	678332	3969.6	664640	504		8301	676992	16	0	0	1008
60	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	2	2	4
			Mid	3750	650000	3684.12	645608	102		8003	648384	16	3	3	210
			High	4170	678000	3959.4	663960	504		8294	676320	0	1	1	1010
80	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	2	2	4
			Mid	3750	650000	3674.22	644948	102		7996	647712	4	3	3	210
			High	4159.98	677332	3939.48	662632	504		8280	674976	8	0	0	1008
90	245	Downlink & Uplink	Low	3345	623000	3300.9	620060	0	30	7711	620352	4	2	2	4
			Mid	3750	650000	3669.18	644612	102		7992	647328	4	1	1	206
			High	4155	677000	3929.46	661964	504		8273	674304	4	0	0	1008
100	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	2	2	4
			Mid	3750	650000	3664.14	644276	102		7989	647040	4	3	3	210
			High	4149.99	676666	3919.41	661294	504		8266	673632	2	0	0	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.77-3: Test frequencies for NR operating band n77 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	3305.01	620334	3301.05	620070	0	30	-	620310
			Mid	3750	650000	3672.6	644840	102		-	649976
			High	4194.99	679666	3828.15	655210	504		-	679642
15	18	Downlink & Uplink	Low	3307.5	620500	3301.02	620068	0	30	-	620308
			Mid	3750	650000	3670.08	644672	102		-	649808
			High	4192.5	679500	3823.14	654876	504		-	679308
20	24	Downlink & Uplink	Low	3310.005	620667	3301.365	620091	0	30	-	620331
			Mid	3750	650000	3667.92	644528	102		-	649664
			High	4189.995	679333	3818.475	654565	504		-	678997
40	51	Downlink & Uplink	Low	3320.01	621334	3301.65	620110	0	30	-	620350
			Mid	3750	650000	3658.2	643880	102		-	649016
			High	4179.99	678666	3798.75	653250	504		-	677682
50	65	Downlink & Uplink	Low	3325.005	621667	3301.605	620107	0	30	-	620347
			Mid	3750	650000	3653.16	643544	102		-	648680
			High	4174.995	678333	3788.715	652581	504		-	677013
60	79	Downlink & Uplink	Low	3330	622000	3301.56	620104	0	30	-	620344
			Mid	3750	650000	3648.12	643208	102		-	648344
			High	4170	678000	3778.68	651912	504		-	676344
80	107	Downlink & Uplink	Low	3340.005	622667	3301.485	620099	0	30	-	620339
			Mid	3750	650000	3638.04	642536	102		-	647672
			High	4159.995	677333	3758.595	650573	504		-	675005
90	121	Downlink & Uplink	Low	3345	623000	3301.44	620096	0	30	-	620336
			Mid	3750	650000	3633	642200	102		-	647336
			High	4155	677000	3748.56	649904	504		-	674336
100	135	Downlink & Uplink	Low	3350.01	623334	3301.41	620094	0	30	-	620334
			Mid	3750	650000	3627.96	641864	102		-	647000
			High	4149.99	676666	3738.51	649234	504		-	673666

4.3.1.1.1.78 Reference test frequencies for NR operating band n78

Table 4.3.1.1.1.78-1: Test frequencies for NR operating band n78 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	52	Downlink & Uplink	Low	3305.01	620334	3299.43	619962	5	30	7711	620352	6	6	1	12
			Mid	3550.005	636667	3526.965	635131	102		7881	636672	5	6	1	108
			High	3794.88	652992	3699.48	646632	504		8051	652992	0	6	1	510
15	79	Downlink & Uplink	Low	3307.5	620500	3299.49	619966	5	30	7711	620352	2	6	1	12
			Mid	3550.005	636667	3523.635	634909	107		7879	636480	11	2	0	110
			High	3792.645	652843	3693.915	646261	509		8048	652704	11	6	1	516
20	106	Downlink & Uplink	Low	3310.005	620667	3300.465	620031	0	30	7711	620352	9	6	1	6
			Mid	3549.9	636660	3522	634800	102		7877	636288	0	2	0	104
			High	3790.035	652669	3688.875	645925	509		8044	652320	11	2	0	512
40	216	Downlink & Uplink	Low	3320.01	621334	3300.57	620038	0	30	7711	620352	2	6	1	6
			Mid	3550.095	636673	3511.395	634093	107		7871	635712	11	6	1	114
			High	3780	652000	3669.84	644656	504		8030	650976	8	2	0	506
50	270	Downlink & Uplink	Low	3324.9	621660	3300.6	620040	0	30	7711	620352	0	6	1	6
			Mid	3550.005	636667	3506.445	633763	107		7867	635328	5	2	0	110
			High	3774.9	651660	3659.88	643992	504		8023	650304	0	2	0	506

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-3 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.78-2: Test frequencies for NR operating band n78 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10	24	Downlink & Uplink	Low	3305.01	620334	3300.69	620046	0	30	7711	620352	18	2	2	4
			Mid	3549.99	636666	3508.95	633930	102		7881	636672	6	2	2	208
			High	3795	653000	3609.24	640616	504		8051	652992	16	1	1	1010
15	38	Downlink & Uplink	Low	3307.5	620500	3300.66	620044	0	30	7711	620352	20	2	2	4
			Mid	3549.99	636666	3506.43	633762	102		7879	636480	6	1	1	206
			High	3792.48	652832	3604.2	640280	504		8048	652704	16	3	3	1014
20	51	Downlink & Uplink	Low	3310.02	620668	3300.84	620056	0	30	7711	620352	8	2	2	4
			Mid	3549.99	636666	3504.09	633606	102		7878	636384	18	3	3	210
			High	3789.99	652666	3599.37	639958	504		8044	652320	2	1	1	1010
40	106	Downlink & Uplink	Low	3320.01	621334	3300.93	620062	0	30	7711	620352	2	2	2	4
			Mid	3549.99	636666	3494.19	632946	102		7871	635712	6	3	3	210
			High	3780	652000	3579.48	638632	504		8030	650976	8	0	0	1008
50	133	Downlink & Uplink	Low	3325.02	621668	3301.08	620072	0	30	7711	620352	16	1	1	2
			Mid	3549.99	636666	3489.33	632622	102		7867	635328	18	0	0	204
			High	3774.99	651666	3569.61	637974	504		8024	650400	18	3	3	1014
60	162	Downlink & Uplink	Low	3330	622000	3300.84	620056	0	30	7711	620352	8	2	2	4
			Mid	3549.99	636666	3484.11	632274	102		7864	635040	6	3	3	210
			High	3769.98	651332	3559.38	637292	504		8016	649632	4	0	0	1008
80	217	Downlink & Uplink	Low	3340.02	622668	3300.96	620064	0	30	7711	620352	0	2	2	4
			Mid	3549.99	636666	3474.21	631614	102		7857	634368	18	2	2	208
			High	3759.99	650666	3539.49	635966	504		8003	648384	10	3	3	1014
90	245	Downlink & Uplink	Low	3345	623000	3300.9	620060	0	30	7711	620352	4	2	2	4
			Mid	3549.99	636666	3469.17	631278	102		7853	633984	18	0	0	204
			High	3754.98	650332	3529.44	635296	504		7996	647712	8	3	3	1014
100	273	Downlink & Uplink	Low	3350.01	623334	3300.87	620058	0	30	7711	620352	6	2	2	4
			Mid	3549.99	636666	3464.13	630942	102		7850	633696	18	2	2	208
			High	3750	650000	3519.42	634628	504		7989	647040	4	3	3	1014

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.78-3: Test frequencies for NR operating band n78 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
10	11	Downlink & Uplink	Low	3305.01	620334	3301.05	620070	0	30	-	620310
			Mid	3550.005	636667	3472.605	631507	102		-	636643
			High	3795	653000	3428.16	628544	504		-	652976
15	18	Downlink & Uplink	Low	3307.5	620500	3301.02	620068	0	30	-	620308
			Mid	3550.005	636667	3470.085	631339	102		-	636475
			High	3792.495	652833	3423.135	628209	504		-	652641
20	24	Downlink & Uplink	Low	3310.005	620667	3301.365	620091	0	30	-	620331
			Mid	3550.005	636667	3467.925	631195	102		-	636331
			High	3789.99	652666	3418.47	627898	504		-	652330
40	51	Downlink & Uplink	Low	3320.01	621334	3301.65	620110	0	30	-	620350
			Mid	3550.005	636667	3458.205	630547	102		-	635683
			High	3780	652000	3398.76	626584	504		-	651016
50	65	Downlink & Uplink	Low	3325.005	621667	3301.605	620107	0	30	-	620347
			Mid	3550.005	636667	3453.165	630211	102		-	635347
			High	3774.99	651666	3388.71	625914	504		-	650346
60	79	Downlink & Uplink	Low	3330	622000	3301.56	620104	0	30	-	620344
			Mid	3550.005	636667	3448.125	629875	102		-	635011
			High	3769.995	651333	3378.675	625245	504		-	649677
80	107	Downlink & Uplink	Low	3340.005	622667	3301.485	620099	0	30	-	620339
			Mid	3550.005	636667	3438.045	629203	102		-	634339
			High	3759.99	650666	3358.59	623906	504		-	648338
90	121	Downlink & Uplink	Low	3345	623000	3301.44	620096	0	30	-	620336
			Mid	3550.005	636667	3433.005	628867	102		-	634003
			High	3754.995	650333	3348.555	623237	504		-	647669
100	135	Downlink & Uplink	Low	3350.01	623334	3301.41	620094	0	30	-	620334
			Mid	3550.005	636667	3427.965	628531	102		-	633667
			High	3750	650000	3338.52	622568	504		-	647000

4.3.1.1.1.79 Reference test frequencies for NR operating band n79

Table 4.3.1.1.1.79-1: Test frequencies for NR operating band n79 and SCS 15 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
40	216	Downlink & Uplink	Low	4427.415	695161	4407.075	693805	5	30	8480	694176	11	4	0	10
			Mid	4703.895	713593	4665.195	711013	107		8672	712608	11	4	0	112
			High	4980.375	732025	4869.315	724621	509		8864	731040	11	4	0	514
50	270	Downlink & Uplink	Low	4432.275	695485	4407.075	693805	5	30	8480	694176	11	4	0	10
			Mid	4708.755	713917	4665.195	711013	107		8672	712608	11	4	0	112
			High	4985.235	732349	4869.315	724621	509		8864	731040	11	4	0	514
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-5 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.1.1.79-2: Test frequencies for NR operating band n79 and SCS 30 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
40	106	Downlink & Uplink	Low	4426.35	695090	4407.27	693818	0	30	8480	694176	22	4	1	8
			Mid	4702.83	713522	4647.03	709802	102		8672	712608	22	4	1	212
			High	4979.64	731976	4779.12	718608	504		8864	731040	0	4	1	1016
50	133	Downlink & Uplink	Low	4431.21	695414	4407.27	693818	0	30	8480	694176	22	4	1	8
			Mid	4707.69	713846	4647.03	709802	102		8672	712608	22	4	1	212
			High	4962.9	730860	4757.52	717168	504		8848	729504	0	0	0	1008
60	162	Downlink & Uplink	Low	4436.43	695762	4407.27	693818	0	30	8480	694176	22	4	1	8
			Mid	4691.64	712776	4625.76	708384	102		8656	711072	0	0	0	204
			High	4968.12	731208	4757.52	717168	504		8848	729504	0	0	0	1008
80	217	Downlink & Uplink	Low	4446.33	696422	4407.27	693818	0	30	8480	694176	22	4	1	8
			Mid	4700.01	713334	4624.23	708282	102		8656	711072	6	4	1	212
			High	4954.98	730332	4734.48	715632	504		8832	727968	0	0	0	1008
100	273	Downlink & Uplink	Low	4456.41	697094	4407.27	693818	0	30	8480	694176	22	4	1	8
			Mid	4709.85	713990	4623.99	708266	102		8656	711072	22	4	1	212
			High	4942.02	729468	4711.44	714096	504		8816	726432	0	0	0	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-6 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.1.1.79-3: Test frequencies for NR operating band n79 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
40	51	Downlink & Uplink	Low	4420.005	694667	4401.645	693443	0	30	-	693683
			Mid	4699.995	713333	4608.195	707213	102		-	712349
			High	4980	732000	4598.76	706584	504		-	731016
50	65	Downlink & Uplink	Low	4425	695000	4401.6	693440	0	30	-	693680
			Mid	4699.995	713333	4603.155	706877	102		-	712013
			High	4974.99	731666	4588.71	705914	504		-	730346
60	79	Downlink & Uplink	Low	4430.01	695334	4401.57	693438	0	30	-	693678
			Mid	4699.995	713333	4598.115	706541	102		-	711677
			High	4969.995	731333	4578.675	705245	504		-	729677
80	107	Downlink & Uplink	Low	4440	696000	4401.48	693432	0	30	-	693672
			Mid	4699.995	713333	4588.035	705869	102		-	711005
			High	4959.99	730666	4558.59	703906	504		-	728338
100	135	Downlink & Uplink	Low	4450.005	696667	4401.405	693427	0	30	-	693667
			Mid	4699.995	713333	4577.955	705197	102		-	710333
			High	4950	730000	4538.52	702568	504		-	727000

4.3.1.1.1.80 Reference test frequencies for NR operating band n80 (SUL)

Table 4.3.1.1.1.80-1: Test frequencies for NR operating band n80 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	1712.5	342500	1710.25	342050	0
			Mid	1747.5	349500	1349.61	269922	2198
			High	1782.5	356500	1780.07	356014	1
10	52	Uplink	Low	1715	343000	1710.32	342064	0
			Mid	1747.5	349500	1347.18	269436	2198
			High	1780	356000	1775.14	355028	1
15	79	Uplink	Low	1717.5	343500	1710.39	342078	0
			Mid	1747.5	349500	1344.75	268950	2198
			High	1777.5	355500	1770.21	354042	1
20	106	Uplink	Low	1720	344000	1710.46	342092	0
			Mid	1747.5	349500	1342.32	268464	2198
			High	1775	355000	1765.28	353056	1
25	133	Uplink	Low	1722.5	344500	1710.53	342106	0
			Mid	1747.5	349500	1339.89	267978	2198
			High	1772.5	354500	1760.35	352070	1
30	160	Uplink	Low	1725	345000	1710.6	342120	0
			Mid	1747.5	349500	1337.46	267492	2198
			High	1770	354000	1755.42	351084	1

Table 4.3.1.1.1.80-2: Test frequencies for NR operating band n80 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	1715	343000	1710.68	342136	0
			Mid	1747.5	349500	951.9	190380	2198
			High	1780	356000	1775.32	355064	1
15	38	Uplink	Low	1717.5	343500	1710.66	342132	0
			Mid	1747.5	349500	949.38	189876	2198
			High	1777.5	355500	1770.3	354060	1
20	51	Uplink	Low	1720	344000	1710.82	342164	0
			Mid	1747.5	349500	947.04	189408	2198
			High	1775	355000	1765.46	353092	1
25	65	Uplink	Low	1722.5	344500	1710.8	342160	0
			Mid	1747.5	349500	944.52	188904	2198
			High	1772.5	354500	1760.44	352088	1
30	78	Uplink	Low	1725	345000	1710.96	342192	0
			Mid	1747.5	349500	942.18	188436	2198
			High	1770	354000	1755.6	351120	1

Table 4.3.1.1.1.80-3: Test frequencies for NR operating band n80 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	11	Uplink	Low	1715	343000	1711.04	342208	0
			Mid	1747.5	349500	160.98	32196	2198
			High	1780	356000	1775.32	355064	1
15	18	Uplink	Low	1717.5	343500	1711.02	342204	0
			Mid	1747.5	349500	158.46	31692	2198
			High	1777.5	355500	1770.3	354060	1
20	24	Uplink	Low	1720	344000	1711.36	342272	0
			Mid	1747.5	349500	156.3	31260	2198
			High	1775	355000	1765.64	353128	1
25	31	Uplink	Low	1722.5	344500	1711.34	342268	0
			Mid	1747.5	349500	153.78	30756	2198
			High	1772.5	354500	1760.62	352124	1
30	38	Uplink	Low	1725	345000	1711.32	342264	0
			Mid	1747.5	349500	151.26	30252	2198
			High	1770	354000	1755.6	351120	1

4.3.1.1.1.81 Reference test frequencies for NR operating band n81 (SUL)

Table 4.3.1.1.1.81-1: Test frequencies for NR operating band n81 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	882.5	176500	880.25	176050	0
			Mid	897.5	179500	499.61	99922	2198
			High	912.5	182500	910.07	182014	1
10	52	Uplink	Low	885	177000	880.32	176064	0
			Mid	897.5	179500	497.18	99436	2198
			High	910	182000	905.14	181028	1
15	79	Uplink	Low	887.5	177500	880.39	176078	0
			Mid	897.5	179500	494.75	98950	2198
			High	907.5	181500	900.21	180042	1
20	106	Uplink	Low	890	178000	880.46	176092	0
			Mid	897.5	179500	492.32	98464	2198
			High	905	181000	895.28	179056	1

Table 4.3.1.1.1.81-2: Test frequencies for NR operating band n81 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	885	177000	880.68	176136	0
			Mid	897.5	179500	101.9	20380	2198
			High	910	182000	905.32	181064	1
15	38	Uplink	Low	887.5	177500	880.66	176132	0
			Mid	897.5	179500	99.38	19876	2198
			High	907.5	181500	900.3	180060	1
20	51	Uplink	Low	890	178000	880.82	176164	0
			Mid	897.5	179500	97.04	19408	2198
			High	905	181000	895.46	179092	1

4.3.1.1.1.82 Reference test frequencies for NR operating band n82 (SUL)

Table 4.3.1.1.1.82-1: Test frequencies for NR operating band n82 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	834.5	166900	832.25	166450	0
			Mid	847	169400	449.11	89822	2198
			High	859.5	171900	857.07	171414	1
10	52	Uplink	Low	837	167400	832.32	166464	0
			Mid	847	169400	446.68	89336	2198
			High	857	171400	852.14	170428	1
15	79	Uplink	Low	839.5	167900	832.39	166478	0
			Mid	847	169400	444.25	88850	2198
			High	854.5	170900	847.21	169442	1
20	106	Uplink	Low	842	168400	832.46	166492	0
			Mid	847	169400	441.82	88364	2198
			High	852	170400	842.28	168456	1

Table 4.3.1.1.1.82-2: Test frequencies for NR operating band n82 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	837	167400	832.68	166536	0
			Mid	847	169400	51.4	10280	2198
			High	857	171400	852.32	170464	1
15	38	Uplink	Low	839.5	167900	832.66	166532	0
			Mid	847	169400	48.88	9776	2198
			High	854.5	170900	847.3	169460	1
20	51	Uplink	Low	842	168400	832.82	166564	0
			Mid	847	169400	46.54	9308	2198
			High	852	170400	842.46	168492	1

4.3.1.1.1.83 Reference test frequencies for NR operating band n83 (SUL)

Table 4.3.1.1.1.83-1: Test frequencies for NR operating band n83 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	705.5	141100	703.25	140650	0
			Mid	725.5	145100	327.61	65522	2198
			High	745.5	149100	743.07	148614	1
10	52	Uplink	Low	708	141600	703.32	140664	0
			Mid	725.5	145100	325.18	65036	2198
			High	743	148600	738.14	147628	1
15	79	Uplink	Low	710.5	142100	703.39	140678	0
			Mid	725.5	145100	322.75	64550	2198
			High	740.5	148100	733.21	146642	1
20	106	Uplink	Low	713	142600	703.46	140692	0
			Mid	725.5	145100	320.32	64064	2198
			High	738	147600	728.28	145656	1

Table 4.3.1.1.1.83-2: Test frequencies for NR operating band n83 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	708	141600	703.68	140736	0
			Mid	725.5	145100	642.34	128468	219
			High	743	148600	738.32	147664	1
15	38	Uplink	Low	710.5	142100	703.66	140732	0
			Mid	725.5	145100	639.82	127964	219
			High	740.5	148100	733.3	146660	1
20	51	Uplink	Low	713	142600	703.82	140764	0
			Mid	725.5	145100	637.48	127496	219
			High	738	147600	728.46	145692	1

4.3.1.1.1.84 Reference test frequencies for NR operating band n84 (SUL)

Table 4.3.1.1.1.84-1: Test frequencies for NR operating band n84 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	1922.5	384500	1920.25	384050	0
			Mid	1950	390000	1552.11	310422	2198
			High	1977.5	395500	1975.07	395014	1
10	52	Uplink	Low	1925	385000	1920.32	384064	0
			Mid	1950	390000	1549.68	309936	2198
			High	1975	395000	1970.14	394028	1
15	79	Uplink	Low	1927.5	385500	1920.39	384078	0
			Mid	1950	390000	1547.25	309450	2198
			High	1972.5	394500	1965.21	393042	1
20	106	Uplink	Low	1930	386000	1920.46	384092	0
			Mid	1950	390000	1544.82	308964	2198
			High	1970	394000	1960.28	392056	1

Table 4.3.1.1.1.84-2: Test frequencies for NR operating band n84 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	1925	385000	1920.68	384136	0
			Mid	1950	390000	1154.4	230880	2198
			High	1975	395000	1970.32	394064	1
15	38	Uplink	Low	1927.5	385500	1920.66	384132	0
			Mid	1950	390000	1151.88	230376	2198
			High	1972.5	394500	1965.3	393060	1
20	51	Uplink	Low	1930	386000	1920.82	384164	0
			Mid	1950	390000	1149.54	229908	2198
			High	1970	394000	1960.46	392092	1

Table 4.3.1.1.1.84-3: Test frequencies for NR operating band n84 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	11	Uplink	Low	1925	385000	1921.04	384208	0
			Mid	1950	390000	363.48	72696	2198
			High	1975	395000	1970.32	394064	1
15	18	Uplink	Low	1927.5	385500	1921.02	384204	0
			Mid	1950	390000	360.96	72192	2198
			High	1972.5	394500	1965.3	393060	1
20	24	Uplink	Low	1930	386000	1921.36	384272	0
			Mid	1950	390000	358.8	71760	2198
			High	1970	394000	1960.64	392128	1

4.3.1.1.1.85 FFS

4.3.1.1.1.86 Reference test frequencies for NR operating band n86 (SUL)

Table 4.3.1.1.1.86-1: Test frequencies for NR operating band n86 and SCS 15 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
5	25	Uplink	Low	1712.5	342500	1710.25	342050	0
			Mid	1745	349000	1347.11	269422	2198
			High	1777.5	355500	1775.07	355014	1
10	52	Uplink	Low	1715	343000	1710.32	342064	0
			Mid	1745	349000	1344.68	268936	2198
			High	1775	355000	1770.14	354028	1
15	79	Uplink	Low	1717.5	343500	1710.39	342078	0
			Mid	1745	349000	1342.25	268450	2198
			High	1772.5	354500	1765.21	353042	1
20	106	Uplink	Low	1720	344000	1710.46	342092	0
			Mid	1745	349000	1339.82	267964	2198
			High	1770	354000	1760.28	352056	1
40	216	Uplink	Low	1730	346000	1710.56	342112	0
			Mid	1745	349000	1329.92	265984	2198
			High	1760	352000	1740.38	348076	1

Table 4.3.1.1.1.86-2: Test frequencies for NR operating band n86 and SCS 30 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	24	Uplink	Low	1715	343000	1710.68	342136	0
			Mid	1745	349000	949.4	189880	2198
			High	1775	355000	1770.32	354064	1
15	38	Uplink	Low	1717.5	343500	1710.66	342132	0
			Mid	1745	349000	946.88	189376	2198
			High	1772.5	354500	1765.3	353060	1
20	51	Uplink	Low	1720	344000	1710.82	342164	0
			Mid	1745	349000	944.54	188908	2198
			High	1770	354000	1760.46	352092	1
40	106	Uplink	Low	1730	346000	1710.92	342184	0
			Mid	1745	349000	934.64	186928	2198
			High	1760	352000	1740.56	348112	1

Table 4.3.1.1.1.86-3: Test frequencies for NR operating band n86 and SCS 60 kHz

Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [PRBs]
10	11	Uplink	Low	1715	343000	1711.04	342208	0
			Mid	1745	349000	158.48	31696	2198
			High	1775	355000	1770.32	354064	1
15	18	Uplink	Low	1717.5	343500	1711.02	342204	0
			Mid	1745	349000	155.96	31192	2198
			High	1772.5	354500	1765.3	353060	1
20	24	Uplink	Low	1720	344000	1711.36	342272	0
			Mid	1745	349000	153.8	30760	2198
			High	1770	354000	1760.64	352128	1
40	51	Uplink	Low	1730	346000	1711.64	342328	0
			Mid	1745	349000	144.08	28816	2198
			High	1760	352000	1740.92	348184	1

4.3.1.1.2 NR inter-band CA configurations in FR1

4.3.1.1.2.1 NR inter-band CA configurations in FR1 (two bands)

Table 4.3.1.1.2.1-1: Inter-band NR CA configurations (FR1, two bands)

NR CA configuration	Uplink NR CA configuration	NR CA downlink configuration band 1	NR CA downlink configuration band 2	NR CA uplink configuration band 1	NR CA uplink configuration band 2
CA_n1A-n77A	-	n1A	n77A	-	-
CA_n1A-n78A	CA_n1A-n78A	n1A	n78A	n1A	n78A
CA_n1A-n78C	CA_n1A-n78A	n1A	CA_n78C	n1A	n78A
CA_n3A-n77A	-	n3A	n77A	-	-
CA_n3A-n78A	CA_n3A-n78A	n1A	n78A	n1A	n78A
CA_n3A-n79A	CA_n3A-n79A	n1A	n78A	n1A	n78A
CA_n8A-n75A	-	n8A	n75A	-	-
CA_n8A-n78A	CA_n8A-n78A	n1A	n78A	n1A	n78A
CA_n8A-n79A	CA_n8A-n79A	n1A	n78A	n1A	n78A
CA_n28A-n75A	-	n28A	n75A	-	-
CA_n28A-n78A	CA_n28A-n78A	n28A	n78A	n28A	n78A
CA_n29A-n66A	-	n29A	n66A (Note 1)	-	-
CA_n41A-n78A	-	n41A	n78A	-	-
CA_n66A-n70A	-	n66A	n70A	-	-
CA_n66B-n70A	-	CA_n66B	n70A	-	-
CA_n66(2A)-n70A	-	CA_n66(2A)	n70A	-	-
CA_n66A-n71A	-	n66A	n71A	-	-
CA_n66B-n71A	-	CA_n66B	n71A	-	-
CA_n66(2A)-n71A	-	CA_n66(2A)	n71A	-	-
CA_n70A-n71A	-	n70A	n71A	-	-
CA_n75A-n78A	-	n75A	n78A	-	-
CA_n76A-n78A	-	n76A	n78A	-	-

NR CA configuration	Uplink NR CA configuration	NR CA downlink configuration band 1	NR CA downlink configuration band 2	NR CA uplink configuration band 1	NR CA uplink configuration band 2
CA_n77A-n79A	-	n77A	n79A	-	-
CA_n78A-n79A	-	n78A	n79A	-	-
Note 1: This band is used as PCell.					

4.3.1.1.2.2 NR inter-band CA configurations in FR1 (three bands)

Table 4.3.1.1.2.2-1: Inter-band NR CA configurations within FR1 (three bands)

NR CA configuration	Uplink NR CA configuration	NR CA downlink configuration band 1	NR CA downlink configuration band 2	NR CA downlink configuration band 2	NR CA uplink configuration band 1	NR CA uplink configuration band 2	NR CA uplink configuration band 3
CA_n66A-n70A-n71A	-	n66A	n70A	n71A	-	-	-
CA_n66B-n70A-n71A	-	CA_n66B	n70A	n71A	-	-	-
CA_n66(2A)-n70A-n71A	-	CA_n66(2A)	n70A	n71A	-	-	-

4.3.1.1.3 NR intra-band contiguous CA in FR1

4.3.1.1.3.1 – 4.3.1.1.3.40 FFS

4.3.1.1.3.41 NR Intra-band contiguous configurations CA_n41

4.3.1.1.3.41.1 CA_n41C

Editor's note: Test frequencies for CA_n41C with mixed numerology with SCS CC1=15 kHz and SCS CC2=30 kHz or 60 kHz; and SCS CC1=30 kHz and SCS CC2= 30 kHz or 60kHz is FFS.

Table 4.3.1.1.3.41.1-1: NR Intra-Band contiguous CA configuration CA_n41C (PCC=CC1 and SCC=CC2), CC1 SCS = 30kHz, CC2 SCS = 30 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
40+80	Channel spacing CC1-CC2= 59.94 MHz (Note 1)																	
	CC1	40	30	106	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.1.1.41 for bandwidth=40 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	2575.95	515190	2536.89	507378	0	30	-	508098	-	-	-	-
						Mid	2652.93	530586	2577.15	515430	102		-	523494	-	-	-	-
						High	2729.94	545988	2509.44	501888	504		-	538896	-	-	-	-
40+100	Channel spacing CC1-CC2=69.9 MHz (Note 1)																	
	CC1	40	30	106	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.1.1.41 for bandwidth=40 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	2585.91	517182	2536.77	507354	0	30	-	508074	-	-	-	-
						Mid	2662.89	532578	2577.03	515406	102		-	523470	-	-	-	-
						High	2739.90	547980	2509.32	501864	504		-	538872	-	-	-	-
50+60	Channel spacing CC1-CC2=54.78 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	60	30	162	Downlink & Uplink	Low	2575.80	515160	2546.64	509328	0	30	-	510048	-	-	-	-
						Mid	2647.77	529554	2581.89	516378	102		-	524442	-	-	-	-
						High	2719.77	543954	2509.17	501834	504		-	538842	-	-	-	-
50+80	Channel spacing CC1-CC2=64.86 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	2585.88	517176	2546.82	509364	0	30	-	510084	-	-	-	-
						Mid	2657.85	531570	2582.07	516414	102		-	524478	-	-	-	-
						High	2729.85	545970	2509.35	501870	504		-	538878	-	-	-	-
50+100	Channel spacing CC1-CC2=74.76 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink &	Low	2595.78	519156	2546.64	509328	0	30	-	510048	-	-	-	-
						Mid	2667.75	533550	2581.89	516378	102		-	524442	-	-	-	-

					Uplink	High	2739.75	547950	2509.17	501834	504		-	538842	-	-	-	-
60+50	Channel spacing CC1-CC2=54.78 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	50	30	133	Downlink & Uplink	Low	2580.78	516156	2556.84	511368	0	30	-	512088	-	-	-	-
						Mid	2647.77	529554	2587.11	517422	102		-	525486	-	-	-	-
						High	2714.76	542952	2509.38	501876	504		-	538884	-	-	-	-
60+60	Channel spacing CC1-CC2=60 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	60	30	162	Downlink & Uplink	Low	2586.00	517200	2556.84	511368	0	30	-	512088	-	-	-	-
						Mid	2652.99	530598	2587.11	517422	102		-	525486	-	-	-	-
						High	2719.98	543996	2509.38	501876	504		-	538884	-	-	-	-
60+80	Channel spacing CC1-CC2=69.9 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	2595.90	519180	2556.84	511368	0	30	-	512088	-	-	-	-
						Mid	2662.89	532578	2587.11	517422	102		-	525486	-	-	-	-
						High	2729.88	545976	2509.38	501876	504		-	538884	-	-	-	-
60+100	Channel spacing CC1-CC2=79.98 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	2605.98	521196	2556.84	511368	0	30	-	512088	-	-	-	-
						Mid	2672.97	534594	2587.11	517422	102		-	525486	-	-	-	-
						High	2739.96	547992	2509.38	501876	504		-	538884	-	-	-	-
80+40	Channel spacing CC1-CC2=59.94 MHz (Note 1)																	
	CC1	80	30	217	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=80 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	40	30	106	Downlink & Uplink	Low	2595.96	519192	2576.88	515376	0	30	-	516096	-	-	-	-
						Mid	2652.93	530586	2597.13	519426	102		-	527490	-	-	-	-
						High	2709.93	541986	2509.41	501882	504		-	538890	-	-	-	-
80+50	Channel spacing CC1-CC2=64.86 MHz (Note 1)																	
	CC1	80	30	217	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=80 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	50	30	133	Downlink	Low	2600.88	520176	2576.94	515388	0	30	-	516108	-	-	-	-

					&	Mid	2657.85	531570	2597.19	519438	102		-	527502	-	-	-	-
					Uplink	High	2714.85	542970	2509.47	501894	504		-	538902	-	-	-	-
80+60	Channel spacing CC1-CC2=69.9 MHz (Note 1)																	
	CC1	80	30	217	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=80 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	60	30	162	Downlink	Low	2605.92	521184	2576.76	515352	0	30	-	516072	-	-	-	-
					&	Mid	2662.89	532578	2597.01	519402	102		-	527466	-	-	-	-
					Uplink	High	2719.89	543978	2509.29	501858	504		-	538866	-	-	-	-
80+80	Channel spacing CC1-CC2=79.98 MHz (Note 1)																	
	CC1	80	30	217	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=80 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	80	30	217	Downlink	Low	2616.00	523200	2576.94	515388	0	30	-	516108	-	-	-	-
					&	Mid	2672.97	534594	2597.19	519438	102		-	527502	-	-	-	-
					Uplink	High	2729.97	545994	2509.47	501894	504		-	538902	-	-	-	-
80+100	Channel spacing CC1-CC2=89.88 MHz (Note 1)																	
	CC1	80	30	217	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=80 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	100	30	273	Downlink	Low	2625.90	525180	2576.76	515352	0	30	-	516072	-	-	-	-
					&	Mid	2682.87	536574	2597.01	519402	102		-	527466	-	-	-	-
					Uplink	High	2739.87	547974	2509.29	501858	504		-	538866	-	-	-	-
100+40	Channel spacing CC1-CC2=69.9 MHz (Note 1)																	
	CC1	100	30	273	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=100 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	40	30	106	Downlink	Low	2615.91	523182	2596.83	519366	0	30	-	520086	-	-	-	-
					&	Mid	2662.89	532578	2607.09	521418	102		-	529482	-	-	-	-
					Uplink	High	2709.90	541980	2509.38	501876	504		-	538884	-	-	-	-
100+50	Channel spacing CC1-CC2=74.76 MHz (Note 1)																	
	CC1	100	30	273	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=100 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	50	30	133	Downlink	Low	2620.77	524154	2596.83	519366	0	30	-	520086	-	-	-	-
					&	Mid	2667.75	533550	2607.09	521418	102		-	529482	-	-	-	-
					Uplink	High	2714.76	542952	2509.38	501876	504		-	538884	-	-	-	-
100+60	Channel spacing CC1-CC2=79.98 MHz (Note 1)																	
	CC1	100	30	273	Downlink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=100 MHz and SCS=30 kHz.											
					&	Mid												
					Uplink	Low												

	CC2	60	30	162	Downlink & Uplink	Low	2625.99	525198	2596.83	519366	0	30	-	520086	-	-	-	-
						Mid	2672.97	534594	2607.09	521418	102		-	529482	-	-	-	-
						High	2719.98	543996	2509.38	501876	504		-	538884	-	-	-	-
100+80	Channel spacing CC1-CC2=89.88 MHz (Note 1)																	
	CC1	100	30	273	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.41 for bandwidth=100 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	2635.89	527178	2596.83	519366	0	30	-	520086	-	-	-	-
						Mid	2682.87	536574	2607.09	521418	102		-	529482	-	-	-	-
						High	2729.88	545976	2509.38	501876	504		-	538884	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

4.3.1.1.3.42 – 4.3.1.1.3.65 FFS

4.3.1.1.3.66 NR Intra-band contiguous configurations CA_n66

4.3.1.1.3.66.1 CA_n66B

Editor's note: Test frequencies for CA_n66B with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.3.66.1-1: NR Intra-Band contiguous CA configuration CA_n66B (PCC=CC1 and SCC=CC2), SCS 15 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
5+20	Channel spacing CC1-CC2=12.29 MHz (Note 1)																	
	CC1	5	15	25	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/5 and SCS=15 kHz.											
	CC2	20	15	106	Downlink	Low	2124.8	424960	2115.26	423052	0	15	-	423412	-	-	-	-
						Mid	2157.3	431460	2129.4	425880	102		-	429912	-	-	-	-
						High	2189.8	437960	2089.54	417908	504		-	436412	-	-	-	-
					Uplink	Low	1724.8	344960	1715.26	343052	0	-	-	-	-	-	-	-
						Mid	1757.3	351460	1657.04	331408	504	-	-	-	-	-	-	-
						High	1789.8	357960	1779.18	355836	6	-	-	-	-	-	-	-
5+40	Channel spacing CC1-CC2=22.19 MHz (Note 1)																	
	CC1	5	15	25	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/5 and SCS=15 kHz.											
	CC2	40	15	216	Downlink	Low	2134.7	426940	2115.26	423052	0	15	-	423412	-	-	-	-
						Mid	2167.2	433440	2129.4	425880	102		-	429912	-	-	-	-
						High	2199.7	439940	2089.54	417908	504		-	436412	-	-	-	-
					Uplink	Low	1734.7	346940	1715.26	343052	0	-	-	-	-	-	-	-
						Mid	1767.2	353440	1657.04	331408	504	-	-	-	-	-	-	-
						High	1799.7	359940	1779.18	355836	6	-	-	-	-	-	-	-
10+15	Channel spacing CC1-CC2=12.43 MHz (Note 1)																	
	CC1	10	15	52	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=15 kHz.											
	CC2	15	15	79	Downlink	Low	2127.4	425480	2120.29	424058	0	15	-	424418	-	-	-	-
						Mid	2157.4	431480	2131.93	426386	102		-	430418	-	-	-	-
						High	2187.4	437480	2089.57	417914	504		-	436418	-	-	-	-
					Uplink	Low	1727.4	345480	1720.29	344058	0	-	-	-	-	-	-	-
						Mid	1757.4	351480	1659.57	331914	504	-	-	-	-	-	-	-
						High	1787.4	357480	1779.21	355842	6	-	-	-	-	-	-	-
10+20	Channel spacing CC1-CC2=14.86 MHz (Note 1)																	
	CC1	10	15	52	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=15 kHz.											

	CC2	20	15	106	Downlink	Low	2129.9	425980	2120.36	424072	0	15	-	424432	-	-	-	-
						Mid	2159.9	431980	2132	426400	102		-	430432	-	-	-	-
						High	2189.9	437980	2089.64	417928	504		-	436432	-	-	-	-
					Uplink	Low	1729.9	345980	1720.36	344072	0	-	-	-	-	-	-	-
						Mid	1759.9	351980	1659.64	331928	504	-	-	-	-	-	-	-
						High	1789.9	357980	1779.28	355856	6	-	-	-	-	-	-	-
10+40	Channel spacing CC1-CC2=24.76 MHz (Note 1)																	
	CC1	10	15	52	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=15 kHz.											
	CC2	40	15	216	Downlink	Low	2139.8	427960	2120.36	424072	0	15	-	424432	-	-	-	-
						Mid	2169.8	433960	2132	426400	102		-	430432	-	-	-	-
						High	2199.8	439960	2089.64	417928	504		-	436432	-	-	-	-
					Uplink	Low	1739.8	347960	1720.36	344072	0	-	-	-	-	-	-	-
						Mid	1769.8	353960	1659.64	331928	504	-	-	-	-	-	-	-
						High	1799.8	359960	1779.28	355856	6	-	-	-	-	-	-	-
15+10	Channel spacing CC1-CC2=12.43 MHz (Note 1)																	
	CC1	15	15	79	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=15 kHz.											
	CC2	10	15	52	Downlink	Low	2129.9	425980	2125.22	425044	0	15	-	425404	-	-	-	-
						Mid	2157.4	431480	2134.36	426872	102		-	430904	-	-	-	-
						High	2184.9	436980	2089.5	417900	504		-	436404	-	-	-	-
					Uplink	Low	1729.9	345980	1725.22	345044	0	-	-	-	-	-	-	-
						Mid	1757.4	351480	1662	332400	504	-	-	-	-	-	-	-
						High	1784.9	356980	1779.14	355828	6	-	-	-	-	-	-	-
15+15	Channel spacing CC1-CC2=15 MHz (Note 1)																	
	CC1	15	15	79	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=15 kHz.											
	CC2	15	15	79	Downlink	Low	2132.5	426500	2125.39	425078	0	15	-	425438	-	-	-	-
						Mid	2160	432000	2134.53	426906	102		-	430938	-	-	-	-
						High	2187.5	437500	2089.67	417934	504		-	436438	-	-	-	-
					Uplink	Low	1732.5	346500	1725.39	345078	0	-	-	-	-	-	-	-
						Mid	1760	352000	1662.17	332434	504	-	-	-	-	-	-	-
						High	1787.5	357500	1779.31	355862	6	-	-	-	-	-	-	-
15+20	Channel spacing CC1-CC2=17.43 MHz (Note 1)																	
	CC1	15	15	79	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=15 kHz.											
	CC2	20	15	106	Downlink	Low	2134.9	426980	2125.36	425072	0	15	-	425432	-	-	-	-
						Mid	2162.4	432480	2134.5	426900	102		-	430932	-	-	-	-

						High	2189.9	437980	2089.64	417928	504		-	436432	-	-	-	-
					Uplink	Low	1734.9	346980	1725.36	345072	0	-	-	-	-	-	-	-
						Mid	1762.4	352480	1662.14	332428	504	-	-	-	-	-	-	-
						High	1789.9	357980	1779.28	355856	6	-	-	-	-	-	-	-
20+5	Channel spacing CC1-CC2=12.29 MHz (Note 1)																	
	CC1	20	15	106	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth under test and SCS=15 kHz.											
	CC2	5	15	25	Downlink	Low	2132.3	426460	2130.05	426010	0	15	-	426370	-	-	-	-
						Mid	2157.3	431460	2136.69	427338	102		-	431370	-	-	-	-
						High	2182.3	436460	2089.33	417866	504		-	436370	-	-	-	-
					Uplink	Low	1732.3	346460	1730.05	346010	0	-	-	-	-	-	-	-
						Mid	1757.3	351460	1664.33	332866	504	-	-	-	-	-	-	-
						High	1782.3	356460	1778.97	355794	6	-	-	-	-	-	-	-
20+10	Channel spacing CC1-CC2=14.86 MHz (Note 1)																	
	CC1	20	15	106	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/20, 10/10 or 20/20 depending on required UL bandwidth under test and SCS=15 kHz.											
	CC2	10	15	52	Downlink	Low	2134.9	426980	2130.22	426044	0	15	-	426404	-	-	-	-
						Mid	2159.9	431980	2136.86	427372	102		-	431404	-	-	-	-
						High	2184.9	436980	2089.5	417900	504		-	436404	-	-	-	-
					Uplink	Low	1734.9	346980	1730.22	346044	0	-	-	-	-	-	-	-
						Mid	1759.9	351980	1664.5	332900	504	-	-	-	-	-	-	-
						High	1784.9	356980	1779.14	355828	6	-	-	-	-	-	-	-
20+15	Channel spacing CC1-CC2=17.43 MHz (Note 1)																	
	CC1	20	15	106	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/20, 10/10 or 5/20 depending on required UL bandwidth under test and SCS=15 kHz.											
	CC2	15	15	79	Downlink	Low	2137.4	427480	2130.29	426058	0	15	-	426418	-	-	-	-
						Mid	2162.4	432480	2136.93	427386	102		-	431418	-	-	-	-
						High	2187.4	437480	2089.57	417914	504		-	436418	-	-	-	-
					Uplink	Low	1737.4	347480	1730.29	346058	0	-	-	-	-	-	-	-
						Mid	1762.4	352480	1664.57	332914	504	-	-	-	-	-	-	-
						High	1787.4	357480	1779.21	355842	6	-	-	-	-	-	-	-
40+5	Channel spacing CC1-CC2=22.19 MHz (Note 1)																	
	CC1	40	15	216	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth and SCS=15 kHz.											
	CC2	5	15	25	Downlink	Low	2152.2	430440	2149.95	429990	0	15	-	430350	-	-	-	-
						Mid	2167.2	433440	2146.59	429318	102		-	433350	-	-	-	-
						High	2182.2	436440	2089.23	417846	504		-	436350	-	-	-	-
					Uplink	Low	1752.2	350440	1749.95	349990	0	-	-	-	-	-	-	-

						Mid	1767.2	353440	1674.23	334846	504	-	-	-	-	-	-	-
						High	1782.2	356440	1778.87	355774	6	-	-	-	-	-	-	-
40+10	Channel spacing CC1-CC2=24.76 MHz (Note 1)																	
	CC1	40	15	216	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth and SCS=15 kHz.											
	CC2	10	15	52	Downlink	Low	2154.8	430960	2150.12	430024	0	15	-	430384	-	-	-	-
						Mid	2169.8	433960	2146.76	429352	102		-	433384	-	-	-	-
						High	2184.8	436960	2089.4	417880	504		-	436384	-	-	-	-
					Uplink	Low	1754.8	350960	1750.12	350024	0	-	-	-	-	-	-	-
						Mid	1769.8	353960	1674.4	334880	504	-	-	-	-	-	-	-
						High	1784.8	356960	1779.04	355808	6	-	-	-	-	-	-	-
Note 1:	Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																	

Table 4.3.1.1.3.66.1-2: NR Intra-Band contiguous CA configuration CA_n66B (PCC=CC1 and SCC=CC2), SCS 30 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
10+15	Channel spacing CC1-CC2=12.48 MHz (Note 1)																	
	CC1	10	30	24	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=30 kHz.											
	CC2	15	30	38	Downlink	Low	2127.5	425500	2120.66	424132	0	15	-	424492	-	-	-	-
						Mid	2157.5	431500	2113.94	422788	102		-	430492	-	-	-	-
						High	2187.5	437500	1999.22	399844	504		-	436492	-	-	-	-
					Uplink	Low	1727.5	345500	1720.66	344132	0	-	-	-	-	-	-	-
						Mid	1757.5	351500	1569.22	313844	504	-	-	-	-	-	-	-
						High	1787.5	357500	1778.5	355700	6	-	-	-	-	-	-	-
10+20	Channel spacing CC1-CC2=14.86 MHz (Note 1)																	
	CC1	10	30	24	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=30kHz.											
	CC2	20	30	51	Downlink	Low	2129.9	425980	2120.72	424144	0	15	-	424504	-	-	-	-
						Mid	2159.9	431980	2114	422800	102		-	430504	-	-	-	-
						High	2189.9	437980	1999.28	399856	504		-	436504	-	-	-	-
					Uplink	Low	1729.9	345980	1720.72	344144	0	-	-	-	-	-	-	-
						Mid	1759.9	351980	1569.28	313856	504	-	-	-	-	-	-	-
						High	1789.9	357980	1778.56	355712	6	-	-	-	-	-	-	-
10+40	Channel spacing CC1-CC2=24.76 MHz (Note 1)																	
	CC1	10	30	106	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 and SCS=30 kHz.											
	CC2	40	30	106	Downlink	Low	2139.8	427960	2120.72	424144	0	15	-	424504	-	-	-	-
						Mid	2169.8	433960	2114	422800	102		-	430504	-	-	-	-
						High	2199.8	439960	1999.28	399856	504		-	436504	-	-	-	-
					Uplink	Low	1739.8	347960	1720.72	344144	0	-	-	-	-	-	-	-
						Mid	1769.8	353960	1569.28	313856	504	-	-	-	-	-	-	-
						High	1799.8	359960	1778.56	355712	6	-	-	-	-	-	-	-
15+10	Channel spacing CC1-CC2=12.48 MHz (Note 1)																	
	CC1	15	30	38	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=30 kHz.											

	CC2	10	30	24	Downlink	Low	2130	426000	2125.68	425136	0	15	-	425496	-	-	-	-
						Mid	2157.5	431500	2116.46	423292	102		-	430996	-	-	-	-
						High	2185	437000	1999.24	399848	504		-	436496	-	-	-	-
					Uplink	Low	1730	346000	1725.68	345136	0	-	-	-	-	-	-	-
						Mid	1757.5	351500	1571.74	314348	504	-	-	-	-	-	-	-
						High	1785	357000	1778.52	355704	6	-	-	-	-	-	-	-
15+15	Channel spacing CC1-CC2=15 MHz (Note 1)																	
	CC1	15	30	38	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=30 kHz.											
	CC2	15	30	38	Downlink	Low	2132.5	426500	2125.66	425132	0	15	-	425492	-	-	-	-
						Mid	2160	432000	2116.44	423288	102		-	430992	-	-	-	-
						High	2187.5	437500	1999.22	399844	504		-	436492	-	-	-	-
					Uplink	Low	1732.5	346500	1725.66	345132	0	-	-	-	-	-	-	-
						Mid	1760	352000	1571.72	314344	504	-	-	-	-	-	-	-
						High	1787.5	357500	1778.5	355700	6	-	-	-	-	-	-	-
15+20	Channel spacing CC1-CC2=17.34 MHz (Note 1)																	
	CC1	15	30	38	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 15/15 and SCS=30 kHz.											
	CC2	20	30	51	Downlink	Low	2134.8	426960	2125.62	425124	0	15	-	425484	-	-	-	-
						Mid	2162.3	432460	2116.4	423280	102		-	430984	-	-	-	-
						High	2189.8	437960	1999.18	399836	504		-	436484	-	-	-	-
					Uplink	Low	1734.8	346960	1725.62	345124	0	-	-	-	-	-	-	-
						Mid	1762.3	352460	1571.68	314336	504	-	-	-	-	-	-	-
						High	1789.8	357960	1778.46	355692	6	-	-	-	-	-	-	-
20+10	Channel spacing CC1-CC2=14.86 MHz (Note 1)																	
	CC1	20	30	51	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/20 or 20/20 depending on required UL bandwidth under test and SCS=30 kHz.											
	CC2	10	30	24	Downlink	Low	2134.9	426980	2130.58	426116	0	15	-	426476	-	-	-	-
						Mid	2159.9	431980	2118.86	423772	102		-	431476	-	-	-	-
						High	2184.9	436980	1999.14	399828	504		-	436476	-	-	-	-
					Uplink	Low	1734.9	346980	1730.58	346116	0	-	-	-	-	-	-	-
						Mid	1759.9	351980	1574.14	314828	504	-	-	-	-	-	-	-
						High	1784.9	356980	1778.42	355684	6	-	-	-	-	-	-	-
20+15	Channel spacing CC1-CC2=17.34 MHz (Note 1)																	
	CC1	20	30		Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/10 or 20/20 depending on required UL bandwidth under test and SCS=30 kHz.											
	CC2	15	30	38	Downlink	Low	2137.3	427460	2130.46	426092	0	15	-	426452	-	-	-	-
						Mid	2162.3	432460	2118.74	423748	102		-	431452	-	-	-	-

						High	2187.3	437460	1999.02	399804	504		-	436452	-	-	-	-
					Uplink	Low	1737.3	347460	1730.46	346092	0	-	-	-	-	-	-	-
						Mid	1762.3	352460	1574.02	314804	504	-	-	-	-	-	-	-
						High	1787.3	357460	1778.3	355660	6	-	-	-	-	-	-	-
40+10	Channel spacing CC1-CC2=24.76 MHz (Note 1)																	
	CC1	40	30	106	Downlink & Uplink	Low, Mid, High	Same values as for Low. Mid and High range in clause 4.3.1.1.1.66 for UL/DLBandwidth combination = 10/40, 20/40 or 40/40 depending on required UL bandwidth and SCS=30 kHz.											
	CC2	10	30	24	Downlink	Low	2154.8	430960	2150.48	430096	0	15	-	430456	-	-	-	-
						Mid	2169.8	433960	2128.76	425752	102		-	433456	-	-	-	-
						High	2184.8	436960	1999.04	399808	504		-	436456	-	-	-	-
					Uplink	Low	1754.8	350960	1750.48	350096	0	-	-	-	-	-	-	-
						Mid	1769.8	353960	1584.04	316808	504	-	-	-	-	-	-	-
						High	1784.8	356960	1778.32	355664	6	-	-	-	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

4.3.1.1.3.67 – 4.3.1.1.3.77 FFS

4.3.1.1.3.78 NR Intra-band contiguous configurations CA_n78

4.3.1.1.3.78.1 CA_n78C

Editor's note: Test frequencies for CA_n78C with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.3.78.1-1: NR Intra-Band contiguous CA configuration CA_n78C (PCC=CC1 and SCC=CC2), SCS 30 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+60	Channel spacing CC1-CC2=54.78 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	60	30	162	Downlink & Uplink	Low	3379.8	625320	3350.64	623376	0	30	-	623616	-	-	-	-
						Mid	3604.77	640318	3538.89	635926	102		-	638614	-	-	-	-
						High	3829.77	655318	3619.17	641278	504		-	653614	-	-	-	-
50+80	Channel spacing CC1-CC2=64.86 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	3389.88	625992	3350.82	623388	0	30	-	623628	-	-	-	-
						Mid	3614.85	640990	3539.07	635938	102		-	638626	-	-	-	-
						High	3839.85	655990	3619.35	641290	504		-	653626	-	-	-	-
50+100	Channel spacing CC1-CC2=74.76 MHz (Note 1)																	
	CC1	50	30	133	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=50 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	3399.78	626652	3350.64	623376	0	30	-	623616	-	-	-	-
						Mid	3624.75	641650	3538.89	635926	102		-	638614	-	-	-	-
						High	3849.75	656650	3619.17	641278	504		-	653614	-	-	-	-
60+60	Channel spacing CC1-CC2=60 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	60	30	162	Downlink & Uplink	Low	3390	626000	3360.84	624056	0	30	-	624296	-	-	-	-
						Mid	3609.99	640666	3544.11	636274	102		-	638962	-	-	-	-
						High	3829.98	655332	3619.38	641292	504		-	653628	-	-	-	-
60+80	Channel spacing CC1-CC2=69.9 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink &	Low	3399.9	626660	3360.84	624056	0	30	-	624296	-	-	-	-
						Mid	3619.89	641326	3544.11	636274	102		-	638962	-	-	-	-

					Uplink	High	3839.88	655992	3619.38	641292	504		-	653628	-	-	-	-
60+100	Channel spacing CC1-CC2=79.98 MHz (Note 1)																	
	CC1	60	30	162	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=60 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	3409.98	627332	3360.84	624056	0	30	-	624296	-	-	-	-
						Mid	3629.97	641998	3544.11	636274	102		-	638962	-	-	-	-
						High	3849.96	656664	3619.38	641292	504		-	653628	-	-	-	-
80+80	Channel spacing CC1-CC2=79.98 MHz (Note 1)																	
	CC1	80	30	217	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=80 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	80	30	217	Downlink & Uplink	Low	3420	628000	3380.94	625396	0	30	-	625636	-	-	-	-
						Mid	3629.97	641998	3554.19	636946	102		-	639634	-	-	-	-
						High	3839.97	655998	3619.47	641298	504		-	653634	-	-	-	-
80+100	Channel spacing CC1-CC2=89.88 MHz (Note 1)																	
	CC1	80	30	217	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=80 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	3429.9	628660	3380.76	625384	0	30	-	625624	-	-	-	-
						Mid	3639.87	642658	3554.01	636934	102		-	639622	-	-	-	-
						High	3849.87	656658	3619.29	641286	504		-	653622	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	30	273	Downlink & Uplink	Low	Same values as for Low range in clause 4.3.1.1.1.78 for bandwidth=100 MHz and SCS=30 kHz.											
						Mid												
						Low												
	CC2	100	30	273	Downlink & Uplink	Low	3449.97	629998	3400.83	626722	0	30	-	626962	-	-	-	-
						Mid	3649.95	643330	3564.09	637606	102		-	640294	-	-	-	-
						High	3849.96	656664	3619.38	641292	504		-	653628	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-1 [7], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

4.3.1.1.4 NR intra-band non-contiguous CA configurations in FR1

4.3.1.1.5 NR DC configurations in FR1

4.3.1.1.5.1 – 4.3.1.1.5.65 FFS

4.3.1.1.5.66 CA_n66(2A)

Editor's note: Test frequencies for CA_n66(2A) with mixed numerology with SCS CC1=15kHz and SCS CC2=30 kHz or 60kHz; and SCS CC1=30kHz and SCS CC2=15 kHz or 60 kHz is FFS.

Table 4.3.1.1.5.66-1: NR Intra-Band non-contiguous CA configuration CA_n66(2A), SCS=15 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	*carrier Bandwidth [PRBs]*	Range	Gap	Test frequencies and signalling parameters
CA_n66(2A); A (5MHz) - A(5-40MHz)						
5-5	CC1	5	25	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-10	CC1	5	25	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-15	CC1	5	25	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-20	CC1	5	25	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
5-40	CC1	5	25	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/5
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 5/5
CA_n66(2A); A (10MHz) - A(5-40MHz)						
10-5	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-10	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-15	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-20	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-40	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 10/10
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10

CA_n66(2A); A (15MHz) - A(5-40MHz)						
15-5	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-10	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-15	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-20	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-40	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 15/15
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
CA_n66(2A); A (20MHz) - A(5-40MHz)						
20-5	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-40	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/20, 10/20 or 20/20 depending on required UL bandwidth
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
CA_n66(2A); A (40MHz) - A(5-20MHz)						
40-5	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	5	25	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-1: Low range for UL/DL Bandwidth combination = 5/40, 10/40, 20/40 or 40/40 depending on required UL bandwidth
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

Table 4.3.1.1.5.66-2: NR Intra-Band non-contiguous CA configuration CA_n66(2A), SCS=30 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	*carrier Bandwidth [PRBs]*	Range	Gap	Test frequencies and signalling parameters
CA_n66(2A); A (10MHz) - A(10-40MHz)						
10-10	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-2: High range for UL/DL Bandwidth combination = 10/10
10-15	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-20	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
10-40	CC1	10	52	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/10
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 10/10
CA_n66(2A); A (15MHz) - A(10-40MHz)						
15-10	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	10	52	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-15	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	15	79	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-20	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	20	106	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
15-40	CC1	15	79	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 15/15
	CC2	40	216	Downlink		Table 4.3.1.1.1.66-1: High range for UL/DL Bandwidth combination = 15/15
CA_n66(2A); A (20MHz) - A(10-40MHz)						
20-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	10	52	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	15	79	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	20	106	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
20-40	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/20 or 20/20 depending on required UL bandwidth
	CC2	40	216	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
CA_n66(2A); A (40MHz) - A(10-20MHz)						
40-10	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	10	52	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

40-15	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	15	79	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1
40-20	CC1	20	106	Downlink & Uplink	Max Wgap	Table 4.3.1.1.1.66-2: Low range for UL/DL Bandwidth combination = 10/40 or 20/40 depending on required UL bandwidth
	CC2	20	106	Downlink & Uplink		Table 4.3.1.1.1.66-1: High range for same UL/DL Bandwidth combination as for CC1

4.3.1.1.6 NR Operating SUL band combinations in FR1

4.3.1.2 Test frequencies for NR operating bands in FR2

4.3.1.2.1 NR operating bands in FR2

4.3.1.2.1.1 Reference test frequencies for NR operating band n257

Table 4.3.1.2.1.1-1: Test frequencies for NR operating band n257 and SCS 60 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	26533.98	2054732	26510.22	2054336	0	120	22388	2054683	11	8	1	8
			Mid	28002.78	2079212	27905.58	2077592	102		22473	2079163	11	8	1	110
			High	29472.24	2103703	29085.6	2097259	504		22558	2103643	0	8	1	512
100	132	Downlink & Uplink	Low	26557.74	2055128	26510.22	2054336	0	120	22388	2054683	11	8	1	8
			Mid	27998.4	2079139	27877.44	2077123	102		22471	2078587	0	0	0	102
			High	29449.92	2103331	29039.52	2096491	504		22555	2102779	0	0	0	504
200	264	Downlink & Uplink	Low	26605.26	2055920	26510.22	2054336	0	120	22388	2054683	11	8	1	8
			Mid	28004.94	2079248	27836.46	2076440	102		22469	2078011	11	8	1	110
			High	29393.76	2102395	28935.84	2094763	504		22549	2101051	0	0	0	504

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.1.1-2: Test frequencies for NR operating band n257 and SCS 120kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	26532.6	2054709	26509.56	2054325	0	120	22388	2054683	11	4	1	8
			Mid	28001.4	2079189	27831.48	2076357	102		22473	2079163	11	4	1	212
			High	29471.52	2103691	28722.72	2091211	504		22558	2103643	0	4	1	1016
100	66	Downlink & Uplink	Low	26557.08	2055117	26509.56	2054325	0	120	22388	2054683	11	4	1	8
			Mid	27998.4	2079139	27804	2075899	102		22471	2078587	0	0	0	204
			High	29449.92	2103331	28676.64	2090443	504		22555	2102779	0	0	0	1008
200	132	Downlink & Uplink	Low	26604.6	2055909	26509.56	2054325	0	120	22388	2054683	11	4	1	8
			Mid	28004.28	2079237	27762.36	2075205	102		22469	2078011	11	4	1	212
			High	29393.76	2102395	28572.96	2088715	504		22549	2101051	0	0	0	1008
400	264	Downlink & Uplink	Low	26700	2057499	26509.92	2054331	0	120	22388	2054683	8	4	1	8
			Mid	28001.4	2079189	27664.44	2073573	102		22463	2076283	11	0	0	204
			High	29298.72	2100811	28382.88	2085547	504		22538	2097883	0	0	0	1008
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

4.3.1.2.1.2 Reference test frequencies for NR operating band n258

Table 4.3.1.2.1.2-1: Test frequencies for NR operating band n258 and SCS 60 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	24276.06	2017100	24252.3	2016704	0	120	22257	2016955	11	0	0	0
			Mid	25877.34	2043788	25780.14	2042168	102		22350	2043739	11	8	1	110
			High	27473.52	2070391	27086.88	2063947	504		22442	2070235	0	0	0	504
100	132	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	8	0	0	0
			Mid	25872.96	2043715	25752	2041699	102		22348	2043163	0	0	0	102
			High	27445.44	2069923	27035.04	2063083	504		22439	2069371	0	0	0	504
200	264	Downlink & Uplink	Low	24358.86	2018480	24263.82	2016896	0	120	22258	2017243	11	8	1	8
			Mid	25879.5	2043824	25711.02	2041016	102		22346	2042587	11	8	1	110
			High	27389.28	2068987	26931.36	2061355	504		22433	2067643	0	0	0	504
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.2.1.2: Test frequencies for NR operating band n258 and SCS 120kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	24275.04	2017083	24252	2016699	0	120	22257	2016955	8	0	0	0
			Mid	25875.96	2043765	25706.04	2040933	102		22350	2043739	11	4	1	212
			High	27472.8	2070379	26724	2057899	504		22442	2070235	0	0	0	1008
100	66	Downlink & Uplink	Low	24300	2017499	24252.48	2016707	0	120	22257	2016955	4	0	0	0
			Mid	25872.96	2043715	25678.56	2040475	102		22348	2043163	0	0	0	204
			High	27445.44	2069923	26672.16	2057035	504		22439	2069371	0	0	0	1008
200	132	Downlink & Uplink	Low	24358.2	2018469	24263.16	2016885	0	120	22258	2017243	11	4	1	8
			Mid	25878.84	2043813	25636.92	2039781	102		22346	2042587	11	4	1	212
			High	27399.96	2069165	26579.16	2055485	504		22434	2067931	7	4	1	1016
400	264	Downlink & Uplink	Low	24453.24	2020053	24263.16	2016885	0	120	22258	2017243	11	4	1	8
			Mid	25875.96	2043765	25539	2038149	102		22340	2040859	11	0	0	204
			High	27294.24	2067403	26378.4	2052139	504		22422	2064475	0	0	0	1008
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

4.3.1.2.1.3 FFS

4.3.1.2.1.4 Reference test frequencies for NR operating band n260

Table 4.3.1.2.1.4-1: Test frequencies for NR operating band n260 and SCS 60 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	37028.7	2229644	37004.94	2229248	0	120	22995	2229499	11	0	0	0
			Mid	38498.16	2254135	38400.96	2252515	102		23080	2253979	0	0	0	102
			High	39966.96	2278615	39580.32	2272171	504		23165	2278459	0	0	0	504
100	132	Downlink & Uplink	Low	37052.46	2230040	37004.94	2229248	0	120	22995	2229499	11	0	0	0
			Mid	38498.88	2254147	38377.92	2252131	102		23079	2253691	0	8	1	110
			High	39949.98	2278332	39539.58	2271492	504		23163	2277883	7	8	1	512
200	264	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	10	0	0	0
			Mid	38500.02	2254166	38331.54	2251358	102		23076	2252827	5	0	0	102
			High	39900	2277499	39442.08	2269867	504		23157	2276155	0	0	0	504
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

Table 4.3.1.2.1.4-2: Test frequencies for NR operating band n260 and SCS 120kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	37027.32	2229621	37004.28	2229237	0	120	22995	2229499	11	0	0	0
			Mid	38497.44	2254123	38327.52	2251291	102		23080	2253979	0	0	0	204
			High	39966.24	2278603	39217.44	2266123	504		23165	2278459	0	0	0	1008
100	66	Downlink & Uplink	Low	37051.8	2230029	37004.28	2229237	0	120	22995	2229499	11	0	0	0
			Mid	38498.88	2254147	38304.48	2250907	102		23079	2253691	0	4	1	212
			High	39949.92	2278331	39176.64	2265443	504		23163	2277883	4	4	1	1016
200	132	Downlink & Uplink	Low	37100.04	2230833	37005	2229249	0	120	22995	2229499	5	0	0	0
			Mid	38499.96	2254165	38258.04	2250133	102		23076	2252827	3	0	0	204
			High	39900	2277499	39079.2	2263819	504		23157	2276155	0	0	0	1008
400	264	Downlink & Uplink	Low	37205.88	2232597	37015.8	2229429	0	120	22996	2229787	11	4	1	8
			Mid	38501.88	2254197	38164.92	2248581	102		23071	2251387	11	4	1	212
			High	39799.2	2275819	38883.36	2260555	504		23146	2272987	0	4	1	1016
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

4.3.1.2.1.5 Reference test frequencies for NR operating band n261

Table 4.3.1.2.1.5-1: Test frequencies for NR operating band n261 and SCS 60 kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	66	Downlink & Uplink	Low	27536.22	2071436	27512.46	2071040	0	120	22446	2071387	11	8	1	8
			Mid	27922.8	2077879	27825.6	2076259	102		22468	2077723	0	0	0	102
			High	28320.24	2084503	27933.6	2078059	504		22491	2084347	0	0	0	504
100	132	Downlink & Uplink	Low	27559.98	2071832	27512.46	2071040	0	120	22446	2071387	11	8	1	8
			Mid	27923.52	2077891	27802.56	2075875	102		22467	2077435	0	8	1	110
			High	28292.16	2084035	27881.76	2077195	504		22488	2083483	0	0	0	504
200	264	Downlink & Uplink	Low	27607.5	2072624	27512.46	2071040	0	120	22446	2071387	11	8	1	8
			Mid	27924.96	2077915	27756.48	2075107	102		22464	2076571	0	0	0	102
			High	28247.52	2083291	27789.6	2075659	504		22483	2082043	0	8	1	512

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-7 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 4.3.1.2.1.5-2: Test frequencies for NR operating band n261 and SCS 120kHz

Band width [MHz]	*carrier Bandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absolute FrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50	32	Downlink & Uplink	Low	27534.84	2071413	27511.8	2071029	0	120	22446	2071387	11	4	1	8
			Mid	27922.08	2077867	27752.16	2075035	102		22468	2077723	0	0	0	204
			High	28319.52	2084491	27570.72	2072011	504		22491	2084347	0	0	0	1008
100	66	Downlink & Uplink	Low	27559.32	2071821	27511.8	2071029	0	120	22446	2071387	11	4	1	8
			Mid	27923.52	2077891	27729.12	2074651	102		22467	2077435	0	4	1	212
			High	28292.16	2084035	27518.88	2071147	504		22488	2083483	0	0	0	1008
200	132	Downlink & Uplink	Low	27606.84	2072613	27511.8	2071029	0	120	22446	2071387	11	4	1	8
			Mid	27924.96	2077915	27683.04	2073883	102		22464	2076571	0	0	0	204
			High	28247.52	2083291	27426.72	2069611	504		22483	2082043	0	4	1	1016
400	264	Downlink & Uplink	Low	27701.88	2074197	27511.8	2071029	0	120	22446	2071387	11	4	1	8
			Mid	27926.52	2077941	27589.56	2072325	102		22459	2075131	11	4	1	212
			High	28140.96	2081515	27225.12	2066251	504		22471	2078587	0	0	0	1008
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.															

4.3.1.2.2 NR inter-band CA configurations in FR2

4.3.1.2.3 NR intra-band contiguous CA configurations in FR2

4.3.1.2.3.1 NR Intra-band contiguous CA configurations for CA_n257

4.3.1.2.3.1.1 CA_n257B

Editor's note: CBW=400 MHz for NR band n257 is only supported by for SCS 120kHz. Test frequencies for CA_n257B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.1.1-1: NR Intra-Band contiguous CA configuration CA_n257B (PCC=CC1 and SCC=CC2), SCS=120 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	400	120	264	Downlink & Uplink	Low	26749.56	2058325	26559.48	2055157	0	120	-	2055397	-	-	-	-
						Mid	28218.36	2082805	27881.4	2077189	102		-	2079877	-	-	-	-
						High	29688.48	2107307	28772.64	2092043	504		-	2104379	-	-	-	-
100+400	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	400	120	264	Downlink & Uplink	Low	26799.6	2059159	26609.52	2055991	0	120	-	2056231	-	-	-	-
						Mid	28240.92	2083181	27903.96	2077565	102		-	2080253	-	-	-	-
						High	29692.44	2107373	28776.6	2092109	504		-	2104445	-	-	-	-
200+400	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	400	120	264	Downlink & Uplink	Low	26899.56	2060825	26709.48	2057657	0	120	-	2057897	-	-	-	-
						Mid	28299.24	2084153	27962.28	2078537	102		-	2081225	-	-	-	-
						High	29688.72	2107311	28772.88	2092047	504		-	2104383	-	-	-	-
400+400	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	400	120	264	Downlink & Uplink	Low	27099.96	2064165	26909.88	2060997	0	120	-	2061237	-	-	-	-
						Mid	28401.36	2085855	28064.4	2080239	102		-	2082927	-	-	-	-
						High	29698.68	2107477	28782.84	2092213	504		-	2104549	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

4.3.1.2.3.1.2 CA_n257C

Editor's note: CBW=400 MHz for NR band n257 is only supported by for SCS 120kHz. Test frequencies for CA_n257C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.1.2-1: NR Intra-Band contiguous CA configuration CA_n257C (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400 +400	CC1 CC2	50 400	120	32 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.1-1 for CBW combination 50+400, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27149.52	2064991	26959.44	2061823	0	120	-	2062063	-	-	-	-
						Mid	28618.32	2089471	28281.36	2083855	102		-	2086543	-	-	-	-
						High	30088.44	2113973	29172.6	2098709	504		-	2111045	-	-	-	-
100+400 +400	CC1 CC2	100 400	120	66 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.1-1 for CBW combination 100+400, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27199.56	2065825	27009.48	2062657	0	120	-	2062897	-	-	-	-
						Mid	28640.88	2089847	28303.92	2084231	102		-	2086919	-	-	-	-
						High	30092.4	2114039	29176.56	2098775	504		-	2111111	-	-	-	-
200+400 +400	CC1 CC2	200 400	120	132 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.1-1 for CBW combination 200+400, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27299.52	2067491	27109.44	2064323	0	120	-	2064563	-	-	-	-
						Mid	28699.2	2090819	28362.24	2085203	102		-	2087891	-	-	-	-
						High	30088.68	2113977	29172.84	2098713	504		-	2111049	-	-	-	-
400+400 +400	CC1 CC2	400 400	120	264 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.1-1 for CBW combination 400+400, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	27499.92	2070831	27309.84	2067663	0	120	-	2067903	-	-	-	-
						Mid	28801.32	2092521	28464.36	2086905	102		-	2089593	-	-	-	-
						High	30098.64	2114143	29182.8	2098879	504		-	2111215	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1-CC2 and CC2-CC3 channel bandwidth combinations.																		

4.3.1.2.3.1.3 CA_n257D

Table 4.3.1.2.3.1.3-1: NR Intra-Band contiguous CA configuration CA_n257D (PCC=CC1 and SCC=CC2), SCS=60 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	200	60	264	Downlink & Uplink	Low	26655.18	2056752	26560.14	2055168	0	120	-	2055408	-	-	-	-
						Mid	28123.98	2081232	27955.5	2078424	102		-	2079888	-	-	-	-
						High	29593.44	2105723	29135.52	2098091	504		-	2104379	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	200	60	264	Downlink & Uplink	Low	26705.22	2057586	26610.18	2056002	0	120	-	2056242	-	-	-	-
						Mid	28145.88	2081597	27977.4	2078789	102		-	2080253	-	-	-	-
						High	29597.4	2105789	29139.48	2098157	504		-	2104445	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	200	60	264	Downlink & Uplink	Low	26805.18	2059252	26710.14	2057668	0	120	-	2057908	-	-	-	-
						Mid	28204.86	2082580	28036.38	2079772	102		-	2081236	-	-	-	-
						High	29593.68	2105727	29135.76	2098095	504		-	2104383	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

Table 4.3.1.2.3.1.3-2: NR Intra-Band contiguous CA configuration CA_n257D (PCC=CC1 and SCC=CC2), SCS=120 kHz

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink & Uplink	Low	26654.52	2056741	26559.48	2055157	0	120	-	2055397	-	-	-	-
						Mid	28123.32	2081221	27881.4	2077189	102		-	2079877	-	-	-	-
						High	29593.44	2105723	28772.64	2092043	504		-	2104379	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink & Uplink	Low	26704.56	2057575	26609.52	2055991	0	120	-	2056231	-	-	-	-
						Mid	28145.88	2081597	27903.96	2077565	102		-	2080253	-	-	-	-
						High	29597.4	2105789	28776.6	2092109	504		-	2104445	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink & Uplink	Low	26804.52	2059241	26709.48	2057657	0	120	-	2057897	-	-	-	-
						Mid	28204.2	2082569	27962.28	2078537	102		-	2081225	-	-	-	-
						High	29593.68	2105727	28772.88	2092047	504		-	2104383	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the CC1 and CC2 channel bandwidth combination.																		

4.3.1.2.3.1.4 CA_n257E

Table 4.3.1.2.3.1.4-1: NR Intra-Band contiguous CA configuration CA_n257E (PCC=CC1 and SCC=CC2), SCS=60 kHz

FFS

Table 4.3.1.2.3.1.4-2: NR Intra-Band contiguous CA configuration CA_n257E (PCC=CC1 and SCC=CC2), SCS=120 kHz

FFS

4.3.1.2.3.1.5 CA_n257F

Table 4.3.1.2.3.1.5-1: NR Intra-Band contiguous CA configuration CA_n257F (PCC=CC1 and SCC=CC2), SCS=60 kHz

FFS

Table 4.3.1.2.3.1.5-2: NR Intra-Band contiguous CA configuration CA_n257F (PCC=CC1 and SCC=CC2), SCS=120 kHz

FFS

4.3.1.2.3.1.6 CA_n257G

Table 4.3.1.2.3.1.6-1: NR Intra-Band contiguous CA configuration CA_n257G (PCC=CC1 and SCC=CC2), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	100	60	132	Downlink & Uplink	Low	26657.1	2056784	26609.58	2055992	0	120	-	2056232	-	-	-	-
						Mid	28097.76	2080795	27976.8	2078779	102		-	2080243	-	-	-	-
						High	29549.28	2104987	29138.88	2098147	504		-	2104435	-	-	-	-

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Table 4.3.1.2.3.1.6-2: NR Intra-Band contiguous CA configuration CA_n257G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	100	60	132	Downlink & Uplink	Low	26657.7	2056794	26610.18	2056002	0	120	-	2056242	-	-	-	-
						Mid	28098.36	2080805	27977.4	2078789	102		-	2080253	-	-	-	-
						High	29549.88	2104997	29139.48	2098157	504		-	2104445	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.6-3: NR Intra-Band contiguous CA configuration CA_n257G (PCC=CC1 and SCC=CC2), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100	Channel spacing CC1-CC2=99.36 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	100	120	66	Downlink & Uplink	Low	26656.44	2056773	26608.92	2055981	0	120	-	2056221	-	-	-	-
						Mid	28097.76	2080795	27903.36	2077555	102		-	2080243	-	-	-	-
						High	29549.28	2104987	28776	2092099	504		-	2104435	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.6-4: NR Intra-Band contiguous CA configuration CA_n257G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	100	120	66	Downlink & Uplink	Low	26657.04	2056783	26609.52	2055991	0	120	-	2056231	-	-	-	-
						Mid	28098.36	2080805	27903.96	2077565	102		-	2080253	-	-	-	-
						High	29549.88	2104997	28776.6	2092109	504		-	2104445	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.1.7 CA_n257H

Table 4.3.1.2.3.1.7-1: NR Intra-Band contiguous CA configuration CA_n257H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100 +100	CC1 CC2	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26756.46	2058440	26708.94	2057648	0	120	-	2057888	-	-	-	-
						Mid	28197.12	2082451	28076.16	2080435	102		-	2081899	-	-	-	-
						High	29648.64	2106643	29238.24	2099803	504		-	2106091	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.7-2: NR Intra-Band contiguous CA configuration CA_n257H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100 +100	CC1 CC2	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.6-2 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	26757.66	2058460	26710.14	2057668	0	120	-	2057908	-	-	-	-
						Mid	28198.32	2082471	28077.36	2080455	102		-	2081919	-	-	-	-
						High	29649.84	2106663	29239.44	2099823	504		-	2106111	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.7-3: NR Intra-Band contiguous CA configuration CA_n257H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100 +100	CC1 CC2	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.6-3 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.36 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26755.8	2058429	26708.28	2057637	0	120	-	2057877	-	-	-	-
						Mid	28197.12	2082451	28002.72	2079211	102		-	2081899	-	-	-	-
						High	29648.64	2106643	28875.36	2093755	504		-	2106091	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.7-4: NR Intra-Band contiguous CA configuration CA_n257H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100 +100	CC1 CC2	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.6-4 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	26757	2058449	26709.48	2057657	0	120	-	2057897	-	-	-	-
						Mid	28198.32	2082471	28003.92	2079231	102		-	2081919	-	-	-	-
						High	29649.84	2106663	28876.56	2093775	504		-	2106111	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.1.8 CA_n257I

Table 4.3.1.2.3.1.8-1: NR Intra-Band contiguous CA configuration CA_n257I (PCC=CC1 and SCC=CC2, CC3, CC4), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100	CC1 to CC3	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26855.82	2060096	26808.3	2059304	0	120	-	2059544	-	-	-	-
						Mid	28296.48	2084107	28175.52	2082091	102		-	2083555	-	-	-	-
						High	29748	2108299	29337.6	2101459	504		-	2107747	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.8-2: NR Intra-Band contiguous CA configuration CA_n257I (PCC=CC1 and SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100	CC1 to CC3	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	26857.62	2060126	26810.1	2059334	0	120	-	2059574	-	-	-	-
						Mid	28298.28	2084137	28177.32	2082121	102		-	2083585	-	-	-	-
						High	29749.8	2108329	29339.4	2101489	504		-	2107777	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.8-3: NR Intra-Band contiguous CA configuration CA_n257I (PCC=CC1 and SCC=CC2, CC3, CC4), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100	CC1 to CC3	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.7-3 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=99.36 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26855.16	2060085	26807.64	2059293	0	120	-	2059533	-	-	-	-
						Mid	28296.48	2084107	28102.08	2080867	102		-	2083555	-	-	-	-
						High	29748	2108299	28974.72	2095411	504		-	2107747	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.8-4: NR Intra-Band contiguous CA configuration CA_n257I (PCC=CC1 and SCC=CC2, CC3, CC4), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100	CC1 to CC3	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.7-4 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	26856.96	2060115	26809.44	2059323	0	120	-	2059563	-	-	-	-
						Mid	28298.28	2084137	28103.88	2080897	102		-	2083585	-	-	-	-
						High	29749.8	2108329	28976.52	2095441	504		-	2107777	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.1.9 CA_n257J

Table 4.3.1.2.3.1.9-1: NR Intra-Band contiguous CA configuration CA_n257J (PCC=CC1 and SCC=CC2, CC3, CC4, CC5), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC4	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.8-1 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	26955.18	2061752	26907.66	2060960	0	120	-	2061200	-	-	-	-
						Mid	28395.84	2085763	28274.88	2083747	102		-	2085211	-	-	-	-
						High	29847.36	2109955	29436.96	2103115	504		-	2109403	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.9-2: NR Intra-Band contiguous CA configuration CA_n257J (PCC=CC1 and SCC=CC2, CC3, CC4, CC5), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC4	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.8-2 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	26957.58	2061792	26910.06	2061000	0	120	-	2061240	-	-	-	-
						Mid	28398.24	2085803	28277.28	2083787	102		-	2085251	-	-	-	-
						High	29849.76	2109995	29439.36	2103155	504		-	2109443	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.9-3: NR Intra-Band contiguous CA configuration CA_n257J (PCC=CC1 and SCC=CC2, CC3, CC4, CC5), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC4	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.8-3 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=99.36 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26954.52	2061741	26907	2060949	0	120	-	2061189	-	-	-	-
						Mid	28395.84	2085763	28201.44	2082523	102		-	2085211	-	-	-	-
						High	29847.36	2109955	29074.08	2097067	504		-	2109403	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.9-4: NR Intra-Band contiguous CA configuration CA_n257J (PCC=CC1 and SCC=CC2, CC3, CC5), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC4	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.8-4 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	26956.92	2061781	26909.4	2060989	0	120	-	2061229	-	-	-	-
						Mid	28398.24	2085803	28203.84	2082563	102		-	2085251	-	-	-	-
						High	29849.76	2109995	29076.48	2097107	504		-	2109443	-	-	-	-

Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

4.3.1.2.3.1.10 CA_n257K

Table 4.3.1.2.3.1.10-1: NR Intra-Band contiguous CA configuration CA_n257K (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC5	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.9-1 for CBW combination 100+100+100+100+100, CC1, CC2, CC3, CC4, CC5 and SCS=60 kHz.											
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																	
	CC6	100	60	132	Downlink & Uplink	Low	27054.54	2063408	27007.02	2062616	0	120	-	2062856	-	-	-	-
						Mid	28495.2	2087419	28374.24	2085403	102		-	2086867	-	-	-	-
						High	29946.72	2111611	29536.32	2104771	504		-	2111059	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.10-2: NR Intra-Band contiguous CA configuration CA_n257K (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100	CC1 to CC5	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.9-2 for CBW combination 100+100+100+100+100, CC1, CC2, CC3, CC4, CC5 and SCS=60 kHz.											
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																	
	CC6	100	60	132	Downlink & Uplink	Low	27057.54	2063458	27010.02	2062666	0	120	-	2062906	-	-	-	-
						Mid	28498.2	2087469	28377.24	2085453	102		-	2086917	-	-	-	-
						High	29949.72	2111661	29539.32	2104821	504		-	2111109	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.10-3: NR Intra-Band contiguous CA configuration CA_n257K (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100	CC1 to CC5	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.9-3 for CBW combination 100+100+100+100+100, CC1, CC2, CC3, CC4, CC5 and SCS=120 kHz.											
	Channel spacing CC5-CC6=99.36 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27053.88	2063397	27006.36	2062605	0	120	-	2062845	-	-	-	-
						Mid	28495.2	2087419	28300.8	2084179	102		-	2086867	-	-	-	-
						High	29946.72	2111611	29173.44	2098723	504		-	2111059	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.10-4: NR Intra-Band contiguous CA configuration CA_n257K (PCC=CC1 and SCC=CC2, CC3, CC5, CC6), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100	CC1 to CC5	100	120	66	Downlink & Uplink	Low, Mid, High	Same valu, es as for Low, Mid, High range in Table 4.3.1.2.3.1.9-4 for CBW combination 100+100+100+100+100, CC1, CC2, CC3, CC4, CC5 and SCS=120 kHz.											
	Channel spacing CC5-CC6=99.96 MHz (Note 1)																	
	CC6	100	120	66	Downlink & Uplink	Low	27056.88	2063447	27009.36	2062655	0	120	-	2062895	-	-	-	-
						Mid	28498.2	2087469	28303.8	2084229	102		-	2086917	-	-	-	-
						High	29949.72	2111661	29176.44	2098773	504		-	2111109	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.1.11 CA_n257L

Table 4.3.1.2.3.1.11-1: NR Intra-Band contiguous CA configuration CA_n257L (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100	CC1 to CC6	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.10-1 for CBW combination 100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6 and SCS=60 kHz.											
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																	
	CC7	100	60	132	Downlink & Uplink	Low	27153.9	2065064	27106.38	2064272	0	120	-	2064512	-	-	-	-
						Mid	28594.56	2089075	28473.6	2087059	102		-	2088523	-	-	-	-
						High	30046.08	2113267	29635.68	2106427	504		-	2112715	-	-	-	-

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Table 4.3.1.2.3.1.11-2: NR Intra-Band contiguous CA configuration CA_n257L (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC6	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.10-2 for CBW combination 100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6 and SCS=60 kHz.											
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																	
	CC7	100	60	132	Downlink & Uplink	Low	27157.5	2065124	27109.98	2064332	0	120	-	2064572	-	-	-	-
						Mid	28598.16	2089135	28477.2	2087119	102		-	2088583	-	-	-	-
						High	30049.68	2113327	29639.28	2106487	504		-	2112775	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.11-3: NR Intra-Band contiguous CA configuration CA_n257L (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100	CC1 to CC6	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.10-3 for CBW combination 100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6 and SCS=120 kHz.											
	Channel spacing CC6-CC7=99.36 MHz (Note 1)																	
	CC7	100	120	66	Downlink & Uplink	Low	27153.24	2065053	27105.72	2064261	0	120	-	2064501	-	-	-	-
						Mid	28594.56	2089075	28400.16	2085835	102		-	2088523	-	-	-	-
						High	30046.08	2113267	29272.8	2100379	504		-	2112715	-	-	-	-
Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.11-4: NR Intra-Band contiguous CA configuration CA_n257L (PCC=CC1 and SCC=CC2, CC3, CC5, CC6, CC7), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC6	100	120	66	Downlink & Uplink	Low, Mid, High	Same valu, es as for Low, Mid, High range in Table 4.3.1.2.3.1.10-4 for CBW combination 100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6 and SCS=120 kHz.											
	Channel spacing CC6-CC7=99.96 MHz (Note 1)																	
	CC7	100	120	66	Downlink & Uplink	Low	27156.84	2065113	27109.32	2064321	0	120	-	2064561	-	-	-	-
						Mid	28598.16	2089135	28403.76	2085895	102		-	2088583	-	-	-	-
						High	30049.68	2113327	29276.4	2100439	504		-	2112775	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.1.12 CA_n257M

Table 4.3.1.2.3.1.12-1: NR Intra-Band contiguous CA configuration CA_n257M (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7, CC8), SCS=60 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC7	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.11-1 for CBW combination 100+100+100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6, CC7 and SCS=60 kHz.											
	Channel spacing CC7-CC8=99.36 MHz (Note 1)																	
	CC8	100	60	132	Downlink & Uplink	Low	27253.26	2066720	27205.74	2065928	0	120	-	2066168	-	-	-	-
						Mid	28693.92	2090731	28572.96	2088715	102		-	2090179	-	-	-	-
						High	30145.44	2114923	29735.04	2108083	504		-	2114371	-	-	-	-

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Table 4.3.1.2.3.1.12-2: NR Intra-Band contiguous CA configuration CA_n257M (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7, CC8), SCS=60 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC7	100	60	132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.11-2 for CBW combination 100+100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6 and SCS=60 kHz.											
	Channel spacing CC7-CC8=99.96 MHz (Note 1)																	
	CC8	100	60	132	Downlink & Uplink	Low	27257.46	2066790	27209.94	2065998	0	120	-	2066238	-	-	-	-
						Mid	28698.12	2090801	28577.16	2088785	102		-	2090249	-	-	-	-
						High	30149.64	2114993	29739.24	2108153	504		-	2114441	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.1.12-3: NR Intra-Band contiguous CA configuration CA_n257M (PCC=CC1 and SCC=CC2, CC3, CC4, CC5, CC6, CC7, CC8), SCS=120 kHz, adjusted channel spacing (default)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC7	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.11-3 for CBW combination 100+100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6, CC7 and SCS=120 kHz.											
	Channel spacing CC7-CC8=99.36 MHz (Note 1)																	
	CC8	100	120	66	Downlink & Uplink	Low	27252.6	2066709	27205.08	2065917	0	120	-	2066157	-	-	-	-
						Mid	28693.92	2090731	28499.52	2087491	102		-	2090179	-	-	-	-
						High	30145.44	2114923	29372.16	2102035	504		-	2114371	-	-	-	-

Note 1: The adjusted channel spacing is a multiple of subcarrier spacing applicable for both scs=60 kHz and scs=120 kHz and less than the nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.

Table 4.3.1.2.3.1.12-4: NR Intra-Band contiguous CA configuration CA_n257M (PCC=CC1 and SCC=CC2, CC3, CC5, CC6, CC7, CC8), SCS=120 kHz, nominal channel spacing (for ACLR, ACS, IBB Testing)

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+100+100+100+100+100+100+100	CC1 to CC6	100	120	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.1.11-4 for CBW combination 100+100+100+100+100+100+100, CC1, CC2, CC3, CC4, CC5, CC6, CC7 and SCS=120 kHz.											
	Channel spacing CC7-CC8=99.96 MHz (Note 1)																	
	CC7	100	120	66	Downlink & Uplink	Low	27256.8	2066779	27209.28	2065987	0	120	-	2066227	-	-	-	-
						Mid	28698.12	2090801	28503.72	2087561	102		-	2090249	-	-	-	-
						High	30149.64	2114993	29376.36	2102105	504		-	2114441	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.2 NR Intra-band contiguous CA configurations for CA_n258

4.3.1.2.3.2.1 CA_n258B

Table 4.3.1.2.3.2.1-1: void

Table 4.3.1.2.3.2.1-2: NR Intra-Band contiguous CA configuration CA_n258B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	24492	2020699	24301.92	2017531	0	120	-	2017771	-	-	-	-
						Mid	26092.92	2047381	25755.96	2041765	102		-	2044453	-	-	-	-
						High	27689.76	2073995	26773.92	2058731	504		-	2071067	-	-	-	-
100+400	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	24542.52	2021541	24352.44	2018373	0	120	-	2018613	-	-	-	-
						Mid	26115.48	2047757	25778.52	2042141	102		-	2044829	-	-	-	-
						High	27687.96	2073965	26772.12	2058701	504		-	2071037	-	-	-	-
200+400	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	24653.16	2023385	24463.08	2020217	0	120	-	2020457	-	-	-	-
						Mid	26173.8	2048729	25836.84	2043113	102		-	2045801	-	-	-	-
						High	27694.92	2074081	26779.08	2058817	504		-	2071153	-	-	-	-
400+50	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	24670.2	2023669	24647.16	2023285	0	120	-	2023525	-	-	-	-
						Mid	26092.92	2047381	25923	2044549	102		-	2047237	-	-	-	-
						High	27511.2	2071019	26762.4	2058539	504		-	2070875	-	-	-	-
400+100	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink &	Low	24695.76	2024095	24648.24	2023303	0	120	-	2023543	-	-	-	-
						Mid	26118.48	2047807	25924.08	2044567	102		-	2047255	-	-	-	-

					Uplink	High	27536.76	2071445	26763.48	2058557	504		-	2070893	-	-	-	-
400+200	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	24748.2	2024969	24653.16	2023385	0	120	-	2023625	-	-	-	-
						Mid	26170.92	2048681	25929	2044649	102		-	2047337	-	-	-	-
						High	27589.2	2072319	26768.4	2058639	504		-	2070975	-	-	-	-
400+400	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	24853.2	2026719	24663.12	2023551	0	120	-	2023791	-	-	-	-
						Mid	26275.92	2050431	25938.96	2044815	102		-	2047503	-	-	-	-
						High	27694.2	2074069	26778.36	2058805	504		-	2071141	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.2.2 CA_n258C

FFS

4.3.1.2.3.2.3 CA_n258D

Table 4.3.1.2.3.2.3-1: NR Intra-Band contiguous CA configuration CA_n258D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	200	60	264	Downlink & Uplink	Low	24397.26	2019120	24302.22	2017536	0	120	-	2017776	-	-	-	-
						Mid	25998.54	2045808	25830.06	2043000	102		-	2044464	-	-	-	-
						High	27594.72	2072411	27136.8	2064779	504		-	2071067	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	200	60	264	Downlink & Uplink	Low	24447.48	2019957	24352.44	2018373	0	120	-	2018613	-	-	-	-
						Mid	26020.44	2046173	25851.96	2043365	102		-	2044829	-	-	-	-
						High	27592.92	2072381	27135	2064749	504		-	2071037	-	-	-	-
200+50	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=60 kHz											
						Mid												
						High												
	CC2	50	60	66	Downlink & Uplink	Low	24480.06	2020500	24456.3	2020104	0	120	-	2020344	-	-	-	-
						Mid	26000.7	2045844	25903.5	2044224	102		-	2045688	-	-	-	-
						High	27510.48	2071007	27123.84	2064563	504		-	2070851	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	100	60	132	Downlink & Uplink	Low	24506.34	2020938	24458.82	2020146	0	120	-	2020386	-	-	-	-
						Mid	26026.98	2046282	25906.02	2044266	102		-	2045730	-	-	-	-
						High	27536.76	2071445	27126.36	2064605	504		-	2070893	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	60	264	Downlink &	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												

					Uplink	High											
	CC2	200	60	264	Downlink	Low	24558.78	2021812	24463.74	2020228	0	120	-	2020468	-	-	-	-
					&	Mid	26079.42	2047156	25910.94	2044348	102		-	2045812	-	-	-	-
					Uplink	High	27589.2	2072319	27131.28	2064687	504		-	2070975	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	

Table 4.3.1.2.3.2.3-2: NR Intra-Band contiguous CA configuration CA_n258D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink & Uplink	Low	24396.96	2019115	24301.92	2017531	0	120	-	2017771	-	-	-	-
						Mid	25997.88	2045797	25755.96	2041765	102		-	2044453	-	-	-	-
						High	27594.72	2072411	26773.92	2058731	504		-	2071067	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink & Uplink	Low	24447.48	2019957	24352.44	2018373	0	120	-	2018613	-	-	-	-
						Mid	26020.44	2046173	25778.52	2042141	102		-	2044829	-	-	-	-
						High	27592.92	2072381	26772.12	2058701	504		-	2071037	-	-	-	-
200+50	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	24480.12	2020501	24457.08	2020117	0	120	-	2020357	-	-	-	-
						Mid	26000.76	2045845	25830.84	2043013	102		-	2045701	-	-	-	-
						High	27521.88	2071197	26773.08	2058717	504		-	2071053	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	24505.68	2020927	24458.16	2020135	0	120	-	2020375	-	-	-	-
						Mid	26026.32	2046271	25831.92	2043031	102		-	2045719	-	-	-	-
						High	27547.44	2071623	26774.16	2058735	504		-	2071071	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	200	120	132	Downlink &	Low	24558.12	2021801	24463.08	2020217	0	120	-	2020457	-	-	-	-
						Mid	26078.76	2047145	25836.84	2043113	102		-	2045801	-	-	-	-

					Uplink	High	27599.88	2072497	26779.08	2058817	504		-	2071153	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.2.4 CA_n258E

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4.3.1.2.3.2.5 CA_n258F

FFS

4.3.1.2.3.2.6 CA_n258G

Table 4.3.1.2.3.2.6-1: NR Intra-Band contiguous CA configuration CA_n258G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPoint A (SIB1) [PRBs] Note 1
100+50	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	50	60	66	Downlink & Uplink	Low	24373.68	2018727	24349.92	2018331	0	120	-	2018571	-	-	-	-
						Mid	25946.64	2044943	25849.44	2043323	102		-	2044787	-	-	-	-
						High	27519.12	2071151	27132.48	2064707	504		-	2070995	-	-	-	-
50+100	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	24349.74	2018328	24302.22	2017536	0	120	-	2017776	-	-	-	-
						Mid	25951.02	2045016	25830.06	2043000	102		-	2044464	-	-	-	-
						High	27547.2	2071619	27136.8	2064779	504		-	2071067	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						High												
	CC2	100	60	132	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	-	2018613	-	-	-	-
						Mid	25972.92	2045381	25851.96	2043365	102		-	2044829	-	-	-	-
						High	27545.4	2071589	27135	2064749	504		-	2071037	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.2.6-2: NR Intra-Band contiguous CA configuration CA_n258G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
100+50	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	50	120	32	Downlink & Uplink	Low	24374.4	2018739	24351.36	2018355	0	120	-	2018595	-	-	-	-
						Mid	25947.36	2044955	25777.44	2042123	102		-	2044811	-	-	-	-
						High	27519.84	2071163	26771.04	2058683	504		-	2071019	-	-	-	-
50+100	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	24349.44	2018323	24301.92	2017531	0	120	-	2017771	-	-	-	-
						Mid	25950.36	2045005	25755.96	2041765	102		-	2044453	-	-	-	-
						High	27547.2	2071619	26773.92	2058731	504		-	2071067	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						High												
	CC2	100	120	66	Downlink & Uplink	Low	24399.96	2019165	24352.44	2018373	0	120	-	2018613	-	-	-	-
						Mid	25972.92	2045381	25778.52	2042141	102		-	2044829	-	-	-	-
						High	27545.4	2071589	26772.12	2058701	504		-	2071037	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.2.7 CA_n258H

Table 4.3.1.2.3.2.7-1: NR Intra-Band contiguous CA configuration CA_n258H (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	24449.7	2019994	24402.18	2019202	0	120	-	2019442	-	-	-	-
						Mid	26050.98	2046682	25930.02	2044666	102		-	2046130	-	-	-	-
						High	27647.16	2073285	27236.76	2066445	504		-	2072733	-	-	-	-
100+50 +100	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	24447.36	2019955	24399.84	2019163	0	120	-	2019403	-	-	-	-
						Mid	26020.32	2046171	25899.36	2044155	102		-	2045619	-	-	-	-
						High	27592.8	2072379	27182.4	2065539	504		-	2071827	-	-	-	-
100+100 +50	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	24473.64	2020393	24449.88	2019997	0	120	-	2020237	-	-	-	-
						Mid	26046.6	2046609	25949.4	2044989	102		-	2046453	-	-	-	-
						High	27619.08	2072817	27232.44	2066373	504		-	2072661	-	-	-	-
100+100 +100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	24499.92	2020831	24452.4	2020039	0	120	-	2020279	-	-	-	-
						Mid	26072.88	2047047	25951.92	2045031	102		-	2046495	-	-	-	-
						High	27645.36	2073255	27234.96	2066415	504		-	2072703	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.2.7-2: NR Intra-Band contiguous CA configuration CA_n258H (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	24449.4	2019989	24401.88	2019197	0	120	-	2019437	-	-	-	-
						Mid	26050.32	2046671	25855.92	2043431	102		-	2046119	-	-	-	-
						High	27647.16	2073285	26873.88	2060397	504		-	2072733	-	-	-	-
100+50 +100	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	24448.8	2019979	24401.28	2019187	0	120	-	2019427	-	-	-	-
						Mid	26021.76	2046195	25827.36	2042955	102		-	2045643	-	-	-	-
						High	27594.24	2072403	26820.96	2059515	504		-	2071851	-	-	-	-
100+100 +50	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	24474.36	2020405	24451.32	2020021	0	120	-	2020261	-	-	-	-
						Mid	26047.32	2046621	25877.4	2043789	102		-	2046477	-	-	-	-
						High	27619.8	2072829	26871	2060349	504		-	2072685	-	-	-	-
100+100 +100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.2.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	24499.92	2020831	24452.4	2020039	0	120	-	2020279	-	-	-	-
						Mid	26072.88	2047047	25878.48	2043807	102		-	2046495	-	-	-	-
						High	27645.36	2073255	26872.08	2060367	504		-	2072703	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.2.8 CA_n258I

FFS

4.3.1.2.3.2.9 CA_n258J

FFS

4.3.1.2.3.2.10 CA_n258K

FFS

4.3.1.2.3.2.11 CA_n258L

FFS

4.3.1.2.3.2.12 CA_n258M

FFS

4.3.1.2.3.3 FFS

4.3.1.2.3.4 NR Intra-band contiguous CA configurations for CA_n260

4.3.1.2.3.4.1 CA_n260B

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.4.1-1: NR Intra-Band contiguous CA configuration CA_n260B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+400	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	37244.28	2233237	37054.2	2230069	0	120	-	2230309	-	-	-	-
						Mid	38714.4	2257739	38377.44	2252123	102		-	2254811	-	-	-	-
						High	40183.2	2282219	39267.36	2266955	504		-	2279291	-	-	-	-
100+400	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	37294.32	2234071	37104.24	2230903	0	120	-	2231143	-	-	-	-
						Mid	38741.4	2258189	38404.44	2252573	102		-	2255261	-	-	-	-
						High	40192.44	2282373	39276.6	2267109	504		-	2279445	-	-	-	-
200+400	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	37395	2235749	37204.92	2232581	0	120	-	2232821	-	-	-	-
						Mid	38794.92	2259081	38457.96	2253465	102		-	2256153	-	-	-	-
						High	40194.96	2282415	39279.12	2267151	504		-	2279487	-	-	-	-
400+400	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	37605.84	2239263	37415.76	2236095	0	120	-	2236335	-	-	-	-
						Mid	38901.84	2260863	38564.88	2255247	102		-	2257935	-	-	-	-
						High	40199.16	2282485	39283.32	2267221	504		-	2279557	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.2 CA_n260C

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.4.2-1: NR Intra-Band contiguous CA configuration CA_n260C (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET #0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400 +400	CC1 CC2	50 400	120	32 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.2-1 for CBW combination 50+400, CC1, CC2 and SCS=120kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	37644.24	2239903	37454.16	2236735	0	120	-	2236975	-	-	-	-
						Mid	39114.36	2264405	38777.4	2258789	102		-	2261477	-	-	-	-
						High	40583.16	2288885	39667.32	2273621	504		-	2285957	-	-	-	-
100+400 +400	Channel spacing CC1-CC2=242.52 MHz and CC2-CC3=399.96 MHz (Note 1)																	
	CC1 CC2	100 400	120	66 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.2-1 for CBW combination 100+400, CC1, CC2 and SCS=120kHz..											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	37694.28	2240737	37504.2	2237569	0	120	-	2237809	-	-	-	-
						Mid	39141.36	2264855	38804.4	2259239	102		-	2261927	-	-	-	-
						High	40592.4	2289039	39676.56	2273775	504		-	2286111	-	-	-	-
200+400 +400	CC1 CC2	200 400	120	132 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.2-1 for CBW combination 200+400, CC1, CC2 and SCS=120kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	37794.96	2242415	37604.88	2239247	0	120	-	2239487	-	-	-	-
						Mid	39194.88	2265747	38857.92	2260131	102		-	2262819	-	-	-	-
						High	40594.92	2289081	39679.08	2273817	504		-	2286153	-	-	-	-
400+400 +400	CC1 CC2	400 400	120	264 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.2-1 for CBW combination 400+400, CC1, CC2 and SCS=120kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	38005.8	2245929	37815.72	2242761	0	120	-	2243001	-	-	-	-
						Mid	39301.8	2267529	38964.84	2261913	102		-	2264601	-	-	-	-
						High	40599.12	2289151	39683.28	2273887	504		-	2286223	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.3 CA_n260D

Table 4.3.1.2.3.4.3-1: NR Intra-Band contiguous CA configuration CA_n260D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	200	60	264	Downlink & Uplink	Low	37149.9	2231664	37054.86	2230080	0	120	-	2230320	-	-	-	-
						Mid	38619.36	2256155	38450.88	2253347	102		-	2254811	-	-	-	-
						High	40088.16	2280635	39630.24	2273003	504		-	2279291	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	200	60	264	Downlink & Uplink	Low	37199.94	2232498	37104.9	2230914	0	120	-	2231154	-	-	-	-
						Mid	38646.36	2256605	38477.88	2253797	102		-	2255261	-	-	-	-
						High	40097.46	2280790	39639.54	2273158	504		-	2279446	-	-	-	-
200+50	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	50	60	66	Downlink & Uplink	Low	37221.24	2232853	37197.48	2232457	0	120	-	2232697	-	-	-	-
						Mid	38621.22	2256186	38524.02	2254566	102		-	2256030	-	-	-	-
						High	40021.2	2279519	39634.56	2273075	504		-	2279363	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	37247.52	2233291	37200	2232499	0	120	-	2232739	-	-	-	-
						Mid	38647.5	2256624	38526.54	2254608	102		-	2256072	-	-	-	-
						High	40047.48	2279957	39637.08	2273117	504		-	2279405	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	60	264	Downlink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=60 kHz.											

					& Uplink	Mid Low											
	CC2	200	60	264	Downlink & Uplink	Low	37299.96	2234165	37204.92	2232581	0	120	-	2232821	-	-	-	-
						Mid	38699.94	2257498	38531.46	2254690	102		-	2256154	-	-	-	-
						High	40099.92	2280831	39642	2273199	504		-	2279487	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																	

Table 4.3.1.2.3.4.3-2: NR Intra-Band contiguous CA configuration CA_n260D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	37149.24	2231653	37054.2	2230069	0	120	-	2230309	-	-	-	-
						Mid	38619.36	2256155	38377.44	2252123	102		-	2254811	-	-	-	-
						High	40088.16	2280635	39267.36	2266955	504		-	2279291	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	37199.28	2232487	37104.24	2230903	0	120	-	2231143	-	-	-	-
						Mid	38646.36	2256605	38404.44	2252573	102		-	2255261	-	-	-	-
						High	40097.4	2280789	39276.6	2267109	504		-	2279445	-	-	-	-
200+50	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	37221.96	2232865	37198.92	2232481	0	120	-	2232721	-	-	-	-
						Mid	38621.88	2256197	38451.96	2253365	102		-	2256053	-	-	-	-
						High	40021.92	2279531	39273.12	2267051	504		-	2279387	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	37247.52	2233291	37200	2232499	0	120	-	2232739	-	-	-	-
						Mid	38647.44	2256623	38453.04	2253383	102		-	2256071	-	-	-	-
						High	40047.48	2279957	39274.2	2267069	504		-	2279405	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												

	CC2	200	120	132	Downlink & Uplink	Low	37299.96	2234165	37204.92	2232581	0	120	-	2232821	-	-	-	-
						Mid	38699.88	2257497	38457.96	2253465	102		-	2256153	-	-	-	-
						High	40099.92	2280831	39279.12	2267151	504		-	2279487	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.4 CA_n260E

Table 4.3.1.2.3.4.4-1: NR Intra-Band contiguous CA configuration CA_n260E (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

FFS

Table 4.3.1.2.3.4.4-2: NR Intra-Band contiguous CA configuration CA_n260E (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

FFS

4.3.1.2.3.4.5 CA_n260F

Table 4.3.1.2.3.4.5-1: NR Intra-Band contiguous CA configuration CA_n260F (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

FFS

Table 4.3.1.2.3.4.5-2: NR Intra-Band contiguous CA configuration CA_n260F (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

FFS

4.3.1.2.3.4.6 CA_n260G

Table 4.3.1.2.3.4.6-1: NR Intra-Band contiguous CA configuration CA_n260G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	37102.38	2230872	37054.86	2230080	0	120	-	2230320	-	-	-	-
						Mid	38571.84	2255363	38450.88	2253347	102		-	2254811	-	-	-	-
						High	40040.64	2279843	39630.24	2273003	504		-	2279291	-	-	-	-
100+50	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	50	60	66	Downlink & Uplink	Low	37126.14	2231268	37102.38	2230872	0	120	-	2231112	-	-	-	-
						Mid	38572.56	2255375	38475.36	2253755	102		-	2255219	-	-	-	-
						High	40023.66	2279560	39637.02	2273116	504		-	2279404	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	37152.42	2231706	37104.9	2230914	0	120	-	2231154	-	-	-	-
						Mid	38598.84	2255813	38477.88	2253797	102		-	2255261	-	-	-	-
						High	40049.94	2279998	39639.54	2273158	504		-	2279446	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.4.6-2: NR Intra-Band contiguous CA configuration CA_n260G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	37101.72	2230861	37054.2	2230069	0	120	-	2230309	-	-	-	-
						Mid	38571.84	2255363	38377.44	2252123	102		-	2254811	-	-	-	-
						High	40040.64	2279843	39267.36	2266955	504		-	2279291	-	-	-	-
100+50	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	37126.2	2231269	37103.16	2230885	0	120	-	2231125	-	-	-	-
						Mid	38573.28	2255387	38403.36	2252555	102		-	2255243	-	-	-	-
						High	40024.32	2279571	39275.52	2267091	504		-	2279427	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	37151.76	2231695	37104.24	2230903	0	120	-	2231143	-	-	-	-
						Mid	38598.84	2255813	38404.44	2252573	102		-	2255261	-	-	-	-
						High	40049.88	2279997	39276.6	2267109	504		-	2279445	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.7 CA_n260H

Table 4.3.1.2.3.4.7-1: NR Intra-Band contiguous CA configuration CA_n260H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37202.34	2232538	37154.82	2231746	0	120	-	2231986	-	-	-	-
						Mid	38671.8	2257029	38550.84	2255013	102		-	2256477	-	-	-	-
						High	40140.6	2281509	39730.2	2274669	504		-	2280957	-	-	-	-
100+100 +50	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37226.1	2232934	37202.34	2232538	0	120	-	2232778	-	-	-	-
						Mid	38672.52	2257041	38575.32	2255421	102		-	2256885	-	-	-	-
						High	40123.62	2281226	39736.98	2274782	504		-	2281070	-	-	-	-
100+100 +100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37252.38	2233372	37204.86	2232580	0	120	-	2232820	-	-	-	-
						Mid	38698.8	2257479	38577.84	2255463	102		-	2256927	-	-	-	-
						High	40149.9	2281664	39739.5	2274824	504		-	2281112	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.4.7-2: NR Intra-Band contiguous CA configuration CA_n260H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37201.68	2232527	37154.16	2231735	0	120	-	2231975	-	-	-	-
						Mid	38671.8	2257029	38477.4	2253789	102		-	2256477	-	-	-	-
						High	40140.6	2281509	39367.32	2268621	504		-	2280957	-	-	-	-
100+100 +50	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37226.16	2232935	37203.12	2232551	0	120	-	2232791	-	-	-	-
						Mid	38673.24	2257053	38503.32	2254221	102		-	2256909	-	-	-	-
						High	40124.28	2281237	39375.48	2268757	504		-	2281093	-	-	-	-
100+100 +100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37251.72	2233361	37204.2	2232569	0	120	-	2232809	-	-	-	-
						Mid	38698.8	2257479	38504.4	2254239	102		-	2256927	-	-	-	-
						High	40149.84	2281663	39376.56	2268775	504		-	2281111	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.8 CA_n260I

Table 4.3.1.2.3.4.8-1: NR Intra-Band contiguous CA configuration CA_n260I (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100+100	CC1 CC2 CC3	50 100 100	60	66 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	37302.3	2234204	37254.78	2233412	0	120	-	2233652	-	-	-	-
						Mid	38771.76	2258695	38650.8	2256679	102		-	2258143	-	-	-	-
						High	40240.56	2283175	39830.16	2276335	504		-	2282623	-	-	-	-
100+100 +100+50	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=73.68 MHz (Note 1)																	
	CC4	50	60	66	Downlink & Uplink	Low	37326.06	2234600	37302.3	2234204	0	120	-	2234444	-	-	-	-
						Mid	38772.48	2258707	38675.28	2257087	102		-	2258551	-	-	-	-
						High	40223.58	2282892	39836.94	2276448	504		-	2282736	-	-	-	-
100+100 +100+100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	37352.34	2235038	37304.82	2234246	0	120	-	2234486	-	-	-	-
						Mid	38798.76	2259145	38677.8	2257129	102		-	2258593	-	-	-	-
						High	40249.86	2283330	39839.46	2276490	504		-	2282778	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.4.8-2: NR Intra-Band contiguous CA configuration CA_n260I (PCC=CC1, SCC=CC2, CC3,CC4), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100+100	CC1 CC2 CC3	50 100 100	120	32 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	37301.64	2234193	37254.12	2233401	0	120	-	2233641	-	-	-	-
						Mid	38771.76	2258695	38577.36	2255455	102		-	2258143	-	-	-	-
						High	40240.56	2283175	39467.28	2270287	504		-	2282623	-	-	-	-
100+100 +100+50	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=74.4 MHz (Note 1)																	
	CC4	50	120	32	Downlink & Uplink	Low	37326.12	2234601	37303.08	2234217	0	120	-	2234457	-	-	-	-
						Mid	38773.2	2258719	38603.28	2255887	102		-	2258575	-	-	-	-
						High	40224.24	2282903	39475.44	2270423	504		-	2282759	-	-	-	-
100+100 +100+100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	37351.68	2235027	37304.16	2234235	0	120	-	2234475	-	-	-	-
						Mid	38798.76	2259145	38604.36	2255905	102		-	2258593	-	-	-	-
						High	40249.8	2283329	39476.52	2270441	504		-	2282777	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.9 CA_n260J

Table 4.3.1.2.3.4.9-1: NR Intra-Band contiguous CA configuration CA_n260J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
100+100 +100+100 +50	CC1 CC2 CC3 CC4	100 100 100 100	60	132 132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.8-1 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=73.68 MHz (Note 1)																	
	CC5	50	60	66	Downlink & Uplink	Low	37426.02	2236266	37402.26	2235870	0	120	-	2236110	-	-	-	-
						Mid	38872.44	2260373	38775.24	2258753	102		-	2260217	-	-	-	-
						High	40323.54	2284558	39936.9	2278114	504		-	2284402	-	-	-	-
100+100 +100+100 +100	CC1 CC2 CC3 CC4	100 100 100 100	60	132 132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.8-1 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	37452.3	2236704	37404.78	2235912	0	120	-	2236152	-	-	-	-
						Mid	38898.72	2260811	38777.76	2258795	102		-	2260259	-	-	-	-
						High	40349.82	2284996	39939.42	2278156	504		-	2284444	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.4.9-2: NR Intra-Band contiguous CA configuration CA_n260J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
100+100+100+100+50	CC1 CC2 CC3 CC4	100 100 100 100	120	66 66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.8-2 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=74.4 MHz (Note 1)																	
	CC5	50	120	32	Downlink & Uplink	Low	37426.08	2236267	37403.04	2235883	0	120	-	2236123	-	-	-	-
						Mid	38873.16	2260385	38703.24	2257553	102		-	2260241	-	-	-	-
						High	40324.2	2284569	39575.4	2272089	504		-	2284425	-	-	-	-
100+100+100+100	CC1 CC2 CC3 CC4	100 100 100 100	120	66 66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.8-2 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	37451.64	2236693	37404.12	2235901	0	120	-	2236141	-	-	-	-
						Mid	38898.72	2260811	38704.32	2257571	102		-	2260259	-	-	-	-
						High	40349.76	2284995	39576.48	2272107	504		-	2284443	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.4.10 CA_n260K

FFS

4.3.1.2.3.4.11 CA_n260L

FFS

4.3.1.2.3.4.12 CA_n260M

FFS

4.3.1.2.3.4.13 CA_n260O

Table 4.3.1.2.3.4.13-1: NR Intra-Band contiguous CA configuration CA_n260O (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
100+50	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
100+100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											

Table 4.3.1.2.3.4.13-2: NR Intra-Band contiguous CA configuration CA_n260O (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
100+50	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
100+100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											

4.3.1.2.3.4.14 CA_n260P

Table 4.3.1.2.3.4.14-1: NR Intra-Band contiguous CA configuration CA_n260P (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100+50	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37176.06	2232100	37152.3	2231704	0	120	-	2231944	-	-	-	-
						Mid	38645.52	2256591	38548.32	2254971	102		-	2256435	-	-	-	-
						High	40114.32	2281071	39727.68	2274627	504		-	2280915	-	-	-	-
50+100+100	CC1 CC2 CC3	50 100 100	60	66 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
100+50+50	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	37176.06	2232100	37152.3	2231704	0	120	-	2231944	-	-	-	-
						Mid	38622.48	2256207	38525.28	2254587	102		-	2256051	-	-	-	-
						High	40073.58	2280392	39686.94	2273948	504		-	2280236	-	-	-	-
100+50+100	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	37199.82	2232496	37152.3	2231704	0	120	-	2231944	-	-	-	-
						Mid	38646.24	2256603	38525.28	2254587	102		-	2256051	-	-	-	-
						High	40097.34	2280788	39686.94	2273948	504		-	2280236	-	-	-	-
100+100+50	CC1 CC2 CC3	100 100 50	60	132 132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 100+100+500, CC1, CC2, CC3 and SCS=60 kHz.											
100+100+100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											

Table 4.3.1.2.3.4.14-2: NR Intra-Band contiguous CA configuration CA_n260P (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +50	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37176.12	2232101	37153.08	2231717	0	120	-	2231957	-	-	-	-
						Mid	38646.24	2256603	38476.32	2253771	102		-	2256459	-	-	-	-
						High	40115.04	2281083	39366.24	2268603	504		-	2280939	-	-	-	-
50+100 +100	CC1 CC2 CC3	50 100 100	120	32 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
100+50 +50	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	37176.12	2232101	37153.08	2231717	0	120	-	2231957	-	-	-	-
						Mid	38623.2	2256219	38453.28	2253387	102		-	2256075	-	-	-	-
						High	40074.24	2280403	39325.44	2267923	504		-	2280259	-	-	-	-
100+50 +100	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	37200.6	2232509	37153.08	2231717	0	120	-	2231957	-	-	-	-
						Mid	38647.68	2256627	38453.28	2253387	102		-	2256075	-	-	-	-
						High	40098.72	2280811	39325.44	2267923	504		-	2280259	-	-	-	-
100+100 +50	CC1 CC2 CC3	100 100 50	120	66 66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 100+100+500, CC1, CC2, CC3 and SCS=120 kHz.											
100+100 +100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.4.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											

4.3.1.2.3.4.15 CA_n260Q

FFS

4.3.1.2.3.5 NR Intra-band contiguous CA configurations for CA_n261

4.3.1.2.3.5.1 CA_n261B

Editor's note: CBW=400 MHz for NR band n261 is only supported by for SCS 120kHz. Test frequencies for CA_n261B are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.5.1-1: NR Intra-Band contiguous CA configuration CA_n261B (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offsetToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400	Channel spacing CC1-CC2=216.96 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	27751.8	2075029	27561.72	2071861	0	120	-	2072101	-	-	-	-
						Mid	28139.04	2081483	27802.08	2075867	102		-	2078555	-	-	-	-
						High	28536.48	2088107	27620.64	2072843	504		-	2085179	-	-	-	-
100+400	Channel spacing CC1-CC2=242.52 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	27801.84	2075863	27611.76	2072695	0	120	-	2072935	-	-	-	-
						Mid	28166.04	2081933	27829.08	2076317	102		-	2079005	-	-	-	-
						High	28534.68	2088077	27618.84	2072813	504		-	2085149	-	-	-	-
200+400	Channel spacing CC1-CC2=294.96 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	27901.8	2077529	27711.72	2074361	0	120	-	2074601	-	-	-	-
						Mid	28219.92	2082831	27882.96	2077215	102		-	2079903	-	-	-	-
						High	28542.48	2088207	27626.64	2072943	504		-	2085279	-	-	-	-
400+400	Channel spacing CC1-CC2=399.96 MHz (Note 1)																	
	CC1	400	120	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=400 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	400	120	264	Downlink & Uplink	Low	28101.84	2080863	27911.76	2077695	0	120	-	2077935	-	-	-	-
						Mid	28326.48	2084607	27989.52	2078991	102		-	2081679	-	-	-	-
						High	28540.92	2088181	27625.08	2072917	504		-	2085253	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.2 CA_n261C

Editor's note: CBW=400 MHz for NR band n261 is only supported by for SCS 120kHz. Test frequencies for CA_n261C are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.3.5.2-1: NR Intra-Band contiguous CA configuration CA_n261C (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET #0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
50+400 +400	CC1 CC2	50 400	120	32 264	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.2-1 for CBW combination 50+400, CC1, CC2 and SCS=120kHz.											
	Channel spacing CC2-CC3=399.96 MHz (Note 1)																	
	CC3	400	120	264	Downlink & Uplink	Low	28151.76	2081695	27961.68	2078527	0	120	-	2078767	-	-	-	-
						Mid	28539	2088149	28202.04	2082533	102		-	2085221	-	-	-	-
						High	28936.44	2094773	28020.6	2079509	504		-	2091845	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.3 CA_n261D

Table 4.3.1.2.3.5.3-1: NR Intra-Band contiguous CA configuration CA_n261D (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing.

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	200	60	264	Downlink & Uplink	Low	27657.42	2073456	27562.38	2071872	0	120	-	2072112	-	-	-	-
						Mid	28044	2079899	27875.52	2077091	102		-	2078555	-	-	-	-
						High	28441.44	2086523	27983.52	2078891	504		-	2085179	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	200	60	264	Downlink & Uplink	Low	27707.46	2074290	27612.42	2072706	0	120	-	2072946	-	-	-	-
						Mid	28071	2080349	27902.52	2077541	102		-	2079005	-	-	-	-
						High	28439.64	2086493	27981.72	2078861	504		-	2085149	-	-	-	-
200+50	Channel spacing CC1-CC2=121.2 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	50	60	66	Downlink & Uplink	Low	27728.7	2074644	27704.94	2074248	0	120	-	2074488	-	-	-	-
						Mid	28046.16	2079935	27948.96	2078315	102		-	2079779	-	-	-	-
						High	28368.72	2085311	27982.08	2078867	504		-	2085155	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	60	264	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink	Low	27754.98	2075082	27707.46	2074290	0	120	-	2074530	-	-	-	-

					&	Mid	28072.44	2080373	27951.48	2078357	102		-	2079821	-	-	-	-
					Uplink	High	28395	2085749	27984.6	2078909	504		-	2085197	-	-	-	-
200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	60	264	Downlink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.4 for bandwidth=200 MHz and SCS=60 kHz.											
					&	Mid												
					Uplink	Low												
	CC2	200	60	264	Downlink	Low	27807.42	2075956	27712.38	2074372	0	120	-	2074612	-	-	-	-
					&	Mid	28124.88	2081247	27956.4	2078439	102		-	2079903	-	-	-	-
					Uplink	High	28447.44	2086623	27989.52	2078991	504		-	2085279	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.5.3-2: NR Intra-Band contiguous CA configuration CA_n261D (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing.

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+200	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	27656.76	2073445	27561.72	2071861	0	120	-	2072101	-	-	-	-
						Mid	28044	2079899	27802.08	2075867	102		-	2078555	-	-	-	-
						High	28441.44	2086523	27620.64	2072843	504		-	2085179	-	-	-	-
100+200	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	27706.8	2074279	27611.76	2072695	0	120	-	2072935	-	-	-	-
						Mid	28071	2080349	27829.08	2076317	102		-	2079005	-	-	-	-
						High	28439.64	2086493	27618.84	2072813	504		-	2085149	-	-	-	-
200+50	Channel spacing CC1-CC2=121.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	27728.76	2074645	27705.72	2074261	0	120	-	2074501	-	-	-	-
						Mid	28046.88	2079947	27876.96	2077115	102		-	2079803	-	-	-	-
						High	28369.44	2085323	27620.64	2072843	504		-	2085179	-	-	-	-
200+100	Channel spacing CC1-CC2=147.48 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	27754.32	2075071	27706.8	2074279	0	120	-	2074519	-	-	-	-
						Mid	28072.44	2080373	27878.04	2077133	102		-	2079821	-	-	-	-
						High	28395	2085749	27621.72	2072861	504		-	2085197	-	-	-	-

200+200	Channel spacing CC1-CC2=199.92 MHz (Note 1)																	
	CC1	200	120	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=200 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	200	120	132	Downlink & Uplink	Low	27806.76	2075945	27711.72	2074361	0	120	-	2074601	-	-	-	-
						Mid	28124.88	2081247	27882.96	2077215	102		-	2079903	-	-	-	-
						High	28447.44	2086623	27626.64	2072943	504		-	2085279	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.4 CA_n261E

Table 4.3.1.2.3.5.4-1: NR Intra-Band contiguous CA configuration CA_n261E (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing.

FFS

Table 4.3.1.2.3.5.4-2: NR Intra-Band contiguous CA configuration CA_n261E (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing.

FFS

4.3.1.2.3.5.5 CA_n261F

Table 4.3.1.2.3.5.5-1: NR Intra-Band contiguous CA configuration CA_n261F (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing.

FFS

Table 4.3.1.2.3.5.5-2: NR Intra-Band contiguous CA configuration CA_n261F (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing.

FFS

4.3.1.2.3.5.6 CA_n261G

Table 4.3.1.2.3.5.6-1: NR Intra-Band contiguous CA configuration CA_n261G (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	50	60	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=50 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	27609.9	2072664	27562.38	2071872	0	120	-	2072112	-	-	-	-
						Mid	27996.48	2079107	27875.52	2077091	102		-	2078555	-	-	-	-
						High	28393.92	2085731	27983.52	2078891	504		-	2085179	-	-	-	-
100+50	Channel spacing CC1-CC2=73.68 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	50	60	66	Downlink & Uplink	Low	27633.66	2073060	27609.9	2072664	0	120	-	2072904	-	-	-	-
						Mid	27997.2	2079119	27900	2077499	102		-	2078963	-	-	-	-
						High	28365.84	2085263	27979.2	2078819	504		-	2085107	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	60	132	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=60 kHz.											
						Mid												
						Low												
	CC2	100	60	132	Downlink & Uplink	Low	27659.94	2073498	27612.42	2072706	0	120	-	2072946	-	-	-	-
						Mid	28023.48	2079557	27902.52	2077541	102		-	2079005	-	-	-	-
						High	28392.12	2085701	27981.72	2078861	504		-	2085149	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.5.6-2: NR Intra-Band contiguous CA configuration CA_n261G (PCC=CC1 and SCC=CC2), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	50	120	32	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=50 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	27609.24	2072653	27561.72	2071861	0	120	-	2072101	-	-	-	-
						Mid	27996.48	2079107	27802.08	2075867	102		-	2078555	-	-	-	-
						High	28393.92	2085731	27620.64	2072843	504		-	2085179	-	-	-	-
100+50	Channel spacing CC1-CC2=74.4 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	50	120	32	Downlink & Uplink	Low	27633.72	2073061	27610.68	2072677	0	120	-	2072917	-	-	-	-
						Mid	27997.92	2079131	27828	2076299	102		-	2078987	-	-	-	-
						High	28366.56	2085275	27617.76	2072795	504		-	2085131	-	-	-	-
100+100	Channel spacing CC1-CC2=99.96 MHz (Note 1)																	
	CC1	100	120	66	Downlink & Uplink	Low	Same values as for Low, Mid, High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
						Mid												
						Low												
	CC2	100	120	66	Downlink & Uplink	Low	27659.28	2073487	27611.76	2072695	0	120	-	2072935	-	-	-	-
						Mid	28023.48	2079557	27829.08	2076317	102		-	2079005	-	-	-	-
						High	28392.12	2085701	27618.84	2072813	504		-	2085149	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.7 CA_n261H

Table 4.3.1.2.3.5.7-1: NR Intra-Band contiguous CA configuration CA_n261H (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27709.86	2074330	27662.34	2073538	0	120	-	2073778	-	-	-	-
						Mid	28096.44	2080773	27975.48	2078757	102		-	2080221	-	-	-	-
						High	28493.88	2087397	28083.48	2080557	504		-	2086845	-	-	-	-
100+100 +50	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27733.62	2074726	27709.86	2074330	0	120	-	2074570	-	-	-	-
						Mid	28097.16	2080785	27999.96	2079165	102		-	2080629	-	-	-	-
						High	28465.8	2086929	28079.16	2080485	504		-	2086773	-	-	-	-
100+100 +100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27759.9	2075164	27712.38	2074372	0	120	-	2074612	-	-	-	-
						Mid	28123.44	2081223	28002.48	2079207	102		-	2080671	-	-	-	-
						High	28492.08	2087367	28081.68	2080527	504		-	2086815	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.5.7-2: NR Intra-Band contiguous CA configuration CA_n261H (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27709.2	2074319	27661.68	2073527	0	120	-	2073767	-	-	-	-
						Mid	28096.44	2080773	27902.04	2077533	102		-	2080221	-	-	-	-
						High	28493.88	2087397	27720.6	2074509	504		-	2086845	-	-	-	-
100+100 +50	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27733.68	2074727	27710.64	2074343	0	120	-	2074583	-	-	-	-
						Mid	28097.88	2080797	27927.96	2077965	102		-	2080653	-	-	-	-
						High	28466.52	2086941	27717.72	2074461	504		-	2086797	-	-	-	-
100+100 +100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=99.96 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27759.24	2075153	27711.72	2074361	0	120	-	2074601	-	-	-	-
						Mid	28123.44	2081223	27929.04	2077983	102		-	2080671	-	-	-	-
						High	28492.08	2087367	27718.8	2074479	504		-	2086815	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.8 CA_n261I

Table 4.3.1.2.3.5.8-1: NR Intra-Band contiguous CA configuration CA_n261I (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100+100	CC1 CC2 CC3	50 100 100	60	66 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	27809.82	2075996	27762.3	2075204	0	120	-	2075444	-	-	-	-
						Mid	28196.4	2082439	28075.44	2080423	102		-	2081887	-	-	-	-
						High	28593.84	2089063	28183.44	2082223	504		-	2088511	-	-	-	-
100+100 +100+50	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=73.68 MHz (Note 1)																	
	CC4	50	60	66	Downlink & Uplink	Low	27833.58	2076392	27809.82	2075996	0	120	-	2076236	-	-	-	-
						Mid	28197.12	2082451	28099.92	2080831	102		-	2082295	-	-	-	-
						High	28565.76	2088595	28179.12	2082151	504		-	2088439	-	-	-	-
100+100 +100+100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	60	132	Downlink & Uplink	Low	27859.86	2076830	27812.34	2076038	0	120	-	2076278	-	-	-	-
						Mid	28223.4	2082889	28102.44	2080873	102		-	2082337	-	-	-	-
						High	28592.04	2089033	28181.64	2082193	504		-	2088481	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.5.8-2: NR Intra-Band contiguous CA configuration CA_n261I (PCC=CC1, SCC=CC2, CC3,CC4), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +100+100	CC1 CC2 CC3	50 100 100	120	32 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	27809.16	2075985	27761.64	2075193	0	120	-	2075433	-	-	-	-
						Mid	28196.4	2082439	28002	2079199	102		-	2081887	-	-	-	-
						High	28593.84	2089063	27820.56	2076175	504		-	2088511	-	-	-	-
100+100 +100+50	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=74.4 MHz (Note 1)																	
	CC4	50	120	32	Downlink & Uplink	Low	27833.64	2076393	27810.6	2076009	0	120	-	2076249	-	-	-	-
						Mid	28197.84	2082463	28027.92	2079631	102		-	2082319	-	-	-	-
						High	28566.48	2088607	27817.68	2076127	504		-	2088463	-	-	-	-
100+100 +100+100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
	Channel spacing CC3-CC4=99.96 MHz (Note 1)																	
	CC4	100	120	66	Downlink & Uplink	Low	27859.2	2076819	27811.68	2076027	0	120	-	2076267	-	-	-	-
						Mid	28223.4	2082889	28029	2079649	102		-	2082337	-	-	-	-
						High	28592.04	2089033	27818.76	2076145	504		-	2088481	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.9 CA_n261J

Table 4.3.1.2.3.5.9-1: NR Intra-Band contiguous CA configuration CA_n261J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=60 kHz, nominal channel spacing.

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
100+100 +100+100 +50	CC1 CC2 CC3 CC4	100 100 100 100	60	132 132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.8-1 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=73.68 MHz (Note 1)																	
	CC5	50	60	66	Downlink & Uplink	Low	27933.54	2078058	27909.78	2077662	0	120	-	2077902	-	-	-	-
						Mid	28297.08	2084117	28199.88	2082497	102		-	2083961	-	-	-	-
						High	28665.72	2090261	28279.08	2083817	504		-	2090105	-	-	-	-
100+100 +100+100 +100	CC1 CC2 CC3 CC4	100 100 100 100	60	132 132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.8-1 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=60 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	60	132	Downlink & Uplink	Low	27959.82	2078496	27912.3	2077704	0	120	-	2077944	-	-	-	-
						Mid	28323.36	2084555	28202.4	2082539	102		-	2084003	-	-	-	-
						High	28692	2090699	28281.6	2083859	504		-	2090147	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

Table 4.3.1.2.3.5.9-2: NR Intra-Band contiguous CA configuration CA_n261J (PCC=CC1, SCC=CC2, CC3, CC4), SCS=120 kHz, nominal channel spacing.

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
100+100+100+100	CC1 CC2 CC3 CC4	100 100 100 100	120	66 66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.8-2 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=73.68 MHz (Note 1)																	
	CC5	50	120	32	Downlink & Uplink	Low	27933.6	2078059	27910.56	2077675	0	120	-	2077915	-	-	-	-
						Mid	28297.8	2084129	28127.88	2081297	102		-	2083985	-	-	-	-
						High	28666.44	2090273	27917.64	2077793	504		-	2090129	-	-	-	-
100+100+100+100	CC1 CC2 CC3 CC4	100 100 100 100	120	66 66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.8-2 for CBW combination 100+100+100+100, CC1, CC2, CC3, CC4 and SCS=120 kHz.											
	Channel spacing CC4-CC5=99.96 MHz (Note 1)																	
	CC5	100	120	66	Downlink & Uplink	Low	27959.16	2078485	27911.64	2077693	0	120	-	2077933	-	-	-	-
						Mid	28323.36	2084555	28128.96	2081315	102		-	2084003	-	-	-	-
						High	28692	2090699	27918.72	2077811	504		-	2090147	-	-	-	-
Note 1: Corresponds to nominal channel spacing in accordance with TS 38.101-2 [8], clause 5.4A.1 for the channel bandwidths of the two respective NR component carriers.																		

4.3.1.2.3.5.10 CA_n261K

FFS

4.3.1.2.3.5.11 CA_n261L

FFS

4.3.1.2.3.5.12 CA_n261M

FFS

4.3.1.2.3.5.13 CA_n261O

Table 4.3.1.2.3.5.13-1: NR Intra-Band contiguous CA configuration CA_n261O (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
100+50	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
100+100	CC1 CC2	100 100	60	132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+100, CC1, CC2 and SCS=60 kHz.											

Table 4.3.1.2.3.5.13-2: NR Intra-Band contiguous CA configuration CA_n261O (PCC=CC1 and SCC=CC2), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
100+50	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
100+100	CC1 CC2	100 100	120	66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+100, CC1, CC2 and SCS=120 kHz.											

4.3.1.2.3.5.14 CA_n261P

Table 4.3.1.2.3.5.14-1: NR Intra-Band contiguous CA configuration CA_n261P (PCC=CC1 and SCC=CC2, CC3), SCS=60 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100+50	CC1 CC2	50 100	60	66 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 50+100, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27683.58	2073892	27659.82	2073496	0	120	-	2073736	-	-	-	-
						Mid	28070.16	2080335	27972.96	2078715	102		-	2080179	-	-	-	-
						High	28467.6	2086959	28080.96	2080515	504		-	2086803	-	-	-	-
50+100+100	CC1 CC2 CC3	50 100 100	60	66 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=60 kHz.											
100+50+50	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	60	66	Downlink & Uplink	Low	27683.58	2073892	27659.82	2073496	0	120	-	2073736	-	-	-	-
						Mid	28047.12	2079951	27949.92	2078331	102		-	2079795	-	-	-	-
						High	28415.76	2086095	28029.12	2079651	504		-	2085939	-	-	-	-
100+50+100	CC1 CC2	100 50	60	132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-1 for CBW combination 100+50, CC1, CC2 and SCS=60 kHz.											
	Channel spacing CC2-CC3=73.68 MHz (Note 1)																	
	CC3	100	60	132	Downlink & Uplink	Low	27707.34	2074288	27659.82	2073496	0	120	-	2073736	-	-	-	-
						Mid	28070.88	2080347	27949.92	2078331	102		-	2079795	-	-	-	-
						High	28439.52	2086491	28029.12	2079651	504		-	2085939	-	-	-	-
100+100+50	CC1 CC2 CC3	100 100 50	60	132 132 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 100+100+500, CC1, CC2, CC3 and SCS=60 kHz.											
100+100+100	CC1 CC2 CC3	100 100 100	60	132 132 132	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-1 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=60 kHz.											

Table 4.3.1.2.3.5.14-2: NR Intra-Band contiguous CA configuration CA_n261P (PCC=CC1 and SCC=CC2, CC3), SCS=120 kHz, nominal channel spacing

CBW combination	CC	CBW [MHz]	SCS [kHz]	*carrier Bandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absolute FrequencyPoint A [ARFCN]*	*offset ToCarrier [Carrier PRBs]*	SS block SCS [kHz]	GSCN	*absolute FrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET #0 Index Note 1	offset ToPointA (SIB1) [PRBs] Note 1
50+100 +50	CC1 CC2	50 100	120	32 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 50+100, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27683.64	2073893	27660.6	2073509	0	120	-	2073749	-	-	-	-
						Mid	28070.88	2080347	27900.96	2077515	102		-	2080203	-	-	-	-
						High	28468.32	2086971	27719.52	2074491	504		-	2086827	-	-	-	-
50+100 +100	CC1 CC2 CC3	50 100 100	120	32 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 50+100+100, CC1, CC2, CC3 and SCS=120 kHz.											
100+50 +50	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=49.92 MHz (Note 1)																	
	CC3	50	120	32	Downlink & Uplink	Low	27683.64	2073893	27660.6	2073509	0	120	-	2073749	-	-	-	-
						Mid	28047.84	2079963	27877.92	2077131	102		-	2079819	-	-	-	-
						High	28416.48	2086107	27667.68	2073627	504		-	2085963	-	-	-	-
100+50 +100	CC1 CC2	100 50	120	66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.6-2 for CBW combination 100+50, CC1, CC2 and SCS=120 kHz.											
	Channel spacing CC2-CC3=74.4 MHz (Note 1)																	
	CC3	100	120	66	Downlink & Uplink	Low	27708.12	2074301	27660.6	2073509	0	120	-	2073749	-	-	-	-
						Mid	28072.32	2080371	27877.92	2077131	102		-	2079819	-	-	-	-
						High	28440.96	2086515	27667.68	2073627	504		-	2085963	-	-	-	-
100+100 +50	CC1 CC2 CC3	100 100 50	120	66 66 32	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 100+100+500, CC1, CC2, CC3 and SCS=120 kHz.											
100+100 +100	CC1 CC2 CC3	100 100 100	120	66 66 66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid, High range in Table 4.3.1.2.3.5.7-2 for CBW combination 100+100+100, CC1, CC2, CC3 and SCS=120 kHz.											

4.3.1.2.3.5.15 CA_n261Q

FFS

4.3.1.2.4 NR intra-band non-contiguous CA configurations in FR2

4.3.1.2.4.1 NR Intra-band non-contiguous CA configurations for CA_n257

4.3.1.2.4.2 NR Intra-band non-contiguous CA configurations for CA_n258

4.3.1.2.4.3 FFS

4.3.1.2.4.4 NR Intra-band non-contiguous CA configurations for CA_n260

4.3.1.2.4.4.1 CA_n260(XA)

Editor's note: This clause is reserved for test frequencies for CA_n260(XA) configurations where x is >= 2, e.g. CA_n260(2A), CA_n260(3A) and CA_n260(4A)

4.3.1.2.4.4.2 CA_n260(A-I)

Editor's note: CBW=400 MHz for NR band n260 is only supported by for SCS 120kHz. Test frequencies for CA_n260(A-I) are currently limited to SCS 120kHz for all CCs. Test frequencies for mixed numerologies between CCs is FFS.

Table 4.3.1.2.4.4.2-1: NR Intra-Band non-contiguous CA configuration CA_n260(A-I), SCS=120 kHz, Max Wgap

CBW combination	CC	Bandwidth [MHz]	*carrierBandwidth [PRBs]*	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA [ARFCN]*	*offsetToCarrier [CarrierPRBs]*	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB [ARFCN]*	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
CA_n260(A-I); A (400MHz) - I (350-400MHz)																	
400, 50+100+100+100	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	50	32			Same test frequencies as for CA_n260I for High range, CBW combination 50+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	100	66														
400, 100+100+100+50	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	100	66			Same test frequencies as for CA_n260I for High range, CBW combination 100+100+100+50 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	50	32														
400, 100+100+100+100	CC1	400	264	Downlink & Uplink	Max Wgap	Same test frequencies as n260 for Low range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.											
	CC2	100	66			Same test frequencies as for CA_n260I for High range, CBW combination 100+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.											
	CC3	100	66														
	CC4	100	66														
	CC5	100	66														
CA_n260(A-I); I (350-400MHz) – A (400MHz)																	
50+100+	CC1	50	32	Downlink &	Max Wgap	Same test frequencies as CA_n260I for Low range, CBW combination 50+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-1.											
	CC2	100	66														

100+100, 400	CC3	100	66	Uplink		
	CC4	100	66			
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.
100+100+ 100+50, 400	CC1	100	66	Downlink & Uplink	Max Wgap	Same test frequencies as for CA_n260I for Low range, CBW combination 100+100+100+50 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.
	CC2	100	66			
	CC3	100	66			
	CC4	50	32			
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.
100+100+ 100+100, 400	CC1	100	66	Downlink & Uplink	Max Wgap	Same test frequencies as for CA_n260I for Low range, CBW combination 100+100+100+100 and SCS=120kHz in Table 4.3.1.2.3.4.8-2.
	CC2	100	66			
	CC3	100	66			
	CC4	100	66			
	CC5	400	264			Same test frequencies as for n260 for High range and channel bandwidth=400 MHz and SCS=120kHz in Table 4.3.1.2.1.4-2.

4.3.1.3 Test frequencies for NR band combinations between FR1 and FR2

4.3.1.3.1 NR inter-band CA configurations between FR1 and FR2

4.3.1.3.2 NR DC configurations between FR1 and FR2

4.3.1.3.2.1 NR DC configurations between FR1 and FR2 (two bands)

Table 4.3.1.3.2.1-1: NR DC configurations between FR1 and FR2 (two bands)

NR CA configuration	UL configuration	NR downlink configuration 1	NR downlink configuration 2	NR uplink configuration 1	NR uplink configuration 2
DC_n78A-n257G	DC_n78A-n257A	n78A	CA_ n257G	n78A	n257A
DC_n78A-n257H	DC_n78A-n257A	n78A	CA_ n257H	n78A	n257A
DC_n78A-n257I	DC_n78A-n257A	n78A	CA_ n257I	n78A	n257A
DC_n79A-n257G	DC_n79A-n257A	n79A	CA_ n257G	n79A	n257A
DC_n79A-n257H	DC_n79A-n257A	n79A	CA_ n257H	n79A	n257A
DC_n79A-n257I	DC_n79A-n257A	n79A	CA_ n257I	n79A	n257A

4.3.1.4 Test frequencies for EN-DC band combinations within FR1

4.3.1.4.1 Inter-band EN-DC configurations within FR1

4.3.1.4.1.1 General

For inter-band EN-DC configurations as listed in this subclause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1.1 are used.

For the EN-DC inter-band configuration that includes an EN-DC contiguous configuration (e.g. DC_2A-(n)71AA) the EN-DC contiguous configuration is listed in the NR configuration column and the test frequencies as specified in clause 4.3.1.4.2 are used.

For the secondary NR band in inter-band signalling test cases, the band selected is based on the subset of NR bands supported within the EN-DC configurations specified in Table 4.3.1.4.1.2-1 for NR FR1 and 4.3.1.5.1.2-1 for NR FR2.

4.3.1.4.1.2 Inter-band EN-DC configurations within FR1 (two bands)

Table 4.3.1.4.1.2-1: Inter-band EN-DC configurations within FR1 (two bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A_n28A	DC_1A_n28A	1A	n28A	1A	n28A
DC_1A_n40A	DC_1A_n40A	1A	n40A	1A	n40A
DC_1A_n51A	DC_1A_n51A	1A	n51A	1A	n51A
DC_1A_n77A	DC_1A_n77A	1A	n77A	1A	n77A
DC_1A_n77C	DC_1A_n77A	1A	CA_n77C	1A	n77A
DC_1A_n78A	DC_1A_n78A	1A	n78A	1A	n78A
DC_1A_n78C	DC_1A_n78A	1A	CA_n78C	1A	n78A
DC_1A_n79A	DC_1A_n79A	1A	n79A	1A	n79A
DC_1A_n79C	DC_1A_n79A	1A	CA_n79C	1A	n79A
DC_2A_n5A	DC_2A_n5A	2A	n5A	2A	n5A
DC_2A_n66A	DC_2A_n66A	2A	n66A	2A	n66A
DC_2A_n71A	DC_2A_n71A	2A	n71A	2A	n71A
DC_2A_n78A	DC_2A_n78A	2A	n78A	2A	n78A
DC_3A_n7A	DC_3A_n7A	3A	n7A	3A	n7A
DC_3A_n28A	DC_3A_n28A	3A	n28A	3A	n28A
DC_3A_n40A	DC_3A_n40A	3A	n40A	3A	n40A
DC_3A_n41A	DC_3A_n41A	3A	n41A	3A	n41A
DC_3A_n51A	DC_3A_n51A	3A	n51A	3A	n51A
DC_3A_n77A	DC_3A_n77A	3A	n77A	3A	n77A
DC_3A_n77C	DC_3A_n77A	3A	CA_n77C	3A	n77A
DC_3A_n78A	DC_3A_n78A	3A	n78A	3A	n78A
DC_3A_n78C	DC_3A_n78A	3A	CA_n78C	3A	n78A
DC_3C_n78A	DC_3A_n78A	CA_3C	n78A	3A	n78A
DC_3A_n79A	DC_3A_n79A	3A	n79A	3A	n79A
DC_3A_n79C	DC_3A_n79A	3A	CA_n79C	3A	n79A
DC_5A_n40A	DC_5A_n40A	5A	n40A	5A	n40A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_5A_n66A	DC_5A_n66A	5A	n66A	5A	n66A
DC_5A_n78A	DC_5A_n78A	5A	n78A	5A	n78A
DC_7A-7A_n78A	DC_7A_n78A	CA_7A-7A	n78A	7A	n78A
DC_7A_n28A	DC_7A_n28A	7A	n28A	7A	n28A
DC_7A_n51A	DC_7A_n51A	7A	n51A	7A	n51A
DC_7A_n78A	DC_7A_n78A	7A	n78A	7A	n78A
DC_7C_n78A	DC_7A_n78A	CA_7C	n78A	7A	n78A
DC_8A_n40A	DC_8A_n40A	8A	n40A	8A	n40A
DC_8A_n77A	DC_8A_n77A	8A	n77A	8A	n77A
DC_8A_n78A	DC_8A_n78A	8A	n78A	8A	n78A
DC_8A_n79A	DC_8A_n79A	8A	n79A	8A	n79A
DC_11A_n77A	DC_11A_n77A	11A	n77A	11A	n77A
DC_11A_n78A	DC_11A_n78A	11A	n78A	11A	n78A
DC_11A_n79A	DC_11A_n79A	11A	n79A	11A	n79A
DC_12A_n5A	DC_12A_n5A	12A	n5A	12A	n5A
DC_12A_n66A	DC_12A_n66A	12A	n66A	12A	n66A
DC_18A_n77A	DC_18A_n77A	18A	n77A	18A	n77A
DC_18A_n78A	DC_18A_n78A	18A	n78A	18A	n78A
DC_18A_n79A	DC_18A_n79A	18A	n79A	18A	n79A
DC_19A_n77A	DC_19A_n77A	19A	n77A	19A	n77A
DC_19A_n77C	DC_19A_n77A	19A	CA_n77C	19A	n77A
DC_19A_n78A	DC_19A_n78A	19A	n78A	19A	n78A
DC_19A_n78C	DC_19A_n78A	19A	CA_n78C	19A	n78A
DC_19A_n79A	DC_19A_n79A	19A	n79A	19A	n79A
DC_19A_n79C	DC_19A_n79A	19A	CA_n79C	19A	n79A
DC_20A_n8A	DC_20A_n8A	20A	n8A	20A	n8A
DC_20A_n28A	DC_20A_n28A	20A	n28A	20A	n28A
DC_20A_n51A	DC_20A_n51A	20A	n51A	20A	n51A
DC_20A_n77A	DC_20A_n77A	20A	n77A	20A	n77A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_20A_n78A	DC_20A_n78A	20A	n78A	20A	n78A
DC_21A_n77A	DC_21A_n77A	21A	n77A	21A	n77A
DC_21A_n77C	DC_21A_n77A	21A	CA_n77C	21A	n77A
DC_21A_n78A	DC_21A_n78A	21A	n78A	21A	n78A
DC_21A_n78C	DC_21A_n78A	21A	CA_n78C	21A	n78A
DC_21A_n79A	DC_21A_n79A	21A	n79A	21A	n79A
DC_21A_n79C	DC_21A_n79A	21A	CA_n79C	21A	n79A
DC_25A_n41A	DC_25A_n41A	25A	n41A	25A	n41A
DC_26A_n41A	DC_26A_n41A	26A	n41A	26A	n41A
DC_26A_n77A	DC_26A_n77A	26A	n77A	26A	n77A
DC_26A_n78A	DC_26A_n78A	26A	n78A	26A	n78A
DC_26A_n79A	DC_26A_n79A	26A	n79A	26A	n79A
DC_28A_n51A	DC_28A_n51A	28A	n51A	28A	n51A
DC_28A_n77A	DC_28A_n77A	28A	n77A	28A	n77A
DC_28A_n77C	DC_28A_n77A	28A	CA_n77C	28A	n77A
DC_28A_n78A	DC_28A_n78A	28A	n78A	28A	n78A
DC_28A_n78C	DC_28A_n78A	28A	CA_n78C	28A	n78A
DC_28A_n79A	DC_28A_n79A	28A	n79A	28A	n79A
DC_28A_n79C	DC_28A_n79A	28A	CA_n79C	28A	n79A
DC_30A_n5A	DC_30A_n5A	30A	n5A	30A	n5A
DC_30A_n66A	DC_30A_n66A	30A	n66A	30A	n66A
DC_38A_n78A		38A	n78A	-	-
DC_39A_n78A	DC_39A_n78A	39A	n78A	39A	n78A
DC_39A_n41A	DC_39A_n41A	39A	n41A	39A	n41A
DC_39A_n79A	DC_39A_n79A	39A	n79A	39A	n79A
DC_40A_n41A	DC_40A_n41A	40A	n41A	40A	n41A
DC_40A_n77A		40A	n77A	-	-
DC_41A_n77A	DC_41A_n77A	41A	n77A	41A	n77A
DC_41C_n77A	DC_41A_n77A	CA_41C	n77A	41A	n77A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_41A_n78A	DC_41A_n78A	41A	n78A	41A	n78A
DC_41C_n78A	DC_41A_n78A	CA_41C	n78A	41A	n78A
DC_41A_n79A	DC_41A_n79A	41A	n79A	41A	n79A
DC_41C_n79A	DC_41A_n79A	CA_41C	n79A	41A	n79A
DC_42A_n51A	DC_42A_n51A	42A	n51A	42A	n51A
DC_42A_n77A		42A	n77A	-	-
DC_42A_n77C		42A	CA_n77C	-	-
DC_42C_n77A		CA_42C	n77A	-	-
DC_42C_n77C		CA_42C	CA_n77C	-	-
DC_42D_n77A		CA_42D	n77A	-	-
DC_42E_n77A		CA_42E	n77A	-	-
DC_42A_n78A		42A	n78A	-	-
DC_42A_n78C		42A	CA_n78C	-	-
DC_42C_n78A		CA_42C	n78A	-	-
DC_42C_n78C		CA_42C	CA_n78C	-	-
DC_42D_n78A		CA_42D	n78A	-	-
DC_42E_n78A		CA_42E	n78A	-	-
DC_42A_n79A		42A	n79A	-	-
DC_42A_n79C		42A	CA_n79C	-	-
DC_42C_n79A		CA_42C	n79A	-	-
DC_42C_n79C		CA_42C	CA_n79C	-	-
DC_42D_n79A		CA_42D	n79A	-	-
DC_42E_n79A		CA_42E	n79A	-	-
DC_46A_n78A		46A	n78A	-	-
DC_46C_n78A		CA_46C	n78A	-	-
DC_46D_n78A		CA_46D	n78A	-	-
DC_46E_n78A		CA_46E	n78A	-	-
DC_66A_n5A	DC_66A_n5A	66A	n5A	66A	n5A
DC_66A_n71A	DC_66A_n71A	66A	n71A	66A	n71A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_66A_n78A	DC_66A_n78A	66A	n78A	66A	n78A

4.3.1.4.1.3 Inter-band EN-DC configurations within FR1 (three bands)

Table 4.3.1.4.1.3-1: Inter-band EN-DC configurations within FR1 (three bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A_n28A	DC_1A_n28A	CA_1A-3A	n28A	1A	n28A
	DC_3A_n28A	CA_1A-3A	n28A	3A	n28A
DC_1A-3A_n78A	DC_1A_n78A	CA_1A-3A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A	n78A	3A	n78A
DC_1A-3C_n78A	DC_1A_n78A	CA_1A-3C	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3C	n78A	3A	n78A
DC_1A-3A_n79A	DC_1A_n79A	CA_1A-3A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A	n79A	3A	n79A
DC_1A-19A_n78A	DC_1A_n78A	CA_1A-19A	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A	n78A	19A	n78A
DC_1A-19A_n79A	DC_1A_n79A	CA_1A-19A	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A	n79A	19A	n79A
DC_1A-21A_n78A	DC_1A_n78A	CA_1A-21A	n78A	1A	n78A
	DC_21A_n78A	CA_1A-21A	n78A	21A	n78A
DC_1A-21A_n79A	DC_1A_n79A	CA_1A-21A	n79A	1A	n79A
	DC_21A_n79A	CA_1A-21A	n79A	21A	n79A
DC_1A-21A_n79A	DC_1A_n79A	CA_1A-21A	n79A	1A	n79A
	DC_21A_n79A	CA_1A-21A	n79A	21A	n79A
DC_1A_n28A-n78A	DC_1A_n28A	1A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	1A	CA_n28A-n78A	1A	n78A
DC_1A-42A_n78A	DC_1A_n78A	CA_1A-42A	n78A	1A	n78A
DC_1A-42C_n78A	DC_1A_n78A	CA_1A-42C	n78A	1A	n78A
DC_1A-42D_n78A	DC_1A_n78A	CA_1A-42D	n78A	1A	n78A
DC_1A-42E_n78A	DC_1A_n78A	CA_1A-42E	n78A	1A	n78A
DC_1A-42A_n79A	DC_1A_n79A	CA_1A-42A	n79A	1A	n79A
DC_1A-42C_n79A	DC_1A_n79A	CA_1A-42C	n79A	1A	n79A
DC_1A-42D_n79A	DC_1A_n79A	CA_1A-42D	n79A	1A	n79A
DC_1A-42E_n79A	DC_1A_n79A	CA_1A-42E	n79A	1A	n79A
DC_1A_n78A-n79A	DC_1A_n78A	1A	CA_n78A-n79A	1A	n78A
	DC_1A_n79A	1A	CA_n78A-n79A	1A	n79A
DC_2A-66A_n71A	DC_2A_n71A	CA_2A-66A	n71A	2A	n71A
	DC_66A_n71A	CA_2A-66A	n71A	66A	n71A
DC_2A-(n)71AA	DC_2A_n71A	2A	DC_(n)71AA	2A	n71A
	DC_(n)71AA	2A	DC_(n)71AA	-	DC_(n)71AA

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_3A-19A_n78A	DC_3A_n78A	CA_3A-19A	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A	n78A	19A	n78A
DC_3A-19A_n79A	DC_3A_n79A	CA_3A-19A	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A	n79A	19A	n79A
DC_3A-21A_n78A	DC_3A_n78A	CA_3A-21A	n78A	3A	n78A
	DC_21A_n78A	CA_3A-21A	n78A	21A	n78A
DC_3A-21A_n79A	DC_3A_n79A	CA_3A-21A	n79A	3A	n79A
	DC_21A_n79A	CA_3A-21A	n79A	21A	n79A
DC_3A_n28A-n78A	DC_3A_n28A	3A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	3A	CA_n28A-n78A	3A	n78A
DC_3A-42A_n78A	DC_3A_n78A	CA_3A-42A	n78A	3A	n78A
DC_3A-42C_n78A	DC_3A_n78A	CA_3A-42C	n78A	3A	n78A
DC_3A-42D_n78A	DC_3A_n78A	CA_3A-42D	n78A	3A	n78A
DC_3A-42E_n78A	DC_3A_n78A	CA_3A-42E	n78A	3A	n78A
DC_3A-42A_n79A	DC_3A_n79A	CA_3A-42A	n79A	3A	n79A
DC_3A-42C_n79A	DC_3A_n79A	CA_3A-42C	n79A	3A	n79A
DC_3A-42D_n79A	DC_3A_n79A	CA_3A-42D	n79A	3A	n79A
DC_3A-42E_n79A	DC_3A_n79A	CA_3A-42E	n79A	3A	n79A
DC_3A_n78A-n79A	DC_3A_n78A	3A	CA_n78A-n79A	3A	n78A
	DC_3A_n79A	3A	CA_n78A-n79A	3A	n79A
DC_5A-7A_n78A	DC_5A_n78A	CA_5A-7A	n78A	5A	n78A
	DC_7A_n78A	CA_5A-7A	n78A	7A	n78A
DC_7A_n28A-n78A	DC_7A_n28A	7A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	7A	CA_n28A-n78A	7A	n78A
DC_19A-21A_n78A	DC_19A_n78A	CA_19A-21A	n78A	19A	n78A
	DC_21A_n78A	CA_19A-21A	n78A	21A	n78A
DC_19A-21A_n79A	DC_19A_n79A	CA_19A-21A	n79A	19A	n79A
	DC_21A_n79A	CA_19A-21A	n79A	21A	n79A
DC_19A-42A_n78A	DC_19A_n78A	CA_19A-42A	n78A	19A	n78A
DC_19A-42A_n79A	DC_19A_n79A	CA_19A-42A	n79A	19A	n79A
DC_19A-42C_n78A	DC_19A_n78A	CA_19A-42C	n78A	19A	n78A
DC_19A-42C_n79A	DC_19A_n79A	CA_19A-42C	n79A	19A	n79A
DC_19A_n78A-n79A	DC_19A_n78A	19A	CA_n78A-n79A	19A	n78A
	DC_19A_n79A	19A	CA_n78A-n79A	19A	n79A
DC_20A_n28A-n78A	DC_20A_n28A	20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	20A	CA_n28A-n78A	20A	n78A
DC_21A-42A_n78A	DC_21A_n78A	CA_21A-42A	n78A	21A	n78A
DC_21A-42C_n78A	DC_21A_n78A	CA_21A-42C	n78A	21A	n78A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_21A-42A_n79A	DC_21A_n79A	CA_21A-42A	n79A	21A	n79A
DC_21A-42C_n79A	DC_21A_n79A	CA_21A-42C	n79A	21A	n79A
DC_21A_n78A-n79A	DC_21A_n78A	21A	CA_n78A-n79A	21A	n78A
	DC_21A_n79A	21A	CA_n78A-n79A	21A	n79A
DC_66A_(n)71AA	DC_66A_n71A	66A	DC_(n)71AA	66A	n71A
	DC_(n)71AA	66A	DC_(n)71AA	-	DC_(n)71AA

4.3.1.4.1.4 Inter-band EN-DC configurations within FR1 (four bands)

Table 4.3.1.4.1.4-1: Inter-band EN-DC configurations within FR1 (four bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A-7A_n28A	DC_1A_n28A	CA_1A-3A-7A	n28A	1A	n28A
	DC_3A_n28A	CA_1A-3A-7A	n28A	3A	n28A
	DC_7A_n28A	CA_1A-3A-7A	n28A	7A	n28A
DC_1A-3A-7A_n78A	DC_1A_n78A	CA_1A-3A-7A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-7A	n78A	3A	n78A
	DC_7A_n78A	CA_1A-3A-7A	n78A	7A	n78A
DC_1A-3A-19A_n78A	DC_1A_n78A	CA_1A-3A-19A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-19A	n78A	3A	n78A
	DC_19A_n78A	CA_1A-3A-19A	n78A	19A	n78A
DC_1A-3A-19A_n79A	DC_1A_n79A	CA_1A-3A-19A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-19A	n79A	3A	n79A
	DC_19A_n79A	CA_1A-3A-19A	n79A	19A	n79A
DC_1A-3A-21A_n78A	DC_1A_n78A	CA_1A-3A-21A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-21A	n78A	3A	n78A
	DC_21A_n78A	CA_1A-3A-21A	n78A	21A	n78A
DC_1A-3A-21A_n79A	DC_1A_n79A	CA_1A-3A-21A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-21A	n79A	3A	n79A
	DC_21A_n79A	CA_1A-3A-21A	n79A	21A	n79A
DC_1A-3A_n28A-n78A	DC_1A_n28A	CA_1A-3A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-3A	CA_n28A-n78A	1A	n78A
	DC_3A_n28A	CA_1A-3A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_1A-3A	CA_n28A-n78A	3A	n78A
DC_1A-3A-42A_n78A	DC_1A_n78A	CA_1A-3A-42A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-42A	n78A	3A	n78A
DC_1A-3A-42C_n78A	DC_1A_n78A	CA_1A-3A-42C	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-42C	n78A	3A	n78A
DC_1A-3A-42D_n78A	DC_1A_n78A	CA_1A-3A-42D	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-42D	n78A	3A	n78A
DC_1A-3A-42A_n79A	DC_1A_n79A	CA_1A-3A-42A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-42A	n79A	3A	n79A
DC_1A-3A-42C_n79A	DC_1A_n79A	CA_1A-3A-42C	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-42C	n79A	3A	n79A
DC_1A-3A-42D_n79A	DC_1A_n79A	CA_1A-3A-42D	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-42D	n79A	3A	n79A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-7A_n28A-n78A	DC_1A_n28A	CA_1A-7A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-7A	CA_n28A-n78A	1A	n78A
	DC_7A_n28A	CA_1A-7A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_1A-7A	CA_n28A-n78A	7A	n78A
DC_1A-19A-21A_n78A	DC_1A_n78A	CA_1A-19A-21A	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A-21A	n78A	19A	n78A
	DC_21A_n78A	CA_1A-19A-21A	n78A	21A	n78A
DC_1A-19A-21A_n79A	DC_1A_n79A	CA_1A-19A-21A	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A-21A	n79A	19A	n79A
	DC_21A_n79A	CA_1A-19A-21A	n79A	21A	n79A
DC_1A-19A-42A_n78A	DC_1A_n78A	CA_1A-19A-42A	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A-42A	n78A	19A	n78A
DC_1A-19A-42C_n78A	DC_1A_n78A	CA_1A-19A-42C	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A-42C	n78A	19A	n78A
DC_1A-19A-42A_n79A	DC_1A_n79A	CA_1A-19A-42A	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A-42A	n79A	19A	n79A
DC_1A-19A-42C_n79A	DC_1A_n79A	CA_1A-19A-42C	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A-42C	n79A	19A	n79A
DC_1A-20A_n28A-n78A	DC_1A_n28A	CA_1A-20A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-20A	CA_n28A-n78A	1A	n78A
	DC_20A_n28A	CA_1A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_1A-20A	CA_n28A-n78A	20A	n78A
DC_1A-21A-42A_n78A	DC_1A_n78A	CA_1A-21A-42A	n78A	1A	n78A
	DC_21A_n78A	CA_1A-21A-42A	n78A	21A	n78A
DC_1A-21A-42C_n78A	DC_1A_n78A	CA_1A-21A-42C	n78A	1A	n78A
	DC_21A_n78A	CA_1A-21A-42C	n78A	21A	n78A
DC_1A-21A-42A_n79A	DC_1A_n79A	CA_1A-21A-42A	n79A	1A	n79A
	DC_21A_n79A	CA_1A-21A-42A	n79A	21A	n79A
DC_1A-21A-42C_n79A	DC_1A_n79A	CA_1A-21A-42C	n79A	1A	n79A
	DC_21A_n79A	CA_1A-21A-42C	n79A	21A	n79A
DC_2A-7A-7A-13A_n66A	DC_2A_n66A	CA_2A-7A-7A-13A	n66A	2A	n66A
	DC_7A_n66A	CA_2A-7A-7A-13A	n66A	7A	n66A
	DC_13A_n66A	CA_2A-7A-7A-13A	n66A	13A	n66A
DC_2A-7A-7A-66A_n66A	DC_2A_n66A	CA_2A-7A-7A-66A	n66A	2A	n66A
	DC_7A_n66A	CA_2A-7A-7A-66A	n66A	7A	n66A
	DC_66A_n66A	CA_2A-7A-7A-66A	n66A	66A	n66A
DC_2A-7C-13A_n66A	DC_2A_n66A	CA_2A-7C-13A	n66A	2A	n66A
	DC_7A_n66A	CA_2A-7C-13A	n66A	7A	n66A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_13A_n66A	CA_2A-7C-13A	n66A	13A	n66A
DC_2A-7C-66A_n66A	DC_2A_n66A	CA_2A-7C-66A	n66A	2A	n66A
	DC_7A_n66A	CA_2A-7C-66A	n66A	7A	n66A
	DC_66A_n66A	CA_2A-7C-66A	n66A	66A	n66A
DC_2A-66A-(n)71AA	DC_2A_n71A	CA_2A-66A	DC-(n)71AA	2A	n71A
	DC_66A_n71A	CA_2A-66A	DC-(n)71AA	66A	n71A
	DC_(n)71AA	CA_2A-66A	DC-(n)71AA	-	(n)71AA
DC_3A-7A_n28A-n78A	DC_3A_n28A	CA_3A-7A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_3A-7A	CA_n28A-n78A	3A	n78A
	DC_7A_n28A	CA_3A-7A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_3A-7A	CA_n28A-n78A	7A	n78A
DC_3A-19A-21A_n78A	DC_3A_n78A	CA_3A-19A-21A	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A-21A	n78A	19A	n78A
	DC_21A_n78A	CA_3A-19A-21A	n78A	21A	n78A
DC_3A-19A-21A_n79A	DC_3A_n79A	CA_3A-19A-21A	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A-21A	n79A	19A	n79A
	DC_21A_n79A	CA_3A-19A-21A	n79A	21A	n79A
DC_3A-19A-42A_n78A	DC_3A_n78A	CA_3A-19A-42A	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A-42A	n78A	19A	n78A
DC_3A-19A-42C_n78A	DC_3A_n78A	CA_3A-19A-42C	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A-42C	n78A	19A	n78A
DC_3A-19A-42A_n79A	DC_3A_n79A	CA_3A-19A-42A	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A-42A	n79A	19A	n79A
DC_3A-19A-42C_n79A	DC_3A_n79A	CA_3A-19A-42C	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A-42C	n79A	19A	n79A
DC_3A-20A_n28A-n78A	DC_3A_n28A	CA_3A-20A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_3A-20A	CA_n28A-n78A	3A	n78A
	DC_20A_n28A	CA_3A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_3A-20A	CA_n28A-n78A	20A	n78A
DC_3A-21A-42A_n78A	DC_3A_n78A	CA_3A-21A-42A	n78A	3A	n78A
	DC_21A_n78A	CA_3A-21A-42A	n78A	21A	n78A
DC_3A-21A-42C_n78A	DC_3A_n78A	CA_3A-21A-42C	n78A	3A	n78A
	DC_21A_n78A	CA_3A-21A-42C	n78A	21A	n78A
DC_3A-21A-42A_n79A	DC_3A_n79A	CA_3A-21A-42A	n79A	3A	n79A
	DC_21A_n79A	CA_3A-21A-42A	n79A	21A	n79A
DC_3A-21A-42C_n79A	DC_3A_n79A	CA_3A-21A-42C	n79A	3A	n79A
	DC_21A_n79A	CA_3A-21A-42C	n79A	21A	n79A
DC_7A-20A_n28A-n78A	DC_7A_n28A	CA_7A-20A	CA_n28A-n78A	7A	n28A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_7A_n78A	CA_7A-20A	CA_n28A-n78A	7A	n78A
	DC_20A_n28A	CA_7A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_7A-20A	CA_n28A-n78A	20A	n78A
DC_19A-21A-42A_n78A	DC_19A_n78A	CA_19A-21A-42A	n78A	19A	n78A
	DC_21A_n78A	CA_19A-21A-42A	n78A	21A	n78A
DC_19A-21A-42C_n78A	DC_19A_n78A	CA_19A-21A-42C	n78A	19A	n78A
	DC_21A_n78A	CA_19A-21A-42C	n78A	21A	n78A
DC_19A-21A-42A_n79A	DC_19A_n79A	CA_19A-21A-42A	n79A	19A	n79A
	DC_21A_n79A	CA_19A-21A-42A	n79A	21A	n79A
DC_19A-21A-42C_n79A	DC_19A_n79A	CA_19A-21A-42C	n79A	19A	n79A
	DC_21A_n79A	CA_19A-21A-42C	n79A	21A	n79A

4.3.1.4.1.5 Inter-band EN-DC configurations within FR1 (five bands)

Table 4.3.1.4.1.5-1: Inter-band EN-DC configurations within FR1 (five bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A-5A-41A_n79A	DC_1A_n79A	CA_1A-3A-5A-41A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-5A-41A	n79A	3A	n79A
	DC_5A_n79A	CA_1A-3A-5A-41A	n79A	5A	n79A
	DC_41A_n79A	CA_1A-3A-5A-41A	n79A	41A	n79A
DC_1A-3A-7A-20A_n28A	DC_1A_n28A	CA_1A-3A-7A-20A	n28A	1A	n28A
	DC_3A_n28A	CA_1A-3A-7A-20A	n28A	3A	n28A
	DC_7A_n28A	CA_1A-3A-7A-20A	n28A	7A	n28A
	DC_20A_n28A	CA_1A-3A-7A-20A	n28A	20A	n28A
DC_1A-3A-7A-20A_n78A	DC_1A_n78A	CA_1A-3A-7A-20A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-7A-20A	n78A	3A	n78A
	DC_7A_n78A	CA_1A-3A-7A-20A	n78A	7A	n78A
	DC_20A_n78A	CA_1A-3A-7A-20A	n78A	20A	n78A
DC_1A-3A-7A_n28A-n78A	DC_1A_n28A	CA_1A-3A-7A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-3A-7A	CA_n28A-n78A	1A	n78A
	DC_3A_n28A	CA_1A-3A-7A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_1A-3A-7A	CA_n28A-n78A	3A	n78A
	DC_7A_n28A	CA_1A-3A-7A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_1A-3A-7A	CA_n28A-n78A	7A	n78A
DC_1A-3A-19A-42A_n78A	DC_1A_n78A	CA_1A-3A-19A-42A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-19A-42A	n78A	3A	n78A
	DC_19A_n78A	CA_1A-3A-19A-42A	n78A	19A	n78A
DC_1A-3A-19A-42C_n78A	-	CA_1A-3A-19A-42C	n78A	-	-
DC_1A-3A-19A-42C_n78A	DC_1A_n78A	CA_1A-3A-19A-42C	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-19A-42C	n78A	3A	n78A
	DC_19A_n78A	CA_1A-3A-19A-42C	n78A	19A	n78A
DC_1A-3A-19A-42A_n79A	DC_1A_n79A	CA_1A-3A-19A-42A	n79A	1A	n79A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_3A_n79A	CA_1A-3A-19A-42A	n79A	3A	n79A
	DC_19A_n79A	CA_1A-3A-19A-42A	n79A	19A	n79A
DC_1A-3A-19A-42C_n79A	-	CA_1A-3A-19A-42C	n79A	-	-
DC_1A-3A-19A-42C_n79A	DC_1A_n79A	CA_1A-3A-19A-42C	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-19A-42C	n79A	3A	n79A
	DC_19A_n79A	CA_1A-3A-19A-42C	n79A	19A	n79A
DC_1A-3A-20A_n28A-n78A	DC_1A_n28A	CA_1A-3A-20A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-3A-20A	CA_n28A-n78A	1A	n78A
	DC_3A_n28A	CA_1A-3A-20A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_1A-3A-20A	CA_n28A-n78A	3A	n78A
	DC_20A_n28A	CA_1A-3A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_1A-3A-20A	CA_n28A-n78A	20A	n78A
DC_1A-3A-21A-42A_n78A	DC_1A_n78A	CA_1A-3A-21A-42A	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-21A-42A	n78A	3A	n78A
	DC_21A_n78A	CA_1A-3A-21A-42A	n78A	21A	n78A
DC_1A-3A-21A-42C_n78A	-	CA_1A-3A-21A-42C	n78A	-	-
DC_1A-3A-21A-42C_n78A	DC_1A_n78A	CA_1A-3A-21A-42C	n78A	1A	n78A
	DC_3A_n78A	CA_1A-3A-21A-42C	n78A	3A	n78A
	DC_21A_n78A	CA_1A-3A-21A-42C	n78A	21A	n78A
DC_1A-3A-21A-42A_n79A	DC_1A_n79A	CA_1A-3A-21A-42A	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-21A-42A	n79A	3A	n79A
	DC_21A_n79A	CA_1A-3A-21A-42A	n79A	21A	n79A
DC_1A-3A-21A-42C_n79A	-	CA_1A-3A-21A-	n79A	-	-

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
		42C			

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A-21A-42C_n79A	DC_1A_n79A	CA_1A-3A-21A-42C	n79A	1A	n79A
	DC_3A_n79A	CA_1A-3A-21A-42C	n79A	3A	n79A
	DC_21A_n79A	CA_1A-3A-21A-42C	n79A	21A	n79A
DC_1A-7A-20A_n28A-n78A	DC_1A_n28A	CA_1A-7A-20A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-7A-20A	CA_n28A-n78A	1A	n78A
	DC_7A_n28A	CA_1A-7A-20A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_1A-7A-20A	CA_n28A-n78A	7A	n78A
	DC_20A_n28A	CA_1A-7A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_1A-7A-20A	CA_n28A-n78A	20A	n78A
DC_1A-19A-21A-42A_n78A	DC_1A_n78A	CA_1A-19A-21A-42A	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A-21A-42A	n78A	19A	n78A
	DC_21A_n78A	CA_1A-19A-21A-42A	n78A	21A	n78A
DC_1A-19A-21A-42C_n78A	-	CA_1A-19A-21A-42C	n78A	-	-
DC_1A-19A-21A-42C_n78A	DC_1A_n78A	CA_1A-19A-21A-42C	n78A	1A	n78A
	DC_19A_n78A	CA_1A-19A-21A-42C	n78A	19A	n78A
	DC_21A_n78A	CA_1A-19A-21A-42C	n78A	21A	n78A
DC_1A-19A-21A-42A_n79A	DC_1A_n79A	CA_1A-19A-21A-42A	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A-21A-42A	n79A	19A	n79A
	DC_21A_n79A	CA_1A-19A-21A-42A	n79A	21A	n79A
DC_1A-19A-21A-42C_n79A	-	CA_1A-19A-21A-42C	n79A	-	-
DC_1A-19A-21A-42C_n79A	DC_1A_n79A	CA_1A-19A-21A-42C	n79A	1A	n79A
	DC_19A_n79A	CA_1A-19A-21A-42C	n79A	19A	n79A
	DC_21A_n79A	CA_1A-19A-21A-	n79A	21A	n79A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
		42C			
DC_3A-7A-20A_n28A-n78A	DC_3A_n28A	CA_3A-7A-20A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_3A-7A-20A	CA_n28A-n78A	3A	n78A
	DC_7A_n28A	CA_3A-7A-20A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_3A-7A-20A	CA_n28A-n78A	7A	n78A
	DC_20A_n28A	CA_3A-7A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_3A-7A-20A	CA_n28A-n78A	20A	n78A
DC_3A-19A-21A-42A_n78A	DC_3A_n78A	CA_3A-19A-21A-42A	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A-21A-42A	n78A	19A	n78A
	DC_21A_n78A	CA_3A-19A-21A-42A	n78A	21A	n78A
DC_3A-19A-21A-42C_n78A	DC_3A_n78A	CA_3A-19A-21A-42C	n78A	3A	n78A
	DC_19A_n78A	CA_3A-19A-21A-42C	n78A	19A	n78A
	DC_21A_n78A	CA_3A-19A-21A-42C	n78A	21A	n78A
DC_3A-19A-21A-42A_n79A	DC_3A_n79A	CA_3A-19A-21A-42A	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A-21A-42A	n79A	19A	n79A
	DC_21A_n79A	CA_3A-19A-21A-42A	n79A	21A	n79A
DC_3A-19A-21A-42C_n79A	DC_3A_n79A	CA_3A-19A-21A-42C	n79A	3A	n79A
	DC_19A_n79A	CA_3A-19A-21A-42C	n79A	19A	n79A
	DC_21A_n79A	CA_3A-19A-21A-42C	n79A	21A	n79A

4.3.1.4.1.6 Inter-band EN-DC configurations within FR1 (six bands)

Table 4.3.1.4.1.6-1: Inter-band EN-DC configurations within FR1 (six bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A-7A-20A_n28A-n78A	DC_1A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	1A	n28A
	DC_1A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	1A	n78A
	DC_3A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	3A	n28A
	DC_3A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	3A	n78A
	DC_7A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	7A	n28A
	DC_7A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	7A	n78A
	DC_20A_n28A	CA_1A-3A-7A-20A	CA_n28A-n78A	20A	n28A
	DC_20A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A	20A	n78A

4.3.1.4.2 Intra-band contiguous EN-DC configurations within FR1

4.3.1.4.2.1 – 4.3.1.4.2.40 FFS

4.3.1.4.2.41 Intra-band contiguous EN-DC configurations DC_(n)41

4.3.1.4.2.41.1 DC_(n)41AA

Table 4.3.1.4.2.41.1-1: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 15 kHz, 15 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.100	500220	2495.52	499104	5	15	6246	499710	10	0	0	6
					Mid	2590.500	518100	2566.56	513312	107		6471	517710	2	4	2	112
					High	2685.000	537000	2589.6	517920	504		6705	536430	2	0	0	504
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.695	500739	2496.585	499317	0	15	6246	499710	11	0	0	0
					Mid	2590.395	518079	2564.025	512805	107		6465	517230	11	4	2	112
					High	2682.405	536481	2583.675	516735	509		6693	535470	5	0	0	510
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.005	501201	2495.565	499113	5	15	6246	499710	7	0	0	6
					Mid	2590.605	518121	2562.705	512541	102		6459	516750	11	4	2	106
					High	2679.795	535959	2579.535	515907	504		6681	534510	9	2	1	506
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.100	503220	2496.66	499332	0	15	6246	499710	6	0	0	0
					Mid	2590.500	518100	2552.7	510540	102		6432	514590	6	0	0	102
					High	2670.000	534000	2558.94	511788	509		6633	530670	6	4	2	514
E-UTRA: 5MHz +	E-UTRA CC1	5	25	Downlink & Uplink	Low	2548.500	40175	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2637.300	41063	-	-	-	-	-	-	-	-	-	-

NR: 50MHz	NR CC1	50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	0	0
					Mid	2590.605	518121	2547.945	509589	102		6420	513630	3	0	0	102
					High	2664.795	532959	2548.875	509775	509		6606	528510	5	0	0	510
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.300	39803	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.295	500259	2496.615	499323	0	15	6246	499710	9	0	0	0
					Mid	2587.995	517599	2564.055	512811	107		6465	517230	9	4	2	112
					High	2684.805	536961	2588.505	517701	509		6705	536430	3	0	0	510
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2600.700	40697	-	-	-	-	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.605	500721	2495.595	499119	5	15	6246	499710	5	0	0	6
					Mid	2588.205	517641	2562.735	512547	102		6459	516750	9	4	2	106
					High	2682.495	536499	2584.665	516933	504		6693	535470	11	0	0	504
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.200	501240	2496.66	499332	0	15	6246	499710	6	0	0	0
					Mid	2588.100	517620	2559.3	511860	107		6453	516270	6	4	2	112
					High	2679.900	535980	2579.64	515928	504		6681	534510	2	2	1	506
E-UTRA: 10MHz + NR: 40MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2541.600	40106	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2644.500	41135	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.595	503319	2497.155	499431	0	15	6249	499950	5	4	2	4
					Mid	2587.995	517599	2549.295	509859	107		6426	514110	1	0	0	108
					High	2669.505	533901	2558.445	511689	509		6630	530430	7	0	0	510
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.200	504240	2496	499200	5	15	6249	499950	10	4	2	10
					Mid	2588.100	517620	2545.44	509088	102		6414	513150	10	0	0	102
					High	2664.900	532980	2549.88	509976	504		6606	528510	10	0	0	504
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2598.300	40673	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.205	500241	2495.625	499125	5	15	6246	499710	3	0	0	6
					Mid	2585.805	517161	2562.765	512553	102		6459	516750	7	4	2	106
					High	2684.895	536979	2589.495	517899	504		6705	536430	9	0	0	504
E-UTRA: 15MHz +	E-UTRA CC1	15	75	Downlink &	Low	2518.500	39875	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-

				Uplink	High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.500	500700	2496.39	499278	0	15	6246	499710	0	2	1	2
NR: 15MHz					Mid	2585.400	517080	2559.93	511986	102		6450	516030	4	0	0	102
					High	2682.300	536460	2584.47	516894	504		6693	535470	0	2	1	506
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	-	-	-	-	-	-	-
					Mid	2603.400	40724	-	-	-	-	-	-	-	-	-	-
					High	2662.200	41312	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.095	501219	2495.655	499131	5	15	6246	499710	1	0	0	6
					Mid	2585.895	517179	2557.995	511599	102		6447	515790	5	4	2	106
					High	2679.705	535941	2578.545	515709	509		6681	534510	3	2	1	512
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2544.000	40130	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2642.100	41111	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.505	503301	2497.065	499413	0	15	6249	499950	11	4	2	4
					Mid	2585.505	517101	2546.805	509361	107		6420	513630	7	0	0	108
					High	2669.595	533919	2558.535	511707	509		6630	530430	1	0	0	510
E-UTRA: 15MHz + NR: 50MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.900	40229	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2632.200	41012	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.395	504279	2497.095	499419	0	15	6249	499950	9	4	2	4
					Mid	2585.595	517119	2542.035	508407	107		6408	512670	5	0	0	108
					High	2664.705	532941	2548.785	509757	509		6606	528510	11	0	0	510
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink & Uplink	Low	2501.100	500220	2495.52	499104	5	15	6246	499710	10	0	0	6
					Mid	2583.000	516600	2559.96	511992	102		6450	516030	2	0	0	102
					High	2685.000	537000	2589.6	517920	504		6705	536430	2	0	0	504
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink & Uplink	Low	2503.695	500739	2496.585	499317	0	15	6246	499710	11	0	0	0
					Mid	2582.895	516579	2557.425	511485	102		6444	515550	11	0	0	102
					High	2682.405	536481	2583.675	516735	509		6693	535470	5	0	0	510
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2526.000	39950	-	-	-	-	-	-	-	-	-	-
					Mid	2603.400	40724	-	-	-	-	-	-	-	-	-	-
					High	2659.800	41288	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink & Uplink	Low	2506.005	501201	2495.565	499113	5	15	6246	499710	7	0	0	6
					Mid	2583.405	516681	2555.505	511101	102		6441	515310	11	4	2	106
					High	2679.795	535959	2579.535	515907	504		6681	534510	9	2	1	506

E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2516.100	503220	2496.66	499332	0	15	6246	499710	6	0	0	0
					Mid	2583.000	516600	2545.2	509040	102		6414	513150	2	2	1	104
					High	2670.000	534000	2558.94	511788	509		6633	530670	6	4	2	514
E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.000	40250	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2629.800	40988	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	270	Downlink & Uplink	Low	2521.005	504201	2496.705	499341	0	15	6246	499710	3	0	0	0
					Mid	2583.105	516621	2539.545	507909	107		6402	512190	11	0	0	108
					High	2664.795	532959	2548.875	509775	509		6606	528510	5	0	0	510
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2. Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.																	

Table 4.3.1.4.2.41.1-1A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 15 kHz, 15 kHz NR raster, E-UTRA CC at the band edges.

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [CarrierPRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	216	Downlink & Uplink	Low	2536.200	507240	2516.76	503352	0	15	6297	503790	2	2	1	2
					Mid	2583.000	516600	2545.2	509040	102		6414	513150	2	2	1	104
					High	2649.900	529980	2538.84	507768	509		6582	526590	10	2	1	512
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2. Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.																	

Table 4.3.1.4.2.41.1-2: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 30 kHz, 30 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.100	500220	2496.78	499356	0	30	6252	500190	14	1	1	2
					Mid	2590.500	518100	2549.46	509892	102		6477	518190	6	3	3	210
					High	2685.000	537000	2499.24	499848	504		6711	536910	18	0	0	1008
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.710	500742	2496.87	499374	0	30	6252	500190	8	1	1	2
					Mid	2590.410	518082	2546.85	509370	102		6468	517470	12	0	0	204
					High	2682.390	536478	2494.11	498822	504		6699	535950	16	1	1	1010
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.800	39878	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.290	501258	2497.11	499422	0	30	6252	500190	16	0	0	0
					Mid	2590.590	518118	2544.69	508938	102		6465	517230	4	3	3	210
					High	2679.810	535962	2489.19	497838	504		6687	534990	0	2	2	1012
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.100	503220	2497.02	499404	0	30	6252	500190	22	0	0	0
					Mid	2590.500	518100	2534.7	506940	102		6438	515070	22	0	0	204
					High	2670.000	534000	2469.48	493896	504		6636	530910	2	0	0	1008
E-UTRA: 5MHz + NR: 50MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2548.800	40178	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2637.300	41063	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.290	504258	2497.35	499470	0	30	6252	500190	0	0	0	0
					Mid	2590.590	518118	2529.93	505986	102		6426	514110	20	0	0	204
					High	2664.810	532962	2459.43	491886	504		6612	528990	8	1	1	1010
E-UTRA: 5MHz +	E-UTRA CC1	5	25	Downlink & Uplink	Low	2558.700	40277	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2627.400	40964	-	-	-	-	-	-	-	-	-	-

NR: 60MHz	NR CC1	60	162	Downlink & Uplink	Low	2526.210	505242	2497.05	499410	0	30	6252	500190	20	0	0	0
					Mid	2590.410	518082	2524.53	504906	102		6414	513150	12	2	2	208
					High	2659.890	531978	2449.29	489858	504		6588	527070	20	2	2	1012
E-UTRA: 5MHz + NR: 80MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2578.800	40478	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2607.300	40763	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.290	507258	2497.23	499446	0	30	6252	500190	8	0	0	0
					Mid	2590.590	518118	2514.81	502962	102		6390	511230	20	2	2	208
					High	2649.810	529962	2429.31	485862	504		6537	522990	16	1	1	1010
E-UTRA: 5MHz + NR: 90MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2588.700	40577	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2597.400	40664	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.210	508242	2497.11	499422	0	30	6252	500190	16	0	0	0
					Mid	2590.410	518082	2509.59	501918	102		6375	510030	16	0	0	204
					High	2644.890	528978	2419.35	483870	504		6513	521070	16	2	2	1012
E-UTRA: 5MHz + NR: 100MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2598.600	40676	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2587.500	40565	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.100	509220	2496.96	499392	0	30	6252	500190	2	1	1	2
					Mid	2590.500	518100	2504.64	500928	102		6363	509070	2	1	1	206
					High	2640.000	528000	2409.42	481884	504		6486	518910	6	0	0	1008
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.000	39800	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.010	500202	2496.69	499338	0	30	6252	500190	20	1	1	2
					Mid	2588.010	517602	2546.97	509394	102		6468	517470	4	0	0	204
					High	2684.790	536958	2499.03	499806	504		6711	536910	8	1	1	1010
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2669.700	41387	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.590	500718	2496.75	499350	0	30	6252	500190	16	1	1	2
					Mid	2587.890	517578	2544.33	508866	102		6462	516990	20	0	0	204
					High	2682.210	536442	2493.93	498786	504		6699	535950	4	2	2	1012
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.200	501240	2497.02	499404	0	30	6252	500190	22	0	0	0
					Mid	2588.100	517620	2542.2	508440	102		6456	516510	2	0	0	204
					High	2679.900	535980	2489.28	497856	504		6687	534990	18	1	1	1010
E-UTRA: 10MHz +	E-UTRA CC1	10	50	Downlink &	Low	2541.000	40100	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-

				Uplink	High	2644.800	41138	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.010	503202	2496.93	499386	0	30	6252	500190	4	1	1	2
NR: 40MHz					Mid	2588.010	517602	2532.21	506442	102		6432	514590	4	1	1	206
					High	2669.790	533958	2469.27	493854	504		6636	530910	16	0	0	1008
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.200	504240	2497.26	499452	0	30	6252	500190	6	0	0	0
					Mid	2588.100	517620	2527.44	505488	102		6420	513630	2	1	1	206
					High	2664.900	532980	2459.52	491904	504		6612	528990	2	1	1	1010
E-UTRA: 10MHz + NR: 60MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2561.100	40301	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2624.700	40937	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.090	505218	2496.93	499386	0	30	6252	500190	4	1	1	2
					Mid	2587.890	517578	2522.01	504402	102		6408	512670	20	2	2	208
					High	2659.710	531942	2449.11	489822	504		6585	526830	0	0	0	1008
E-UTRA: 10MHz + NR: 80MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2581.200	40502	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2604.900	40739	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.200	507240	2497.14	499428	0	30	6252	500190	14	0	0	0
					Mid	2588.100	517620	2512.32	502464	102		6384	510750	2	3	3	210
					High	2649.900	529980	2429.4	485880	504		6537	522990	10	1	1	1010
E-UTRA: 10MHz + NR: 90MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2591.100	40601	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2594.700	40637	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.090	508218	2496.99	499398	0	30	6252	500190	0	1	1	2
					Mid	2587.890	517578	2507.07	501414	102		6369	509550	0	1	1	206
					High	2644.710	528942	2419.17	483834	504		6513	521070	4	3	3	1014
E-UTRA: 10MHz + NR: 100MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2601.000	40700	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2584.800	40538	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.010	509202	2496.87	499374	0	30	6252	500190	8	1	1	2
					Mid	2588.010	517602	2502.15	500430	102		6357	508590	8	1	1	206
					High	2639.790	527958	2409.21	481842	504		6486	518910	20	0	0	1008
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.190	500238	2496.87	499374	0	30	6252	500190	8	1	1	2
					Mid	2585.490	517098	2544.45	508890	102		6462	516990	12	0	0	204
					High	2684.910	536982	2499.15	499830	504		6711	536910	0	1	1	1010

E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.500	500700	2496.66	499332	0	30	6252	500190	22	1	1	2
					Mid	2585.400	517080	2541.84	508368	102		6456	516510	2	1	1	206
					High	2682.300	536460	2494.02	498804	504		6699	535950	22	1	1	1010
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2662.500	41315	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.110	501222	2496.93	499386	0	30	6252	500190	4	1	1	2
					Mid	2585.610	517122	2539.71	507942	102		6450	516030	8	0	0	204
					High	2679.990	535998	2489.37	497874	504		6687	534990	12	1	1	1010
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2543.700	40127	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2642.400	41114	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.190	503238	2497.11	499422	0	30	6252	500190	16	0	0	0
					Mid	2585.490	517098	2529.69	505938	102		6426	514110	12	1	1	206
					High	2669.910	533982	2469.39	493878	504		6636	530910	8	0	0	1008
E-UTRA: 15MHz + NR: 50MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.600	40226	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2632.500	41015	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.110	504222	2497.17	499434	0	30	6252	500190	12	0	0	0
					Mid	2585.610	517122	2524.95	504990	102		6414	513150	8	1	1	206
					High	2664.990	532998	2459.61	491922	504		6612	528990	20	0	0	1008
E-UTRA: 15MHz + NR: 60MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2563.500	40325	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2622.300	40913	-	-	-	-	-	-	-	-	-	-
	NR CC1	60	162	Downlink & Uplink	Low	2526.000	505200	2496.84	499368	0	30	6252	500190	10	1	1	2
					Mid	2585.400	517080	2519.52	503904	102		6402	512190	2	3	3	210
					High	2659.800	531960	2449.2	489840	504		6588	527070	2	3	3	1014
E-UTRA: 15MHz + NR: 80MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2583.600	40526	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2602.500	40715	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.110	507222	2497.05	499410	0	30	6252	500190	20	0	0	0
					Mid	2585.610	517122	2509.83	501966	102		6375	510030	0	0	0	204
					High	2649.990	529998	2429.49	485898	504		6537	522990	4	1	1	1010
E-UTRA: 15MHz + NR: 90MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2593.500	40625	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2592.300	40613	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink &	Low	2541.000	508200	2496.9	499380	0	30	6252	500190	6	1	1	2
					Mid	2585.400	517080	2504.58	500916	102		6363	509070	6	1	1	206

				Uplink	High	2644.800	528960	2419.26	483852	504		6513	521070	22	2	2	1012
E-UTRA: 15MHz + NR: 100MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2603.700	40727	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2582.400	40514	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.190	509238	2497.05	499410	0	30	6252	500190	20	0	0	0
					Mid	2585.490	517098	2499.63	499926	102		6351	508110	16	1	1	206
					High	2639.910	527982	2409.33	481866	504		6486	518910	12	0	0	1008
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink & Uplink	Low	2501.100	500220	2496.78	499356	0	30	6252	500190	14	1	1	2
					Mid	2583.000	516600	2541.96	508392	102		6456	516510	18	0	0	204
					High	2685.000	537000	2499.24	499848	504		6711	536910	18	0	0	1008
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink & Uplink	Low	2503.710	500742	2496.87	499374	0	30	6252	500190	8	1	1	2
					Mid	2582.910	516582	2539.35	507870	102		6450	516030	8	1	1	206
					High	2682.390	536478	2494.11	498822	504		6699	535950	16	1	1	1010
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2526.300	39953	-	-	-	-	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-	-	-	-	-
					High	2659.800	41288	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink & Uplink	Low	2506.290	501258	2497.11	499422	0	30	6252	500190	16	0	0	0
					Mid	2583.090	516618	2537.19	507438	102		6444	515550	16	0	0	204
					High	2679.810	535962	2489.19	497838	504		6687	534990	0	2	2	1012
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2516.100	503220	2497.02	499404	0	30	6252	500190	22	0	0	0
					Mid	2583.000	516600	2527.2	505440	102		6420	513630	18	1	1	206
					High	2670.000	534000	2469.48	493896	504		6636	530910	2	0	0	1008
E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.300	40253	-	-	-	-	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-	-	-	-	-
					High	2629.800	40988	-	-	-	-	-	-	-	-	-	-
	NR CC1	50	133	Downlink & Uplink	Low	2521.290	504258	2497.35	499470	0	30	6252	500190	0	0	0	0
					Mid	2583.090	516618	2522.43	504486	102		6408	512670	16	1	1	206
					High	2664.810	532962	2459.43	491886	504		6612	528990	8	1	1	1010
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2566.200	40352	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-
					High	2619.900	40889	-	-	-	-	-	-	-	-	-	-
	NR	60	162	Downlink	Low	2526.210	505242	2497.05	499410	0	30	6252	500190	20	0	0	0

	CC1			& Uplink	Mid	2582.910	516582	2517.03	503406	102		6393	511470	0	0	0	204
					High	2659.890	531978	2449.29	489858	504		6588	527070	20	2	2	1012
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2586.300	40553	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2599.800	40688	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2536.290	507258	2497.23	499446	0	30	6252	500190	8	0	0	0
					Mid	2583.090	516618	2507.31	501462	102		6369	509550	8	0	0	204
					High	2649.810	529962	2429.31	485862	504		6537	522990	16	1	1	1010
E-UTRA: 20MHz + NR: 90MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2596.200	40652	-	-	-	-	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-	-	-	-	-
					High	2589.900	40589	-	-	-	-	-	-	-	-	-	-
	NR CC1	90	245	Downlink & Uplink	Low	2541.210	508242	2497.11	499422	0	30	6252	500190	16	0	0	0
					Mid	2582.910	516582	2502.09	500418	102		6357	508590	12	1	1	206
					High	2644.890	528978	2419.35	483870	504		6513	521070	16	2	2	1012
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2606.100	40751	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2580.000	40490	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2546.100	509220	2496.96	499392	0	30	6252	500190	2	1	1	2
					Mid	2583.000	516600	2497.14	499428	102		6345	507630	22	1	1	206
					High	2640.000	528000	2409.42	481884	504		6486	518910	6	0	0	1008

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.

Table 4.3.1.4.2.41.1-2A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 30 kHz, 30 kHz NR raster, E-UTRA CC at the band edges.

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
	NR CC1	40	106	Downlink & Uplink	Low	2536.200	507240	2517.12	503424	0	30	6303	504270	18	1	1	2
					Mid	2583.000	516600	2527.2	505440	102		6420	513630	18	1	1	206
					High	2649.900	529980	2449.38	489876	504		6588	527070	14	2	2	1012
E-UTRA: 20MHz +	E-UTRA CC1	20	100	Downlink &	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-	-	-	-	-

				Uplink	High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
NR: 60MHz	NR CC1	60	162	Downlink & Uplink	Low	2546.190	509238	2517.03	503406	0	30	6303	504270	0	2	2	4
					Mid	2582.910	516582	2517.03	503406	102		6393	511470	0	0	0	204
					High	2639.910	527982	2429.31	485862	504		6537	522990	16	1	1	1010
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
	NR CC1	80	217	Downlink & Uplink	Low	2556.210	511242	2517.15	503430	0	30	6303	504270	16	1	1	2
					Mid	2583.090	516618	2507.31	501462	102		6369	509550	8	0	0	204
					High	2629.890	525978	2409.39	481878	504		6486	518910	8	0	0	1008
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-	-	-	-	-
	NR CC1	100	273	Downlink & Uplink	Low	2566.200	513240	2517.06	503412	0	30	6303	504270	22	1	1	2
					Mid	2583.000	516600	2497.14	499428	102		6345	507630	22	1	1	206
					High	2619.900	523980	2389.32	477864	504		6438	515070	18	2	2	1012

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B.1.

Table 4.3.1.4.2.41.1-3: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 60 kHz, 15 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 1	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2508.600	39776	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2677.500	41465	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.100	500220	2497.14	499428	0	15	-	499788
					Mid	2590.500	518100	2513.1	502620	102		-	517668
					High	2685.000	537000	2318.16	463632	504		-	536568
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.695	500739	2497.215	499443	0	15	-	499803
					Mid	2590.395	518079	2510.475	502095	102		-	517143
					High	2682.405	536481	2313.045	462609	504		-	535545

E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
					Mid	2590.605	518121	2508.525	501705	102		-	516753
					High	2679.795	535959	2308.275	461655	504		-	534591
E-UTRA: 5MHz + NR: 40MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2538.600	40076	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2647.500	41165	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.100	503220	2497.74	499548	0	15	-	499908
					Mid	2590.500	518100	2498.7	499740	102		-	514788
					High	2670.000	534000	2288.76	457752	504		-	530688
E-UTRA: 5MHz + NR: 50MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2548.500	40175	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2637.300	41063	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
					Mid	2590.605	518121	2493.765	498753	102		-	513801
					High	2664.795	532959	2278.515	455703	504		-	528639
E-UTRA: 5MHz + NR: 60MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2558.700	40277	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2627.400	40964	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.195	505239	2497.755	499551	0	15	-	499911
					Mid	2590.395	518079	2488.515	497703	102		-	512751
					High	2659.905	531981	2268.585	453717	504		-	526653
E-UTRA: 5MHz + NR: 80MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2578.500	40475	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2607.300	40763	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857
					Mid	2590.605	518121	2478.645	495729	102		-	510777
					High	2649.795	529959	2248.395	449679	504		-	522615
E-UTRA: 5MHz + NR: 90MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2588.700	40577	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2597.400	40664	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.195	508239	2497.635	499527	0	15	-	499887
					Mid	2590.395	518079	2473.395	494679	102		-	509727
					High	2644.905	528981	2238.465	447693	504		-	520629
E-UTRA: 5MHz + NR: 100MHz	E-UTRA CC1	5	25	Downlink & Uplink	Low	2598.600	40676	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2587.500	40565	-	-	-	-	-	-
	NR CC1	100	135	Downlink &	Low	2546.100	509220	2497.5	499500	0	15	-	499860
					Mid	2590.500	518100	2468.46	493692	102		-	508740

				Uplink	High	2640.000	528000	2228.52	445704	504		-	518640
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2511.300	39803	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2674.800	41438	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.295	500259	2497.335	499467	0	15	-	499827
					Mid	2587.995	517599	2510.595	502119	102		-	517167
					High	2684.805	536961	2317.965	463593	504		-	536529
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.605	500721	2497.125	499425	0	15	-	499785
					Mid	2587.905	517581	2507.985	501597	102		-	516645
					High	2682.495	536499	2313.135	462627	504		-	535563
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.200	501240	2497.56	499512	0	15	-	499872
					Mid	2588.100	517620	2506.02	501204	102		-	516252
					High	2679.900	535980	2308.38	461676	504		-	534612
E-UTRA: 10MHz + NR: 40MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2541.300	40103	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2644.800	41138	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.295	503259	2497.935	499587	0	15	-	499947
					Mid	2587.995	517599	2496.195	499239	102		-	514287
					High	2669.805	533961	2288.565	457713	504		-	530649
E-UTRA: 10MHz + NR: 50MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2551.200	40202	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2634.900	41039	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.200	504240	2497.8	499560	0	15	-	499920
					Mid	2588.100	517620	2491.26	498252	102		-	513300
					High	2664.900	532980	2278.62	455724	504		-	528660
E-UTRA: 10MHz + NR: 60MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2561.100	40301	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2625.000	40940	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.105	505221	2497.665	499533	0	15	-	499893
					Mid	2587.905	517581	2486.025	497205	102		-	512253
					High	2659.995	531999	2268.675	453735	504		-	526671
E-UTRA: 10MHz + NR: 80MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2581.200	40502	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2604.900	40739	-	-	-	-	-	-
	NR	80	107	Downlink	Low	2536.200	507240	2497.68	499536	0	15	-	499896

	CC1			&	Mid	2588.100	517620	2476.14	495228	102		-	510276
				Uplink	High	2649.900	529980	2248.5	449700	504		-	522636
E-UTRA: 10MHz + NR: 90MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2591.100	40601	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2595.000	40640	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.105	508221	2497.545	499509	0	15	-	499869
					Mid	2587.905	517581	2470.905	494181	102		-	509229
					High	2644.995	528999	2238.555	447711	504		-	520647
E-UTRA: 10MHz + NR: 100MHz	E-UTRA CC1	10	50	Downlink & Uplink	Low	2601.300	40703	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2584.800	40538	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.295	509259	2497.695	499539	0	15	-	499899
					Mid	2587.995	517599	2465.955	493191	102		-	508239
					High	2639.805	527961	2228.325	445665	504		-	518601
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2513.700	39827	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2672.400	41414	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.205	500241	2497.245	499449	0	15	-	499809
					Mid	2585.505	517101	2508.105	501621	102		-	516669
					High	2684.895	536979	2318.055	463611	504		-	536547
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2518.500	39875	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2667.300	41363	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.500	500700	2497.02	499404	0	15	-	499764
					Mid	2585.400	517080	2505.48	501096	102		-	516144
					High	2682.300	536460	2312.94	462588	504		-	535524
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2523.600	39926	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-
					High	2662.200	41312	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.095	501219	2497.455	499491	0	15	-	499851
					Mid	2585.595	517119	2503.515	500703	102		-	515751
					High	2679.705	535941	2308.185	461637	504		-	534573
E-UTRA: 15MHz + NR: 40MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2543.700	40127	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2642.400	41114	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.205	503241	2497.845	499569	0	15	-	499929
					Mid	2585.505	517101	2493.705	498741	102		-	513789
					High	2669.895	533979	2288.655	457731	504		-	530667
E-UTRA: 15MHz +	E-UTRA CC1	15	75	Downlink & Uplink	Low	2553.600	40226	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2632.200	41012	-	-	-	-	-	-

NR: 50MHz	NR CC1	50	65	Downlink & Uplink	Low	2521.095	504219	2497.695	499539	0	15	-	499899
					Mid	2585.595	517119	2488.755	497751	102		-	512799
					High	2664.705	532941	2278.425	455685	504		-	528621
E-UTRA: 15MHz + NR: 60MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2563.500	40325	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2622.300	40913	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.000	505200	2497.56	499512	0	15	-	499872
					Mid	2585.400	517080	2483.52	496704	102		-	511752
					High	2659.800	531960	2268.48	453696	504		-	526632
E-UTRA: 15MHz + NR: 80MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2583.600	40526	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2602.200	40712	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.095	507219	2497.575	499515	0	15	-	499875
					Mid	2585.595	517119	2473.635	494727	102		-	509775
					High	2649.705	529941	2248.305	449661	504		-	522597
E-UTRA: 15MHz + NR: 90MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2593.500	40625	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2592.300	40613	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.000	508200	2497.44	499488	0	15	-	499848
					Mid	2585.400	517080	2468.4	493680	102		-	508728
					High	2644.800	528960	2238.36	447672	504		-	520608
E-UTRA: 15MHz + NR: 100MHz	E-UTRA CC1	15	75	Downlink & Uplink	Low	2603.700	40727	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2582.400	40514	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.205	509241	2497.605	499521	0	15	-	499881
					Mid	2585.505	517101	2463.465	492693	102		-	507741
					High	2639.895	527979	2228.415	445683	504		-	518619
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2516.100	39851	-	-	-	-	-	-
					Mid	2598.000	40670	-	-	-	-	-	-
					High	2670.000	41390	-	-	-	-	-	-
	NR CC1	10	11	Downlink & Uplink	Low	2501.100	500220	2497.14	499428	0	15	-	499788
					Mid	2583.000	516600	2505.6	501120	102		-	516168
					High	2685.000	537000	2318.16	463632	504		-	536568
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2521.200	39902	-	-	-	-	-	-
					Mid	2600.400	40694	-	-	-	-	-	-
					High	2664.900	41339	-	-	-	-	-	-
	NR CC1	15	18	Downlink & Uplink	Low	2503.695	500739	2497.215	499443	0	15	-	499803
					Mid	2582.895	516579	2502.975	500595	102		-	515643
					High	2682.405	536481	2313.045	462609	504		-	535545
E-UTRA: 20MHz +	E-UTRA CC1	20	100	Downlink &	Low	2526.000	39950	-	-	-	-	-	-
					Mid	2603.100	40721	-	-	-	-	-	-

				Uplink	High	2659.800	41288	-	-	-	-	-	-
	NR CC1	20	24	Downlink & Uplink	Low	2506.005	501201	2497.365	499473	0	15	-	499833
NR: 20MHz					Mid	2583.105	516621	2501.025	500205	102		-	515253
					High	2679.795	535959	2308.275	461655	504		-	534591
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2546.100	40151	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2640.000	41090	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2516.100	503220	2497.74	499548	0	15	-	499908
					Mid	2583.000	516600	2491.2	498240	102		-	513288
					High	2670.000	534000	2288.76	457752	504		-	530688
E-UTRA: 20MHz + NR: 50MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2556.000	40250	-	-	-	-	-	-
					Mid	2618.100	40871	-	-	-	-	-	-
					High	2629.800	40988	-	-	-	-	-	-
	NR CC1	50	65	Downlink & Uplink	Low	2521.005	504201	2497.605	499521	0	15	-	499881
					Mid	2583.105	516621	2486.265	497253	102		-	512301
					High	2664.795	532959	2278.515	455703	504		-	528639
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2566.200	40352	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2619.900	40889	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2526.195	505239	2497.755	499551	0	15	-	499911
					Mid	2582.895	516579	2481.015	496203	102		-	511251
					High	2659.905	531981	2268.585	453717	504		-	526653
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2586.000	40550	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2599.800	40688	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2536.005	507201	2497.485	499497	0	15	-	499857
					Mid	2583.105	516621	2471.145	494229	102		-	509277
					High	2649.795	529959	2248.395	449679	504		-	522615
E-UTRA: 20MHz + NR: 90MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2596.200	40652	-	-	-	-	-	-
					Mid	2637.900	41069	-	-	-	-	-	-
					High	2589.900	40589	-	-	-	-	-	-
	NR CC1	90	121	Downlink & Uplink	Low	2541.195	508239	2497.635	499527	0	15	-	499887
					Mid	2582.895	516579	2465.895	493179	102		-	508227
					High	2644.905	528981	2238.465	447693	504		-	499887
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2606.100	40751	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2580.000	40490	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2546.100	509220	2497.5	499500	0	15	-	499860
					Mid	2583.000	516600	2460.96	492192	102		-	507240
					High	2640.000	528000	2228.52	445704	504		-	518640
Note 1: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.													

Table 4.3.1.4.2.41.1-3A: EN-DC combination DC_(n)41AA, intra-band contiguous, SCS 60 kHz, 15 kHz NR raster, E-UTRA CC at the band edges.

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 1	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]
E-UTRA: 20MHz + NR: 40MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2613.000	40820	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	40	51	Downlink & Uplink	Low	2536.200	507240	2517.84	503568	0	15	-	503928
					Mid	2583.000	516600	2491.2	498240	102		-	513288
					High	2649.900	529980	2268.66	453732	504		-	526668
E-UTRA: 20MHz + NR: 60MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2622.900	40919	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	60	79	Downlink & Uplink	Low	2546.205	509241	2517.765	503553	0	15	-	503913
					Mid	2582.895	516579	2481.015	496203	102		-	511251
					High	2639.895	527979	2248.575	449715	504		-	522651
E-UTRA: 20MHz + NR: 80MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2633.100	41021	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	80	107	Downlink & Uplink	Low	2556.195	511239	2517.675	503535	0	15	-	503895
					Mid	2583.105	516621	2471.145	494229	102		-	509277
					High	2629.905	525981	2228.505	445701	504		-	518637
E-UTRA: 20MHz + NR: 100MHz	E-UTRA CC1	20	100	Downlink & Uplink	Low	2506.200	39752	-	-	-	-	-	-
					Mid	2643.000	41120	-	-	-	-	-	-
					High	2679.900	41489	-	-	-	-	-	-
	NR CC1	100	135	Downlink & Uplink	Low	2566.200	513240	2517.6	503520	0	15	-	503880
					Mid	2583.000	516600	2460.96	492192	102		-	507240
					High	2619.900	523980	2208.42	441684	504		-	514620
Note 1: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.													

4.3.1.4.2.42.to 4.3.1.4.2.70 FFS

4.3.1.4.2.71 Intra-band contiguous EN-DC configurations DC_(n)71

4.3.1.4.2.71.1 DC_(n)71AA

Table 4.3.1.4.2.71.1-1: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 15 kHz, 100 kHz NR raster, NR CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 5MHz	E-UTRA CC1	5	25	Downlink	Low	624.500	68661	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	644.500	68861	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	670.500	133197	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	690.500	133397	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	616.35	123270	5	15	1548	123870	8	0	0	6
					Mid	632.000	126400	610.49	122098	107		1580	126490	0	4	2	112
					High	649.500	129900	555.63	111126	509		1623	129870	8	0	0	510
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	678.000	135600	585.03	117006	504		-	-	-	-	-	-
					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	639.500	68811	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	622.000	124400	616.42	123284	5	15	1549	123890	10	0	0	6
					Mid	632.000	126400	608.06	121612	107		1574	126010	2	4	2	112
					High	647.000	129400	550.7	110140	509		1610	128890	10	0	0	510
				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-
					Mid	678.000	135600	582.6	116520	504		-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-
E-UTRA:	E-UTRA	5	25	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-

5MHz + NR: 15MHz	CC1				Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	634.500	68761	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0	0
					Mid	632.000	126400	605.63	121126	107		1568	125530	4	4	2	112
					High	644.500	128900	545.77	109154	509		1600	127970	8	2	1	512
				Uplink	Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-
					Mid	678.000	135600	580.17	116034	504		-	-	-	-	-	-
					High	690.500	138100	682.31	136462	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink	Low	627.000	125400	617.46	123492	0	15	1548	123870	6	0	0	0
					Mid	632.000	126400	603.2	120640	107		1562	125050	6	4	2	112
					High	642.000	128400	540.84	108168	509		1587	126990	10	2	1	512
				Uplink	Low	673.000	134600	663.46	132692	0	-	-	-	-	-	-	-
					Mid	678.000	135600	577.74	115548	504		-	-	-	-	-	-
					High	688.000	137600	677.38	135476	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 5MHz	E-UTRA CC1	10	50	Downlink	Low	627.000	68686	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	642.000	68836	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	673.000	133222	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	688.000	133372	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	616.35	123270	5	15	1548	123870	8	0	0	6
					Mid	629.500	125900	608.89	121778	102		1573	125810	0	0	0	102
					High	649.500	129900	555.63	111126	509		1623	129870	8	0	0	510
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	675.500	135100	582.53	116506	504		-	-	-	-	-	-
					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	632.000	68736	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	637.000	68786	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	678.000	133272	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	683.000	133322	-	-	-	-	-	-	-	-	-	-

	NR CC1	10	52	Downlink	Low	622.000	124400	616.42	123284	5	15	1549	123890	10	0	0	6
					Mid	629.500	125900	606.46	121292	102		1567	125330	2	0	0	102
					High	647.000	129400	550.7	110140	509		1610	128890	10	0	0	510
				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-
					Mid	675.500	135100	580.1	116020	504		-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	632.000	68736	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	683.000	133322	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	678.000	133272	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0	0
					Mid	629.500	125900	604.03	120806	102		1561	124850	4	0	0	102
					High	644.500	128900	545.77	109154	509		1600	127970	8	2	1	512
				Uplink	Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-
					Mid	675.500	135100	577.67	115534	504		-	-	-	-	-	-
					High	690.500	138100	682.31	136462	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink	Low	642.000	68836	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	627.000	68686	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	688.000	133372	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	673.000	133222	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink	Low	627.000	125400	617.46	123492	0	15	1548	123870	6	0	0	0
					Mid	629.500	125900	601.6	120320	102		1555	124370	6	0	0	102
					High	642.000	128400	540.84	108168	509		1587	126990	10	2	1	512
				Uplink	Low	673.000	134600	663.46	132692	0	-	-	-	-	-	-	-
					Mid	675.500	135100	575.24	115048	504		-	-	-	-	-	-
					High	688.000	137600	677.38	135476	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 5MHz	E-UTRA CC1	15	75	Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	639.500	68811	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	616.35	123270	5	15	1548	123870	8	0	0	6
					Mid	627.000	125400	606.39	121278	102		1566	125310	0	0	0	102
					High	649.500	129900	555.63	111126	509		1623	129870	8	0	0	510
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	673.000	134600	580.03	116006	504		-	-	-	-	-	-

					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 10MHz	E-UTRA CC1	15	75	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	634.500	68761	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	622.000	124400	616.42	123284	5	15	1549	123890	10	0	0	6
					Mid	627.000	125400	603.96	120792	102		1560	124830	2	0	0	102
					High	647.000	129400	550.7	110140	509		1610	128890	10	0	0	510
				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-
					Mid	673.000	134600	577.6	115520	504		-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0	0
					Mid	627.000	125400	601.53	120306	102		1554	124350	4	0	0	102
					High	644.500	128900	545.77	109154	509		1600	127970	8	2	1	512
				Uplink	Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-
					Mid	673.000	134600	575.17	115034	504		-	-	-	-	-	-
					High	690.500	138100	682.31	136462	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink	Low	644.500	68861	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	624.500	68661	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	690.500	133397	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	670.500	133197	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink	Low	627.000	125400	617.46	123492	0	15	1548	123870	6	0	0	0
					Mid	627.000	125400	599.1	119820	102		1548	123870	6	0	0	102
					High	642.000	128400	540.84	108168	509		1587	126990	10	2	1	512
				Uplink	Low	673.000	134600	663.46	132692	0	-	-	-	-	-	-	-
					Mid	673.000	134600	572.74	114548	504		-	-	-	-	-	-
					High	688.000	137600	677.38	135476	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 5MHz	E-UTRA CC1	20	100	Downlink	Low	632.000	68736	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	637.000	68786	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	678.000	133272	-	-	-	-	-	-	-	-	-	-

					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	683.000	133322	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	619.500	123900	616.35	123270	5	15	1548	123870	8	0	0	6
					Mid	624.500	124900	603.89	120778	102		1559	124810	0	0	0	102
					High	649.500	129900	555.63	111126	509		1623	129870	8	0	0	510
				Uplink	Low	665.500	133100	663.25	132650	0	-	-	-	-	-	-	-
					Mid	670.500	134100	577.53	115506	504		-	-	-	-	-	-
					High	695.500	139100	692.17	138434	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	632.000	68736	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	683.000	133322	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	678.000	133272	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	622.000	124400	616.42	123284	5	15	1549	123890	10	0	0	6
					Mid	624.500	124900	601.46	120292	102		1553	124330	2	0	0	102
					High	647.000	129400	550.7	110140	509		1610	128890	10	0	0	510
				Uplink	Low	668.000	133600	663.32	132664	0	-	-	-	-	-	-	-
					Mid	670.000	134100	575.1	115020	504		-	-	-	-	-	-
					High	693.000	138600	687.24	137448	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink	Low	642.000	68836	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	627.000	68686	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	688.000	133372	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	673.000	133222	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	624.500	124900	617.39	123478	0	15	1547	123850	4	0	0	0
					Mid	624.500	124900	599.03	119806	102		1547	123850	4	0	0	102
					High	644.500	128900	545.77	109154	509		1600	127970	8	2	1	512
				Uplink	Low	670.500	134100	663.39	132678	0	-	-	-	-	-	-	-
					Mid	670.500	134100	572.67	114534	504		-	-	-	-	-	-
					High	690.500	138100	682.31	136462	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink	Low	647.000	68886	-	-	-	-	-	-	-	-	-	-
					Mid	646.000	68876	-	-	-	-	-	-	-	-	-	-
					High	622.000	68636	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	693.000	133422	-	-	-	-	-	-	-	-	-	-
					Mid	692.000	133412	-	-	-	-	-	-	-	-	-	-
					High	668.000	133172	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	106	Downlink	Low	627.000	125400	617.46	123492	0	15	1548	123870	6	0	0	0
					Mid	626.000	125200	597.2	119440	107		1547	123850	6	4	2	112
					High	642.000	128400	540.84	108168	509		1587	126990	10	2	1	512

				Uplink	Low	673.000	134600	663.46	132692	0	-	-	-	-	-	-	-
					Mid	672.000	134400	571.74	114348	504		-	-	-	-	-	-
					High	688.000	137600	677.38	135476	6		-	-	-	-	-	-
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.																

Table 4.3.1.4.2.71.1-1A: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 15 kHz, 100 kHz NR raster, E-UTRA CC at the band edges

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 5MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	624.500	124900	622.25	124450	0	15	1559	124810	0	0	0	0
					Mid	632.000	126400	610.49	122098	107		1580	126490	0	4	2	112
					High	644.500	128900	550.63	110126	509		1612	128930	4	2	1	512
				Uplink	Low	670.500	134100	668.25	133650	0	-	-	-	-	-	-	-
					Mid	678.000	135600	585.03	117006	504		-	-	-	-	-	-
					High	690.500	138100	687.17	137434	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	79	Downlink	Low	629.500	125900	622.39	124478	0	15	1561	124850	4	0	0	0
					Mid	632.000	126400	605.63	121126	107		1568	125530	4	4	2	112
					High	639.500	127900	540.77	108154	509		1586	126970	8	2	1	512
				Uplink	Low	675.500	135100	668.39	133678	0	-	-	-	-	-	-	-
					Mid	678.000	135600	580.17	116034	504		-	-	-	-	-	-
					High	685.500	137100	677.31	135462	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	622.000	68636	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	647.000	68886	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	668.000	133172	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	693.000	133422	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	52	Downlink	Low	632.000	126400	626.42	125284	5	15	1574	126010	2	4	2	10
					Mid	629.500	125900	606.46	121292	102		1567	125330	2	0	0	102
					High	637.000	127400	540.7	108140	509		1588	127010	2	4	2	514

				Uplink	Low	678.000	135600	673.32	134664	0	-	-	-	-	-	-	-
					Mid	675.500	135100	580.1	116020	504		-	-	-	-	-	-
					High	683.000	136600	677.24	135448	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 5MHz	E-UTRA CC1	15	75	Downlink	Low	624.500	68661	-	-	-	-	-	-	-	-	-	-
					Mid	637.000	68786	-	-	-	-	-	-	-	-	-	-
					High	644.500	68861	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	670.500	133197	-	-	-	-	-	-	-	-	-	-
					Mid	683.000	133322	-	-	-	-	-	-	-	-	-	-
					High	690.500	133397	-	-	-	-	-	-	-	-	-	-
	NR CC1	5	25	Downlink	Low	634.500	126900	631.35	126270	5	15	1587	126990	0	4	2	10
					Mid	627.000	125400	606.39	121278	102		1566	125310	0	0	0	102
					High	634.500	126900	540.63	108126	509		1587	126990	0	4	2	514
				Uplink	Low	680.500	136100	678.25	135650	0	-	-	-	-	-	-	-
					Mid	673.000	134600	580.03	116006	504		-	-	-	-	-	-
					High	680.500	136100	677.17	135434	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

Table 4.3.1.4.2.71.1-2: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 30 kHz, 100 kHz NR raster, NR CC at the band edge

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 10MHz	E-UTRA CC1	5	25	Downlink	Low	629.500	68711	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	639.500	68811	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	675.500	133247	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	685.500	133347	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	6	1	12
					Mid	632.000	126400	590.96	118192	102		1580	126490	6	8	3	220
					High	647.000	129400	461.24	92248	504		1616	129370	14	6	1	1020
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-
					Mid	678.000	135600	492.24	98448	504		-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	634.500	68761	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	6	1	12
					Mid	632.000	126400	588.44	117688	102		1571	125770	6	5	0	214
					High	644.500	128900	456.22	91244	504		1606	128450	18	7	2	1022
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-
					Mid	678.000	135600	489.72	97944	504		-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-
E-UTRA: 5MHz + NR: 20MHz	E-UTRA CC1	5	25	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink	Low	627.000	125400	617.82	123564	0	15	1554	124350	22	5	0	10
					Mid	632.000	126400	586.1	117220	102		1565	125290	2	5	0	214
					High	642.000	128400	451.38	90276	504		1593	127470	14	7	2	1022

				Uplink	Low	673.000	134600	663.82	132764	0	-	-	-	-	-	-	-
					Mid	678.000	135600	487.38	97476	504		-	-	-	-	-	-
					High	688.000	137600	676.66	135332	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 10MHz	E-UTRA CC1	10	50	Downlink	Low	632.000	68736	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	637.000	68786	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	678.000	133272	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	683.000	133322	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	6	1	12
					Mid	629.500	125900	588.46	117692	102		1573	125810	18	5	0	214
					High	647.000	129400	461.24	92248	504		1616	129370	14	6	1	1020
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-
					Mid	675.500	135100	489.74	97948	504		-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 15MHz	E-UTRA CC1	10	50	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	632.000	68736	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	683.000	133322	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	678.000	133272	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	6	1	12
					Mid	629.500	125900	585.94	117188	102		1567	125330	2	6	1	216
					High	644.500	128900	456.22	91244	504		1606	128450	18	7	2	1022
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-
					Mid	675.500	135100	487.22	97444	504		-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-
E-UTRA: 10MHz + NR: 20MHz	E-UTRA CC1	10	50	Downlink	Low	642.000	68836	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	627.000	68686	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	688.000	133372	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	673.000	133222	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink	Low	627.000	125400	617.82	123564	0	15	1554	124350	22	5	0	10
					Mid	629.500	125900	583.6	116720	102		1561	124850	22	5	0	214
					High	642.000	128400	451.38	90276	504		1593	127470	14	7	2	1022
				Uplink	Low	673.000	134600	663.82	132764	0	-	-	-	-	-	-	-
					Mid	675.500	135100	484.88	96976	504		-	-	-	-	-	-
					High	688.000	137600	676.66	135332	6		-	-	-	-	-	-
E-UTRA: 15MHz +	E-UTRA CC1	15	75	Downlink	Low	634.500	68761	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-

NR: 10MHz					High	634.500	68761	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	680.500	133297	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	680.500	133297	-	-	-	-	-	-	-	-	-	-
	NR CC1	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	6	1	12
					Mid	627.000	125400	585.96	117192	102		1566	125310	18	5	0	214
					High	647.000	129400	461.24	92248	504		1616	129370	14	6	1	1020
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-
					Mid	673.000	134600	487.24	97448	504		-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 15MHz	E-UTRA CC1	15	75	Downlink	Low	639.500	68811	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	629.500	68711	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	685.500	133347	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	675.500	133247	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	6	1	12
					Mid	627.000	125400	583.44	116688	102		1560	124830	2	6	1	216
					High	644.500	128900	456.22	91244	504		1606	128450	18	7	2	1022
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-
					Mid	673.000	134600	484.72	96944	504		-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-
E-UTRA: 15MHz + NR: 20MHz	E-UTRA CC1	15	75	Downlink	Low	644.500	68861	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	624.500	68661	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	690.500	133397	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	670.500	133197	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink	Low	627.000	125400	617.82	123564	0	15	1554	124350	22	5	0	10
					Mid	627.000	125400	581.1	116220	102		1554	124350	22	5	0	214
					High	642.000	128400	451.38	90276	504		1593	127470	14	7	2	1022
				Uplink	Low	673.000	134600	663.82	132764	0	-	-	-	-	-	-	-
					Mid	673.000	134600	482.38	96476	504		-	-	-	-	-	-
					High	688.000	137600	676.66	135332	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 10MHz	E-UTRA CC1	20	100	Downlink	Low	637.000	68786	-	-	-	-	-	-	-	-	-	-
					Mid	639.500	68811	-	-	-	-	-	-	-	-	-	-
					High	632.000	68736	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	683.000	133322	-	-	-	-	-	-	-	-	-	-
					Mid	685.500	133347	-	-	-	-	-	-	-	-	-	-
					High	678.000	133272	-	-	-	-	-	-	-	-	-	-
	NR	10	24	Downlink	Low	622.000	124400	617.68	123536	0	15	1555	124370	14	6	1	12

	CC1				Mid	624.500	124900	583.46	116692	102		1559	124810	18	5	0	214
					High	647.000	129400	461.24	92248	504		1616	129370	14	6	1	1020
				Uplink	Low	668.000	133600	663.68	132736	0	-	-	-	-	-	-	-
					Mid	670.500	134100	484.74	96948	504		-	-	-	-	-	-
					High	693.000	138600	686.52	137304	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 15MHz	E-UTRA CC1	20	100	Downlink	Low	642.000	68836	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	627.000	68686	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	688.000	133372	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	673.000	133222	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	624.500	124900	617.66	123532	0	15	1553	124330	2	6	1	12
					Mid	624.500	124900	580.94	116188	102		1553	124330	2	6	1	216
					High	644.500	128900	456.22	91244	504		1606	128450	18	7	2	1022
				Uplink	Low	670.500	134100	663.66	132732	0	-	-	-	-	-	-	-
					Mid	670.500	134100	482.22	96444	504		-	-	-	-	-	-
					High	690.500	138100	681.5	136300	6		-	-	-	-	-	-
E-UTRA: 20MHz + NR: 20MHz	E-UTRA CC1	20	100	Downlink	Low	647.000	68886	-	-	-	-	-	-	-	-	-	-
					Mid	644.500	68861	-	-	-	-	-	-	-	-	-	-
					High	622.000	68636	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	693.000	133422	-	-	-	-	-	-	-	-	-	-
					Mid	690.500	133397	-	-	-	-	-	-	-	-	-	-
					High	668.000	133172	-	-	-	-	-	-	-	-	-	-
	NR CC1	20	51	Downlink	Low	627.000	125400	617.82	123564	0	15	1554	124350	22	5	0	10
					Mid	624.500	124900	578.6	115720	102		1547	123850	22	5	0	214
					High	642.000	128400	451.38	90276	504		1593	127470	14	7	2	1022
				Uplink	Low	673.000	134600	663.82	132764	0	-	-	-	-	-	-	-
					Mid	670.500	134100	479.88	95976	504		-	-	-	-	-	-
					High	688.000	137600	676.66	135332	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

Table 4.3.1.4.2.71.1-2A: EN-DC combination DC_(n)71AA, intra-band contiguous, SCS 30 kHz, 100 kHz NR raster, E-UTRA CC at the band edge

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
E-UTRA: 5MHz + NR: 15MHz	E-UTRA CC1	5	25	Downlink	Low	619.500	68611	-	-	-	-	-	-	-	-	-	-
					Mid	642.000	68836	-	-	-	-	-	-	-	-	-	-
					High	649.500	68911	-	-	-	-	-	-	-	-	-	-
				Uplink	Low	665.500	133147	-	-	-	-	-	-	-	-	-	-
					Mid	688.000	133372	-	-	-	-	-	-	-	-	-	-
					High	695.500	133447	-	-	-	-	-	-	-	-	-	-
	NR CC1	15	38	Downlink	Low	629.500	125900	622.66	124532	0	15	1567	125330	2	6	1	12
					Mid	632.000	126400	588.44	117688	102		1571	125770	6	5	0	214
					High	639.500	127900	451.22	90244	504		1592	127450	18	7	2	1022
				Uplink	Low	675.500	135100	668.66	133732	0	-	-	-	-	-	-	-
					Mid	678.000	135600	489.72	97944	504		-	-	-	-	-	-
					High	685.500	137100	676.5	135300	6		-	-	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-2 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch. ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.
Note 2: The nominal carrier spacing between the E-UTRA and the NR carriers is set in accordance to TS 38.101-3 [9], clause 5.4B1.

4.3.1.4.3 Intra-band non-contiguous EN-DC configurations within FR1

4.3.1.4.3.1 – 4.3.1.4.3.40 FFS

4.3.1.4.3.41 Intra-band non-contiguous EN-DC configurations DC_41_n41

4.3.1.4.3.41.1 DC_41A_n41A

Editor's note: Additional test frequencies for intra-band non-contiguous CA configuration DC_41A_41A may be added to this clause as required by the RF test cases.

Table 4.3.1.4.41.1-1: Test frequencies for EN-DC combination DC_41A_n41A, SCS=30kHz, Max Wgap

Test Frequency ID	NR channel bandwidth [MHz]	NR scs [kHz]	NR test frequency range (Note 1)	E-UTRA channel bandwidth [MHz]	E-UTRA frequency range (Note 2)
Low with maxWgap (NR – E-UTRA)	40	30	Low	20	High
	50				
	60				
	80				
	100				
High with maxWgap (E-UTRA - NR)	40		High	20	Low
	50				
	60				
	80				
	100				
Note 1: The NR test frequencies are specified in clause 4.3.1.1.1.41 for the NR Channel Bandwidth, NR scs and NR test frequency range as given in the table.					
Note 2: The E-UTRA test frequencies are specified in TS 36.508 [2], clause 4.3.1.2.9 for the E-UTRA channel bandwidth and E-UTRA test frequency range as given in the table.					

4.3.1.5 Test frequencies for EN-DC band combinations including FR2

4.3.1.5.1 Inter-band EN-DC configurations including FR2

4.3.1.5.1.1 General

For inter-band EN-DC configurations as listed in this sub-clause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1.2 are used.

For the secondary NR band in inter-band signalling test cases, the band selected is based on the subset of NR bands supported within the EN-DC configurations specified in Table 4.3.1.4.1.2-1 for NR FR1 and 4.3.1.5.1.2-1 for NR FR2.

4.3.1.5.1.2 Inter-band EN-DC configurations including FR2 (two bands)

Table 4.3.1.5.1.2-1: Inter-band EN-DC configurations including FR2 (two bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_30A_n260J	DC_30A_n260A	30A	CA_n260J	30A	n260A
DC_1A_n257A	DC_1A_n257A	1A	n257A	1A	n257A
DC_1A_n257D	DC_1A_n257A	1A	CA_n257D	1A	n257A
DC_1A_n257E	DC_1A_n257A	1A	CA_n257E	1A	n257A
DC_1A_n257F	DC_1A_n257A	1A	CA_n257F	1A	n257A
DC_2A_n257A	DC_2A_n257A	2A	n257A	2A	n257A
DC_2C_n257A	DC_2A_n257A	CA_2C	n257A	2A	n257A
DC_2A_n257(2A)	DC_2A_n257A	2A	n257(2A)	2A	n257A
DC_2A-2A_n257A	DC_2A_n257A	CA_2A-2A	n257A	2A	n257A
DC_2A_n260A	DC_2A_n260A	2A	n260A	2A	n260A
DC_2A_n260G	DC_2A_n260A	2A	CA_n260G	2A	n260A
DC_2A_n260H	DC_2A_n260A	2A	CA_n260H	2A	n260A
DC_2A_n260I	DC_2A_n260A	2A	CA_n260I	2A	n260A
DC_2A_n260J	DC_2A_n260A	2A	CA_n260J	2A	n260A
DC_2A_n260K	DC_2A_n260A	2A	CA_n260K	2A	n260A
DC_2A_n260L	DC_2A_n260A	2A	CA_n260L	2A	n260A
DC_2A_n260M	DC_2A_n260A	2A	CA_n260M	2A	n260A
DC_2C_n260A	DC_2A_n260A	CA_2C	n260A	2A	n260A
DC_2A_n260(2A)	DC_2A_n260A	2A	n260(2A)	2A	n260A
DC_2A-2A_n260A	DC_2A_n260A	CA_2A-2A	n260A	2A	n260A
DC_2A-2A_n260G	DC_2A_n260A	CA_2A-2A	CA_n260G	2A	n260A
DC_2A-2A_n260H	DC_2A_n260A	CA_2A-2A	CA_n260H	2A	n260A
DC_2A-2A_n260I	DC_2A_n260A	CA_2A-2A	CA_n260I	2A	n260A
DC_2A-2A_n260J	DC_2A_n260A	CA_2A-2A	CA_n260J	2A	n260A
DC_2A-2A_n260K	DC_2A_n260A	CA_2A-2A	CA_n260K	2A	n260A
DC_2A-2A_n260L	DC_2A_n260A	CA_2A-2A	CA_n260L	2A	n260A
DC_2A-2A_n260M	DC_2A_n260A	CA_2A-2A	CA_n260M	2A	n260A
DC_3A_n257A	DC_3A_n257A	3A	n257A	3A	n257A
DC_3A_n257D	DC_3A_n257A	3A	CA_n257D	3A	n257A
DC_3A_n257E	DC_3A_n257A	3A	CA_n257E	3A	n257A
DC_3A_n257F	DC_3A_n257A	3A	CA_n257F	3A	n257A
DC_3A_n257G	DC_3A_n257A	3A	CA_n257G	3A	n257A
	DC_3A_n257B	3A	CA_n257G	3A	CA_n257B

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_3A_n257D	3A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	3A	CA_n257G	3A	CA_n257G
DC_3A_n257H	DC_3A_n257A	3A	CA_n257H	3A	n257A
	DC_3A_n257B	3A	CA_n257H	3A	CA_n257B
	DC_3A_n257D	3A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	3A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	3A	CA_n257H	3A	CA_n257H
DC_3A_n257I	DC_3A_n257A	3A	CA_n257I	3A	n257A
	DC_3A_n257B	3A	CA_n257I	3A	CA_n257B
	DC_3A_n257D	3A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	3A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	3A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	3A	CA_n257I	3A	CA_n257I
DC_3A_n258A	DC_3A_n258A	3A	n258A	3A	n258A
DC_5A_n257A	DC_5A_n257A	5A	n257A	5A	n257A
DC_5B_n257A	DC_5A_n257A	CA_5B	n257A	5A	n257A
	DC_5B_n257A	CA_5B	n257A	CA_5B	n257A
DC_5A-5A_n257A	DC_5A_n257A	CA_5A-5A	n257A	5A	n257A
DC_5A_n260A	DC_5A_n260A	5A	n260A	5A	n260A
DC_5A_n260B	DC_5A_n260A	5A	CA_n260B	5A	n260A
DC_5A_n260C	DC_5A_n260A	5A	CA_n260C	5A	n260A
DC_5A_n260D	DC_5A_n260A	5A	CA_n260D	5A	n260A
DC_5A_n260E	DC_5A_n260A	5A	CA_n260E	5A	n260A
DC_5A_n260F	DC_5A_n260A	5A	CA_n260F	5A	n260A
DC_5A_n260G	DC_5A_n260A	5A	CA_n260G	5A	n260A
DC_5A_n260H	DC_5A_n260A	5A	CA_n260H	5A	n260A
DC_5A_n260I	DC_5A_n260A	5A	CA_n260I	5A	n260A
DC_5A_n260J	DC_5A_n260A	5A	CA_n260J	5A	n260A
DC_5A_n260K	DC_5A_n260A	5A	CA_n260K	5A	n260A
DC_5A_n260L	DC_5A_n260A	5A	CA_n260L	5A	n260A
DC_5A_n260M	DC_5A_n260A	5A	CA_n260M	5A	n260A
DC_5A_n260O	DC_5A_n260A	5A	CA_n260O	5A	n260A
DC_5A_n260P	DC_5A_n260A	5A	CA_n260P	5A	n260A
DC_5A_n260Q	DC_5A_n260A	5A	CA_n260Q	5A	n260A
DC_5B_n260A	DC_5A_n260A	CA_5B	n260A	5A	n260A
	DC_5B_n260A	CA_5B	n260A	CA_5B	n260A
DC_5A_n260(2A)	DC_5A_n260A	5A	n260(2A)	5A	n260A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_5A_n260(3A)	DC_5A_n260A	5A	n260(3A)	5A	n260A
DC_5A_n260(4A)	DC_5A_n260A	5A	n260(4A)	5A	n260A
DC_5A_n260(A-I)	DC_5A_n260A	5A	CA_n260(A-I)	5A	n260A
DC_5A_n260(D-G)	DC_5A_n260A	5A	CA_n260(D-G)	5A	n260A
DC_5A_n260(D-H)	DC_5A_n260A	5A	CA_n260(D-H)	5A	n260A
DC_5A_n260(D-I)	DC_5A_n260A	5A	CA_n260(D-I)	5A	n260A
DC_5A_n260(D-O)	DC_5A_n260A	5A	CA_n260(D-O)	5A	n260A
DC_5A_n260(D-P)	DC_5A_n260A	5A	CA_n260(D-P)	5A	n260A
DC_5A_n260(D-Q)	DC_5A_n260A	5A	CA_n260(D-Q)	5A	n260A
DC_5A_n260(E-O)	DC_5A_n260A	5A	CA_n260(E-O)	5A	n260A
DC_5A_n260(E-P)	DC_5A_n260A	5A	CA_n260(E-P)	5A	n260A
DC_5A_n260(E-Q)	DC_5A_n260A	5A	CA_n260(E-Q)	5A	n260A
DC_5A_n260(G-I)	DC_5A_n260A	5A	CA_n260(G-I)	5A	n260A
DC_5A-5A_n260A	DC_5A_n260A	CA_5A-5A	n260A	5A	n260A
DC_5A_n261A	DC_5A_n261A	5A	n261A	5A	n261A
DC_5A_n261B	DC_5A_n261A	5A	CA_n261B	5A	n261A
DC_5A_n261C	DC_5A_n261A	5A	CA_n261C	5A	n261A
DC_5A_n261D	DC_5A_n261A	5A	CA_n261D	5A	n261A
DC_5A_n261E	DC_5A_n261A	5A	CA_n261E	5A	n261A
DC_5A_n261F	DC_5A_n261A	5A	CA_n261F	5A	n261A
DC_5A_n261G	DC_5A_n261A	5A	CA_n261G	5A	n261A
DC_5A_n261H	DC_5A_n261A	5A	CA_n261H	5A	n261A
DC_5A_n261I	DC_5A_n261A	5A	CA_n261I	5A	n261A
DC_5A_n261J	DC_5A_n261A	5A	CA_n261J	5A	n261A
DC_5A_n261K	DC_5A_n261A	5A	CA_n261K	5A	n261A
DC_5A_n261L	DC_5A_n261A	5A	CA_n261L	5A	n261A
DC_5A_n261M	DC_5A_n261A	5A	CA_n261M	5A	n261A
DC_5A_n261O	DC_5A_n261A	5A	CA_n261O	5A	n261A
DC_5A_n261P	DC_5A_n261A	5A	CA_n261P	5A	n261A
DC_5A_n261Q	DC_5A_n261A	5A	CA_n261Q	5A	n261A
DC_5A_n261(2A)	DC_5A_n261A	5A	n261(2A)	5A	n261A
DC_5A_n261(3A)	DC_5A_n261A	5A	n261(3A)	5A	n261A
DC_5A_n261(4A)	DC_5A_n261A	5A	n261(4A)	5A	n261A
DC_5A_n261(D-G)	DC_5A_n261A	5A	CA_n261(D-G)	5A	n261A
DC_5A_n261(D-H)	DC_5A_n261A	5A	CA_n261(D-H)	5A	n261A
DC_5A_n261(D-I)	DC_5A_n261A	5A	CA_n261(D-I)	5A	n261A
DC_5A_n261(D-O)	DC_5A_n261A	5A	CA_n261(D-O)	5A	n261A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_5A_n261(D-P)	DC_5A_n261A	5A	CA_n261(D-P)	5A	n261A
DC_5A_n261(D-Q)	DC_5A_n261A	5A	CA_n261(D-Q)	5A	n261A
DC_5A_n261(E-O)	DC_5A_n261A	5A	CA_n261(E-O)	5A	n261A
DC_5A_n261(E-P)	DC_5A_n261A	5A	CA_n261(E-P)	5A	n261A
DC_5A_n261(E-Q)	DC_5A_n261A	5A	CA_n261(E-Q)	5A	n261A
DC_7A_n257A	DC_7A_n257A	7A	n257A	7A	n257A
DC_7A-7A_n257A	DC_7A_n257A	CA_7A-7A	n257A	7A	n257A
DC_7A_n258A	DC_7A_n258A	7A	n258A	7A	n258A
DC_8A_n257A	DC_8A_n257A	8A	n257A	8A	n257A
DC_8A_n258A	DC_8A_n258A	8A	n258A	8A	n258A
DC_11A_n257A	DC_11A_n257A	11A	n257A	11A	n257A
DC_12A_n260A	DC_12A_n260A	12A	n260A	12A	n260A
DC_12A_n260G	DC_12A_n260A	12A	CA_n260G	12A	n260A
DC_12A_n260H	DC_12A_n260A	12A	CA_n260H	12A	n260A
DC_12A_n260I	DC_12A_n260A	12A	CA_n260I	12A	n260A
DC_12A_n260J	DC_12A_n260A	12A	CA_n260J	12A	n260A
DC_12A_n260K	DC_12A_n260A	12A	CA_n260K	12A	n260A
DC_12A_n260L	DC_12A_n260A	12A	CA_n260L	12A	n260A
DC_12A_n260M	DC_12A_n260A	12A	CA_n260M	12A	n260A
DC_12A_n260(A-I)	DC_12A_n260A	12A	CA_n260(A-I)	12A	n260A
DC_12A_n260(G-I)	DC_12A_n260A	12A	CA_n260(G-I)	12A	n260A
DC_13A_n257A	DC_13A_n257A	13A	n257A	13A	n257A
DC_13A_n260A	DC_13A_n260A	13A	n260A	13A	n260A
DC_18A_n257A	DC_18A_n257A	18A	n257A	18A	n257A
DC_19A_n257A	DC_19A_n257A	19A	n257A	19A	n257A
DC_19A_n257D	DC_19A_n257A	19A	CA_n257D	19A	n257A
DC_19A_n257E	DC_19A_n257A	19A	CA_n257E	19A	n257A
DC_19A_n257F	DC_19A_n257A	19A	CA_n257F	19A	n257A
DC_19A_n257G	DC_19A_n257A	19A	CA_n257G	19A	n257A
	DC_19A_n257G	19A	CA_n257G	19A	CA_n257G
DC_19A_n257H	DC_19A_n257A	19A	CA_n257H	19A	n257A
	DC_19A_n257G	19A	CA_n257H	19A	CA_n257G
	DC_19A_n257H	19A	CA_n257H	19A	CA_n257H
DC_19A_n257I	DC_19A_n257A	19A	CA_n257I	19A	n257A
	DC_19A_n257G	19A	CA_n257I	19A	CA_n257G
	DC_19A_n257H	19A	CA_n257I	19A	CA_n257H
	DC_19A_n257I	19A	CA_n257I	19A	CA_n257I

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_20A_n258A	DC_20A_n258A	20A	n258A	20A	n258A
DC_21A_n257A	DC_21A_n257A	21A	n257A	21A	n257A
DC_21A_n257D	DC_21A_n257A	21A	CA_n257D	21A	n257A
DC_21A_n257E	DC_21A_n257A	21A	CA_n257E	21A	n257A
DC_21A_n257F	DC_21A_n257A	21A	CA_n257F	21A	n257A
DC_21A_n257G	DC_21A_n257A	21A	CA_n257G	21A	n257A
	DC_21A_n257G	21A	CA_n257G	21A	CA_n257G
DC_21A_n257H	DC_21A_n257A	21A	CA_n257H	21A	n257A
	DC_21A_n257G	21A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	21A	CA_n257H	21A	CA_n257H
DC_21A_n257I	DC_21A_n257A	21A	CA_n257I	21A	n257A
	DC_21A_n257G	21A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	21A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	21A	CA_n257I	21A	CA_n257I
DC_26A_n257A	DC_26A_n257A	26A	n257A	26A	n257A
DC_28A_n257A	DC_28A_n257A	28A	n257A	28A	n257A
DC_28A_n257D	DC_28A_n257A	28A	CA_n257D	28A	n257A
DC_28A_n257E	DC_28A_n257A	28A	CA_n257E	28A	n257A
DC_28A_n257F	DC_28A_n257A	28A	CA_n257F	28A	n257A
DC_28A_n258A	DC_28A_n258A	28A	n258A	28A	n258A
DC_30A_n260A	DC_30A_n260A	30A	n260A	30A	n260A
DC_30A_n260G	DC_30A_n260A	30A	CA_n260G	30A	n260A
DC_30A_n260H	DC_30A_n260A	30A	CA_n260H	30A	n260A
DC_30A_n260I	DC_30A_n260A	30A	CA_n260I	30A	n260A
DC_30A_n260J	DC_30A_n260A	30A	CA_n260J	30A	n260A
DC_30A_n260K	DC_30A_n260A	30A	CA_n260K	30A	n260A
DC_30A_n260L	DC_30A_n260A	30A	CA_n260L	30A	n260A
DC_30A_n260M	DC_30A_n260A	30A	CA_n260M	30A	n260A
DC_30A_n260(A-I)	DC_30A_n260A	30A	CA_n260(A-I)	30A	n260A
DC_30A_n260(G-I)	DC_30A_n260A	30A	CA_n260(G-I)	30A	n260A
DC_39A_n258A	DC_39A_n258A	39A	n258A	39A	n258A
DC_41A_n257A	DC_41A_n257A	41A	n257A	41A	n257A
DC_41A_n258A	DC_41A_n258A	41A	n258A	41A	n258A
DC_41C_n257A	DC_41A_n257A	CA_41C	n257A	41A	n257A
	DC_41C_n257A	CA_41C	n257A	CA_41C	n257A
DC_42A_n257A	DC_42A_n257A	42A	n257A	42A	n257A
DC_42C_n257A	DC_42A_n257A	CA_42C	n257A	42A	n257A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_42C_n257A	CA_42C	n257A	CA_42C	n257A
DC_42A_n257D	DC_42A_n257A	42A	CA_n257D	42A	n257A
DC_42A_n257E	DC_42A_n257A	42A	CA_n257E	42A	n257A
DC_42A_n257F	DC_42A_n257A	42A	CA_n257F	42A	n257A
DC_42C_n257D	DC_42A_n257A	CA_42C	CA_n257D	42A	n257A
	DC_42C_n257A	CA_42C	CA_n257D	CA_42C	n257A
DC_42C_n257E	DC_42A_n257A	CA_42C	CA_n257E	42A	n257A
	DC_42C_n257A	CA_42C	CA_n257E	CA_42C	n257A
DC_42C_n257F	DC_42A_n257A	CA_42C	CA_n257F	42A	n257A
	DC_42C_n257A	CA_42C	CA_n257F	CA_42C	n257A
DC_42D_n257A	DC_42A_n257A	CA_42D	n257A	42A	n257A
	DC_42C_n257A	CA_42D	n257A	CA_42C	n257A
DC_42E_n257A	DC_42A_n257A	CA_42E	n257A	42A	n257A
	DC_42C_n257A	CA_42E	n257A	CA_42C	n257A
DC_48A_n257A	DC_48A_n257A	48A	n257A	48A	n257A
DC_48C_n257A	DC_48A_n257A	CA_48C	n257A	48A	n257A
	DC_48C_n257A	CA_48C	n257A	CA_48C	n257A
DC_48A-48A_n257A	DC_48A_n257A	CA_48A-48A	n257A	48A	n257A
DC_48A_n260A	DC_48A_n260A	48A	n260A	48A	n260A
DC_48C_n260A	DC_48A_n260A	CA_48C	n260A	48A	n260A
	DC_48C_n260A	CA_48C	n260A	CA_48C	n260A
DC_48A-48A_n260A	DC_48A_n260A	CA_48A-48A	n260A	48A	n260A
DC_66A_n257A	DC_66A_n257A	66A	n257A	66A	n257A
DC_66A_n257(2A)	DC_66A_n257A	66A	n257(2A)	66A	n257A
DC_66A_n257G	DC_66A_n257A	66A	CA_n257G	66A	n257A
DC_66A_n257H	DC_66A_n257A	66A	CA_n257H	66A	n257A
DC_66A_n257I	DC_66A_n257A	66A	CA_n257I	66A	n257A
DC_66A_n257J	DC_66A_n257A	66A	CA_n257J	66A	n257A
DC_66A_n257K	DC_66A_n257A	66A	CA_n257K	66A	n257A
DC_66A_n257L	DC_66A_n257A	66A	CA_n257L	66A	n257A
DC_66A_n257M	DC_66A_n257A	66A	CA_n257M	66A	n257A
DC_66C_n257A	DC_66A_n257A	CA_66C	n257A	66A	n257A
DC_66A-66A_n257A	DC_66A_n257A	CA_66A-66A	n257A	66A	n257A
DC_66A_n260A	DC_66A_n260A	66A	n260A	66A	n260A
DC_66A_n260D	DC_66A_n260A	66A	CA_n260D	66A	n260A
DC_66A_n260E	DC_66A_n260A	66A	CA_n260E	66A	n260A
DC_66A_n260F	DC_66A_n260A	66A	CA_n260F	66A	n260A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_66A_n260G	DC_66A_n260A	66A	CA_n260G	66A	n260A
DC_66A_n260H	DC_66A_n260A	66A	CA_n260H	66A	n260A
DC_66A_n260I	DC_66A_n260A	66A	CA_n260I	66A	n260A
DC_66A_n260J	DC_66A_n260A	66A	CA_n260J	66A	n260A
DC_66A_n260K	DC_66A_n260A	66A	CA_n260K	66A	n260A
DC_66A_n260L	DC_66A_n260A	66A	CA_n260L	66A	n260A
DC_66A_n260M	DC_66A_n260A	66A	CA_n260M	66A	n260A
DC_66A_n260O	DC_66A_n260A	66A	CA_n260O	66A	n260A
DC_66A_n260P	DC_66A_n260A	66A	CA_n260P	66A	n260A
DC_66A_n260Q	DC_66A_n260A	66A	CA_n260Q	66A	n260A
DC_66A_n260(2A)	DC_66A_n260A	66A	n260(2A)	66A	n260A
DC_66A_n260(3A)	DC_66A_n260A	66A	n260(3A)	66A	n260A
DC_66A_n260(4A)	DC_66A_n260A	66A	n260(4A)	66A	n260A
DC_66A_n260(A-I)	DC_66A_n260A	66A	CA_n260(A-I)	66A	n260A
DC_66A_n260(D-G)	DC_66A_n260A	66A	CA_n260(D-G)	66A	n260A
DC_66A_n260(D-H)	DC_66A_n260A	66A	CA_n260(D-H)	66A	n260A
DC_66A_n260(D-I)	DC_66A_n260A	66A	CA_n260(D-I)	66A	n260A
DC_66A_n260(D-O)	DC_66A_n260A	66A	CA_n260(D-O)	66A	n260A
DC_66A_n260(D-P)	DC_66A_n260A	66A	CA_n260(D-P)	66A	n260A
DC_66A_n260(D-Q)	DC_66A_n260A	66A	CA_n260(D-Q)	66A	n260A
DC_66A_n260(E-O)	DC_66A_n260A	66A	CA_n260(E-O)	66A	n260A
DC_66A_n260(E-P)	DC_66A_n260A	66A	CA_n260(E-P)	66A	n260A
DC_66A_n260(E-Q)	DC_66A_n260A	66A	CA_n260(E-Q)	66A	n260A
DC_66A_n260(G-I)	DC_66A_n260A	66A	CA_n260(G-I)	66A	n260A
DC_66A-66A_n260A	DC_66A_n260A	CA_66A-66A	n260A	66A	n260A
DC_66A-66A_n260G	DC_66A_n260A	CA_66A-66A	CA_n260G	66A	n260A
DC_66A-66A_n260H	DC_66A_n260A	CA_66A-66A	CA_n260H	66A	n260A
DC_66A-66A_n260I	DC_66A_n260A	CA_66A-66A	CA_n260I	66A	n260A
DC_66A-66A_n260J	DC_66A_n260A	CA_66A-66A	CA_n260J	66A	n260A
DC_66A-66A_n260K	DC_66A_n260A	CA_66A-66A	CA_n260K	66A	n260A
DC_66A-66A_n260L	DC_66A_n260A	CA_66A-66A	CA_n260L	66A	n260A
DC_66A-66A_n260M	DC_66A_n260A	CA_66A-66A	CA_n260M	66A	n260A
DC_66A_n261A	DC_66A_n261A	66A	n261A	66A	n261A
DC_66A_n261D	DC_66A_n261A	66A	CA_n261D	66A	n261A
DC_66A_n261E	DC_66A_n261A	66A	CA_n261E	66A	n261A
DC_66A_n261F	DC_66A_n261A	66A	CA_n261F	66A	n261A
DC_66A_n261G	DC_66A_n261A	66A	CA_n261G	66A	n261A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_66A_n261H	DC_66A_n261A	66A	CA_n261H	66A	n261A
DC_66A_n261I	DC_66A_n261A	66A	CA_n261I	66A	n261A
DC_66A_n261J	DC_66A_n261A	66A	CA_n261J	66A	n261A
DC_66A_n261K	DC_66A_n261A	66A	CA_n261K	66A	n261A
DC_66A_n261L	DC_66A_n261A	66A	CA_n261L	66A	n261A
DC_66A_n261M	DC_66A_n261A	66A	CA_n261M	66A	n261A
DC_66A_n261O	DC_66A_n261A	66A	CA_n261O	66A	n261A
DC_66A_n261P	DC_66A_n261A	66A	CA_n261P	66A	n261A
DC_66A_n261Q	DC_66A_n261A	66A	CA_n261Q	66A	n261A
DC_66A_n261(2A)	DC_66A_n261A	66A	n261(2A)	66A	n261A
DC_66A_n261(3A)	DC_66A_n261A	66A	n261(3A)	66A	n261A
DC_66A_n261(4A)	DC_66A_n261A	66A	n261(4A)	66A	n261A
DC_66A_n261(D-G)	DC_66A_n261A	66A	CA_n261(D-G)	66A	n261A
DC_66A_n261(D-H)	DC_66A_n261A	66A	CA_n261(D-H)	66A	n261A
DC_66A_n261(D-I)	DC_66A_n261A	66A	CA_n261(D-I)	66A	n261A
DC_66A_n261(D-O)	DC_66A_n261A	66A	CA_n261(D-O)	66A	n261A
DC_66A_n261(D-P)	DC_66A_n261A	66A	CA_n261(D-P)	66A	n261A
DC_66A_n261(D-Q)	DC_66A_n261A	66A	CA_n261(D-Q)	66A	n261A
DC_66A_n261(E-O)	DC_66A_n261A	66A	CA_n261(E-O)	66A	n261A
DC_66A_n261(E-P)	DC_66A_n261A	66A	CA_n261(E-P)	66A	n261A
DC_66A_n261(E-Q)	DC_66A_n261A	66A	CA_n261(E-Q)	66A	n261A

4.3.1.5.1.3 Inter-band EN-DC configurations including FR2 (three bands)

Table 4.3.1.5.1.3-1: Inter-band EN-DC configurations including FR2 (three bands)

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_1A-3A_n257A	DC_1A_n257A	CA_1A-3A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A	n257A	3A	n257A
DC_1A-3A_n257G	DC_1A_n257A	CA_1A-3A	CA_n257G	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n257G	1A	CA_n257D
	DC_3A_n257A	CA_1A-3A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n257G	3A	CA_n257G
DC_1A-3A_n257H	DC_1A_n257A	CA_1A-3A	CA_n257H	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n257H	1A	CA_n257D
	DC_3A_n257A	CA_1A-3A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A	CA_n257H	3A	CA_n257H
DC_1A-3A_n257I	DC_1A_n257A	CA_1A-3A	CA_n257I	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n257I	1A	CA_n257D
	DC_3A_n257A	CA_1A-3A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A	CA_n257I	3A	CA_n257I
DC_1A-19A_n257A	DC_1A_n257A	CA_1A-19A	n257A	1A	n257A
	DC_19A_n257A	CA_1A-19A	n257A	19A	n257A
DC_1A-19A_n257G	DC_1A_n257A	CA_1A-19A	CA_n257G	1A	n257A
	DC_1A-257D	CA_1A-19A	CA_n257G	-	CA_1A-257D
	DC_1A_n257G	CA_1A-19A	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_1A-19A	CA_n257G	19A	CA_n257D
DC_1A-19A_n257H	DC_1A_n257A	CA_1A-19A	CA_n257H	1A	n257A
	DC_1A-257D	CA_1A-19A	CA_n257H	-	CA_1A-257D
	DC_1A_n257G	CA_1A-19A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A	CA_n257H	19A	n257A
	DC_19A_n257D	CA_1A-19A	CA_n257H	19A	CA_n257D
DC_1A-19A_n257I	DC_1A_n257A	CA_1A-19A	CA_n257I	1A	n257A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_1A-257D	CA_1A-19A	CA_n257I	-	CA_1A-257D
	DC_1A_n257G	CA_1A-19A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_1A-19A	CA_n257I	19A	CA_n257D
DC_1A-21A_n257A	DC_1A_n257A	CA_1A-21A	n257A	1A	n257A
	DC_21A_n257A	CA_1A-21A	n257A	21A	n257A
DC_1A-21A_n257G	DC_1A_n257A	CA_1A-21A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-21A	CA_n257G	1A	CA_n257G
	DC_21A_n257A	CA_1A-21A	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-21A	CA_n257G	21A	CA_n257G
DC_1A-21A_n257H	DC_1A_n257A	CA_1A-21A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-21A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A	CA_n257H	1A	CA_n257H
	DC_21A_n257A	CA_1A-21A	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-21A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A	CA_n257H	21A	CA_n257H
DC_1A-21A_n257I	DC_1A_n257A	CA_1A-21A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-21A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-21A	CA_n257I	1A	CA_n257I
	DC_21A_n257A	CA_1A-21A	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-21A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-21A	CA_n257I	21A	CA_n257I
DC_1A-42A_n257A	DC_1A_n257A	CA_1A-42A	n257A	1A	n257A
	DC_42A_n257A	CA_1A-42A	n257A	42A	n257A
DC_1A-42A_n257G	DC_1A_n257A	CA_1A-42A	CA_n257G	1A	n257A
	DC_1A_n257D	CA_1A-42A	CA_n257G	1A	CA_n257D
	DC_1A_n257A	CA_1A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-42A	CA_n257G	1A	CA_n257G
	DC_42A_n257A	CA_1A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_1A-42A	CA_n257G	42A	CA_n257D
DC_1A-42A_n257H	DC_1A_n257A	CA_1A-42A	CA_n257H	1A	n257A
	DC_1A_n257D	CA_1A-42A	CA_n257H	1A	CA_n257D
	DC_1A_n257A	CA_1A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-42A	CA_n257H	1A	CA_n257G

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_1A_n257H	CA_1A-42A	CA_n257H	1A	CA_n257H
	DC_42A_n257A	CA_1A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_1A-42A	CA_n257H	42A	CA_n257D
DC_1A-42A_n257I	DC_1A_n257A	CA_1A-42A	CA_n257I	1A	n257A
	DC_1A_n257D	CA_1A-42A	CA_n257I	1A	CA_n257D
	DC_1A_n257A	CA_1A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-42A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-42A	CA_n257I	1A	CA_n257I
	DC_42A_n257A	CA_1A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_1A-42A	CA_n257I	42A	CA_n257D
DC_1A-42C_n257A	DC_1A_n257A	CA_1A-42C	n257A	1A	n257A
	DC_42A_n257A	CA_1A-42C	n257A	42A	n257A
DC_1A-42D_n257A	DC_1A_n257A	CA_1A-42D	n257A	1A	n257A
	DC_42A_n257A	CA_1A-42D	n257A	42A	n257A
DC_1A-42E_n257A	DC_1A_n257A	CA_1A-42E	n257A	1A	n257A
	DC_42A_n257A	CA_1A-42E	n257A	42A	n257A
DC_1A-42E_n257G	DC_1A_n257A	CA_1A-42E	CA_n257G	1A	n257A
	DC_1A_n257D	CA_1A-42E	CA_n257G	1A	CA_n257D
	DC_1A_n257A	CA_1A-42E	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-42E	CA_n257G	1A	CA_n257G
	DC_42A_n257A	CA_1A-42E	CA_n257G	42A	n257A
	DC_42A_n257D	CA_1A-42E	CA_n257G	42A	CA_n257D
DC_1A-42E_n257H	DC_1A_n257A	CA_1A-42E	CA_n257H	1A	n257A
	DC_1A_n257D	CA_1A-42E	CA_n257H	1A	CA_n257D
	DC_1A_n257A	CA_1A-42E	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-42E	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-42E	CA_n257H	1A	CA_n257H
	DC_42A_n257A	CA_1A-42E	CA_n257H	42A	n257A
	DC_42A_n257D	CA_1A-42E	CA_n257H	42A	CA_n257D
DC_1A-42E_n257I	DC_1A_n257A	CA_1A-42E	CA_n257I	1A	n257A
	DC_1A_n257D	CA_1A-42E	CA_n257I	1A	CA_n257D
	DC_1A_n257A	CA_1A-42E	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-42E	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-42E	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-42E	CA_n257I	1A	CA_n257I
	DC_42A_n257A	CA_1A-42E	CA_n257I	42A	n257A
	DC_42A_n257D	CA_1A-42E	CA_n257I	42A	CA_n257D

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
DC_2A-5A_n257A	DC_2A_n257A	CA_2A-5A	n257A	2A	n257A
	DC_5A_n257A	CA_2A-5A	n257A	5A	n257A
DC_2A-5A_n260A	DC_2A_n260A	CA_2A-5A	n260A	2A	n260A
	DC_5A_n260A	CA_2A-5A	n260A	5A	n260A
DC_2A-12A_n260A	DC_2A_n260A	CA_2A-12A	n260A	2A	n260A
	DC_12A_n260A	CA_2A-12A	n260A	12A	n260A
DC_2A-30A_n260A	DC_2A_n260A	CA_2A-30A	n260A	2A	n260A
	DC_30A_n260A	CA_2A-30A	n260A	30A	n260A
DC_2A-66A_n257A	DC_2A_n257A	CA_2A-66A	n257A	2A	n257A
	DC_66A_n257A	CA_2A-66A	n257A	66A	n257A
DC_2A-66A_n260A	DC_2A_n260A	CA_2A-66A	n260A	2A	n260A
	DC_66A_n260A	CA_2A-66A	n260A	66A	n260A
DC_3A-19A_n257A	DC_3A_n257A	CA_3A-19A	n257A	3A	n257A
	DC_19A_n257A	CA_3A-19A	n257A	19A	n257A
DC_3A-19A_n257G	DC_3A_n257A	CA_3A-19A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-19A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_3A-19A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_3A-19A	CA_n257G	19A	CA_n257D
DC_3A-19A_n257H	DC_3A_n257A	CA_3A-19A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-19A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A	CA_n257H	3A	CA_n257H
	DC_19A_n257A	CA_3A-19A	CA_n257H	19A	n257A
	DC_19A_n257D	CA_3A-19A	CA_n257H	19A	CA_n257D
DC_3A-19A_n257I	DC_3A_n257A	CA_3A-19A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-19A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-19A	CA_n257I	3A	CA_n257I
	DC_19A_n257A	CA_3A-19A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_3A-19A	CA_n257I	19A	CA_n257D
DC_3A-21A_n257A	DC_3A_n257A	CA_3A-21A	n257A	3A	n257A
	DC_21A_n257A	CA_3A-21A	n257A	21A	n257A
DC_3A-21A_n257G	DC_3A_n257A	CA_3A-21A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-21A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A	CA_n257G	3A	CA_n257G
	DC_21A_n257A	CA_3A-21A	CA_n257G	21A	n257A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_21A_n257D	CA_3A-21A	CA_n257G	21A	CA_n257D
DC_3A-21A_n257H	DC_3A_n257A	CA_3A-21A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-21A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-21A	CA_n257H	3A	CA_n257H
	DC_21A_n257A	CA_3A-21A	CA_n257H	21A	n257A
	DC_21A_n257D	CA_3A-21A	CA_n257H	21A	CA_n257D
DC_3A-21A_n257I	DC_3A_n257A	CA_3A-21A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-21A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-21A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-21A	CA_n257I	3A	CA_n257I
	DC_21A_n257A	CA_3A-21A	CA_n257I	21A	n257A
	DC_21A_n257D	CA_3A-21A	CA_n257I	21A	CA_n257D
DC_3A-42A_n257A	DC_3A_n257A	CA_3A-42A	n257A	3A	n257A
	DC_42A_n257A	CA_3A-42A	n257A	42A	n257A
DC_3A-42A_n257G	DC_3A_n257A	CA_3A-42A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-42A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-42A	CA_n257G	3A	CA_n257G
	DC_42A_n257A	CA_3A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-42A	CA_n257G	42A	CA_n257D
DC_3A-42A_n257H	DC_3A_n257A	CA_3A-42A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-42A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-42A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-42A	CA_n257H	3A	CA_n257H
	DC_42A_n257A	CA_3A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-42A	CA_n257H	42A	CA_n257D
DC_3A-42A_n257I	DC_3A_n257A	CA_3A-42A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-42A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-42A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-42A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-42A	CA_n257I	3A	CA_n257I
	DC_42A_n257A	CA_3A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-42A	CA_n257I	42A	CA_n257D
DC_3A-42C_n257A	DC_3A_n257A	CA_3A-42C	n257A	3A	n257A
	DC_42A_n257A	CA_3A-42C	n257A	42A	n257A
DC_3A-42C_n257G	DC_3A_n257A	CA_3A-42C	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-42C	CA_n257G	3A	CA_n257D

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_3A_n257G	CA_3A-42C	CA_n257G	3A	CA_n257G
	DC_42A_n257A	CA_3A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-42C	CA_n257G	42A	CA_n257D
DC_3A-42C_n257H	DC_3A_n257A	CA_3A-42C	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-42C	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-42C	CA_n257H	3A	CA_n257H
	DC_42A_n257A	CA_3A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-42C	CA_n257H	42A	CA_n257D
DC_3A-42C_n257I	DC_3A_n257A	CA_3A-42C	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-42C	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-42C	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-42C	CA_n257I	3A	CA_n257I
	DC_42A_n257A	CA_3A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-42C	CA_n257I	42A	CA_n257D
DC_3A-42D_n257G	DC_3A_n257A	CA_3A-42D	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-42D	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-42D	CA_n257G	3A	CA_n257G
	DC_42A_n257A	CA_3A-42D	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-42D	CA_n257G	42A	CA_n257D
DC_3A-42D_n257H	DC_3A_n257A	CA_3A-42D	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-42D	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-42D	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-42D	CA_n257H	3A	CA_n257H
	DC_42A_n257A	CA_3A-42D	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-42D	CA_n257H	42A	CA_n257D
DC_3A-42D_n257I	DC_3A_n257A	CA_3A-42D	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-42D	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-42D	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-42D	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-42D	CA_n257I	3A	CA_n257I
	DC_42A_n257A	CA_3A-42D	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-42D	CA_n257I	42A	CA_n257D
DC_3A-42E_n257G	DC_3A_n257A	CA_3A-42E	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-42E	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-42E	CA_n257G	3A	CA_n257G
	DC_42A_n257A	CA_3A-42E	CA_n257G	42A	n257A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_42A_n257D	CA_3A-42E	CA_n257G	42A	CA_n257D
DC_3A-42E_n257H	DC_3A_n257A	CA_3A-42E	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-42E	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-42E	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-42E	CA_n257H	3A	CA_n257H
	DC_42A_n257A	CA_3A-42E	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-42E	CA_n257H	42A	CA_n257D
DC_3A-42E_n257I	DC_3A_n257A	CA_3A-42E	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-42E	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-42E	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-42E	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-42E	CA_n257I	3A	CA_n257I
	DC_42A_n257A	CA_3A-42E	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-42E	CA_n257I	42A	CA_n257D
DC_5A-7A_n257A	DC_5A_n257A	CA_5A-7A	n257A	5A	n257A
	DC_7A_n257A	CA_5A-7A	n257A	7A	n257A
DC_5A-30A_n260A	DC_5A_n260A	CA_5A-30A	n260A	5A	n260A
	DC_30A_n260A	CA_5A-30A	n260A	30A	n260A
DC_5A-66A_n257A	DC_5A_n257A	CA_5A-66A	n257A	5A	n257A
	DC_66A_n257A	CA_5A-66A	n257A	66A	n257A
DC_5A-66A_n260A	DC_5A_n260A	CA_5A-66A	n260A	5A	n260A
	DC_66A_n260A	CA_5A-66A	n260A	66A	n260A
DC_12A-30A_n260A	DC_12A_n260A	CA_12A-30A	n260A	12A	n260A
	DC_30A_n260A	CA_12A-30A	n260A	30A	n260A
DC_12A-66A_n260A	DC_12A_n260A	CA_12A-66A	n260A	12A	n260A
	DC_66A_n260A	CA_12A-66A	n260A	66A	n260A
DC_19A-21A_n257A	DC_19A_n257A	CA_19A-21A	n257A	19A	n257A
	DC_21A_n257A	CA_19A-21A	n257A	21A	n257A
DC_19A-21A_n257G	DC_19A_n257A	CA_19A-21A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_19A-21A	CA_n257G	19A	CA_n257D
	DC_21A_n257A	CA_19A-21A	CA_n257G	21A	n257A
	DC_21A_n257D	CA_19A-21A	CA_n257G	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A	CA_n257G	21A	CA_n257G
DC_19A-21A_n257H	DC_19A_n257A	CA_19A-21A	CA_n257H	19A	n257A
	DC_19A_n257D	CA_19A-21A	CA_n257H	19A	CA_n257D
	DC_21A_n257A	CA_19A-21A	CA_n257H	21A	n257A
	DC_21A_n257D	CA_19A-21A	CA_n257H	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A	CA_n257H	21A	CA_n257G

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_21A_n257H	CA_19A-21A	CA_n257H	21A	CA_n257H
DC_19A-21A_n257I	DC_19A_n257A	CA_19A-21A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_19A-21A	CA_n257I	19A	CA_n257D
	DC_21A_n257A	CA_19A-21A	CA_n257I	21A	n257A
	DC_21A_n257D	CA_19A-21A	CA_n257I	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_19A-21A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_19A-21A	CA_n257I	21A	CA_n257I
DC_19A-42A_n257A	DC_19A_n257A	CA_19A-42A	n257A	19A	n257A
	DC_42A_n257A	CA_19A-42A	n257A	42A	n257A
DC_19A-42A_n257G	DC_19A_n257A	CA_19A-42A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_19A-42A	CA_n257G	19A	CA_n257D
	DC_19A_n257G	CA_19A-42A	CA_n257G	19A	CA_n257G
	DC_42A_n257A	CA_19A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_19A-42A	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_19A-42A	CA_n257G	42A	CA_n257G
DC_19A-42A_n257H	DC_19A_n257A	CA_19A-42A	CA_n257H	19A	n257A
	DC_19A_n257D	CA_19A-42A	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_19A-42A	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_19A-42A	CA_n257H	19A	CA_n257H
	DC_42A_n257A	CA_19A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_19A-42A	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_19A-42A	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_19A-42A	CA_n257H	42A	CA_n257H
DC_19A-42A_n257I	DC_19A_n257A	CA_19A-42A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_19A-42A	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_19A-42A	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_19A-42A	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_19A-42A	CA_n257I	19A	CA_n257I
	DC_42A_n257A	CA_19A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_19A-42A	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_19A-42A	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_19A-42A	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_19A-42A	CA_n257I	42A	CA_n257I
DC_19A-42C_n257A	DC_19A_n257A	CA_19A-42C	n257A	19A	n257A
	DC_42A_n257A	CA_19A-42C	n257A	42A	n257A
DC_19A-42C_n257G	DC_19A_n257A	CA_19A-42C	CA_n257G	19A	n257A
	DC_19A_n257D	CA_19A-42C	CA_n257G	19A	CA_n257D

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_19A_n257G	CA_19A-42C	CA_n257G	19A	CA_n257G
	DC_42A_n257A	CA_19A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_19A-42C	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_19A-42C	CA_n257G	42A	CA_n257G
DC_19A-42C_n257H	DC_19A_n257A	CA_19A-42C	CA_n257H	19A	n257A
	DC_19A_n257D	CA_19A-42C	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_19A-42C	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_19A-42C	CA_n257H	19A	CA_n257H
	DC_42A_n257A	CA_19A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_19A-42C	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_19A-42C	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_19A-42C	CA_n257H	42A	CA_n257H
DC_19A-42C_n257I	DC_19A_n257A	CA_19A-42C	CA_n257I	19A	n257A
	DC_19A_n257D	CA_19A-42C	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_19A-42C	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_19A-42C	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_19A-42C	CA_n257I	19A	CA_n257I
	DC_42A_n257A	CA_19A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_19A-42C	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_19A-42C	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_19A-42C	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_19A-42C	CA_n257I	42A	CA_n257I
DC_21A-42A_n257A	DC_21A_n257A	CA_21A-42A	n257A	21A	n257A
	DC_42A_n257A	CA_21A-42A	n257A	42A	n257A
DC_21A-42A_n257G	DC_21A_n257A	CA_21A-42A	CA_n257G	21A	n257A
	DC_21A_n257D	CA_21A-42A	CA_n257G	21A	CA_n257D
	DC_42A_n257A	CA_21A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_21A-42A	CA_n257G	42A	CA_n257D
	DC_21A_n257G	CA_21A-42A	CA_n257G	21A	CA_n257G
DC_21A-42A_n257H	DC_21A_n257A	CA_21A-42A	CA_n257H	21A	n257A
	DC_21A_n257D	CA_21A-42A	CA_n257H	21A	CA_n257D
	DC_42A_n257A	CA_21A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_21A-42A	CA_n257H	42A	CA_n257D
	DC_21A_n257G	CA_21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_21A-42A	CA_n257H	21A	CA_n257H
DC_21A-42A_n257I	DC_21A_n257A	CA_21A-42A	CA_n257I	21A	n257A
	DC_21A_n257D	CA_21A-42A	CA_n257I	21A	CA_n257D
	DC_42A_n257A	CA_21A-42A	CA_n257I	42A	n257A

EN-DC configuration	Uplink EN-DC Configuration	EN-DC E-UTRA downlink configuration	EN-DC NR downlink configuration	EN-DC E-UTRA uplink configuration	EN-DC NR uplink configuration
	DC_42A_n257D	CA_21A-42A	CA_n257I	42A	CA_n257D
	DC_21A_n257G	CA_21A-42A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_21A-42A	CA_n257I	21A	CA_n257I
DC_21A-42C_n257A	DC_21A_n257A	CA_21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_21A-42C	n257A	42A	n257A
DC_21A-42C_n257G	DC_21A_n257A	CA_21A-42C	CA_n257G	21A	n257A
	DC_21A_n257D	CA_21A-42C	CA_n257G	21A	CA_n257D
	DC_42A_n257A	CA_21A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_21A-42C	CA_n257G	42A	CA_n257D
	DC_21A_n257G	CA_21A-42C	CA_n257G	21A	CA_n257G
DC_21A-42C_n257H	DC_21A_n257A	CA_21A-42C	CA_n257H	21A	n257A
	DC_21A_n257D	CA_21A-42C	CA_n257H	21A	CA_n257D
	DC_42A_n257A	CA_21A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_21A-42C	CA_n257H	42A	CA_n257D
	DC_21A_n257G	CA_21A-42C	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_21A-42C	CA_n257H	21A	CA_n257H
DC_21A-42C_n257I	DC_21A_n257A	CA_21A-42C	CA_n257I	21A	n257A
	DC_21A_n257D	CA_21A-42C	CA_n257I	21A	CA_n257D
	DC_42A_n257A	CA_21A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_21A-42C	CA_n257I	42A	CA_n257D
	DC_21A_n257G	CA_21A-42C	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_21A-42C	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_21A-42C	CA_n257I	21A	CA_n257I

4.3.1.5.1.4 Inter-band EN-DC configurations including FR2 (four bands)

Table 4.3.1.5.1.4-1: Inter-band EN-DC configurations including FR2 (four bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-3A-19A_n257A	DC_1A_n257A	CA_1A-3A-19A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A	n257A	3A	n257A
	DC_19A_n257A	CA_1A-3A-19A	n257A	19A	n257A
DC_1A-3A-19A_n257G	DC_1A_n257A	CA_1A-3A-19A	CA_n257G	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257G	3A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_1A-3A-19A	CA_n257G	19A	n257A
DC_1A-3A-19A_n257H	DC_1A_n257A	CA_1A-3A-19A	CA_n257H	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257H	3A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-19A	CA_n257H	3A	CA_n257H
	DC_19A_n257A	CA_1A-3A-19A	CA_n257H	19A	n257A
DC_1A-3A-19A_n257I	DC_1A_n257A	CA_1A-3A-19A	CA_n257I	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257I	3A	n257A
	DC_3A_n257A	CA_1A-3A-19A	CA_n257I	3A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_3A_n257G	CA_1A-3A-19A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-19A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-19A	CA_n257I	3A	CA_n257I
	DC_19A_n257A	CA_1A-3A-19A	CA_n257I	19A	n257A
DC_1A-3A-21A_n257A	DC_1A_n257A	CA_1A-3A-21A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A	n257A	3A	n257A
	DC_21A_n257A	CA_1A-3A-21A	n257A	21A	n257A
DC_1A-3A-21A_n257G	DC_1A_n257A	CA_1A-3A-21A	CA_n257G	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A	CA_n257G	3A	CA_n257G
	DC_21A_n257A	CA_1A-3A-21A	CA_n257G	21A	n257A
DC_1A-3A-21A_n257H	DC_1A_n257A	CA_1A-3A-21A	CA_n257H	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-21A	CA_n257H	3A	CA_n257H
	DC_21A_n257A	CA_1A-3A-21A	CA_n257H	21A	n257A
DC_1A-3A-21A_n257I	DC_1A_n257A	CA_1A-3A-21A	CA_n257I	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A	CA_n257I	3A	CA_n257G

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_3A_n257H	CA_1A-3A-21A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-21A	CA_n257I	3A	CA_n257I
	DC_21A_n257A	CA_1A-3A-21A	CA_n257I	21A	n257A
DC_1A-3A-42A_n257A	DC_1A_n257A	CA_1A-3A-42A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-42A	n257A	3A	n257A
	DC_42A_n257A	CA_1A-3A-42A	n257A	42A	n257A
DC_1A-3A-42A_n257G	DC_1A_n257A	CA_1A-3A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-3A-42A	CA_n257G	1A	CA_n257G
	DC_3A_n257A	CA_1A-3A-42A	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-42A	CA_n257G	3A	CA_n257G
DC_1A-3A-42A_n257H	DC_1A_n257A	CA_1A-3A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-3A-42A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42A	CA_n257H	1A	CA_n257H
	DC_3A_n257A	CA_1A-3A-42A	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-42A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42A	CA_n257H	3A	CA_n257H
DC_1A-3A-42A_n257I	DC_1A_n257A	CA_1A-3A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-3A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42A	CA_n257I	1A	CA_n257H

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_1A_n257I	CA_1A-3A-42A	CA_n257I	1A	CA_n257I
	DC_3A_n257A	CA_1A-3A-42A	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-42A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-42A	CA_n257I	3A	CA_n257I
DC_1A-3A-42C_n257A	DC_1A_n257A	CA_1A-3A-42C	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-42C	n257A	3A	n257A
	DC_42A_n257A	CA_1A-3A-42C	n257A	42A	n257A
DC_1A-3A-42C_n257G	DC_1A_n257A	CA_1A-3A-42C	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-3A-42C	CA_n257G	1A	CA_n257G
	DC_3A_n257A	CA_1A-3A-42C	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-42C	CA_n257G	3A	CA_n257G
DC_1A-3A-42C_n257H	DC_1A_n257A	CA_1A-3A-42C	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-3A-42C	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42C	CA_n257H	1A	CA_n257H
	DC_3A_n257A	CA_1A-3A-42C	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42C	CA_n257H	3A	CA_n257H
DC_1A-3A-42C_n257I	DC_1A_n257A	CA_1A-3A-42C	CA_n257I	1A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_1A_n257G	CA_1A-3A-42C	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42C	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-3A-42C	CA_n257I	1A	CA_n257I
	DC_3A_n257A	CA_1A-3A-42C	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42C	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-42C	CA_n257I	3A	CA_n257I
DC_1A-3A-42D_n257G	DC_1A_n257A	CA_1A-3A-42D	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-3A-42D	CA_n257G	1A	CA_n257G
	DC_3A_n257A	CA_1A-3A-42D	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-42D	CA_n257G	3A	CA_n257G
DC_1A-3A-42D_n257H	DC_1A_n257A	CA_1A-3A-42D	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-3A-42D	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42D	CA_n257H	1A	CA_n257H
	DC_3A_n257A	CA_1A-3A-42D	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-42D	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42D	CA_n257H	3A	CA_n257H
DC_1A-3A-42D_n257I	DC_1A_n257A	CA_1A-3A-42D	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-3A-42D	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A-42D	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-3A-42D	CA_n257I	1A	CA_n257I
	DC_3A_n257A	CA_1A-3A-42D	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-42D	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-42D	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-42D	CA_n257I	3A	CA_n257I
DC_1A-19A-21A_n257A	DC_1A_n257A	CA_1A-19A-21A	n257A	1A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257A	CA_1A-19A-21A	n257A	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A	n257A	21A	n257A
DC_1A-19A-21A_n257G	DC_1A_n257A	CA_1A-19A-21A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-21A	CA_n257G	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A	CA_n257G	21A	CA_n257G
DC_1A-19A-21A_n257H	DC_1A_n257A	CA_1A-19A-21A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-21A	CA_n257H	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A	CA_n257H	21A	CA_n257H
DC_1A-19A-21A_n257I	DC_1A_n257A	CA_1A-19A-21A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A-21A	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A-21A	CA_n257I	19A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_21A_n257A	CA_1A-19A-21A	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-19A-21A	CA_n257I	21A	CA_n257I
DC_1A-19A-42A_n257A	DC_1A_n257A	CA_1A-19A-42A	n257A	1A	n257A
	DC_19A_n257A	CA_1A-19A-42A	n257A	19A	n257A
	DC_42A_n257A	CA_1A-19A-42A	n257A	42A	n257A
DC_1A-19A-42A_n257G	DC_1A_n257A	CA_1A-19A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-42A	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-42A	CA_n257G	19A	n257A
	DC_42A_n257A	CA_1A-19A-42A	CA_n257G	42A	n257A
DC_1A-19A-42A_n257H	DC_1A_n257A	CA_1A-19A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-42A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-42A	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-42A	CA_n257H	19A	n257A
	DC_42A_n257A	CA_1A-19A-42A	CA_n257H	42A	n257A
DC_1A-19A-42A_n257I	DC_1A_n257A	CA_1A-19A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-42A	CA_n257I	1A	CA_n257H

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_1A_n257I	CA_1A-19A-42A	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A-42A	CA_n257I	19A	n257A
	DC_42A_n257A	CA_1A-19A-42A	CA_n257I	42A	n257A
DC_1A-19A-42C_n257A	DC_1A_n257A	CA_1A-19A-42C	n257A	1A	n257A
	DC_19A_n257A	CA_1A-19A-42C	n257A	19A	n257A
	DC_42A_n257A	CA_1A-19A-42C	n257A	42A	n257A
DC_1A-19A-42C_n257G	DC_1A_n257A	CA_1A-19A-42C	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-42C	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-42C	CA_n257G	19A	n257A
	DC_42A_n257A	CA_1A-19A-42C	CA_n257G	42A	n257A
DC_1A-19A-42C_n257H	DC_1A_n257A	CA_1A-19A-42C	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-42C	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-42C	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-42C	CA_n257H	19A	n257A
	DC_42A_n257A	CA_1A-19A-42C	CA_n257H	42A	n257A
DC_1A-19A-42C_n257I	DC_1A_n257A	CA_1A-19A-42C	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-42C	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-42C	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A-42C	CA_n257I	1A	CA_n257I

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257A	CA_1A-19A-42C	CA_n257I	19A	n257A
	DC_42A_n257A	CA_1A-19A-42C	CA_n257I	42A	n257A
DC_1A-21A-42A_n257A	DC_1A_n257A	CA_1A-21A-42A	n257A	1A	n257A
	DC_21A_n257A	CA_1A-21A-42A	n257A	21A	n257A
	DC_42A_n257A	CA_1A-21A-42A	n257A	42A	n257A
DC_1A-21A-42A_n257G	DC_1A_n257A	CA_1A-21A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-21A-42A	CA_n257G	1A	CA_n257G
	DC_21A_n257A	CA_1A-21A-42A	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-21A-42A	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_1A-21A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_1A-21A-42A	CA_n257G	42A	CA_n257D
DC_1A-21A-42A_n257H	DC_1A_n257A	CA_1A-21A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-21A-42A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A-42A	CA_n257H	1A	CA_n257H
	DC_21A_n257A	CA_1A-21A-42A	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A-42A	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_1A-21A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_1A-21A-42A	CA_n257H	42A	CA_n257D

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-21A-42A_n257I	DC_1A_n257A	CA_1A-21A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-21A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A-42A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-21A-42A	CA_n257I	1A	CA_n257I
	DC_21A_n257A	CA_1A-21A-42A	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-21A-42A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-21A-42A	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_1A-21A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_1A-21A-42A	CA_n257I	42A	CA_n257D
DC_1A-21A-42C_n257A	DC_1A_n257A	CA_1A-21A-42C	n257A	1A	n257A
	DC_21A_n257A	CA_1A-21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_1A-21A-42C	n257A	42A	n257A
DC_1A-21A-42C_n257G	DC_1A_n257A	CA_1A-21A-42C	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-21A-42C	CA_n257G	1A	CA_n257G
	DC_21A_n257A	CA_1A-21A-42C	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-21A-42C	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_1A-21A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_1A-21A-42C	CA_n257G	42A	CA_n257D

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-21A-42C_n257H	DC_1A_n257A	CA_1A-21A-42C	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-21A-42C	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A-42C	CA_n257H	1A	CA_n257H
	DC_21A_n257A	CA_1A-21A-42C	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-21A-42C	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A-42C	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_1A-21A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_1A-21A-42C	CA_n257H	42A	CA_n257D
DC_1A-21A-42C_n257I	DC_1A_n257A	CA_1A-21A-42C	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-21A-42C	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-21A-42C	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-21A-42C	CA_n257I	1A	CA_n257I
	DC_21A_n257A	CA_1A-21A-42C	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-21A-42C	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-21A-42C	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-21A-42C	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_1A-21A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_1A-21A-42C	CA_n257I	42A	CA_n257D
DC_3A-19A-21A_n257A	DC_3A_n257A	CA_3A-19A-21A	n257A	3A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257A	CA_3A-19A-21A	n257A	19A	n257A
	DC_21A_n257A	CA_3A-19A-21A	n257A	21A	n257A
DC_3A-19A-42A_n257A	DC_3A_n257A	CA_3A-19A-42A	n257A	3A	n257A
	DC_19A_n257A	CA_3A-19A-42A	n257A	19A	n257A
	DC_42A_n257A	CA_3A-19A-42A	n257A	42A	n257A
DC_3A-19A-42A_n257G	DC_3A_n257A	CA_3A-19A-42A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-19A-42A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42A	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_3A-19A-42A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_3A-19A-42A	CA_n257G	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42A	CA_n257G	19A	CA_n257G
	DC_42A_n257A	CA_3A-19A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-19A-42A	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_3A-19A-42A	CA_n257G	42A	CA_n257G
DC_3A-19A-42A_n257H	DC_3A_n257A	CA_3A-19A-42A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-19A-42A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42A	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A-42A	CA_n257H	3A	CA_n257H
	DC_19A_n257A	CA_3A-19A-42A	CA_n257H	19A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257D	CA_3A-19A-42A	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42A	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_3A-19A-42A	CA_n257H	19A	CA_n257H
	DC_42A_n257A	CA_3A-19A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-19A-42A	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_3A-19A-42A	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_3A-19A-42A	CA_n257H	42A	CA_n257H
DC_3A-19A-42A_n257I	DC_3A_n257A	CA_3A-19A-42A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-19A-42A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A-42A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-19A-42A	CA_n257I	3A	CA_n257I
	DC_19A_n257A	CA_3A-19A-42A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_3A-19A-42A	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42A	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_3A-19A-42A	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_3A-19A-42A	CA_n257I	19A	CA_n257I
	DC_42A_n257A	CA_3A-19A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-19A-42A	CA_n257I	42A	CA_n257D

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_42A_n257G	CA_3A-19A-42A	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_3A-19A-42A	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_3A-19A-42A	CA_n257I	42A	CA_n257I
DC_3A-19A-42C_n257A	DC_3A_n257A	CA_3A-19A-42C	n257A	3A	n257A
	DC_19A_n257A	CA_3A-19A-42C	n257A	19A	n257A
	DC_42A_n257A	CA_3A-19A-42C	n257A	42A	n257A
DC_3A-19A-42C_n257G	DC_3A_n257A	CA_3A-19A-42C	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-19A-42C	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42C	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_3A-19A-42C	CA_n257G	19A	n257A
	DC_19A_n257D	CA_3A-19A-42C	CA_n257G	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42C	CA_n257G	19A	CA_n257G
	DC_42A_n257A	CA_3A-19A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-19A-42C	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_3A-19A-42C	CA_n257G	42A	CA_n257G
DC_3A-19A-42C_n257H	DC_3A_n257A	CA_3A-19A-42C	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-19A-42C	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A-42C	CA_n257H	3A	CA_n257H

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257A	CA_3A-19A-42C	CA_n257H	19A	n257A
	DC_19A_n257D	CA_3A-19A-42C	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42C	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_3A-19A-42C	CA_n257H	19A	CA_n257H
	DC_42A_n257A	CA_3A-19A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-19A-42C	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_3A-19A-42C	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_3A-19A-42C	CA_n257H	42A	CA_n257H
DC_3A-19A-42C_n257I	DC_3A_n257A	CA_3A-19A-42C	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-19A-42C	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-19A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-19A-42C	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-19A-42C	CA_n257I	3A	CA_n257I
	DC_19A_n257A	CA_3A-19A-42C	CA_n257I	19A	n257A
	DC_19A_n257D	CA_3A-19A-42C	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_3A-19A-42C	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_3A-19A-42C	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_3A-19A-42C	CA_n257I	19A	CA_n257I
	DC_42A_n257A	CA_3A-19A-42C	CA_n257I	42A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_42A_n257D	CA_3A-19A-42C	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_3A-19A-42C	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_3A-19A-42C	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_3A-19A-42C	CA_n257I	42A	CA_n257I
DC_3A-21A-42A_n257A	DC_3A_n257A	CA_3A-21A-42A	n257A	3A	n257A
	DC_21A_n257A	CA_3A-21A-42A	n257A	21A	n257A
	DC_42A_n257A	CA_3A-21A-42A	n257A	42A	n257A
DC_3A-21A-42A_n257G	DC_3A_n257A	CA_3A-21A-42A	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-21A-42A	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A-42A	CA_n257G	3A	CA_n257G
	DC_21A_n257A	CA_3A-21A-42A	CA_n257G	21A	n257A
	DC_21A_n257D	CA_3A-21A-42A	CA_n257G	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42A	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_3A-21A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-21A-42A	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42A	CA_n257G	42A	CA_n257G
DC_3A-21A-42A_n257H	DC_3A_n257A	CA_3A-21A-42A	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-21A-42A	CA_n257H	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A-42A	CA_n257H	3A	CA_n257G

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_3A_n257H	CA_3A-21A-42A	CA_n257H	3A	CA_n257H
	DC_21A_n257A	CA_3A-21A-42A	CA_n257H	21A	n257A
	DC_21A_n257D	CA_3A-21A-42A	CA_n257H	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_3A-21A-42A	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_3A-21A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-21A-42A	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42A	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_3A-21A-42A	CA_n257H	42A	CA_n257H
DC_3A-21A-42A_n257I	DC_3A_n257A	CA_3A-21A-42A	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-21A-42A	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A-42A	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-21A-42A	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-21A-42A	CA_n257I	3A	CA_n257I
	DC_21A_n257A	CA_3A-21A-42A	CA_n257I	21A	n257A
	DC_21A_n257D	CA_3A-21A-42A	CA_n257I	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_3A-21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_3A-21A-42A	CA_n257I	21A	CA_n257I

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_42A_n257A	CA_3A-21A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-21A-42A	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42A	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_3A-21A-42A	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_3A-21A-42A	CA_n257I	42A	CA_n257I
DC_3A-21A-42C_n257A	DC_3A_n257A	CA_3A-21A-42C	n257A	3A	n257A
	DC_21A_n257A	CA_3A-21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_3A-21A-42C	n257A	42A	n257A
DC_3A-21A-42C_n257G	DC_3A_n257A	CA_3A-21A-42C	CA_n257G	3A	n257A
	DC_3A_n257D	CA_3A-21A-42C	CA_n257G	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A-42C	CA_n257G	3A	CA_n257G
	DC_21A_n257A	CA_3A-21A-42C	CA_n257G	21A	n257A
	DC_21A_n257D	CA_3A-21A-42C	CA_n257G	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42C	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_3A-21A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_3A-21A-42C	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42C	CA_n257G	42A	CA_n257G
DC_3A-21A-42C_n257H	DC_3A_n257A	CA_3A-21A-42C	CA_n257H	3A	n257A
	DC_3A_n257D	CA_3A-21A-42C	CA_n257H	3A	CA_n257D

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_3A_n257G	CA_3A-21A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_3A-21A-42C	CA_n257H	3A	CA_n257H
	DC_21A_n257A	CA_3A-21A-42C	CA_n257H	21A	n257A
	DC_21A_n257D	CA_3A-21A-42C	CA_n257H	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42C	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_3A-21A-42C	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_3A-21A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_3A-21A-42C	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42C	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_3A-21A-42C	CA_n257H	42A	CA_n257H
DC_3A-21A-42C_n257I	DC_3A_n257A	CA_3A-21A-42C	CA_n257I	3A	n257A
	DC_3A_n257D	CA_3A-21A-42C	CA_n257I	3A	CA_n257D
	DC_3A_n257G	CA_3A-21A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_3A-21A-42C	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_3A-21A-42C	CA_n257I	3A	CA_n257I
	DC_21A_n257A	CA_3A-21A-42C	CA_n257I	21A	n257A
	DC_21A_n257D	CA_3A-21A-42C	CA_n257I	21A	CA_n257D
	DC_21A_n257G	CA_3A-21A-42C	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_3A-21A-42C	CA_n257I	21A	CA_n257H

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_21A_n257I	CA_3A-21A-42C	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_3A-21A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_3A-21A-42C	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_3A-21A-42C	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_3A-21A-42C	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_3A-21A-42C	CA_n257I	42A	CA_n257I
DC_19A-21A-42A_n257A	DC_19A_n257A	CA_19A-21A-42A	n257A	19A	n257A
	DC_21A_n257A	CA_19A-21A-42A	n257A	21A	n257A
	DC_42A_n257A	CA_19A-21A-42A	n257A	42A	n257A
DC_19A-21A-42A_n257G	DC_19A_n257A	CA_19A-21A-42A	CA_n257G	19A	n257A
	DC_19A_n257D	CA_19A-21A-42A	CA_n257G	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42A	CA_n257G	19A	CA_n257G
	DC_21A_n257A	CA_19A-21A-42A	CA_n257G	21A	n257A
	DC_21A_n257D	CA_19A-21A-42A	CA_n257G	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A-42A	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_19A-21A-42A	CA_n257G	42A	n257A
	DC_42A_n257D	CA_19A-21A-42A	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42A	CA_n257G	42A	CA_n257G
DC_19A-21A-42A_n257H	DC_19A_n257A	CA_19A-21A-42A	CA_n257H	19A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_19A_n257D	CA_19A-21A-42A	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42A	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_19A-21A-42A	CA_n257H	19A	CA_n257H
	DC_21A_n257A	CA_19A-21A-42A	CA_n257H	21A	n257A
	DC_21A_n257D	CA_19A-21A-42A	CA_n257H	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_19A-21A-42A	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_19A-21A-42A	CA_n257H	42A	n257A
	DC_42A_n257D	CA_19A-21A-42A	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42A	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_19A-21A-42A	CA_n257H	42A	CA_n257H
DC_19A-21A-42A_n257I	DC_19A_n257A	CA_19A-21A-42A	CA_n257I	19A	n257A
	DC_19A_n257D	CA_19A-21A-42A	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42A	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_19A-21A-42A	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_19A-21A-42A	CA_n257I	19A	CA_n257I
	DC_21A_n257A	CA_19A-21A-42A	CA_n257I	21A	n257A
	DC_21A_n257D	CA_19A-21A-42A	CA_n257I	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A-42A	CA_n257I	21A	CA_n257G

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_21A_n257H	CA_19A-21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_19A-21A-42A	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_19A-21A-42A	CA_n257I	42A	n257A
	DC_42A_n257D	CA_19A-21A-42A	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42A	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_19A-21A-42A	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_19A-21A-42A	CA_n257I	42A	CA_n257I
DC_19A-21A-42C_n257A	DC_19A_n257A	CA_19A-21A-42C	n257A	19A	n257A
	DC_21A_n257A	CA_19A-21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_19A-21A-42C	n257A	42A	n257A
DC_19A-21A-42C_n257G	DC_19A_n257A	CA_19A-21A-42C	CA_n257G	19A	n257A
	DC_19A_n257D	CA_19A-21A-42C	CA_n257G	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42C	CA_n257G	19A	CA_n257G
	DC_21A_n257A	CA_19A-21A-42C	CA_n257G	21A	n257A
	DC_21A_n257D	CA_19A-21A-42C	CA_n257G	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A-42C	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_19A-21A-42C	CA_n257G	42A	n257A
	DC_42A_n257D	CA_19A-21A-42C	CA_n257G	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42C	CA_n257G	42A	CA_n257G

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_19A-21A-42C_n257H	DC_19A_n257A	CA_19A-21A-42C	CA_n257H	19A	n257A
	DC_19A_n257D	CA_19A-21A-42C	CA_n257H	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42C	CA_n257H	19A	CA_n257G
	DC_19A_n257H	CA_19A-21A-42C	CA_n257H	19A	CA_n257H
	DC_21A_n257A	CA_19A-21A-42C	CA_n257H	21A	n257A
	DC_21A_n257D	CA_19A-21A-42C	CA_n257H	21A	CA_n257D
	DC_21A_n257G	CA_19A-21A-42C	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_19A-21A-42C	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_19A-21A-42C	CA_n257H	42A	n257A
	DC_42A_n257D	CA_19A-21A-42C	CA_n257H	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42C	CA_n257H	42A	CA_n257G
	DC_42A_n257H	CA_19A-21A-42C	CA_n257H	42A	CA_n257H
DC_19A-21A-42C_n257I	DC_19A_n257A	CA_19A-21A-42C	CA_n257I	19A	n257A
	DC_19A_n257D	CA_19A-21A-42C	CA_n257I	19A	CA_n257D
	DC_19A_n257G	CA_19A-21A-42C	CA_n257I	19A	CA_n257G
	DC_19A_n257H	CA_19A-21A-42C	CA_n257I	19A	CA_n257H
	DC_19A_n257I	CA_19A-21A-42C	CA_n257I	19A	CA_n257I
	DC_21A_n257A	CA_19A-21A-42C	CA_n257I	21A	n257A
	DC_21A_n257D	CA_19A-21A-42C	CA_n257I	21A	CA_n257D

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_21A_n257G	CA_19A-21A-42C	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_19A-21A-42C	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_19A-21A-42C	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_19A-21A-42C	CA_n257I	42A	n257A
	DC_42A_n257D	CA_19A-21A-42C	CA_n257I	42A	CA_n257D
	DC_42A_n257G	CA_19A-21A-42C	CA_n257I	42A	CA_n257G
	DC_42A_n257H	CA_19A-21A-42C	CA_n257I	42A	CA_n257H
	DC_42A_n257I	CA_19A-21A-42C	CA_n257I	42A	CA_n257I

4.3.1.5.1.5 Inter-band EN-DC configurations including FR2 (five bands)

Table 4.3.1.5.1.5-1: Inter-band EN-DC configurations including FR2 (five bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-3A-19A-42A_n257A	DC_1A_n257A	CA_1A-3A-19A-42A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42A	n257A	3A	n257A
	DC_19A_n257A	CA_1A-3A-19A-42A	n257A	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42A	n257A	42A	n257A
DC_1A-3A-19A-42A_n257G	DC_1A_n257A	CA_1A-3A-19A-42A	CA_n257G	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42A	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A-42A	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_1A-3A-19A-42A	CA_n257G	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42A	CA_n257G	42A	n257A
DC_1A-3A-19A-42C_n257A	DC_1A_n257A	CA_1A-3A-19A-42C	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42C	n257A	3A	n257A
	DC_19A_n257A	CA_1A-3A-19A-42C	n257A	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42C	n257A	42A	n257A
DC_1A-3A-19A-42C_n257G	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257G	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257G	3A	CA_n257G
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257G	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42C	CA_n257G	42A	n257A
DC_1A-3A-19A-42C_n257H	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257H	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-19A-42C	CA_n257H	3A	CA_n257H
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257H	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42C	CA_n257H	42A	n257A
DC_1A-3A-19A-42C_n257I	DC_1A_n257A	CA_1A-3A-19A-42C	CA_n257I	1A	n257A
	DC_3A_n257A	CA_1A-3A-19A-42C	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257H

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_3A_n257I	CA_1A-3A-19A-42C	CA_n257I	3A	CA_n257I
	DC_19A_n257A	CA_1A-3A-19A-42C	CA_n257I	19A	n257A
	DC_42A_n257A	CA_1A-3A-19A-42C	CA_n257I	42A	n257A
DC_1A-3A-21A-42A_n257A	DC_1A_n257A	CA_1A-3A-21A-42A	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A-42A	n257A	3A	n257A
	DC_21A_n257A	CA_1A-3A-21A-42A	n257A	21A	n257A
	DC_42A_n257A	CA_1A-3A-21A-42A	n257A	42A	n257A
DC_1A-3A-21A-42C_n257A	DC_1A_n257A	CA_1A-3A-21A-42C	n257A	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A-42C	n257A	3A	n257A
	DC_21A_n257A	CA_1A-3A-21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_1A-3A-21A-42C	n257A	42A	n257A
DC_1A-3A-21A-42C_n257G	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257G	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257G	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257G	3A	CA_n257G
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257G	21A	n257A
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257G	42A	n257A
DC_1A-3A-21A-42C_n257H	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257H	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257H	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-21A-42C	CA_n257H	3A	CA_n257H
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257H	21A	n257A
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257H	42A	n257A
DC_1A-3A-21A-42C_n257I	DC_1A_n257A	CA_1A-3A-21A-42C	CA_n257I	1A	n257A
	DC_3A_n257A	CA_1A-3A-21A-42C	CA_n257I	3A	n257A
	DC_3A_n257G	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A-21A-42C	CA_n257I	3A	CA_n257I
	DC_21A_n257A	CA_1A-3A-21A-42C	CA_n257I	21A	n257A
	DC_42A_n257A	CA_1A-3A-21A-42C	CA_n257I	42A	n257A
DC_1A-19A-21A-42A_n257A	DC_1A_n257A	CA_1A-19A-21A-42A	n257A	1A	n257A
	DC_19A_n257A	CA_1A-19A-21A-42A	n257A	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	n257A	21A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_42A_n257A	CA_1A-19A-21A-42A	n257A	42A	n257A
DC_1A-19A-21A-42A_n257G	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257G	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257G	42A	n257A
DC_1A-19A-21A-42A_n257H	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257H	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257H	42A	n257A
DC_1A-19A-21A-42A_n257I	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257I	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257I	42A	n257A
DC_1A-19A-21A-42C_n257A	DC_1A_n257A	CA_1A-19A-21A-42C	n257A	1A	n257A
	DC_19A_n257A	CA_1A-19A-21A-42C	n257A	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42C	n257A	21A	n257A
	DC_42A_n257A	CA_1A-19A-21A-42C	n257A	42A	n257A
DC_1A-19A-21A-42A_n257G	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257G	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257G	21A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257G	42A	n257A
DC_1A-19A-21A-42A_n257H	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257H	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257H	42A	n257A
DC_1A-19A-21A-42A_n257I	DC_1A_n257A	CA_1A-19A-21A-42A	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A-21A-42A	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A-21A-42A	CA_n257I	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42A	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-19A-21A-42A	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_1A-19A-21A-42A	CA_n257I	42A	n257A
DC_1A-19A-21A-42C_n257G	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257G	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257G	1A	CA_n257G
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257G	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257G	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257G	21A	CA_n257G
	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257G	42A	n257A
DC_1A-19A-21A-42C_n257H	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257H	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42C	CA_n257H	1A	CA_n257H
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257H	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257H	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257H	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42C	CA_n257H	21A	CA_n257H
	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257H	42A	n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-19A-21A-42C_n257I	DC_1A_n257A	CA_1A-19A-21A-42C	CA_n257I	1A	n257A
	DC_1A_n257G	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-19A-21A-42C	CA_n257I	1A	CA_n257I
	DC_19A_n257A	CA_1A-19A-21A-42C	CA_n257I	19A	n257A
	DC_21A_n257A	CA_1A-19A-21A-42C	CA_n257I	21A	n257A
	DC_21A_n257G	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257G
	DC_21A_n257H	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257H
	DC_21A_n257I	CA_1A-19A-21A-42C	CA_n257I	21A	CA_n257I
	DC_42A_n257A	CA_1A-19A-21A-42C	CA_n257I	42A	n257A

4.3.1.5.1.6 Inter-band EN-DC configurations including FR2 (six bands)

Table 4.3.1.5.1.6-1: Inter-band EN-DC configurations including FR2 (six bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
FFS	FFS	FFS	FFS	FFS	FFS

4.3.1.6 Test frequencies for EN-DC band combinations including FR1 and FR2

4.3.1.6.1 Inter-band EN-DC configurations including FR1 and FR2

4.3.1.6.1.1 General

For inter-band EN-DC configurations as listed in this sub-clause, the following apply:

For the E-UTRA band and E-UTRA CA configurations, test frequencies as specified in TS 36.508 [2], clause 4.3.1 are used.

For the NR band and NR CA configurations, test frequencies as specified in clause 4.3.1 for FR1 and 4.3.2 for FR2 are used.

4.3.1.6.1.2 Inter-band EN-DC configurations including FR1 and FR2 (three bands)

Table 4.3.1.6.1.2-1: Inter-band EN-DC including FR1 and FR2 (three bands)

EN-DC configuration	Uplink EN-DC configuration	E-UTRA configuration	NR configuration
DC_1A_n78A-n257A	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78A-n257A
DC_1A_n79A-n257A	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	CA_n79A-n257A
DC_3A_n78A-n257A	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78A-n257A
DC_3A_n79A-n257A	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79A-n257A
DC_19A_n78A-n257A	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	CA_n78A-n257A
DC_19A_n79A-n257A	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79A-n257A

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A_n78A-n257A	DC_1A_n78A	1A	CA_n78A-n257A	1A	n78A
	DC_1A_n257A	1A	CA_n78A-n257A	1A	n257A
	DC_1A_n78A-n257A	1A	CA_n78A-n257A	1A	CA_n78A-n257A
DC_1A_n79A-n257A	DC_1A_n79A	1A	CA_n79A-n257A	1A	n79A
	DC_1A_n257A	1A	CA_n79A-n257A	1A	n257A
	DC_1A_n79A-n257A	1A	CA_n79A-n257A	1A	CA_n79A-n257A
DC_3A_n78A-n257A	DC_3A_n78A	3A	CA_n78A-n257A	3A	n78A
	DC_3A_n257A	3A	CA_n78A-n257A	3A	n257A
	DC_3A_n78A-n257A	3A	CA_n78A-n257A	3A	CA_n78A-n257A
DC_3A_n79A-n257A	DC_3A_n79A	3A	CA_n79A-n257A	3A	n79A
	DC_3A_n257A	3A	CA_n79A-n257A	3A	n257A
	DC_3A_n79A-n257A	3A	CA_n79A-n257A	3A	CA_n79A-n257A
DC_19A_n78A-n257A	DC_19A_n78A	19A	CA_n78A-n257A	19A	n78A
	DC_19A_n257A	19A	CA_n78A-n257A	19A	n257A
	DC_19A_n78A-n257A	19A	CA_n78A-n257A	19A	CA_n78A-n257A
DC_19A_n79A-n257A	DC_19A_n79A	19A	CA_n79A-n257A	19A	n79A
	DC_19A_n257A	19A	CA_n79A-n257A	19A	n257A
	DC_19A_n79A-n257A	19A	CA_n79A-n257A	19A	CA_n79A-n257A

4.3.1.6.1.3 Inter-band EN-DC configurations including FR1 and FR2 (four bands)

Table 4.3.1.6.1.3-1: Inter-band EN-DC including FR1 and FR2 (four bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
DC_1A-3A_n78A-n257A	DC_1A_n78A	CA_1A-3A	CA_n78A-n257A	1A	n78A
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257A	1A	n257A
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257A	3A	n78A
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257A	3A	n257A
DC_1A-3A_n78A-n257G	DC_1A_n78A	CA_1A-3A	CA_n78A-n257G	1A	n78A
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257G	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257G	1A	CA_n257D
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257G	1A	CA_n257G
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257G	3A	n78A
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257G	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257G	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257G	3A	CA_n257G
DC_1A-3A_n78A-n257H	DC_1A_n78A	CA_1A-3A	CA_n78A-n257H	1A	n78A
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257H	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257H	1A	CA_n257D
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257H	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A	CA_n78A-n257H	1A	CA_n257H
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257H	3A	n78A
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257H	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257H	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257H	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A	CA_n78A-n257H	3A	CA_n257H
DC_1A-3A_n78A-n257I	DC_1A_n78A	CA_1A-3A	CA_n78A-n257I	1A	n78A
	DC_1A_n257A	CA_1A-3A	CA_n78A-n257I	1A	n257A
	DC_1A_n257D	CA_1A-3A	CA_n78A-n257I	1A	CA_n257D
	DC_1A_n257G	CA_1A-3A	CA_n78A-n257I	1A	CA_n257G
	DC_1A_n257H	CA_1A-3A	CA_n78A-n257I	1A	CA_n257H
	DC_1A_n257I	CA_1A-3A	CA_n78A-n257I	1A	CA_n257I
	DC_3A_n78A	CA_1A-3A	CA_n78A-n257I	3A	n78A
	DC_3A_n257A	CA_1A-3A	CA_n78A-n257I	3A	n257A
	DC_3A_n257D	CA_1A-3A	CA_n78A-n257I	3A	CA_n257D
	DC_3A_n257G	CA_1A-3A	CA_n78A-n257I	3A	CA_n257G
	DC_3A_n257H	CA_1A-3A	CA_n78A-n257I	3A	CA_n257H
	DC_3A_n257I	CA_1A-3A	CA_n78A-n257I	3A	CA_n257I

4.3.1.6.1.4 Inter-band EN-DC configurations including FR1 and FR2 (five bands)

Table 4.3.1.6.1.4-1: Inter-band EN-DC including FR1 and FR2 (five bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
FFS	FFS	FFS	FFS	FFS	FFS

4.3.1.6.1.5 Inter-band EN-DC configurations including FR1 and FR2 (six bands)

Table 4.3.1.6.1.5-1: Inter-band EN-DC including FR1 and FR2 (six bands)

EN-DC Configuration	Uplink EN-DC configuration	E-UTRA downlink configuration	NR downlink configuration	E-UTRA uplink configuration	NR uplink configuration
FFS	FFS	FFS	FFS	FFS	FFS

4.3.1.7 Test frequencies for Non-3GPP Access

4.3.1.7.1 WLAN Test frequencies

The same WLAN test frequencies as in TS 36.508 [2] clause 4.3.1.6 applies.

4.3.2 Radio conditions

4.3.2.1 FR1, normal propagation condition for connected

The downlink connection between the System Simulator and the UE is without Additive White Gaussian Noise, and has no fading or multipath effects.

The uplink connection between the UE and System Simulator is without Additive White Gaussian Noise, and has no fading or multipath effects.

4.3.2.2 FR2, condition for OTA

FFS

4.3.3 Physical channel allocations

4.3.3.1 E-UTRA

The same physical channel allocations as in TS 36.508 [2] clause 4.3.3 applies.

4.3.3.2 NR

4.3.3.2.1 Antennas

For FR1 testing, if the UE has two or four Rx antennas, the same downlink signal is applied to each antenna. All UE Rx antennas shall be connected unless otherwise stated in the test case.

4.3.3.2.2 Downlink physical channels and physical signals

Table 4.3.3.2.2-1: Power allocation for OFDM symbols and reference signals

Parameter	Unit	Value
SSS transmit power	W	Test specific (Note 1)
EPRE ratio of PSS to SSS	dB	0
EPRE ratio of PBCH DMRS to SSS	dB	0
EPRE ratio of PBCH to PBCH DMRS	dB	0
EPRE ratio of PDCCH DMRS to SSS	dB	0
EPRE ratio of PDCCH to PDCCH DMRS	dB	0
EPRE ratio of PDSCH DMRS to SSS	dB	0
EPRE ratio of PDSCH to PDSCH DMRS	dB	0
EPRE ratio of PTRS to PDSCH	dB	0
EPRE ratio of CSI-RS to SSS	dB	0
Note 1: For signalling test cases the power allocation according to clause 6.2.1.2 applies.		

4.3.3.2.3 Mapping of downlink physical channels and signals to physical resources

Parameters for mapping of downlink physical channels and signals are specified as follows.

Normal Cyclic Prefix

$N_{\mathrm{ID}}^{\mathrm{cell}}$, Physical layer cell identity = 0 is used as the default physical layer cell identity

For Signalling testing, the same subcarrier spacing (SCS) is used for carrier and SS blocks; the tables in clause 6.2.3.1 specify which SCS to use for a particular NR band. In general, SCS=15kHz is used for FR1 FDD, SCS=15kHz or SCS=30kHz is used for FR1 TDD and SCS=120kHz is used for FR2.

For Signalling testing, the default channel bandwidth is specified in clause 6.2.3.1 for each NR band.

For Signalling testing, single SS Tx antenna is used, in FR1, unless specified otherwise in the test case.

For RF testing, the mapping of DL physical channels to resource element is defined in Annex C of TS 38.101-1 [7] and TS 38.101-2 [8] and TS 38.101-3 [9].

4.3.4 Signal levels

4.3.4.1 Signal levels for conducted testing

4.3.4.1.1 Downlink signal levels

For E-UTRA cell in EN-DC with FR1 NR, the downlink power setting specified in Table 4.3.4.1-1 of TS 36.508[2] are used unless otherwise specified in a test case.

4.3.4.2 Signal levels for OTA testing

As defined in clause 5.2.1.2 for RF tests.

As defined in clause 6.2.1.2 for Signalling tests.

As defined in clause 7.2.1.2 for RRM tests.

4.3.5 Standard test signals

4.3.6 Physical layer parameters

4.3.6.1 Downlink physical layer parameters

4.3.6.1.1 Physical layer parameters for scheduling of PUSCH

4.3.6.1.1.1 Physical layer parameters for DCI format 0_0

DCI format 0_0 is used for the scheduling of PUSCH in one cell.

Default physical layer parameters for DCI format 0_0 are specified in table 4.3.6.1.1.1-1.

Table 4.3.6.1.1.1-1: Physical layer parameters for DCI format 0_0

Parameter	Value	Value in binary
Identifier for DCI formats	Indicating an UL DCI format	“0”
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”
Frequency hopping flag	w/o hopping	“0”
Modulation and coding scheme	Dependent on test parameters	
New data indicator	Set for every data transmission/retransmission according to the rules specified in TS 38.321	-
Redundancy version	Dependent on test parameters	-
HARQ process number	Depending on test parameters	-
TPC command for scheduled PUSCH	0 dB (accumulated TPC) as per Table 7.1.1-1 in TS 38.213	“01”
UL/SUL indicator	Not present (0 bit for UEs not configured with SUL in the cell	-

4.3.6.1.1.2 Physical layer parameters for DCI format 0_1

DCI format 0_1 is used for the scheduling of PUSCH in one cell.

Default physical layer parameters for DCI format 0_1 are specified in table 4.3.6.1.1.2-1.

Table 4.3.6.1.1.2-1: Physical layer parameters for DCI format 0_1

Parameter	Value	Value in binary	Condition
Carrier indicator	Not present	-	
UL/SUL indicator	Not present (0 bit for UEs not configured with SUL in the cell)	-	
Identifier for DCI formats	Indicating an UL DCI format	"0"	
Bandwidth part indicator	Not present (indicating active BWP, not present in case of only one *BWP-Id* as per Table 4.6.3-8)	-	
Frequency domain resource assignment	Dependent on test parameters	-	
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	"0000"	
Frequency hopping flag	Not present	-	
Modulation and coding scheme	Dependent on test parameters	-	
New data indicator	Set for every data transmission / retransmission according to the rules specified in TS 38.321 [20]	-	
Redundancy version	Dependent on test parameters	-	
HARQ process number	Depending on test parameters	-	
1st downlink assignment index	$V_{\text{T- DAI}}^{\text{UL}}$ = 1 as per Table 9.1.3-2 in TS 38.213 [22]	"00"	
2nd downlink assignment index	Not present (0 bit if one HARQ-ACK sub-codebook)	-	
TPC command for scheduled PUSCH	0 dB (accumulated TPC) as per Table 7.1.1-1 in TS 38.213 [22]	"01"	
SRS resource indicator	Not present	-	

Precoding information and number of layers	Depending on test parameters Number of bits determined by determined by antenna ports , *txConfig, and* higher layer parameters *transformPrecoder*, *maxRank*, and *codebookSubset* in Table 4.6.3-118: *PUSCH-Config* (NOTE 1) Value is determined by number of layer and the selected TPMI as per clause 7.3.1.1.2 TS 38.212 [27]	-	
	2	“10”	2TX_UL_MIMO
Antenna ports	Port 0 (NOTE 2)	“000”	
		“00”	TRANSFORM _PRECODER _ENABLED
SRS request	No aperiodic SRS resource set triggered as per Table 7.3.1.1.2-24 in TS 38.212 (no SUL configured)	“00”	
CSI request	Not present	-	
CBG transmission information	Not present	-	
PTRS-DMRS association	DMRS port 0	“00”	PTRS_UL_CONFIG
	Not present	-	
beta_offset indicator	Not present (0 bit if the higher layer parameter dynamic in uci-on-PUSCH is not configured)	-	
DMRS sequence initialization	n_{SCID} = 0 (ScramblingID0 is not present as per Table 4.6.3-50)	“0”	
	Not present	-	TRANSFORM _PRECODER _ENABLED
UL-SCH indicator	Dependent on test parameters 1 bit. A value of "1" indicates UL-SCH shall be transmitted on the PUSCH and a value of "0" indicates UL-SCH shall not be transmitted on the PUSCH.	-	
NOTE 1: codebookSubset = nonCoherent, 2 layers,TPMI = 0 as specified in TS 38.212 [27] Table 7.3.1.1.2-4 NOTE 2: Bitsize depends on transform precoder being enabled/disabled (PUSCH_Config, Table 4.6.3-118) and on dmrs-Type and maxLength (DMRS-UplinkConfig, Table 4.6.3-51); 3 bits (transform precoder disabled) or 2 bits (transform precoder enabled) for DMRS type 1 and len1			

Condition	Explanation
2TX_UL_MIMO	For the purpose of 2TX Uplink MIMO test.
PTRS_UL_CONFIG	When PTRS Uplink is configured
TRANSFORM_PRECODER_ENABLED	Transform precoding is enabled (PUSCH_Config, Table 4.6.3-118)

4.3.6.1.2 Physical layer parameters for scheduling of PDSCH

4.3.6.1.2.1 Physical layer parameters for DCI format 1_0

DCI format 1_0 is used for the scheduling of PDSCH in one cell.

Default physical layer parameters for DCI format 1_0 are specified in table 4.3.6.1.2.1-1 to 4.3.6.1.2.1-4.

Table 4.3.6.1.2.1-1: Physical layer parameters for DCI format 1_0

Parameter	Value	Value in binary
Identifier for DCI formats	Indicating a DL DCI format	“01”
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”
VRB-to-PRB mapping	Non-interleaved	“0”
Modulation and coding scheme	Dependent on test parameters	-
New data indicator	Set for every data transmission/retransmission according to the rules specified in TS 38.321	-
Redundancy version	Dependent on test parameters	-
HARQ process number	Depending on test parameters	-
Downlink assignment index	$V_{\text{C- DAI}}^{\text{DL}}$ / $V_{\text{T- DAI}}^{\text{DL}}$ = 1 as per Table 9.1.3-1 in TS 38.213	“00”
TPC command for scheduled PUCCH	0 dB (accumulated TPC) as per Table 7.2.1-1 in TS 38.213	“01”
PUCCH resource indicator	*PUCCH-ResourceId[1]* = 0 as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213)	“000”
PDSCH-to-HARQ_feedback timing indicator	K_1 slots as specified in 9.2.3 in TS 38.213 μ=0 (SCS=15kHz): K_1=7 μ=1 (SCS=30kHz): K_1=5 μ=3 (SCS=120kHz): K_1=8	 ‘110’B ‘100’B ‘111’B

Table 4.3.6.1.2.1-2: Physical layer parameters for DCI format 1_0 for paging

Parameter	Value	Value in binary
Short Messages Indicator	Only scheduling information for Paging is present in the DCI	“01”
Short Messages	Reserved	-
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”
VRB-to-PRB mapping	Non-interleaved	“0”
Modulation and coding scheme	Dependent on test parameters	-
TB scaling	Scaling factor S=1 as defined in Table 5.1.3.2-2 in TS 38.214)	“00”
Reserved bits	Reserved 6 bits	-

Table 4.3.6.1.2.1-3: Physical layer parameters for DCI format 1_0 for SI

Parameter	Value	Value in binary	Condition
Frequency domain resource assignment	Dependent on test parameters	-	-
Time domain resource assignment	Indicating the first entry of Table 5.1.2.1.1-2 in TS 38.214 [21] to be used	“0000”	SIB1
	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”	SI
VRB-to-PRB mapping	Non-interleaved	“0”	-
Modulation and coding scheme	Dependent on test parameters	-	-
Redundancy version	Dependent on test parameters	-	-
System information indicator	SIB1	“0”	SIB1
	SI message	“1”	SI
Reserved bits	Reserved 15 bits	-	-

Condition	Explanation
SIB1	Used for DCI format 1_0 for SIB1
SI	Used for DCI format 1_0 for SI

Table 4.3.6.1.2.1-4: Physical layer parameters for DCI format 1_0 for random access

Parameter	Value	Value in binary
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”
VRB-to-PRB mapping	Non-interleaved	“0”
Modulation and coding scheme	Dependent on test parameters	-
Redundancy version	Dependent on test parameters	-
TB scaling	Scaling factor S=[1] as defined in Table 5.1.3.2-2 in TS 38.214)	“00”
Reserved bits	Reserved 16 bits	-

4.3.6.1.2.2 Physical layer parameters for DCI format 1_1

DCI format 1_1 is used for the scheduling of PDSCH in one cell.

Default physical layer parameters for DCI format 1_1 are specified in table 4.3.6.1.2.2-1.

Table 4.3.6.1.2.2-1: Physical layer parameters for DCI format 1_1

Parameter	Value	Value in binary
Carrier indicator	Not present	-
Identifier for DCI formats	Indicating a DL DCI format	“1”
Bandwidth part indicator	Not present	-
Frequency domain resource assignment	Dependent on test parameters	-
Time domain resource assignment	Indicating the first entry of PDSCH-TimeDomainResourceAllocationList to be used	“0000”
VRB-to-PRB mapping	Non-interleaved	“0”
PRB bundling size indicator	Not present (semi-static PRB_bundling)	-
Rate matching indicator	Not present	-
ZP CSI-RS trigger	Not present	-
Modulation and coding scheme (TB1)	Dependent on test parameters	-
New data indicator (TB1)	Set for every data transmission/retransmission according to the rules specified in TS 38.321 [20]	-
Redundancy version (TB1)	Dependent on test parameters	-
Modulation and coding scheme (TB2)	Dependent on test parameters	-
New data indicator (TB2)	Set for every data transmission/retransmission according to the rules specified in TS 38.321 [20]	-
Redundancy version (TB2)	Dependent on test parameters	-
HARQ process number	Depending on test parameters	-
Downlink assignment index	$V_{\text{C- DAI}}^{\text{DL}}$ / $V_{\text{T- DAI}}^{\text{DL}}$ = 1 as per Table 9.1.3-1 in TS 38.213 [22]	“00”
TPC command for scheduled PUCCH	0 dB (accumulated TPC) as per Table 7.2.1-1 in TS 38.213 [22]	“01”
PUCCH resource indicator	*PUCCH-ResourceId[1]* = 0 as defined in Table 4.6.3-112 (Mapping as per Table 9.2.3-2 in TS 38.213 [22])	“000”
PDSCH-to-HARQ_feedback timing indicator	corresponding to K1 slots as per Table 9.2.3-1 in TS 38.213 [22] and dl-DataToUL-ACK in Table 4.6.3-112 µ=0 (SCS=15kHz): K1=7 µ=1 (SCS=30kHz): K1=5	 “101” “011”

	µ=3 (SCS=120kHz): K1=8	“110”
Antenna port(s)	DMRS port 0 as per Table 7.3.1.2.2-1 in TS 38.212 [27] (*dmrs-Type* = DMRS type 1 and *maxLength* = len1 as per Table 4.6.3-50)	“0000”
Transmission configuration indication	Not present (0 bits, *tci-PresentInDCI* = Not present as per Table 4.6.3-28)	-
SRS request	No aperiodic SRS resource set triggered as per Table 7.3.1.1.2-24 in TS 38.212 [27] (no SUL configured)	“00”
CBG transmission information	Not present	-
CBG flushing out information	Not present	-
DMRS sequence initialization	fix length of 1 bit; '0'B for DMRS-DownlinkConfig.scramblingID0 (or physCellId if scramblingID0 is not present); see Table 4.6.3-50	“0”

4.3.6.1.3 Void

4.4 Reference system configurations

The reference system configurations specified in this sub clause apply to all test cases unless otherwise specified.

4.4.1 Simulated network scenarios

The simulated network scenarios will simulate UE operation in either standalone NR, standalone E-UTRA or in non-standalone NR and E-UTRA networks. For non-standalone case either the NR or the E-UTRA radio access acts as the master anchor node. For both standalone and non-standalone cases, the simulated networks may be single mode networks (FDD or TDD) or dual mode networks (FDD+TDD). For the standalone NR case the simulated networks may also be inter-RAT networks ((FDD or TDD) + (E-UTRA FDD or E-UTRA TDD).

Simulated network scenarios to be tested are listed in this sub clause.

NOTE 1: The number of cells specified does not necessarily correspond to the maximum number of resources to be configured simultaneously in test equipment. Please refer to sub-clause 6.1 for such information.

NOTE 2: For NAS test cases see sub clause 6.3.2.

4.4.1.1 Standalone cell network scenarios

4.4.1.1.1 Standalone E-UTRA single cell and multi cell network scenarios

For standalone E-UTRA FDD or TDD single cell environment see TS 36.508 [2], clause 4.4.1.1.

For standalone E-UTRA FDD or TDD multi cell network scenarios see TS 36.508 [2], clause 4.4.1.2.

4.4.1.1.2 Standalone NR single cell network scenarios

For standalone NR FDD or TDD single cell environment, NR Cell 1 is used.

4.4.1.1.3 Standalone NR single mode multi cell network scenarios

For standalone NR FDD or TDD intra-frequency multi cell environment, NR Cell 1, NR Cell 2 and NR Cell 4 are used.

For standalone NR FDD or TDD inter-frequency multi cell environment, NR Cell 1, NR Cell 3 and NR Cell 6 are used.

For standalone NR FDD or TDD inter-band cell environment, NR Cell 1 and NR Cell 10 are used.

For standalone NR FDD or TDD multi tracking area intra-frequency multi cell environment, NR Cell 1 and NR Cell 11 are used.

For standalone NR FDD or TDD multi tracking area inter-frequency multi cell environment, NR Cell 1 and NR Cell 23 are used.

For standalone NR FDD or TDD multi PLMN inter-frequency multi cell environment, NR Cell 1, NR Cell 12, NR Cell 13 and NR Cell 14 are used.

4.4.1.1.4 Standalone NR dual mode multi cell network scenarios

For standalone NR FDD and TDD multi cell environment, NR Cell 1, NR Cell 10 and NR Cell 31 are used.

For standalone NR FDD and TDD multi PLMN multi cell environment, NR Cell 1, NR Cell 28, NR Cell 29 and NR Cell 30 are used.

In addition, standalone NR single mode multi cell network scenarios defined in clause 4.4.1.1.3 are combined with the dual mode scenarios defined in this clause when additional intra or inter-frequency cells are used.

4.4.1.1.5 Standalone NR 3GPP Inter-RAT network scenarios

For standalone NR FDD or TDD single cell with E-UTRA FDD or E-UTRA TDD single cell inter-RAT environment:

- NR Cell 1 is used for the NR cell; and
- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell.

For standalone NR FDD or TDD single cell with E-UTRA FDD or E-UTRA TDD multi cell inter-RAT environment:

- NR Cell 1 is used for the NR cell; and
- Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and

4.4.1.2 Non-standalone cell network scenarios

4.4.1.2.1 Non-standalone E-UTRA single cell and NR single cell network scenarios

For non-standalone NR FDD or TDD single cell and E-UTRA FDD or TDD single cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1 is used for the NR cell.

4.4.1.2.2 Non-standalone E-UTRA single cell and NR single mode multi cell network scenarios

For non-standalone E-UTRA single cell and FDD or TDD NR intra-frequency single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 2 and NR Cell 4 are used for NR cells.

For non-standalone E-UTRA single cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone E-UTRA single cell and FDD or TDD NR inter-band single mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and

- NR Cell 1 and NR Cell 10 are used for the NR cells.

4.4.1.2.3 Non-standalone E-UTRA single mode multi cell and NR single mode multi cell network scenarios

For non-standalone E-UTRA intra-frequency single mode multi cell and FDD or TDD NR intra-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 2 and NR Cell 4 are used for NR cells.

For non-standalone FDD or TDD E-UTRA intra-frequency single mode multi cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone FDD or TDD E-UTRA inter-frequency single mode multi cell and FDD or TDD NR inter-frequency single mode multi cell environment:

- E-UTRA Cell 1, Cell 3 and Cell 6, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 3 and NR Cell 6 are used for the NR cells.

For non-standalone single E-UTRA cell and FDD or TDD NR inter-band single mode multi cell environment:

- E-UTRA Cell 1, Cell 2 and Cell 4, as specified in TS 36.508 [2] clause 4.4.1.2, is used for the E-UTRA cell; and
- NR Cell 1 and NR Cell 10 are used for the NR cells.

4.4.1.2.4 Non-standalone E-UTRA single cell and NR dual mode multi cell network scenarios

Editor's note: It is FFS if the NR dual mode multi cell environment needs to include multiple E-UTRA cells in addition to the multiple NR cells.

For non-standalone single E-UTRA cell and FDD and TDD NR dual mode multi cell environment:

- Cell 1, as specified in TS 36.508 [2] clause 4.4.1.1, is used for the E-UTRA cell; and
- NR Cell 1, NR Cell 10 and NR Cell 31 are used for the NR cells.

In addition, standalone NR single mode multi cell network scenarios defined in clause 4.4.1.2.2 are combined with the dual mode scenarios defined in this clause when additional intra or inter-frequency NR cells are used.

4.4.1.3 Non-3GPP Accesss network scenarios

4.4.1.3.1 WLAN network scenario

For non-3GPP access over WLAN single cell environment Cell 27, as specified in TS 36.508 [2] clauses 4.4.2 and 4.4.8 with condition 'IMSoWLAN' is used.

4.4.2 Simulated cells

NOTE 1: For NAS test cases see subclause 6.3.2.

NOTE 2: Test frequency and range defined in table 4.4.2-1 do not apply to TS 38.521-1, TS 38.521-2 and TS 38.521-3 test cases.

Test frequencies and simulated NR cells are defined in table 4.4.2-1. Test frequencies and simulated E-UTRA cells are defined in TS 36.508 [2] table 4.4.2-1.

For NR cells, NRf1 is the default test frequency. For E-UTRA cells, f1 as specified in TS 36.508 [2] table 4.2.2-1 is the default test frequency.

Default parameters for simulated NR cells are specified in table 4.4.2-1A and table 4.4.2-2.

Default parameters for simulated E-UTRA cells are specified in TS 36.508 [2] table 4.4.2-1A and table 4.4.2-2.

Common parameters for NR simulated cells are specified in clauses 4.4.3 to 4.4.6A.

Common parameters for E-UTRA simulated cells are specified in TS 36.508 [2] clauses 4.4.3 to 4.4.6A.

Other cell specific parameters are specified in clause 4.4.7.

Editor’s note: Notes 2 to 6 in Table 4.4.2-1 for NR cells have been inherited from TS 36.508 [2] Table 4.4.2-1 for E-UTRA cells assuming that similar notes will be needed for NR cells. The notes and the references in the table to the notes are marked by []-brackets pending the confirmation if the notes are needed or not.

Table 4.4.2-1: Definition of test frequencies and simulated NR cells

Test frequency	RAT	Operating band	Range	Simulated NR cells
NRf1	NR	Operating band under test	Mid (Note 1, [Note 3], [Note 6])	NR Cell 1, NR Cell 2, NR Cell 4, NR Cell 11 ([Note 2]), NR Cell 489
NRf2	NR	Operating band under test	High (Note 1, [Note 4], [Note 6])	NR Cell 3, NR Cell 12, NR Cell 23
NRf3	NR	Operating band under test	Low (Note 1, [Note 5], [Note 6])	NR Cell 6, NR Cell 13
NRf4	NR	Operating band under test	(Note 1)	NR Cell 14
NRf5	NR	Operating band for inter-band cells	Mid (Note 1)	NR Cell 10, NR Cell 30, NR Cell 31
NRf6	NR	Operating band for inter-band cells	High (Note 1)	NR Cell 28, NR Cell 29
NRf7	NR	Operating band for inter-band cells	Low (Note 1)	
NRf8	NR	Operating band for SDL cell	Mid (note 1)	NR Cell 32
NRf9	NR	Operating band for SUL cell	Mid (note 1)	NR Cell 33

Note 1: For signalling test, see clause [6.2.3].
[Note 2: For signalling test, simultaneous co-existence of NR Cell 2 with NR Cell 11 is not allowed.]
[Note 3: For RRM test with intra-band contiguous CA, the set of contiguous component carriers are “Mid”, with the test frequencies specified in clauses [4.3.1.1.xA] for FDD and [4.3.1.2.xA] for TDD]
[Note 4: For RRM test with intra-band contiguous CA, the set of contiguous component carriers are “High”, with the test frequencies specified in clauses [4.3.1.1.xA] for FDD and [4.3.1.2.xA] for TDD]
[Note 5: For RRM test with intra-band contiguous CA, the set of contiguous component carriers are “Low”, with the test frequencies specified in clauses [4.3.1.1.xA] for FDD and [4.3.1.2.xA] for TDD.]
[Note 6: For RRM test with intra-band non-contiguous CA, the test frequencies for the set of non-contiguous component carriers are specified in clauses [4.3.1.1.xA] for FDD and [4.3.1.2.xA] for TDD without any regard to range. Thus “Low”, “Mid” and “High” information in this table does not apply. Unless otherwise stated, test point with maximum Wgap is chosen.]

Table 4.4.2-2: Default NR parameters for simulated NR cells

cell ID	NR Cell Identifier		Physical layer cell identity	PRACH-rootSequenceIndex FDD	PRACH-rootSequenceIndex TDD
	gNB Identifier	Cell Identity		L_{RA} =139 Note 1	L_{RA} =139 Note 1
NR Cell 1	'00 0000 0000 0000 0000 0000 0001'B	'00 0000 0000'B	0	0	0
NR Cell 2	'00 0000 0000 0000 0000 0000 0001'B	'00 0000 0010'B	2	32	32
NR Cell 3	'00 0000 0000 0000 0000 0000 0010'B	'00 0000 0011'B	3	0	0
NR Cell 4	'00 0000 0000 0000 0000 0000 0011'B	'00 0000 0100'B	4	64	64
NR Cell 6	'00 0000 0000 0000 0000 0000 0100'B	'00 0000 0110'B	6	0	0
NR Cell 10	'00 0000 0000 0000 0000 0000 0101'B	'00 0000 1010'B	10	0	0
NR Cell 11	'00 0000 0000 0000 0000 0000 0110'B	'00 0000 1011'B	11	96	96
NR Cell 12	'00 0000 0000 0000 0000 0000 0010'B	'00 0000 1100'B	12	32	32

NR Cell 13	'00 0000 0000 0000 0000 0000 0100'B	'00 0000 1101'B	13	32	32
NR Cell 14	'00 0000 0000 0000 0000 0000 0111'B	'00 0000 1110'B	14	0	0
NR Cell 23	'00 0000 0000 0000 0000 0000 0110'B	'00 0001 0111'B	23	64	64
NR Cell 28	'00 0000 0000 0000 0000 0000 0010'B	'00 0001 1100'B	28	0	0
NR Cell 29	'00 0000 0000 0000 0000 0000 0100'B	'00 0001 1101'B	29	32	32
NR Cell 30	'00 0000 0000 0000 0000 0000 0111'B	'00 0001 1110'B	30	32	32
NR Cell 31	'00 0000 0000 0000 0000 0000 0110'B	'00 0001 1111'B	31	64	64
NR Cell 32	'00 0000 0000 0000 0000 0000 0001'B	'00 0010 0000'B	32	-	-
NR Cell 33	'00 0000 0000 0000 0000 0000 0001'B	'00 0010 0001'B	33	-	-
NR Cell 489	'00 0000 0000 0000 0000 0000 0001'B	'01 1110 1001'B	489	128	128
Note 1: To avoid collision of the preambles between intra-frequency cells, with the default *zeroCorrelationZoneConfig* value set to 15, the *PRACH-rootSequenceIndex* values have been separated by 32 root sequences per intra-frequency cell.					

Table 4.4.2-3: Default NAS parameters for simulated NR cells

cell ID	Tracking Area				TA# list (Note 1)	5G-GUTI (Note 2)			
	TA#	PLMN		TAC		AMF Identifier			5G-TMSI
		MCC	MNC			AMF region ID	AMF Set ID	AMF Pointer	
NR Cell 1	TAI-1	(Note 3)		1	TAI-1	254	1	1	Arbitrarily selected according to TS 23.003 subclause 2.10 [26].
NR Cell 2	TAI-1	(Note 3)		1	TAI-1	254	1	1	
NR Cell 3	TAI-1	(Note 3)		1	TAI-1	254	1	1	
NR Cell 4	TAI-1	(Note 3)		1	TAI-1	254	1	1	
NR Cell 6	TAI-1	(Note 3)		1	TAI-1	254	1	1	
NR Cell 10	TAI-1	(Note 3)		1	TAI-1	254	1	1	
NR Cell 11	TAI-2	(Note 3)		2	TAI-2	254	1	1	
NR Cell 23	TAI-2	(Note 3)		2	TAI-2	254	1	1	
NR Cell 12, NR Cell 28	TAI-3	002	11	1	TAI-3	253	1	1	
NR Cell 13, NR Cell 29	TAI-4	003	21	1	TAI-4	252	1	1	
NR Cell 14, NR Cell 30	TAI-5	004	31	1	TAI-5	251	1	1	
NR Cell 31	TAI-2	(Note 3)		2	TAI-2	254	1	1	
NR Cell 489	TAI-1	(Note 3)		1	TAI-1	254	1	1	

Note 1: The value(s) in the column TA# list indicates TAI(s) included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.

Note 2: The value in the column 5G-GUTI indicates 5G-GUTI included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.

Note 3: Set to the same Mobile Country Code and Mobile Network Code stored in EF_{IMSI} on the test USIM card (subclause 4.9.3).

4.4.3 Common parameters for simulated NR cells

The parameters specified in this sub clause apply to the simulated NR cells in standalone NR and non-standalone network scenarios unless otherwise specified.

The common parameters for the simulated E-UTRA cells for standalone E-UTRA and non-standalone network scenarios are specified in TS 36.508 [2] clause 4.4.3 unless otherwise specified.

4.4.3.1 Common configurations of system information blocks

4.4.3.1.1 Combinations of system information blocks for E-UTRA standalone, EN-DC and NGEN-DC

The combination of system information blocks for standalone E-UTRA, EN-DC and NGEN-DC network scenarios are specified in TS 36.508 [2] clause 4.4.3.1.

For EN-DC and NGEN-DC network scenarios the SS shall in addition to broadcasting the E-UTRA system information blocks also broadcast the NR MIB on the NR cell(s).

4.4.3.1.2 Combinations of system information blocks for NR standalone and NE-DC

The combination of system information blocks required by a test case depends on the test case scenario. In this clause, the following combinations of system information blocks are defined.

Combination NR-1 is the default combination which applies to the following test case scenarios:

- NR FDD single cell scenario
- NR TDD single cell scenario

Combination NR-2 applies to the following test case scenarios:

- NR FDD intra-frequency multi cell scenario
- NR TDD intra-frequency multi cell scenario
- NR FDD and NR TDD dual mode multi cell roaming scenario

Combination NR-3 applies to the following test case scenarios:

- NR FDD intra-frequency multi cell scenario with neighbouring cell related information
- NR TDD intra-frequency multi cell scenario with neighbouring cell related information

Combination NR-4 applies to the following test case scenarios:

- NR FDD inter-frequency multi cell scenario
- NR TDD inter-frequency multi cell scenario
- NR FDD inter-band multi cell scenario
- NR TDD inter-band multi cell scenario

- NR FDD and NR TDD dual mode multi cell non-roaming scenario
- NR FDD intra-band carrier aggregation component carriers cell scenario
- NR FDD inter-band carrier aggregation component carriers cell scenario
- NR TDD intra-band carrier aggregation component carriers cell scenario
- NR FDD and NR TDD inter-band carrier aggregation component carriers cell scenario

Combination NR-5 applies to the following test case scenarios:

- NR FDD intra-band carrier aggregation component carriers cell scenario + NR FDD intra-frequency neighbour.
- NR FDD inter-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.
- NR TDD intra-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.
- NR FDD and NR TDD inter-band carrier aggregation component carriers cell scenario+ NR FDD intra-frequency neighbour.

Combination NR-6 applies to the following test case scenarios:

- 3GPP inter-RAT NR FDD + E-UTRA FDD multi cell scenario
- 3GPP inter-RAT NR TDD + E-UTRA TDD multi cell scenario
- 3GPP inter-RAT NR TDD + E-UTRA FDD multi cell scenario

Combination NR-7 applies to the following test case scenarios:

- NR FDD inter-frequency + 3GPP inter-RAT E-UTRA multi-cell scenario
- NR TDD inter-frequency + 3GPP inter-RAT E-UTRA multi-cell scenario

Combination NR-8 applies to the following test case scenarios:

- NR FDD ETWS single cell scenario
- NR TDD ETWS single cell scenario

Combination NR-9 applies to the following test case scenarios:

- 3GPP NR FDD + CMAS single cell scenario

- 3GPP NR TDD + CMAS single cell scenario

Combination NR-10 applies to the following test case scenarios:

- 3GPP NR FDD + ETWS primary notification single cell scenario
- 3GPP NR TDD + ETWS primary notification single cell scenario

Combination NR-11 applies to the following test case scenarios:

- 3GPP NR FDD + ETWS secondary notification single cell scenario
- 3GPP NR TDD + ETWS secondary notification single cell scenario

Table 4.4.3.1.2-1: Combinations of system information blocks

	System information block type							
Combination No.	**SIB1**	**SIB2**	**SIB3**	**SIB4**	**SIB5**	**SIB6**	**SIB7**	**SIB8**
NR-1	X							
NR-2	X	X						
NR-3	X	X	X					
NR-4	X	X		X				
NR-5	X	X	X	X				
NR-6	X	X			X			
NR-7	X	X		X	X			
NR-8	X	X				X	X	
NR-9	X	X						X
NR-10	X	X				X		
NR-11	X	X					X	

4.4.3.1.3 Scheduling of system information blocks

The scheduling configurations for combinations of system information blocks are defined in the following tables. There is no scheduling information for combination NR-1.

Table 4.4.3.1.3-1: Scheduling for combination NR-2

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2

Table 4.4.3.1.3-2: Scheduling for combination NR-3

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB3

Table 4.4.3.1.3-3: Scheduling for combination NR-4

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB4

Table 4.4.3.1.3-4: Scheduling for combination NR-5

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB3
3	64	SIB4

Table 4.4.3.1.3-5: Scheduling for combination NR-6

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB5

Table 4.4.3.1.3-6: Scheduling for combination NR-7

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	64	SIB4, SIB5

Table 4.4.3.1.3-7: Scheduling for combination NR-8

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	32	SIB6
3	32	SIB7

Table 4.4.3.1.3-8: Scheduling for combination NR-9

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	32	SIB8

Table 4.4.3.1.3-9: Scheduling for combination NR-10

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	32	SIB6

Table 4.4.3.1.3-10: Scheduling for combination NR-11

Scheduling Information No.	Periodicity [radio frames]	Mapping of system information blocks
1	32	SIB2
2	32	SIB7

4.4A Test states

4.4A.1 General

The purpose of the test states is to get the UE into specific 5GC and RRC protocol states in the initial condition of test cases. Each test state is identified by a test state ID. The syntax used for test state IDs is described in sub-clause 4.4A.4. The list of defined test states and the associated UE 5GC and RRC/ N3AN protocol states are specified in sub-clause 4.4A.2.

A test case may request that one or more test functions and/or configurations are activated/configured by the SS as part of the procedure used for the requested test state. The test case requests the additional test functions and/or configurations by specifying one or more test state parameters. The list of defined test state parameters is specified in sub-clause 4.4A.3.

4.4A.2 Test states and associated 5GC and RRC protocol states

Table 4.4A.2-0: 5GC and RRC/N3AN protocol states for UE Switched Off

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer	Comments
0-A	-	-	-	-	-	UE switched off. No change to PLMN stored in the USIM
0N-B	NR	-	-	-	-	UE switched off with the PLMN under test stored in the USIM
0E-B	E-UTRA	-	-	-	-	
0W-B	WLAN	-	-	-	-	

Table 4.4A.2-1: 5GC and RRC/N3AN protocol states for IDLE

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer
1N-A	NR	NR RRC_IDLE	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
1E-A	E-UTRA	EUTRA RRC_IDLE	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
1W-A	WLAN	Ipsec_SA_Released	5GMM-IDLE	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

Table 4.4A.2-2: 5GC and RRC protocol states for INACTIVE

5GS state ID	Connectivity	RRC state	5GMM modes	5GMM sublayer	5GSM sublayer
2N-A	NR	NR RRC_INACTIVE	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
2E-A	E-UTRA	EUTRA RRC_ INACTIVE	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

Table 4.4A.2-3: 5GC and RRC/N3AN protocol states for CONNECTED

5GS state ID	Connectivity	RRC/N3AN state	5GMM modes	5GMM sublayer	5GSM sublayer
3N-A	NR	NR RRC_ CONNECTED	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
3E-A	E-UTRA	EUTRA RRC_ CONNECTED	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE
3W-A	WLAN	Ipsec_SA_Established	5GMM-CONNECTED	5GMM-REGISTERED	PDU SESSION INACTIVE
					PDU SESSION ACTIVE

4.4A.3 Test state parameters

Table 4.4A.3-1 lists the test functions and configurations that a test case can request to be activated/configured. A test case requests a test function or configuration to be used in the preamble by including the test state parameter text in the preamble statement of the test case in *italics*.

Editor's Note: The test state parameters are currently limited to test functions required by standalone NR. Additional test state parameters will be added in future as needed. E.g. for EN-DC, NE-DC and NGEN-DC there will be a need for parameters for bearer type (MCG and SCG, MCG and split or MCG only).

Table 4.4A.3-1: Test state parameters

Test state parameter	Description
UE test loop mode <X> prepared	If included the UE test mode is activated in the preamble indicating that UE test loop mode <X> will be activated in the test case test procedure, where <X> is A or B. (Note 1, Note 2, Note 3)
UE test loop mode <X> active	If included the UE Test Mode and UE test loop mode <X> will be activated in the preamble, where <X> is A or B. (Note 1, Note 2, Note 3)
Note 1: See TS 38.509 [11], clause 5.2.2 for details of UE test mode.	
Note 2: See TS 38.509 [11], clause 5.3.4.1 for details of UE test loop mode A.	
Note 3: See TS 38.509 [11], clause 5.3.4.2.2 for details of UE test loop mode B.	

4.4A.4 Test state ID syntax

A test state ID is defined as:

<RRC state><Connectivity>-<Variant>

, where <RRC state>, <Connectivity> and <Variant> are defined in Table 4.4A.2-1.

Table 4.4A.4-1: Test state fields

Test state field	Value	Description
<RRC state>	0	Indicates that the requested test state will end up in SWITCHED_OFF state.
	1	Indicates that the requested test state will end up in RRC_IDLE/Ipsec_SA_Released state.
	2	Indicates that the requested test state will end up in RRC_INACTIVE state.
	3	Indicates that the requested test state will end up in RRC_CONNECTED/Ipsec_SA_Released state.
<Connectivity>	E	E-UTRA is used as the initial access.
	N	NR is used as the initial access.
	W	Un trusted non 3GPP Access over WLAN is used as the initial access
<Variant>	A	A, B, C etc. used to represent different variants within a <RRC state><Connectivity> group of test states.

4.4A.5 Mapping of test state IDs and test parameters to generic procedures, generic procedure parameters and specific message conditions

Depending on the test case preamble requested test state ID and test parameters the SS shall:

1> use the applicable generic procedure as specified in Table 4.4A.5-1 using the:

2> applicable generic procedure parameters as specified in Table 4.4A.5-1 and Table 4.4A.5-2; and

2> applicable message conditions as specified in Table 4.4A.5-2.

Table 4.4A.5-1: Test state ID mapping to generic procedures and Connectivity generic procedure parameter

Test state ID			Generic Procedure		
RRC state field	**Connectivity field**	**Variant field**	**Name**	**Generic procedure parameter (Note 1)**	**Clause**
0	-	A	SWITCHED_OFF		4.5.5
0	N	B	SWITCHED_OFF	Connectivity=*NR*	4.5.5
0	E	B	SWITCHED_OFF	Connectivity=*E-UTRA*	4.5.5
0	W	B	SWITCHED_OFF	Connectivity=*WLAN*	4.5.5
1	N	A	RRC_IDLE	Connectivity=*NR*	4.5.2
1	E	A	RRC_IDLE	Connectivity=*E-UTRA*	4.5.2
1	W	A	Ipsec_SA_Released	Connectivity=*WLAN*	4.5.2
2	N	A	RRC_INACTIVE	Connectivity=*NR*	4.5.3
2	E	A	RRC_INACTIVE	Connectivity=*E-UTRA*	4.5.3
3	N	A	RRC_CONNECTED	Connectivity=*NR*	4.5.4
3	E	A	RRC_CONNECTED	Connectivity=*E-UTRA*	4.5.4
3	W	A	Ipsec_SA_Established	Connectivity=*WLAN*	4.5.4
Note 1: In addition to the Connectivity parameter specified in this table the applicable additional generic procedure parameters and conditions as stated in Table 4.4A.5-2 shall be used					

Table 4.4A.5-2: Additional generic procedure parameters and message conditions

Test state parameter	**Additional generic procedure parameter(s)**	**Specific message conditions**	
		Message	**Condition**
UE test loop mode A prepared	Test Mode=*On*	Note 1	Note 1
UE test loop mode B prepared	Test Mode=*On*	ACTIVATE UE TEST MODE (Table FFS)	UE test loop mode B
UE test loop mode A active	Test Loop Function=*On*	Note 1	Note 1
UE test loop mode B active	Test Loop Function=*On*	ACTIVATE UE TEST MODE (Table FFS)	UE test loop mode B
		CLOSE UE TEST LOOP (Table FFS)	UE test loop mode B
Note 1: For test state parameters *UE test loop mode A prepared* and *UE test loop mode A active* there is no specific message conditions needed as the default UE test loop mode in the messages ACTIVATE UE TEST MODE and CLOSE UE TEST LOOP is UE test loop mode A.			

4.5 Generic procedures

4.5.1 General

The generic procedures are used by test cases to get UE under test into SWITCHED_OFF, RRC_IDLE/Ipsec SA not established, RRC_INACTIVE or RRC_CONNECTED/Ipsec SA established state.

A test case controls the SS by specifying the required RRC state and a set of generic procedure parameters applicable for the intended testing.

The connectivity *EN-DC* is MR-DC via E-UTRA-NR Dual Connectivity. This is a UE connected to the EPC. The connectivity *E-UTRA/5GC*, *NR*, *NGEN-DC*, *NE-DC and NR-DC*are all a UE connected to the 5GC.

The connectivity E-UTRA/EPC is E-UTRA connected to the EPC.MULTI_PDN configuration is defined in TS 36.508 [2], clause 4.5.2.

Table 4.5.1-1: Generic procedure parameters

Parameter	Values	Description	Parameter condition
Connectivity	*E-UTRA/5GC*	E-UTRA connected to 5GC	Mandatory
	NR	NR connected to 5GC	
	EN-DC	E-UTRA-NR Dual Connectivity with E-UTRA connected to EPC	
	NGEN-DC	E-UTRA-NR Dual Connectivity with E-UTRA connected to EPC	
	NE-DC	NR E-UTRA Dual Connectivity	
	NR-DC	*NR-NR Dual Connectivity*	
	WLAN	Un trusted non 3GPP access over WLAN	
	E-UTRA/EPC	E-UTRA connected to EPC	
Bearers	*MCG(s) and SCG*	MCG and SCG	Mandatory when Connectivity is set to *EN-DC*, *NGEN-DC, NE-DC* or NR-DC and when the generic procedures are used by
	MCG(s) and split	MCG and split	

	MCG(s) only	MCG only	test cases to get UE under test into RRC_CONNECTED state.s=1 if MULTI_PDN= FALSE and s=2 if MULTI_PDN=TRUE. Optional otherwise.
Test Mode	*On*	UE test mode active as specified in TS 38.509 [11], clause5.2.2.	Optional
Test Loop Function	*On*	UE test mode active with one of the UE test loop modes activated as specified in TS 38.509 [11], clauses 5.2.2 and 5.3.2.	Optional
Connected without release	*On*	Enter RRC_Connected with/ Ipsec_SA_Established out any release.	Optional

Editor's Note: The following values are not available to use in the current version of this specification because details are still FFS: Connectivity (E-UTRA/5GC, NGEN-DC, NE-DC and NR-DC).

4.5.2 RRC_IDLE

4.5.2.1 Initiation

The SS shall:

1> if connectivity is *EN-DC*:

2> use 1 E-UTRA cell and 1 NR cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.2.2-1: E-UTRA RRC_IDLE;

1> if connectivity is *E-UTRA/EPC*:

2> use 1 E-UTRA cell, default parameters;

2> perform according to the table 4.5.2.2-1: E-UTRA RRC_IDLE;

1> if connectivity is *NR*:

2> use 1 NR cell, default parameters;

2> perform according to the table 4.5.2.2-2: NR RRC_IDLE;

2> if pc_noOf_PDUsNewConnection > 0

3> perform according to the table 4.5.2.2-4: NR RRC_IDLE Extension;

1> if connectivity is *WLAN*:

2> use 1 WLAN cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.2.2-3: WLAN Ipsec_SA_Released;

2> else:

3> Not defined:

1> if connectivity is *NR-DC*:

2> use 2 NR cells, default parameters;

2> perform according to the table 4.5.2.2-2: NR RRC_IDLE;

Editor's Note: The value of specify “default parameters” is FFS. For *NR-DC* the requirement is 2 cells, but details might be required for specific test cases. For other connectivities the same assumption applies for 1 cell.

4.5.2.2 Procedures

Table 4.5.2.2-1: E-UTRA RRC_IDLE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-9a2	Same as TS 36.508 [2] table 4.5.2.3-1, steps 1-9a2.	-	-	-	-
-	EXCEPTION: Steps 10a1 to 10b8 describe behaviour which depends on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
10a1-10a10	IF Test Mode = On OR Test Loop Function = On THEN steps 10-19 as defined in TS 36.508 [2] table 4.5.2A.3-1, are performed. The ACTIVATE TEST MODE is using the associated condition for the test loop.	-	-	-	-
10b1-10b8	ELSE steps 10-17 as defined in TS 36.508 [2], table 4.5.2.3-1 are performed.	-	-	-	-

Table 4.5.2.2-2: NR RRC_IDLE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1		<--	NR RRC: SYSTEM INFORMATION (BCCH)	-	-
2	The UE transmits an *RRCSetupRequest* message.	-->	NR RRC: *RRCSetupRequest*	-	-
3	The SS transmits an *RRCSetup* message.	<--	NR RRC: *RRCSetup*	-	-
4	The UE transmits an *RRCSetupComplete* message and a REGISTRATION REQUEST message.	-->	NR RRC: *RRCSetupComplete* 5GMM: REGISTRATION REQUEST	-	-
5	The SS transmits a *DLInformationTransfer* message and an AUTHENTICATION REQUEST message.	<--	NR RRC: *DLInformationTransfer* 5GMM: AUTHENTICATION REQUEST	-	-
6	The UE transmits an *ULInformationTransfer* message and an AUTHENTICATION RESPONSE message.	-->	NR RRC: *ULInformationTransfer* 5GMM: AUTHENTICATION RESPONSE	-	-
7	Void	-	-	-	-
8	The SS transmits a *DLInformationTransfer* message and a SECURITY MODE COMMAND message.	<--	NR RRC: *DLInformationTransfer* 5GMM: SECURITY MODE COMMAND	-	-
9	The UE transmits an *ULInformationTransfer* message and a SECURITY MODE COMPLETE message.	-->	NR RRC: *ULInformationTransfer* 5GMM: SECURITY MODE COMPLETE	-	-
-	EXCEPTION: Steps 9a1 to 9a2 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
9a1	IF Test Mode = *On* OR Test Loop Function = *On*, the SS transmits an ACTIVATE TEST MODE message to activate UE radio bearer test mode procedure. The ACTIVATE TEST MODE message is using the associated condition for the test loop.	<--	RRC: *DLInformationTransfer* TC: ACTIVATE TEST MODE	-	-
9a2	The UE transmits an ACTIVATE TEST MODE COMPLETE message.	-->	RRC: *ULInformationTransfer* TC: ACTIVATE TEST MODE COMPLETE	-	-
10	The SS transmits a *SecurityModeCommand* message.	<--	NR RRC: *SecurityModeCommand*	-	-
11	The UE transmits a *SecurityModeComplete* message.	-->	NR RRC: *SecurityModeComplete*	-	-

12	The SS transmits a *UECapabilityEnquiry* message.	<--	NR RRC: *UECapabilityEnquiry*	-	-
13	The UE transmits a *UECapabilityInformation* message.	-->	NR RRC: *UECapabilityInformation*	-	-
14	The SS transmits a *DLInformationTransfer* message and a REGISTRATION ACCEPT message.	<--	NR RRC: *DLInformationTransfer* 5GMM: REGISTRATION ACCEPT	-	-
15	The UE transmits an *ULInformationTransfer* message and a REGISTRATION COMPLETE message.	-->	NR RRC: *ULInformationTransfer* 5GMM: REGISTRATION COMPLETE	-	-
16	Void	-	-	-	-
17	Void	-	-	-	-
18	Void	-	-	-	-
-	EXCEPTION: Step 19a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
19a1	IF pc_noOf_PDUs > 0 THEN the generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with ExpectedNumberOfNewPDUSessions = pc_noOf_PDUs.	-	-	-	-
-	EXCEPTION: Steps 19Aa1 to 19Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value. IF pc_noOf_PDUsNewConnection > 0, then Steps 19Aa1 to 19Aa2 are skipped.	-	-	-	-
19Aa 1	IF connected without release is *On* AND Test Loop Function=*On* THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: *DLInformationTransfer* TC: CLOSE UE TEST LOOP	-	-
19Aa 2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: *ULInformationTransfer* TC: CLOSE UE TEST LOOP COMPLETE	-	-
-	EXCEPTION: Step 20a1 depends on the SS	-	-	-	-

	sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.				
20a1	IF connected without release is not present THEN, the SS transmits an *RRCRelease* message.	<--	NR RRC: *RRCRelease*	-	-

Table 4.5.2.2-3: WLAN Ipsec_SA_Released

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The UE associates with the WLAN AP and obtains the local IP address.	-	-	-	-
2	The UE performs a dynamic selection of N3IWF using DNS query	-	-	-	-
-	Exception: The UE establishes an IPsec tunnel in parallel to 5GC registration steps 3 to 7 as per the IKEv2 protocol as defined in TS 23.502 [33] clause 4.12.2.2 figure 4.12.2.2-1.	-	-	-	-
3	The UE transmits an REGISTRATION REQUEST message.	-->	5GMM: REGISTRATION REQUEST	-	-
4	The SS transmits an AUTHENTICATION REQUEST message including EAP-Request/AKA'-Challenge or 5G AKA Challenge.	<--	5GMM: AUTHENTICATION REQUEST	-	-
5	The UE transmits an AUTHENTICATION RESPONSE message including EAP-Response/AKA'-Challenge or 5G AKA Response.	-->	5GMM: AUTHENTICATION RESPONSE	-	-
6	The SS transmits a SECURITY MODE COMMAND message including EAP-Success if EAP-AKA' used.	<--	5GMM: SECURITY MODE COMMAND	-	-
7	The UE transmits a SECURITY MODE COMPLETE message.	-->	5GMM: SECURITY MODE COMPLETE	-	-
8	The SS transmits a REGISTRATION ACCEPT message.	<--	5GMM: REGISTRATION ACCEPT	-	-
9	The UE transmits a REGISTRATION COMPLETE message.	-->	5GMM: REGISTRATION COMPLETE	-	-
10	The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2A, takes place performing establishment of UE-requested PDU session.	-	-	-	-
-	EXCEPTION: Step 11a1 depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
11a1	IF connected without release is not present THEN generic procedure for SS-requested IPsec Secure tunnel disconnection, specified in subclause 4.5A.5, takes place performing disconnection of security association.	-	-	-	-
Note: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.					

Table 4.5.2.2-4: NR RRC_IDLE Extension

1	Trigger the UE to perform PDU session establishment via AT or MMI command.	-	-	-	-
2-6	Steps 2-6 from Table 4.5.4.2-3 are performed.	-	-	-	-
7	The SS transmits a SERVICE ACCEPT message.	<--	NR RRC: *DLInformationTransfer* 5GMM: SERVICE ACCEPT	-	-
8	The generic procedure for UE-requested PDU session establishment, specified in subclause 4.5A.2, takes place performing establishment of UE-requested PDU session(s) with ExpectedNumberOfNewPDUSessions = pc_noOf_PDUsNewConnection. Step 1 from subclause 4.5A.2 is triggered manually by AT or MMI command for K > 0,	-	-	-	-
-	EXCEPTION: Steps 8Aa1 to 8Aa2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
8Aa1	IF connected without release is *On* AND Test Loop Function=*On* THEN the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: *DLInformationTransfer* TC: CLOSE UE TEST LOOP	-	-
8Aa2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: *ULInformationTransfer* TC: CLOSE UE TEST LOOP COMPLETE	-	-
-	EXCEPTION: Step 8a1 depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
9a1	IF connected without release is not present THEN, the SS transmits an *RRCRelease* message.	<--	NR RRC: *RRCRelease*	-	-

4.5.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 and TS 36.508 [2] clause 4.6 and 4.7.

4.5.3 RRC_INACTIVE

4.5.3.1 Initiation

The SS shall:

1> if connectivity is *NR*

2> use 1 NR cell, default parameters;

2> perform according to the table 4.5.3.2-1: NR RRC_INACTIVE;

4.5.3.2 Procedures

Table 4.5.3.2-1: NR RRC_INACTIVE

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-19a1	Same as table 4.5.2.2-2, steps 1-19a1.	-	-	-	-
20	The SS transmits an RRCRelease message with suspend.	<--	NR RRC: *RRCRelease*	-	-

4.5.4 RRC_CONNECTED

4.5.4.1 Initiation

The SS shall:

1> perform according to clause 4.5.2 RRC_IDLE;

1> if connectivity is *EN-DC*:

2> use 1 E-UTRA cell and 1 NR cell, default parameters;

2> if connected without release is *On*:

3> perform according to the table 4.5.4.2-2: RF E-UTRA RRC_CONNECTED;

2> else:

3> perform according to the table 4.5.4.2-1: E-UTRA RRC_CONNECTED;

1> if connectivity is *E-UTRA/EPC*:

2> use 1 E-UTRA cell, default parameters;

2> perform according to the table 4.5.4.2-1: E-UTRA RRC_CONNECTED with *MCG(s)* only;

1> if connectivity is *NR*:

2> use 1 NR cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.4.2-3: NR RRC_CONNECTED;

1> if connectivity is *WLAN*:

2> use 1 WLAN cell, default parameters;

2> if connected without release is not present:

3> perform according to the table 4.5.4.2-4: WLAN IPsec_SA_Established;

2> else:

3> Not defined;

1> if connectivity is *NR-DC*:

2> use 2 NR cells, default parameters;

2> FFS;

4.5.4.2 Procedures

Table 4.5.4.2-1: E-UTRA RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-6	Same as TS 36.508 [2] table 4.5.3.3-1, steps 2-7.	-	-	-	-
7	Same as TS 36.508 [2] table 4.5.3.3-1, step 8. The *RRCConnectionReconfiguration* is using condition EN-DC_SRB2-DRB for bearers *MCG(s) and SCG* or *MCG(s) only*. The *RRCConnectionReconfiguration* is using an associated condition MCG_and_SCG for bearers *MCG(s) and SCG or* condition MCG_and_split for bearers *MCG(s) and split.* For bearers *MCG(s) only* there's no associated condition.	<--	*RRC: RRCConnectionReconfiguration* NAS: ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	-	-
-	EXCEPTION: IF *MCG(s) and SCG* or *MCG(s) and split*. In parallel to steps 8-9 the UE performs a C-RNTI based Contention Based Random Access (CBRA) procedure on the NR cell.	-	-	-	-
8-9	Same as TS 36.508 [2] table 4.5.3.3-1, steps 9-10a1	-	-	-	-
10a1 - 10a2	IF Test Loop Function=*On,* same as TS 36.508 [2] table 4.5.4.3-1, steps 1-2. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	-	-	-	-

Table 4.5.4.2-2: RF E-UTRA RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-9	Same as table 4.5.2.2-1, steps 1-9.	-	-	-	-
10a1 - 10a2	IF Test Mode = *On* OR Test Loop Function = *On* THEN same as TS 36.508 [2] table 4.5.2A.3-1, steps 10-11. The ACTIVATE TEST MODE is using the associated condition for the test loop.	-	-	-	-
-	EXCEPTION: Steps 11a1 to 11b8 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
11a1 - 11a8	IF Test Mode = *On* OR Test Loop Function = *On* THEN same as TS 36.508 [2] table 4.5.2A.3-1, steps 12-18.	-	-	-	-
11b1 - 11b8	ELSE, same as TS 36.508 [2] table 4.5.2.3-1, steps 10-16.	-	-	-	-
12-15	Same as table 4.5.4.2-1, steps 7-10.	-	-	-	-

Table 4.5.4.2-3: NR RRC_CONNECTED

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits a *Paging* message.	<--	NR RRC: *Paging*	-	-
2	The UE transmits an *RRCSetupRequest* message.	-->	NR RRC: *RRCSetupRequest*	-	-
3	The SS transmits an *RRCSetup* message.	<--	NR RRC: *RRCSetup*	-	-
4	The UE transmits an *RRCSetupComplete* message and a SERVICE REQUEST message.	-->	NR RRC: *RRCSetupComplete* 5GMM: SERVICE REQUEST	-	-
5	The SS transmits a *SecurityModeCommand* message.	<--	NR RRC: *SecurityModeCommand*	-	-
6	The UE transmits a *SecurityModeComplete* message.	-->	NR RRC: *SecurityModeComplete*	-	-
7	The SS transmits an *RRCReconfiguration* message and a SERVICE ACCEPT message to establish SRB2 and DRB(s). The RRCReconfiguration message is configured using RRCReconfiguration-SRB2-DRB(n, m) where n and m are the number of DRB(s) configured with RLC-AM and RLC-UM respectively.	<--	NR RRC: *RRCReconfiguration* 5GMM: SERVICE ACCEPT	-	-
8	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*	-	-
-	EXCEPTION: Steps 9a1 to 9a2 describe behaviour which depends on the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value.	-	-	-	-
9a1	IF Test Loop Function=*On,* the SS transmits a CLOSE UE TEST LOOP message to enter the UE test loop mode. The CLOSE UE TEST LOOP is using the associated condition for the test loop.	<--	NR RRC: *DLInformationTransfer* TC: CLOSE UE TEST LOOP	-	-
9a2	The UE transmits a CLOSE UE TEST LOOP COMPLETE message to confirm that loopback entities for the radio bearer(s) have been created and loop back is activated.	-->	NR RRC: *ULInformationTransfer* TC: CLOSE UE TEST LOOP COMPLETE	-	-

Table 4.5.4.2-4: WLAN IPsec_SA_Established

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	Trigger UE to initiate IPSec SA.	-	-	-	-
2	The generic procedure for UE-requested IPsec Secure tunnel establishment, specified in subclause 4.5A.4, takes place performing establishment of security association and one child security association.	-	-	-	-

4.5.4.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 and TS 36.508 [2] clause 4.6 and 4.7 with the exceptions below.

Table 4.5.4.3-0: *RRCConnectionReconfiguration* (step 7, Table 4.5.4.2-1)

Derivation Path: 36.508 table 4.6.1-8			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCConnectionReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcConnectionReconfiguration-r8 SEQUENCE {			
dedicatedInfoNASList	Not present	no NAS message	MCG(s) only
dedicatedInfoNASList SEQUENCE (SIZE(1..maxDRB)) OF	1 entry		MCG_and_SCG OR MCG_and_split
dedicatedInfoNAS [1]	OCTET STRING including ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	according to table 4.5.4.3-1	
}			
}			
}			
}			

Table 4.5.4.3-1: Message ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST (step 7, Table 4.5.4.2-1)

Derivation path: TS 36.508 [2] Table 4.7.3-3			
Information Element	**Value/Remark**	**Comment**	**Condition**
Linked EPS bearer identity	12		
EPS QoS	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
TFT	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Negotiated QoS	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Negotiated LLC SAPI	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Radio priority	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Protocol configuration options	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		
Extended protocol configuration options	According to reference dedicated EPS bearer context #6 - in TS 36.508 [2] table 6.6.2-1A		

Table 4.5.4.3-2: *RRCReconfiguration* (step 7, Table 4.5.4.2-3)

Derivation Path: TS 38.508-1, table 4.8.1-1B: RRCReconfiguration-SRB2-DRB(n, m)

4.5.5 SWITCHED_OFF

4.5.5.1 Initiation

The SS shall:

1> if Test State ID=0-A:

2> Do nothing;

1> else if Test State ID=0N-B:

2> use 1 NR cell, default parameters;

2> perform the procedure according to the table 4.5.5.2-1: NR SWITCHED_OFF_0_B;

1> else if Test State ID=0E-B:

2> FFS

NOTE: The procedure for State 0N-B is used as default.

4.5.5.2 Procedures

Table 4.5.5.2-1: NR SWITCHED_OFF_0N_B

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1-20	Same as table 4.5.2.2-2, steps 1-20.	-	-	-	-
21-26	Same as table 4.9.6.1-1, steps 1a1-1b1	-	-	-	-

4.5.5.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7.

NOTE: The procedure refers to default messages content. If a test case requires specific parameters to be set during the procedure e.g. list with ePLMNs or/and TAIs is stored, new or not 5G-GUTI, etc. then, this needs to be specified in the test case, which uses the procedure.

4.5.6 Void

4.5A Auxiliary procedures

4.5A.1 General

4.5A.2 UE-requested PDU session establishment procedure

4.5A.2.1 Scope

The purpose of this procedure is to establish UE-requested PDU session(s).

4.5A.2.2 Procedure description

4.5A.2.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

4.5A.2.2.2 Procedure sequence

Table 4.5A.2.2.2-1: PDU session establishment procedure

St	Procedure	Message Sequence	
		U – S	Message
0	Set K = 0, L = 0 (Note 1), N = ExpectedNumberOfNewPDUSessions (Note 2)	-	-
1	Wait until the UE transmits a PDU SESSION ESTABLISHMENT REQUEST according to step 1 of table 4.5A.2.2.2-2 and perform all subsequent steps of table 4.5A.2.2.2-2	-	-
2	Set K = K +1	-	-
-	EXCEPTION: In parallel to the events described in steps 3-6a1 below the events specified in Table 4.5A.2.2.2-2 may take place.	-	-
3	The SS transmits an *RRCReconfiguration* message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: *RRCReconfiguration* 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT
4	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*
-	EXCEPTION: Step 5a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-
5a1	If initiated by the UE, the generic procedure for IP address allocation in the user plane, specified in subclause 4.5A.3, takes place performing IP address allocation in the user plane.	-	-
-	EXCEPTION: Step 6a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-
6a1	IF the UL NAS TRANSPORT message transporting the PDU SESSION ESTABLISHMENT REQUEST message included an IMS DNN in the DNN IE THEN the generic procedure for IMS signalling in the U-plane specified in subclause 4.5A.4 takes place.	-	-

-	EXCEPTION: Steps 7a1 to 7b2 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-
7a1	IF L > K (Note 3) THEN repeat from step 2	-	-
7b1	ELSE IF K < N (Note 4) THEN wait until the UE transmits another PDU SESSION ESTABLISHMENT REQUEST according to step 1 of Table 4.5A.2.2.2-2 and perform all subsequent steps of table 4.5A.2.2.2-2	-	-
7b2	Repeat from step 2	-	-
Note 1: K is the number of PDU SESSION ESTABLISHMENT REQUEST messages already processed including the one that is currently being processed. L is the number of PDU SESSION ESTABLISHMENT REQUEST messages being received so far; L is incremented for each PDU SESSION ESTABLISHMENT REQUEST in the behaviour of Table 4.5A.2.2.2-2. Note 2: ExpectedNumberOfNewPDUSessions is the number of PDU sessions to be established by the procedure. It depends on the UE configuration and/or the context in which the procedure is used. ExpectedNumberOfNewPDUSessions shall be > 0. Note 3: One (or more) further PDU SESSION ESTABLISHMENT REQUEST message has been received in parallel. Note 4: Less PDU SESSION ESTABLISHMENT REQUEST messages than expected have been received and processed so far ⇒ Further request are expected from the UE.			

Table 4.5A.2.2.2-2: Reception of PDU SESSION ESTABLISHMENT REQUEST message

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits an *ULInformationTransfer* message and a PDU SESSION ESTABLISHMENT REQUEST	-->	NR RRC: *ULInformationTransfer* 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST
2	Set L = L +1 (Note 1, 2)	-	-
Note 1: The SS shall raise a fail/inconclusive verdict when there are more PDU SESSION ESTABLISHMENT REQUEST messages than expected (L > N; Note 2). Note 2: L and N are as defined for Table 4.5A.2.2.2-1			

4.5A.2.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 with the exceptions below.

Table 4.5A.2.2.3-1: *RRCReconfiguration* (step 3, Table 4.5A.2.2.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-13 and condition NR if SRB2 is not yet established			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with conditions SRB2 and DRB2		NOT IMS_PDU_Session
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with condition SRB2_DRB2		NOT IMS_PDU_Session
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message		
}			
}			
}			
}			

Condition	Explanation
IMS_PDU_Session	This *RRCReconfiguration* message contains a PDU SESSION ESTABLISHMENT ACCEPT message for an IMS PDU session

Table 4.5A.2.2.3-2: *RRCReconfiguration* (step 3, Table 4.5A.2.2.2-1)

Derivation Path: TS 38.508-1, table 4.6.1-13 and condition NR if SRB2 is already established			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig with condition DRBn	n is chosen as the next available number higher or equal to 2.	
	RadioBearerConfig with condition DRB1		IMS_PDU_Session
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with condition DRBn	n is set to the same value as for the radioBearerConfig IE above	
	CellGroupConfig with condition DRB1		IMS_PDU_Session
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message		
}			
}			
}			
}			

Condition	Explanation
IMS_PDU_Session	This *RRCReconfiguration* message contains a PDU SESSION ESTABLISHMENT ACCEPT message for an IMS PDU session

4.5A.2A UE-requested PDU session establishment procedure over Non 3GPP Access

4.5A.2A.1 Scope

The purpose of this procedure is to establish UE-requested PDU session.

4.5A.2A.2 Procedure description

4.5A.2A.2.1 Initial conditions

The UE has established an IPsec security association

4.5A.2A.2.2 Procedure sequence

Table 4.5A.2A.2.2-1: PDU session establishment procedure over Non 3GPP Access

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits a PDU SESSION ESTABLISHMENT REQUEST	-->	5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST
2	The SS establishes an IPSec child security association according to the IKEv2 specification in RFC 7296 [34]		
3	The SS transmits an PDU SESSION ESTABLISHMENT ACCEPT	<--	5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT
Note 1: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.			

4.5A.2A.3 Specific message contents

None

4.5A.3 Procedure for IP address allocation in the user plane

4.5A.3.1 Scope

The purpose of this procedure is to allow the successful completion of IP address allocation if it is initiated by the UE therefore the result from the execution of the Procedure for IP address allocation in the user plane shall not lead to assignment of a verdict.

Depending on the UE configuration there may be unpredictable delay in the start of the procedure. A guarding time of 1.2 sec is suggested within which the procedure is expected to start. If the timer expires then the test procedure, from which the Procedure for IP address allocation in the user plane is called, shall advance to the next specified step.

4.5A.3.2 Procedure description

4.5A.3.2.1 Initial conditions

N/A

4.5A.3.2.2 Procedure sequence

Table 4.5A.3.2.2-1: Procedure for IP address allocation in the user plane

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Step 1 below and Step 1 in Table 4.5A.3.2.2-2 describe behaviour that depends on the contents of the latest PDU SESSION ESTABLISHMENT REQUEST message sent by the UE prior to this procedure.	-	-
-	EXCEPTION: In parallel to the event described in step 1 below the step specified in Table 4.5A.3.2.2-2 may take place.	-	-
1	If the "PDU session type" in the latest PDU SESSION ESTABLISHMENT REQUEST message prior to this procedure was 'IPv4' or 'IPv4v6' then, IPv4 address allocation by DHCPv4 may occur on the user plane bearer established for the QoS flow of the default QoS rule.	-	-

Table 4.5A.3.2.2-2: Procedure for IP address allocation in the user plane, parallel behaviour

Step	Procedure	Message Sequence	
		U - S	Message
1	If the "PDU session type" in the latest PDU SESSION ESTABLISHMENT REQUEST message prior to this procedure was 'IPv6' or 'IPv4v6' then stateless address auto configuration occurs on the user plane bearer established for the QoS flow of the default QoS rule.	-	-

4.5A.3.2.3 Specific message contents

None

4.5A.4 Procedure for IMS signalling

4.5A.4.1 Scope

The purpose of this procedure is to allow the successful completion of IMS signalling.

The procedure is applicable for UEs with IMS support (TS 38.508-2 A.4.4-1/2).

4.5A.4.2 Procedure description

4.5A.4.2.1 Initial conditions

N/A

4.5A.4.2.2 Procedure sequence

Table 4.5A.4.2.2-1: Procedure for IMS signalling

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1a2b1 describe a transaction that depends on the UE capability	-	-
1a1	IF pc_IMS_5GS then the SS starts timer Timer_1 = 10 s (Note 1)	-	-
-	EXCEPTION: Steps 1a2a1 to 1a2b1 describe a transaction that depends on the UE implementation	-	-
1a2a1-1a2a8	Registration procedure according TS 34.229-1 [44] subclause C.2d (steps 1-8). Note: SS cancels timer Timer_1 at step 1a2a1	-	-
1a2b1	Timer_1 expires	-	-
Note 1: Depending on the UE configuration there may be unpredictable delay in the start of the procedure. A guarding time of [10] sec is suggested within which the procedure is expected to start. If the timer expires then the test procedure, from which the Procedure for IMS signalling U-plane is called, shall advance to the next specified step			

4.5A.4.2.3 Specific message contents

None

4.5A.5 IPsec Tunnel Disconnection in 5GC / WLAN

4.5A.5.1 Scope

The purpose of this procedure is to disconnect an Ipsec tunnel.

4.5A.5.2 Procedure description

4.5A.5.2.1 Initial conditions

The UE has established an IPsec security association

4.5A.5.2.2 Procedure sequence

Table 4.5A.5.2.2-1: IPsec Tunnel Disconnection in 5GC / WLAN

St	Procedure	Message Sequence	
		U – S	Message
1	The SS initiated disconnection from the existing IPsec tunnel as defined in TS 24.502 [35] clause 7.4.2	-	-
NOTE: It is assumed that the WLAN AP association remains throughout the procedure.			

4.5A.5.3 Specific message contents

None

4.5A.6 IPsec Tunnel Establishment in 5GC / WLAN

4.5A.6.1 Scope

The purpose of this procedure is to establish an Ipsec tunnel and NAS signalling connection.

4.5A.6.2 Procedure description

4.5A.6.2.1 Initial conditions

The UE has Registered to 5GC with a PDU session established and IPsec security association is released

4.5A.6.2.2 Procedure sequence

Table 4.5A.6.2.2-1: IPsec Tunnel Establishment in 5GC / WLAN

St	Procedure	Message Sequence	
		U – S	Message
-	Exception: In parallel to steps 1 to 2, the UE initiates an IPsec security association and one child security association as defined in TS 24.502 [35] clause 7.3.2	-	-
1	The UE transmits a SERVICE REQUEST message.	-->	5GMM: SERVICE REQUEST
2	The SS transmits a SERVICE Accept message.	<--	5GMM: SERVICE ACCEPT
Note 1: The current procedure assumes UE establishes a single PDU session over Non 3GPP Access.			

4.5A.6.3 Specific message contents

Table 4.5A.6.3-1: SERVICE REQUEST (step 1, Table 4.5A.6.2.2-1)

Derivation Path: 38.508-1 [4], Table 4.7.1-16			
Information Element	**Value/remark**	**Comment**	**Condition**
Service type			
Service type value	‘0000’B	signalling	

4.6 Default NG-RAN RRC message and information elements contents

4.6.0 General

4.6.0.1 Global conditions

Groups of RRC conditions including always one condition set to true.

Table 4.6.0.1-1: Signalling, RF/RRM

Condition	Explanation
SIG	Used for signalling test cases
RF	Used for RF/RRM test cases

Table 4.6.0.1-2: NR operating bands

Condition	Explanation
FR1	410 MHz – 7125 MHz
FR2	24250 MHz – 52600 MHz

4.6.1 Contents of RRC messages

– *CounterCheck*

Table 4.6.1-1: *CounterCheck*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CounterCheck ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
counterCheck SEQUENCE {			
drb-CountMSB-InfoList SEQUENCE (SIZE (1..maxDRB)) OF SEQUENCE {			
drb-Identity	DRB-Identity		
countMSB-Uplink	FFS		
countMSB-Downlink	FFS		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

Condition	Explanation
FFS	

– *CounterCheckResponse*

Table 4.6.1-2: *CounterCheckResponse*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CounterCheckResponse ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
counterCheckResponse SEQUENCE {			
drb-CountInfoList SEQUENCE (SIZE (0..maxDRB)) OF SEQUENCE {			
drb-Identity	DRB-Identity		
count-Uplink	Not checked		
count-Downlink	Not checked		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *DLInformationTransfer*

Table 4.6.1-3: *DLInformationTransfer*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DLInformationTransfer ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
dlInformationTransfer SEQUENCE {			
dedicatedNAS-Message	DedicatedNAS-Message		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *FailureInformation*

Table 4.6.1-4: FailureInformation

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FailureInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
failureInformation SEQUENCE {			
failureInfoRLC-Bearer SEQUENCE {			
cellGroupId	Not checked		
logicalChannelIdentity	Not checked		
failureType	Not checked		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *LocationMeasurementIndication*

Table 4.6.1-5: *LocationMeasurementIndication*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
LocationMeasurementIndication ::= SEQUENCE {			
criticalExtensions CHOICE {			
locationMeasurementIndication SEQUENCE {			
measurementIndication CHOICE {			
setup	LocationMeasurementInfo		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *MeasurementReport*

Table 4.6.1-5A: *MeasurementReport*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasurementReport ::= SEQUENCE {			
criticalExtensions CHOICE {			
measurementReport SEQUENCE {			
measResults	MeasResults		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *MIB*

Table 4.6.1-6: *MIB*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MIB ::= SEQUENCE {			
systemFrameNumber	A valid value as defined in TS 38.331 [6]		
subCarrierSpacingCommon	scs15or60	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	SCS15or60
	scs30or120	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	SCS30or120
ssb-subcarrierOffset	Set to the integer value of the 4 LSB of kSSB defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	
dmrs-TypeA-Position	pos2		
pdcch-ConfigSIB1	PDCCH-ConfigSIB1		
cellBarred	notBarred		
intraFreqReselection	allowed		
spare	0		
}			

Condition	Explanation
SCS15or60	SCS is 15kHz or 60kHz
SCS30or120	SCS is 30kHz or 120kHz.

– *MobilityFromNRCommand*

Table 4.6.1-8: *MobilityFromNRCommand*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MobilityFromNRCommand::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
mobilityFromNRCommand SEQUENCE {			
targetRAT-Type	eutra		
targetRAT-MessageContainer	OCTET STRING including the RRCConnectionReconfiguration message according TS 36.508 [2], table 4.6.1-8 with condition HO-TO-EUTRA		
nas-SecurityParamFromNR	The 4 LSB of the downlink NAS COUNT		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *Paging*

Table 4.6.1-9: *Paging*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Paging ::= SEQUENCE {			
pagingRecordList SEQUENCE (SIZE(1..maxNrofPageRec)) OF SEQUENCE {	1 entry		
ue-Identity CHOICE {			
ng-5G-S-TMSI	NG-5G-S-TMSI		
fullI-RNTI	I-RNTI-Value		NR_RRC_RESUME
}			
accessType	Not present		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			

Condition	Explanation
NR_RRC_RESUME	To page a UE in RRC_INACTIVE state to request RRC connection resumption

– *RRCReestablishment*

Table 4.6.1-10: *RRCReestablishment*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReestablishment ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReestablishment SEQUENCE {			
nextHopChainingCount	NextHopChainingCount		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *RRCReestablishmentComplete*

Table 4.6.1-11: *RRCReestablishmentComplete*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReestablishmentComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcReestablishmentComplete SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *RRCReestablishmentRequest*

Table 4.6.1-12: *RRCReestablishmentRequest*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReestablishmentRequest ::= SEQUENCE {			
ue-Identity SEQUENCE {			
c-RNTI	RNTI-Value		
physCellId	PhysCellId		
shortMAC-I	ShortMAC-I		
}			
reestablishmentCause	Not checked		
spare	Present but contents not checked		
}			

– *RRCReconfiguration*

Table 4.6.1-13: *RRCReconfiguration*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier	Table 4.6.5-1.	
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	Not present		
	RadioBearerConfig with conditions SRB2 and DRB1		NR
secondaryCellGroup	CellGroupConfig	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC
	CellGroupConfig with conditions EN-DC and PSCell_change	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_HO
	CellGroupConfig with condition MEAS	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_MEAS
	CellGroupConfig with condition SCell_add	OCTET STRING (CONTAINING CellGroupConfig)	EN-DC_SCell_add
	Not present		
measConfig	Not present		
	MeasConfig	Measurements configuration	NR_MEAS, EN-DC_MEAS
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {			NR, SCell_add, NR_MEAS
masterCellGroup	CellGroupConfig with condition SRB2_DRB1	OCTET STRING (CONTAINING CellGroupConfig)	NR

	CellGroupConfig with condition SCell_add	OCTET STRING (CONTAINING CellGroupConfig)	SCell_add
	CellGroupConfig with condition MEAS	OCTET STRING (CONTAINING CellGroupConfig)	NR_MEAS
fullConfig	Not present		
dedicatedNAS-MessageList SEQUENCE (SIZE(1..maxDRB)) OF DedicatedNAS-Message {}	DedicatedNAS-Message	A sequence of OCTET STRING (s) containing one or more DedicatedNAS-Message(s)	NR
	Not present		
masterKeyUpdate	Not present		
masterKeyUpdate SEQUENCE {			MasterKeyChange
keySetChangeIndicator	true		
nextHopChainingCount	NextHopChainingCount		
nas-Container	Not present		
nas-Container	OCTET STRING including the 10 Octets value generated according to TS 24.501 [28] subclause 9.11.2.9		Inter_Sys_HO
dedicatedSIB1-Delivery	Not present		
	SIB1	OCTET STRING (CONTAINING SIB1)	SCell_add
dedicatedSystemInformationDelivery	Not present		
otherConfig	Not present		
nonCriticalExtension	Not present		
}			
}			
}			
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
EN-DC_MEAS	An EN-DC measurement is configured
NR_MEAS	A NR measurement is configured
NR	NG-RAN NR Radio Access
EN-DC_HO	NR PSCell change (EN-DC)
SCell_add	Add SCell
EN-DC_SCell_add	Add Scell (EN-DC)
MasterKeyChange	MasterKeyUpdate when peforming ReconfigurationWithSync and indicating a change of the AS security algorithms associated to the master key.
Inter_Sys_HO	Used during inter-system handover to NR procedure.

– *RRCReconfigurationComplete*

Table 4.6.1-14: *RRCReconfigurationComplete*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfigurationComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	Not checked		
criticalExtensions CHOICE {			
rrcReconfigurationComplete ::= SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			

– *RRCReject*

Table 4.6.1-15: *RRCReject*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReject ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReject SEQUENCE {			
waitTime	1		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *RRCRelease*

Table 4.6.1-16: *RRCRelease*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCRelease ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcRelease SEQUENCE {			
redirectedCarrierInfo	Not present		
cellReselectionPriorities	Not present		
suspendConfig	Not present		
suspendConfig SEQUENCE {			NR_RRC_INACTIVE
fullI-RNTI	I-RNTI-Value		
shortI-RNTI	ShortI-RNTI-Value		
ran-PagingCycle	rf32		
ran-NotificationAreaInfo CHOICE {			
cellList SEQUENCE (SIZE (1..maxPLMNIdentities)) OF SEQUENCE {	1 entry		
plmn-Identity	Not present		
ran-AreaCells SEQUENCE (SIZE (1..32)) OF {	1 entry		
CellIdentity[1]	CellIdentity	Cellidentity for the used cell.	
}			
}			
}			
t380	Not present		
nextHopChainingCount	NextHopChainingCount		
}			
deprioritisationReq	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

Condition	Explanation
NR_RRC_INACTIVE	NR RRC state RRC_INACTIVE

– *RRCResume*

Table 4.6.1-17: RRCResume

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCResume ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcResume SEQUENCE {			
radioBearerConfig	Not present		
masterCellGroup	Not present		
measConfig	Not present		
fullConfig	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *RRCResumeComplete*

Table 4.6.1-18: *RRCResumeComplete*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCResumeComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcResumeComplete SEQUENCE {			
dedicatedNAS-Message	Not checked		
selectedPLMN-Identity	Not checked		
uplinkTxDirectCurrentList	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *RRCResumeRequest*

Table 4.6.1-19: RRCResumeRequest

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCResumeRequest ::= SEQUENCE {			
rrcResumeRequest SEQUENCE {			
resumeIdentity	ShortI-RNTI-Value		
resumeMAC-I	Not checked		
resumeCause	ResumeCause		
spare	Not checked		
}			
}			

– *RRCResumeRequest1*

Table 4.6.1-20: *RRCResumeRequest1*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCResumeRequest1 ::= SEQUENCE {			
rrcResumeRequest1 SEQUENCE {			
resumeIdentity	I-RNTI-Value		
resumeMAC-I	Not checked		
resumeCause	ResumeCause		
spare	Not checked		
}			
}			

– *RRCSetup*

Table 4.6.1-21: *RRCSetup*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSetup ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcSetup SEQUENCE {			
radioBearerConfig	RadioBearerConfig with condition SRB1		
masterCellGroup	CellGroupConfig with condition SRB1	OCTET STRING (CONTAINING CellGroupConfig)	
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *RRCSetupComplete*

Table 4.6.1-22: *RRCSetupComplete*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSetupComplete::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
rrcSetupComplete SEQUENCE {			
selectedPLMN-Identity	Not checked		
registeredAMF	Not checked		
guami-Type	Not checked		
s-nssai-List	Not checked		
dedicatedNAS-Message	DedicatedNAS-Message		
ng-5G-S-TMSI-Value	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *RRCSetupRequest*

Table 4.6.1-23: *RRCSetupRequest*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
ue-Identity CHOICE {			
randomValue	Not checked		
}			
establishmentCause	Not checked		
spare	Not checked		
}			
}			

– *RRCSystemInfoRequest*

Table 4.6.1-24: *RRCSystemInfoRequest*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSystemInfoRequest ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcSystemInfoRequest-r15 SEQUENCE {			
requested-SI-List	Not checked		
spare	Not checked		
}			
}			
}			

– *SCGFailureInformation*

Table 4.6.1-24A: *SCGFailureInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SCGFailureInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
scgFailureInformation SEQUENCE {			
failureReportSCG	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *SCGFailureInformationEUTRA*

Table 4.6.1-24B: *SCGFailureInformationEUTRA*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SCGFailureInformationEUTRA ::= SEQUENCE {			
criticalExtensions CHOICE {			
scgFailureInformationEUTRA SEQUENCE {			
failureReportSCG-EUTRA	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *SecurityModeCommand*

Table 4.6.1-25: *SecurityModeCommand*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SecurityModeCommand ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeCommand SEQUENCE {			
securityConfigSMC SEQUENCE {			
securityAlgorithmConfig	SecurityAlgorithmConfig		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *SecurityModeComplete*

Table 4.6.1-26: *SecurityModeComplete*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SecurityModeComplete ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeComplete SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *SecurityModeFailure*

Table 4.6.1-27: *SecurityModeFailure*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SecurityModeFailure ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
securityModeFailure SEQUENCE {			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *SIB1*

Table 4.6.1-28: *SIB1*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB1 ::= SEQUENCE {			
cellSelectionInfo SEQUENCE {			
q-RxLevMin	-70	-140 dBm	
	-55	-110 dBm	SIG AND FR1
	ROUND((-110+Delta(NRfs))/2)	-110+Delta(NRfs)	SIG AND FR2
q-RxLevMinOffset	Not present		
q-RxLevMinSUL	-70	-140 dBm	SUL AND RF
	Not Present		
	-55	-110 dBm	SUL AND SIG
q-QualMin	-20	-20dB	QBASED
	Not present		
q-QualMinOffset	Not present		
}			
cellAccessRelatedInfo	CellAccessRelatedInfo		
connEstFailureControl	ConnEstFailureControl		
si-SchedulingInfo	Not present		NR_1
	SI-SchedulingInfo		
servingCellConfigCommon	ServingCellConfigCommonSIB		
ims-EmergencySupport	Not present		
eCallOverIMS-Support	Not present		
ue-TimersAndConstants	UE-TimersAndConstants		
uac-BarringInfo SEQUENCE {}	Not present		
useFullResumeID	Not present		
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
NOTE 1: Delta(NRfs) is derived based on calibration procedure defined in the clause 6.1.3.3. NRfs is NR frequency on which SIB1 is broadcasted. NOTE 2: ROUND is rounded off to the nearest integer. As an example, ‘1 to 1.49’ set to ‘1’ while ‘1.5 to 2’ to ‘2’.			

Condition	Explanation
RF	For RF, performance and RRM testing
SIG	For protocol testing
SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from *q-RxLevMin-sul.*
QBASED	This condition applies to Quality based signalling test cases.
NR_1	System information combination NR_1 is applied

– *SystemInformation*

Table 4.6.1-29: *SystemInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SystemInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
systemInformation-r15 SEQUENCE {			
sib-TypeAndInfo SEQUENCE (SIZE (1..maxSIB)) OF CHOICE {}	See subclause 4.4.3.1.3		
}			
lateNonCriticalExtension	Not present		
nonCriticalExtension SEQUENCE {}	Not present		
}			
}			
}			

– *UEAssistanceInformation*

Table 4.6.1-30: *UEAssistanceInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UEAssistanceInformation ::= SEQUENCE {			
criticalExtensions CHOICE {			
ueAssistanceInformation SEQUENCE {			
delayBudgetReport CHOICE {			
type1	Not checked		
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *UECapabilityEnquiry*

Table 4.6.1-31: UECapabilityEnquiry

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UECapabilityEnquiry ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityEnquiry SEQUENCE {			
ue-CapabilityRAT-RequestList	UE-CapabilityRAT-RequestList		
lateNonCriticalExtension	Not present		
ue-CapabilityEnquiryExt	Not present		
}			
}			
}			

– *UECapabilityInformation*

Table 4.6.1-32: *UECapabilityInformation*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UECapabilityInformation ::= SEQUENCE {			
rrc-TransactionIdentifier	RRC-TransactionIdentifier		
criticalExtensions CHOICE {			
ueCapabilityInformation SEQUENCE {			
ue-CapabilityRAT-ContainerList	UE-CapabilityRAT-ContainerList		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *ULInformationTransfer*

Table 4.6.1-33: *ULInformationTransfer*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ULInformationTransfer ::= SEQUENCE {			
criticalExtensions CHOICE {			
ulInformationTransfer SEQUENCE {			
dedicatedNAS-Message	DedicatedNAS-Message		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			

– *ULInformationTransferMRDC*

Table 4.6.1-34: *ULInformationTransferMRDC*

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ULInformationTransferMRDC ::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
ulInformationTransferMRDC SEQUENCE {			
ul-DCCH-MessageNR	Not checked		
ul-DCCH-MessageEUTRA	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {}	Not checked		
}			
}			
}			
}			

4.6.2 System information blocks

– *SIB2*

SIB2 contains cell re-selection information common for intra-frequency, inter-frequency and/ or inter-RAT cell re-selection (i.e. applicable for more than one type of cell re-selection but not necessarily all) as well as intra-frequency cell re-selection information other than neighbouring cell related.

Table 4.6.2-1: *SIB2*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB2 ::= SEQUENCE {			
cellReselectionInfoCommon SEQUENCE {			
nrofSS-BlocksToAverage	2		
absThreshSS-BlocksConsolidation SEQUENCE{			
thresholdRSRP	RSRP-Range	Table 4.6.3-152	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
rangeToBestCell	dB0		
q-Hyst	dB0	To reduce interference between intra-frequency multiple cells	
speedStateReselectionPars	Not present		
}			
cellReselectionServingFreqInfo SEQUENCE {			
s-NonIntraSearchP	Not present		
s-NonIntraSearchQ	Not present		
threshServingLowP	0	Actual value of threshold = field value * 2 [dB]	
threshServingLowQ	Not present		
	3	3dB	QBASED
cellReselectionPriority	4	A middle value in the range has been selected	
cellReselectionSubPriority	Not present		
}			
intraFreqCellReselectionInfo SEQUENCE {			
q-RxLevMin	-70	-140dBm	
	-55	-110dBm	SIG
q-RxLevMinSUL	Not Present		
	-70	-140dBm	SUL
	-55	-110dBm	SUL AND SIG
q-QualMin	Not present		
	-20	-20dB	QBASED

s-IntraSearchP	31	Actual value of threshold = field value * 2 [dB]	
s-IntraSearchQ	Not present		
t-ReselectionNR	0		
frequencyBandList	Not present		
frequencyBandListSUL	Not present		
p-Max	Not present		
smtc	SSB-MTC	Table 4.6.3-185	
ss-RSSI-Measurement	Not present		
ssb-ToMeasure CHOICE {			
shortBitmap	'0100'B		(FREQ <= 3GHz AND (FR1_FDD OR NOT CASE C)) OR (FREQ <= 2.4GHz AND FR1_TDD)
mediumBitmap	'01000000'B		(FREQ > 3GHz AND FR1) OR (FREQ > 2.4GHz AND FR1_TDD AND CASE C)
longBitmap	'01000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000'B		FR2
}			
deriveSSB-IndexFromCell	false		
	true		FR1_TDD, FR2_TDD
}			
}			

Condition	Explanation
SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from *q-RxLevMin-sul.*
QBASED	This condition applies to Quality based signalling test cases.
FREQ<=2.4GHz	Frequency range <= 2.4GHz
FREQ>2.4GHz	Frequency range > 2.4GHz
FREQ<=3GHz	Frequency range <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
FR1_FDD	FDD frequency range < 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1

– *SIB3*

SIB3 contains neighbouring cell related information relevant only for intra-frequency cell re-selection. The IE includes cells with specific re-selection parameters as well as blacklisted cells.

Table 4.6.2-2: *SIB3*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB3 ::= SEQUENCE {			
intraFreqNeighCellList SEQUENCE (SIZE (1..maxCellIntra)) OF SEQUENCE {}	Not present	Not required unless Qoffset configuration is tested. When Qoffset configuration is tested, see table 6.3.1.1-1	
intraFreqBlackCellList SEQUENCE (SIZE (1..maxCellBlack)) OF SEQUENCE {}	Not present	Not required unless Blacklisted cell list configuration is tested. When Blacklisted cell list configuration is tested, see table 6.3.1.1-1	
lateNonCriticalExtension	Not present		
}			

– *SIB4*

SIB4 contains information relevant only for inter-frequency cell re-selection i.e. information about other NR frequencies and inter-frequency neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

Table 4.6.2-3: *SIB4*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB4 ::= SEQUENCE {			
interFreqCarrierFreqList SEQUENCE (SIZE (1..maxFreq)) OF SEQUENCE {	The same number of entries as the configured inter-freq carriers defined in table 6.3.1.2-1	*n* denotes the index of the entry	
dl-CarrierFreq[n]	Downlink NR SSB ARFCN. See table 6.3.1.2-1		
frequencyBandList[n]	Not present		
frequencyBandListSUL[n]	Not present		
nrofSS-BlocksToAverage[n]	2		
absThreshSS-BlocksConsolidation[n] SEQUENCE{			
thresholdRSRP	RSRP-Range	Table 4.6.3-152	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
smtc[*n*]	SSB-MTC	Table 4.6.3-185	
ssbSubcarrierSpacing[*n*]	SubcarrierSpacing	Table 4.6.3-188	
ssb-ToMeasure[*n*] CHOICE {			
shortBitmap	'0100'B		(FREQ <= 3GHz AND (FR1_FDD OR NOT CASE C)) OR (FREQ <= 2.4GHz AND FR1_TDD)
mediumBitmap	'01000000'B		(FREQ > 3GHz AND FR1) OR (FREQ > 2.4GHz AND FR1_TDD AND CASE C)

longBitmap	'01000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000'B		FR2
}			
deriveSSB-IndexFromCell[*n*]	false		
	true		FR1_TDD, FR2_TDD
ss-RSSI-Measurement[*n*] SEQUENCE {	Not present		
q-RxLevMin[*n*]	-70	-140dBm	
	-55	-110dBm	SIG and FR1
	ROUND((-110+Delta(NRfn))/2)	NOTE1 and NOTE2.	SIG and FR2
q-RxLevMinSUL[*n*]	-70	-140dBm, For RF/RRM test cases	SUL
	Not present		
	-55	-110dBm	SUL and SIG
q-QualMin[*n*]	Not present		
	-20	-20dB	QBASED
p-Max[*n*]	Not present		
t-ReselectionNR[*n*]	0		
t-ReselectionNR-SF[*n*]	Not present	Not required unless speed-dependent cell re-selection is tested.	
threshX-HighP[*n*]	2	4dB, This value should be higher than threshServingLow of the serving cell to avoid ping-pong with lower priority cells.	
threshX-LowP[*n*]	1	2dB	
threshX-Q[*n*] SEQUENCE {}	Not present		
threshX-Q[*n*] SEQUENCE {			QBASED
threshX-HighQ	5	5dB	
threshX-LowQ	5	5dB	
}			
cellReselectionPriority[*n*]	4	The same priority	

		as the one used for serving cell in SIB 2.	
cellReselectionSubPriority[*n*]	Not present	The same subpriority as the one used for serving cell in SIB 2.	
q-OffsetFreq[*n*]	dBXY with XY = (FLOOR((Delta(NRfn) – Delta(NRfs))/2))*2 (NOTE 3)	This value is type of Q-OffsetRange in TS 38.331 [6] which must be even value when its absolute value is larger than dB5.	FR2 AND NOT AbsoluteValue_Within_dB5
	dBXY with XY = Delta(NRfn) – Delta(NRfs)		FR2 AND AbsoluteValue_Within_dB5
	dB0		
interFreqNeighCellList[*n*] SEQUENCE (SIZE (1..maxCellInter)) OF SEQUENCE {}	Not present	Not required unless Qoffset configuration is tested.	
interFreqBlackCellList[*n*] SEQUENCE (SIZE (1..maxCellBlack)) OF SEQUENCE {}	Not present	Not required unless Blacklisted cell list configuration is tested.	
}			
lateNonCriticalExtension	Not present		
}			

NOTE 1: Delta(NRfn) and Delta(NRfs) is derived based on calibration procedure defined in the clause 6.1.3.3. NRfn and NRfs are NR frequencies in dl-CarrierFreq[n] and serving cell frequency on which SIB4 is broadcasted.
NOTE 2: ROUND is rounded off to the nearest integer. As an example, ‘1 to 1.49’ set to ‘1’ while ‘1.5 to 2’ to ‘2’.
NOTE 3: FLOOR is rounded off to the smaller integer. As an example, '1.0 to 1.99' set to 1, '-1.01 to -2.00' set to -2.

Condition	Explanation

SUL	For test cases using SUL frequency for the serving cell, Qrxlevmin is obtained from *q-RxLevMin-sul.*
QBASED	This condition applies to Quality based signalling test cases.
FREQ<=2.4GHz	Frequency range <= 2.4GHz
FREQ>2.4GHz	Frequency range > 2.4GHz
FREQ<=3GHz	Frequency range <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
FR1_FDD	FDD frequency range < 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1
AbsoluteValue_Within_dB5	-5dB <= (Delta(NRfn) – Delta(NRfs)) <= 5dB.

– *SIB5*

SIB5 contains information relevant only for inter-RAT cell re-selection i.e. information about E-UTRA frequencies and E-UTRAs neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency.

Table 4.6.2-4: *SIB5*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB5 ::= SEQUENCE {			
carrierFreqListEUTRA SEQUENCE (SIZE (1..maxEUTRA-Carrier)) OF SEQUENCE {	The same number of entries as the configured E-UTRA carriers. For Signalling test cases, see table 6.3.1.3-1.	*n* denotes the index of the entry	
carrierFreq[*n*]	Downlink E-UTRA ARFCN under test. For Signalling test cases, see table 6.3.1.3-1.		
eutra-multiBandInfoList[*n*] SEQUENCE (SIZE (1..maxMultiBands)) OF SEQUENCE {}	Not present		
eutra-FreqNeighCellList[*n*] SEQUENCE (SIZE (1..maxCellEUTRA)) OF SEQUENCE {}	Not present	Not required unless EUTRA Qoffset configuration is tested.	
eutra-BlackCellList[*n*] SEQUENCE (SIZE (1..maxEUTRA-CellBlack)) OF SEQUENCE {}	Not present	Not required unless Blacklisted cell list configuration is tested.	
allowedMeasBandwidth[*n*]	*EUTRA*-AllowedMeasBandwidth	The value of *EUTRA*-AllowedMeasBandwidth in Table 4.6.5-1.	
presenceAntennaPort1[*n*]	FALSE		
	TRUE	At least two cell-specific antenna ports are used in all neighbouring cells.	All neighCells with port1
cellReselectionPriority[*n*]	3		
cellReselectionSubPriority[*n*]	Not Present		
threshX-High	2 (4 dB)		
threshX-Low	1 (2 dB)		

q-RxLevMin	-70 (-140 dBm)	For RF/RRM test cases	
	-55(-110dBm)	For signalling test cases	
q-QualMin	-20 (-20dB)		
p-MaxEUTRA	23		
threshX-Q SEQUENCE {}	Not present		
threshX-Q SEQUENCE {			QBASED
threshX-HighQ	9 (9dB)		
threshX-LowQ	9 (9dB)		
}			
}			
t-ReselectionEUTRA	0		
t-ReselectionEUTRA-SF	Not present	Not required unless speed-dependent cell re-selection is tested.	
lateNonCriticalExtension	Not present		
}			

Condition	Explanation
QBASED	This condition applies to Quality based cell (re)selection signalling test cases.
All neighCells with port1	Used for all neighbouring cells with at least two cell-specific antenna ports

– *SIB6*

SIB6 contains an ETWS primary notification.

Table 4.6.2-5: *SIB6*

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB6 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1.	
warningType	'0000 0101 1000 0000'B	Note 2.	
lateNonCriticalExtension	Not present		
}			

Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide',
Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert',
Popup (Octet 1 bit 4) set to 'Activate popup',
Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].

Note 2: Warning Type Value (Octet 1 bit 7 ~ 1) set to 'Earthquake and Tsunami',
Emergency User Alert (Octet 1 bit 0) set to 'Activate emergency user alert',
Popup (Octet 2 bit 7) set to 'Activate Popup', see TS 23.041 [25],
Padding (Octet 2 bit 6 ~ 0) set to '000 0000'B.

– *SIB7*

SIB7 contains an ETWS secondary notification.

Table 4.6.2-6: *SIB7* (1st Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1.	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	0		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Bitstring (8) ID of the alphabet/coding and the applied language	see TS 23.041 [25].	Segment 1
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Condition	Explanation
Segment1	The field is mandatory present in the first segment of SIB7, otherwise it is not present.

Table 4.6.2-7: *SIB7* (2nd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	1		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Table 4.6.2-8: *SIB7* (3rd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB7 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0000 0010'B	ETWS message identifier for earthquake and tsunami message (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	LastSegment		
warningMessageSegmentNumber	2		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

– *SIB8*

SIB8 contains a CMAS notification.

Table 4.6.2-9: *SIB8* (1st Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	0		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Bitstring (8) ID of the alphabet/coding and the applied language	see TS 23.041 [25]	Segment 1
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Condition	Explanation
Segment1	The field is mandatory present in the first segment of SIB8, otherwise it is not present.

Table 4.6.2-10: *SIB8* (2nd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	notLastSegment		
warningMessageSegmentNumber	1		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

Table 4.6.2-11: *SIB8* (3rd Segment)

Derivation Path: TS 38.331 [6], clause 6.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB8 ::= SEQUENCE {			
messageIdentifier	'0001 0001 0001 0010'B	CMAS CBS Message Identifier for CMAS Presidential Level Alerts (see TS 23.041 [25])	
serialNumber	'0011 0000 0000 0000'B	Note 1	
warningMessageSegmentType	LastSegment		
warningMessageSegmentNumber	2		
warningMessageSegment	Octetstring of N	Where N ≥ 1 and less than 1246. (see TS 23.041 [25])	
dataCodingScheme	Not present		
warningAreaCoordinatesSegment	Not present		
lateNonCriticalExtension	Not present		
}			
Note 1: Geographical Scope (Octet 1 bit 7 ~ 6) set to 'Cell wide', Emergency User Alert (Octet 1 bit 5) set to 'Activate emergency user alert', Popup (Octet 1 bit 4) set to 'Activate popup', Update Number (Octet 2 bits 3~0) for each update, incremented by one, See TS 23.041 [25].			

– *SIB9*

SIB9 contains information related to GPS time and Coordinated Universal Time (UTC). The UE may use the parameters provided in this system information block to obtain the UTC, the GPS and the local time.

NOTE 1: The UE may use the time information for numerous purposes, possibly involving upper layers e.g. to assist GPS initialisation, to synchronise the UE clock.

NOTE 2: SIB9 is not defined in the common test environment as test requirements have not been identified.

4.6.3 Radio resource control information elements

– *AdditionalSpectrumEmission*

Table 4.6.3-1: *AdditionalSpectrumEmission*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
AdditionalSpectrumEmission	0		

– *Alpha*

***Table 4.6.3-2:* Alpha**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Alpha	alpha0		

– *AMF-Identifier*

***Table 4.6.3-3: AMF-Ide*ntifier**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
AMF-Identifier	FFS		

– *ARFCN-ValueEUTRA*

***Table 4.6.3-4:* ARFCN-ValueEUTRA**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ARFCN-ValueEUTRA	FFS		

– *ARFCN-ValueNR*

Table 4.6.3-5: **ARFCN-ValueNR**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ARFCN-ValueNR			
	absoluteFrequencySSB as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_SSB
	absoluteFrequencyPointA as defined for the DL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_PointA
	absoluteFrequencyPointA as defined for the UL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	UL_PointA

Condition	Explanation
DL_SSB	IE absoluteFrequencySSB for downlink
DL_PointA	IE absoluteFrequencyPointA for downlink
UL_PointA	IE absoluteFrequencyPointA for uplink

– *BeamFailureRecoveryConfig*

Table 4.6.3-6: ***BeamFailureRecoveryConfig***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BeamFailureRecoveryConfig	FFS		

– *BetaOffsets*

Table 4.6.3-6A: BetaOffsets

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BetaOffsets ::= SEQUENCE {			
betaOffsetACK-Index1	9		
betaOffsetACK-Index2	9		
betaOffsetACK-Index3	9		
betaOffsetCSI-Part1-Index1	6		
betaOffsetCSI-Part1-Index2	6		
betaOffsetCSI-Part2-Index1	6		
betaOffsetCSI-Part2-Index2	6		
}			

– *BSR-Config*

Table 4.6.3-7: *BSR-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BSR-Config ::= SEQUENCE {			
periodicBSR-Timer	sf1		
retxBSR-Timer	sf80		
logicalChannelSR-DelayTimer	Not present		
}			

– *BWP*

Table 4.6.3-8: BWP

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP ::= SEQUENCE {			
locationAndBandwidth	Set to value of locationAndBandwidth in Table 4.3.1.0D-1 for the bandwidth and subcarrier spacing under test.		FR1
	Set to value of locationAndBandwidth in Table 4.3.1.0D-2 for the bandwidth and subcarrier spacing under test.		FR2
subcarrierSpacing	SubcarrierSpacing		
cyclicPrefix	Not present		
}			

– *BWP-Downlink*

Table 4.6.3-9: **BWP-Downlink**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-Downlink ::= SEQUENCE {			
bwp-Id	BWP-Id with condition BWP-Id1		
bwp-Common	BWP-DownlinkCommon		
bwp-Dedicated	BWP-DownlinkDedicated		
}			

– *BWP-DownlinkCommon*

Table 4.6.3-10: *BWP-DownlinkCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-DownlinkCommon ::= SEQUENCE {			
genericParameters	BWP		
pdcch-ConfigCommon CHOICE {			
setup	PDCCH-ConfigCommon		
}			
pdsch-ConfigCommon CHOICE {			
setup	PDSCH-ConfigCommon		
}			
}			

– *BWP-DownlinkDedicated*

Table 4.6.3-11: *BWP-DownlinkDedicated*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-DownlinkDedicated ::= SEQUENCE {			
pdcch-Config CHOICE {			
setup	PDCCH-Config		
}			
pdsch-Config CHOICE {			
setup	PDSCH-Config		
}			
sps-Config	Not present		
radioLinkMonitoringConfig	Not present		
}			

– BWP-Id

Table 4.6.3-12: **BWP-Id**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-Id	0	Initial BWP	
	1		BWP-Id1

Condition	**Explanation**
BWP-Id1	Additional BWP 1

– *BWP-Uplink*

Table 4.6.3-13: **BWP-Uplink**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-Uplink ::= SEQUENCE {			
bwp-Id	BWP-Id with condition BWP-Id1		
bwp-Common	BWP-UplinkCommon		
bwp-Dedicated	BWP-UplinkDedicated		
}			

– *BWP-UplinkCommon*

Table 4.6.3-14: *BWP-UplinkCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-UplinkCommon ::= SEQUENCE {			
genericParameters	BWP		
rach-ConfigCommon CHOICE {			
setup	RACH-ConfigCommon		
}			
rach-ConfigCommon	Not present		SUL_SUL AND RF
pusch-ConfigCommon CHOICE {			
setup	PUSCH-ConfigCommon		
}			
pucch-ConfigCommon CHOICE {			
setup	PUCCH-ConfigCommon		
}			
pucch-ConfigCommon	Not present		SUL_NUL
}			

Condition	Explanation
SUL_SUL	On the SUL carrier when supplementary carrier is configured
SUL_NUL	On the NUL carrier when supplementary carrier is configured
RF	For RF, performance and RRM testing

– *BWP-UplinkDedicated*

Table 4.6.3-15: *BWP-UplinkDedicated*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
BWP-UplinkDedicated ::= SEQUENCE {			
pucch-Config CHOICE {			
setup	PUCCH-Config		
}			
pucch-Config	Not present		SUL_NUL
pusch-Config CHOICE {			
setup	PUSCH-Config		
}			
configuredGrantConfig	Not present		
srs-Config	Not present		Short_DCI
	SRS-Config		
beamFailureRecoveryConfig	Not present		
}			

Condition	Explanation
Short_DCI	DCI_0_0 is used
SUL_NUL	On the NUL carrier when supplementary carrier is configured

– *CellAccessRelatedInfo*

***Table 4.6.3-16:* CellAccessRelatedInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellAccessRelatedInfo ::= SEQUENCE {			
plmn-IdentityList	PLMN-IdentityInfoList		
cellReservedForOtherUse	Not present		
}			

– *CellAccessRelatedInfo-EUTRA-5GC*

Table 4.6.3-17: CellAccessRelatedInfo-EUTRA-5GC

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellAccessRelatedInfo-EUTRA-5GC::= SEQUENCE {			
FFS			
}			

– *CellAccessRelatedInfo-EUTRA-EPC*

***Table 4.6.3-18: CellAccessRelatedInfo*-EUTRA-EPC**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellAccessRelatedInfo-EUTRA-EPC::= SEQUENCE {			
FFS			
}			

– *CellGroupConfig*

Table 4.6.3-19: *CellGroupConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupConfig ::= SEQUENCE {			
cellGroupId	CellGroupId		
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	1 entry		EN-DC
RLC-BearerConfig[1]	RLC-BearerConfig with conditions AM and DRB2		
	RLC-BearerConfig with conditions AM and DRB2 and Re-establish_RLC		PSCell_change
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	1 entry		SRB1
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB1		
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	2 entries		SRB2_DRB1
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB2		
RLC-BearerConfig[2]	RLC-BearerConfig with conditions AM and DRB1		
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	2 entries		SRB2_DRB2
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB2		
RLC-BearerConfig[2]	RLC-BearerConfig with conditions AM and DRB2		
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	1 entry		DRBn
RLC-BearerConfig[1]	RLC-BearerConfig with conditions AM and DRBn		
}			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	3 entries		PCell_change

RLC-BearerConfig[1]	RLC-BearerConfig with conditions SRB1 and Re-establish_RLC		
RLC-BearerConfig[2]	RLC-BearerConfig with conditions SRB2 and Re-establish_RLC		
RLC-BearerConfig[3]	RLC-BearerConfig with conditions AM, DRB1 and Re-establish_RLC		
}			
rlc-BearerToAddModList	Not present		
rlc-BearerToReleaseList	Not present		
mac-CellGroupConfig	MAC-CellGroupConfig		
	Not present		SRB2_DRB1, MEAS, SRB2_DRB2, SCell_add
physicalCellGroupConfig	PhysicalCellGroupConfig		
	Not present		SRB2_DRB1, MEAS, SRB2_DRB2, SCell_add
spCellConfig SEQUENCE {}	Not present		SRB2_DRB1, SRB2_DRB2, SCell_add
spCellConfig SEQUENCE {			
servCellIndex	Not present		
	ServCellIndex		EN-DC, EN-DC AND MEAS
reconfigurationWithSync	Not present		
reconfigurationWithSync SEQUENCE {			EN-DC, PCell_change, PSCell_change
spCellConfigCommon	ServingCellConfigCommon		
newUE-Identity	RNTI-Value		
t304	ms1000		
rach-ConfigDedicated	Not present		

rach-ConfigDedicated CHOICE {			CFRA
uplink	RACH-ConfigDedicated		
supplementaryUplink	RACH-ConfigDedicated		SUL AND SIG
}			
}			
rlf-TimersAndConstants CHOICE {			
setup	RLF-TimersAndConstants		
}			
rlf-TimersAndConstants	Not present		MEAS
rlmInSyncOutOfSyncThreshold	Not present		
spCellConfigDedicated	ServingCellConfig		
spCellConfigDedicated	ServingCellConfig with condition MEAS		MEAS
}			
sCellToAddModList	Not present		
sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SEQUENCE {	1 entry		SCell_add
sCellIndex	1		
sCellConfigCommon	ServingCellConfigCommon with condition SCell_add		
sCellConfigDedicated	ServingCellConfig		
}			
sCellToReleaseList	Not present		
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity
CFRA	This condition applies when CFRA is configured
SUL	Supplementary Uplink
SRB1	Establishment of SRB1
SRB2_DRB1	Establishment of SRB2 and DRB1
SRB2_DRB2	Establishment of SRB2 and DRB2
DRBn	Establishment of DRBn
PCell_change	Intra-NR PCell change (standalone NR)
PSCell_change	NR PSCell change (EN-DC)
SCell_add	Add SCell
MEAS	A NR or EN-DC measurement is configured

– *CellGroupId*

***Table 4.6.3-20: CellGroup*Id**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupId	0		
	1		EN-DC

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity

– *CellIdentity*

***Table 4.6.3-21:* CellIdentity**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellIdentity	Set to NR Cell Identifier defined in table 4.4.2-2	BIT STRING (SIZE (36))	

– *CellReselectionPriority*

***Table 4.6.3-22: CellReselec*tionPriority**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellReselectionPriority	FFS		

– *CellReselectionSubPriority*

Table 4.6.3-23: CellReselectionSubPriority

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CellReselectionSubPriority	FFS		

– *CGI-InfoEUTRA*

Table 4.6.3-23A: CGI-InfoEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CGI-InfoEUTRA	FFS		

– *CGI-InfoNR*

Table 4.6.3-24: CGI-InfNRo

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CGI-InfoNR	FFS		

– *CodebookConfig*

Table 4.6.3-25: **CodebookConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CodebookConfig ::= SEQUENCE {			
codebookType CHOICE {			
type1 SEQUENCE {			
subType CHOICE {			
typeI-SinglePanel SEQUENCE {			
nrOfAntennaPorts CHOICE {			
moreThanTwo SEQUENCE {			
n1-n2 CHOICE {			
two-one-TypeI-SinglePanel-Restriction	11111111		FR2
four-one-TypeI-SinglePanel-Restriction	11111111 11111111		FR1
}			
typeI-SinglePanel-codebookSubsetRestriction-i2	Not present		
}			
}			
typeI-SinglePanel-ri-Restriction	11111111		
}			
}			
codebookMode	1		
}			
}			
}			

– *ConfiguredGrantConfig*

Table 4.6.3-26: ***ConfiguredGrantConfig***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ConfiguredGrantConfig ::= SEQUENCE {			
FFS			
}			

– *ConnEstFailureControl*

Table 4.6.3-27: **ConnEstFailureControl**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ConnEstFailureControl ::= SEQUENCE {			
connEstFailCount	n1		
connEstFailOffsetValidity	s30		
connEstFailOffset	1		
}			

– *ControlResourceSet*

Table 4.6.3-28: ***ControlResourceSet***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
frequencyDomainResources	11110000 00000000 00000000 00000000 00000000 00000	CORESET to use the least significant 24 RBs of the BWP	
duration	2	SearchSpace duration of 2 symbols	
cce-REG-MappingType CHOICE {			
nonInterleaved	null		
}			
precoderGranularity	sameAsREG-bundle		
tci-StatesPDCCH-ToAddList	Not present		
tci-StatesPDCCH-ToReleaseList	Not present		
tci-PresentInDCI	Not present		
pdcch-DMRS-ScramblingID	Not present		
}			

– *ControlResourceSetId*

Table 4.6.3-29: *ControlResourceSetId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ControlResourceSetId	1		

– *ControlResourceSetZero*

Table 4.6.3-30: ControlResourceSetZero

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ControlResourceSetZero	Set to CORESET#0 Index as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	

– *CrossCarrierSchedulingConfig*

Table 4.6.3-31: *CrossCarrierSchedulingConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CrossCarrierSchedulingConfig::= SEQUENCE {			
FFS			
}			

– *CSI-AperiodicTriggerStateList*

Table 4.6.3-32: *CSI-AperiodicTriggerStateList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-AperiodicTriggerStateList ::= SEQUENCE (SIZE (1..maxNrOfCSI-AperiodicTriggers)) OF SEQUENCE {	1 entry		
associatedReportConfigInfoList SEQUENCE (SIZE(1..maxNrofReportConfigPerAperiodicTrigger)) OF SEQUENCE {	1 entry		
reportConfigId	CSI-ReportConfigId		
resourcesForChannel CHOICE {			
nzp-CSI-RS SEQUENCE {			
resourceSet	8		FR1
	16		FR2
qcl-info SEQUENCE (SIZE(1..maxNrofAP-CSI-RS-ResourcesPerSet)) OF {	1 entry		
TCI-StateId	TCI-StateId		
}			
}			
}			
csi-IM-ResourcesforInteference	8		FR1
	16		FR2
nzp-CSI-RS-ResourcesforInterference	8		FR1
	16		FR2
}			
}			

– *CSI-FrequencyOccupation*

Table 4.6.3-33: *CSI-FrequencyOccupation*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-FrequencyOccupation ::= SEQUENCE {			
startingRB	0		
nrofRBs	160		FR1_60MHz
	216		FR1_80MHz
	272		FR1_100MHz
	64		FR2_100MHz
	52		TRS
	64		
}			

Condition	Explanation
FR1_60MHz	FR1 is used under the test. CBW is set to 60MHz.
FR1_80MHz	FR1 is used under the test. CBW is set to 80MHz.
FR1_100MHz	FR1 is used under the test. CBW is set to 100MHz.
FR2_100MHz	FR2 is used under the test. CBW is set to 100MHz.
TRS	Tracking-Reference Signal

– *CSI-IM-Resource*

Table 4.6.3-34: *CSI-IM-Resource*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-IM-Resource ::= SEQUENCE {			
csi-IM-ResourceId	CSI-IM-ResourceId		
csi-IM-ResourceElementPattern CHOICE {			
pattern1 SEQUENCE {			
subcarrierLocation-p1	s4		
symbolLocation-p1	3		FR1
	4		FR2
}			
}			
freqBand	CSI-FrequencyOccupation		
periodicityAndOffset	Not present		
}			

– *CSI-IM-ResourceId*

Table 4.6.3-35: CSI-IM-ResourceId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-IM-ResourceId	7		FR1
	31		FR2

– *CSI-IM-ResourceSet*

Table 4.6.3-36: *CSI-IM-ResourceSet*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-IM-ResourceSet ::= SEQUENCE {			
csi-IM-ResourceSetId	CSI-IM-ResourceSetId		
csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) {	1 entry		
CSI-IM-ResourceId[1]	CSI-IM-ResourceId		
}			
}			

– *CSI-IM-ResourceSetId*

Table 4.6.3-37: *CSI-IM-ResourceSetId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-IM-ResourceSetId	0		

– *CSI-MeasConfig*

Table 4.6.3-38: CSI-MeasConfig

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-MeasConfig::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE {	1 entry		
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource		
}			
nzp-CSI-RS-ResourceToReleaseList	Not present		
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE {	1 entry		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet		
}			
nzp-CSI-RS-ResourceSetToReleaseList	Not present		
csi-IM-ResourceToAddModList SEQUENCE {	1 entry		
CSI-IM-Resource[1]	CSI-IM-Resource		
}			
csi-IM-ResourceToReleaseList	Not present		
csi-IM-ResourceSetToAddModList SEQUENCE {	1 entry		
CSI-IM-ResourceSet[1]	CSI-IM-ResourceSet		
}			
csi-IM-ResourceSetToReleaseList	Not present		
csi-SSB-ResourceSetToAddModList SEQUENCE {	1 entry		
CSI-SSB-ResourceSet[1]	CSI-SSB-ResourceSet		
}			
csi-SSB-ResourceSetToAddReleaseList	Not present		
csi-ResourceConfigToAddModList SEQUENCE {	1 entry		
CSI-ResourceConfig[1]	CSI-ResourceConfig		
}			
csi-ResourceConfigToReleaseList	Not present		
csi-ReportConfigToAddModList	1 entry		
CSI-ReportConfig[1]	CSI-ReportConfig		
}			
csi-ReportConfigToReleaseList	Not present		
reportTriggerSize	0		
aperiodicTriggerStateList SetupRelease {			
setup	CSI-AperiodicTriggerStateList		

}			
semiPersistentOnPUSCH-TriggerStateList	Not present		
}			

– *CSI-ReportConfig*

Table 4.6.3-39: *CSI-ReportConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ReportConfig ::= SEQUENCE {			
reportConfigId	CSI-ReportConfigId		
carrier	ServCellIndex		
resourcesForChannelMeasurement	CSI-ResourceConfigId		
csi-IM-ResourcesForInterference	CSI-ResourceConfigId		
nzp-CSI-RS-ResourcesForInterference	CSI-ResourceConfigId		
reportConfigType CHOICE {			
aperiodic SEQUENCE {			
reportSlotOffsetList	14		
}			
}			
reportQuantity CHOICE {			
cri-RI-PMI-CQI	NULL,		FR1
cri-RI-LI-PMI-CQI	NULL		FR2
}			
reportFreqConfiguration SEQUENCE {			
cqi-FormatIndicator	widebandCQI		
pmi-FormatIndicator	widebandPMI		
csi-ReportingBand	Not present		
}			
timeRestrictionForChannelMeasurements	notConfigured		
timeRestrictionForInterferenceMeasurements	notConfigured		
codebookConfig	CodebookConfig		
dummy	Not present		
groupBasedBeamReporting CHOICE {			
disabled SEQUENCE {			
nrofReportedRS	n1		
}			
}			
cqi-Table	table2		FR1
	table1		FR2
subbandSize	value2		
non-PMI-PortIndication	Not present		
}			

– *CSI-ReportConfigId*

Table 4.6.3-40: *CCSI-ReportConfigId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ReportConfigID	0		

– *CSI-ResourceConfig*

Table 4.6.3-41: *CSI-ResourceConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourceConfig ::= SEQUENCE {			
csi-ResourceConfigId	CSI-ResourceConfigId		
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF {	2 entries		
NZP-CSI-RS-ResourceSetId[0]	0		
NZP-CSI-RS-ResourceSetId[1]	1		
}			
csi-SSB-ResourceSetList	Not present		
}			
}			
bwp-Id	BWP-Id		
resourceType	periodic		
}			

– *CSI-ResourceConfigId*

Table 4.6.3-42: *CSI-ResourceConfigId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourceConfigId	0		

– *CSI-ResourcePeriodicityAndOffset*

Table 4.6.3-43: *CSI-ResourcePeriodicityAndOffset*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots80	10		FR1
slots320	40		FR2
}			

– *CSI-RS-ResourceConfigMobility*

Table 4.6.3-44: *CSI-RS-ResourceConfigMobility*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceConfigMobility ::= SEQUENCE {			
subcarrierSpacing	SubcarrierSpacing		
csi-RS-CellList-Mobility	FFS		
}			

– *CSI-RS-ResourceMapping*

Table 4.6.3-45: *CSI-RS-ResourceMapping*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	1000		(FR1 AND TRS) OR (FR2 AND TRS)
row4	010		FR2
other	011110		FR1
}			
nrofPorts	p8		FR1
	p4		FR2
	p1		(FR1 AND TRS) OR (FR2 AND TRS)
firstOFDMSymbolInTimeDomain	3		FR1
	13		FR2
	4		(FR1 AND TRS) OR (FR2 AND TRS)
firstOFDMSymbolInTimeDomain2	Not present		
cdm-Type	fd-CDM2		
	noCDM		TRS
density CHOICE {			
one	NULL		
three	NULL		TRS
}			
freqBand	CSI-FrequencyOccupation		
}			

Condition	Explanation
TRS	Tracking-Reference Signal is configured.

– *CSI-SemiPersistentOnPUSCH-TriggerStateList*

Table 4.6.3-46: CSI-SemiPersistentOnPUSCH-TriggerStateList

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-SemiPersistentOnPUSCH-TriggerStateList ::= SEQUENCE {			
FFS			
}			

– *CSI-SSB-ResourceSet*

Table 4.6.3-47: *CSI-SSB-ResourceSet*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-SSB-ResourceSet ::= SEQUENCE {			
FFS			
}			

– *CSI-SSB-ResourceSetId*

Table 4.6.3-48: *CSI-SSB-ResourceId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-SSB-ResourceSetId	FFS		

– *DedicatedNAS-Message*

Table 4.6.3-49: *DedicatedNAS-Message*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DedicatedNAS-Message	Set according to specific message content		

– *DMRS-DownlinkConfig*

Table 4.6.3-50: *DMRS-DownlinkConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DMRS-DownlinkConfig ::= SEQUENCE {			
dmrs-Type	Not present	DMRS type 1	
dmrs-AdditionalPosition	pos1		FR1_FDD, FR1_TDD
	pos0		FR2_TDD
maxLength	Not present	len1	
scramblingID0	Not present		
scramblingID1	Not present		
phaseTrackingRS	Not present		FR1
phaseTrackingRS CHOICE {			FR2
setup	PTRS-DownlinkConfig		
}			
}			

Condition	Explanation
FR1_FDD	FDD frequency range < 6GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz

– *DMRS-UplinkConfig*

Table 4.6.3-51: *DMRS-UplinkConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DMRS-UplinkConfig ::= SEQUENCE {			
dmrs-Type	Not present	DMRS type 1	
dmrs-AdditionalPosition	pos1		FR1_FDD, FR1_TDD
	pos0		FR2_TDD
phaseTrackingRS	Not present		
phaseTrackingRS CHOICE {			PTRS_UL_CONFIG
setup	PTRS-UplinkConfig		
}			
maxLength	Not present	len1	
transformPrecodingDisabled SEQUENCE {			
scramblingID0	Not present		
scramblingID1	Not present		
}			
transformPrecodingEnabled	Not present		
}			

Condition	Explanation
FR1_FDD	FDD frequency range < 6GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
PTRS_UL_CONFIG	When PTRS Uplink is configured

– *DownlinkConfigCommon*

Table 4.6.3-52: *DownlinkConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DownlinkConfigCommon ::= SEQUENCE {			
frequencyInfoDL	FrequencyInfoDL		
initialDownlinkBWP	BWP-DownlinkCommon		
}			

– *DownlinkConfigCommonSIB*

Table 4.6.3-53: DownlinkConfigCommonSIB

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DownlinkConfigCommonSIB ::= SEQUENCE {			
frequencyInfoDL	FrequencyInfoDL-SIB		
initialDownlinkBWP	BWP-DownlinkCommon		
bcch-Config SEQUENCE {			
modificationPeriodCoeff	n4		
}			
pcch-Config SEQUENCE {			
defaultPagingCycle	rf128		
nAndPagingFrameOffset CHOICE {			
halfT	1		
}			
ns	one		
firstPDCCH-MonitoringOccasionOfPO CHOICE {}	Not present		
}			
}			

– *DownlinkPreemption*

Table 4.6.3-54: *DownlinkPreemption*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DownlinkPreemption ::= SEQUENCE {			
FFS			
}			

– *DRB-Identity*

Table 4.6.3-55: DRB-Identity

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DRB-Identity	n		DRBn

Condition	**Explanation**
DRBn	DRB-Identity n

– *DRX-Config*

Table 4.6.3-56: *DRX-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
DRX-Config ::= SEQUENCE {			
drx-onDurationTimer CHOICE {			
milliSeconds	ms6		
}			
drx-InactivityTimer	ms1280		
drx-HARQ-RTT-TimerDL	56		
drx-HARQ-RTT-TimerUL	56		
drx-RetransmissionTimerDL	sl16		FR1
	sl64		FR2
drx-RetransmissionTimerUL	sl16		FR1
	sl64		FR2
drx-LongCycleStartOffset CHOICE {			
ms10240	0		
}			
shortDRX	not present		
drx-SlotOffset	0		
}			

– *FilterCoefficient*

Table 4.6.3-57: *FilterCoefficient*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FilterCoefficient	fc4		

– *FreqBandIndicatorNR*

Table 4.6.3-58: *FreqBandIndicatorNR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FreqBandIndicatorNR	Operating band under test		

– *FrequencyInfoDL*

Table 4.6.3-59: *FrequencyInfoDL*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FrequencyInfoDL::= SEQUENCE {			
absoluteFrequencySSB	ARFCN-ValueNR with condition DL_SSB		
frequencyBandList	MultiFrequencyBandList NR		
absoluteFrequencyPointA	ARFCN-ValueNR with condition DL_PointA		
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition DL_PointA		
}			
}			

– *FrequencyInfoDL-SIB*

Table 4.6.3-60: **FrequencyInfoDL-SIB**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FrequencyInfoDL-SIB ::= SEQUENCE {			
frequencyBandList	MultiFrequencyBandList NR-SIB		
offsetToPointA	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.		
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SEQUENCE {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition DL_PointA		
}			
}			

– *FrequencyInfoUL*

Table 4.6.3-61: *FrequencyInfoUL*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FrequencyInfoUL::= SEQUENCE {			
frequencyBandList	MultiFrequencyBandList NR		
	Not present		FR1_TDD, FR2_TDD
absoluteFrequencyPointA	ARFCN-ValueNR with condition UL_PointA		
	Not present		FR1_TDD, FR2_TDD
scs-SpecificCarriers SEQUENCE (SIZE (1..maxSCSs)) OF {	1 entry		
SCS-SpecificCarrier1	SCS-SpecificCarrier with condition UL_PointA		
}			
additionalSpectrumEmission	AdditionalSpectrumEmission		
p-Max	P-Max		
frequencyShift7p5khz	Not present		
}			

Condition	Explanation
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz

– *FrequencyInfoUL-SIB*

Table 4.6.3-62: *FrequencyInfoUL-SIB*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
FrequencyInfoUL-SIB SEQUENCE {			
frequencyBandList	MultiFrequencyBandList NR-SIB		
	Not present		FR1_TDD, FR2_TDD
absoluteFrequencyPointA	ARFCN-ValueNR with condition UL_PointA		
	Not present		FR1_TDD, FR2_TDD
scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SEQUENCE {	1 entry		
SCS-SpecificCarrier[1]	SCS-SpecificCarrier with condition UL_PointA		
}			
p-Max	P-Max		
frequencyShift7p5khz	Not present		
}			

Condition	**Explanation**
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz

– *Hysteresis*

Table 4.6.3-63: **Hysteresis**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Hysteresis	4		

– *I-RNTI-Value*

Table 4.6.3-64: I-RNTI-Value

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
I-RNTI-Value	SS arbitrarily selects a value between ’00 0000 0001’H and ‘FF FFFF FFFF’H.	BIT STRING (SIZE(40))	

– *LocationMeasurementInfo*

Table 4.6.3-65: **LocationMeasurementInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
LocationMeasurementInfo ::= CHOICE {			
eutra-RSTD SEQUENCE (SIZE (1..maxInterRAT-RSTD-Freq)) OF SEQUENCE {			
carrierFreq	ARFCN-ValueEUTRA		
measPRS-Offset	FFS		
}			
}			

– *LogicalChannelConfig*

Table 4.6.3-66: *LogicalChannelConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
LogicalChannelConfig ::= SEQUENCE {			
ul-SpecificParameters SEQUENCE {			
priority	1		
	3		SRB2
prioritisedBitRate	infinity		
bucketSizeDuration	ms50		
allowedServingCells	Not present		
allowedSCS-List	Not present		
maxPUSCH-Duration	Not present		
configuredGrantType1Allowed	Not present		
logicalChannelGroup	1		HI
	2		LO
	0		SRB1, SRB2, SRB3
schedulingRequestID	SchedulingRequestId		
logicalChannelSR-Mask	false		
logicalChannelSR-DelayTimerApplied	false		
bitRateQueryProhibitTimer	Not present		
}			
}			

Condition	Explanation
HI	Used for DRBs with high logical channel priority
LO	Used for DRBs with low logical channel priority
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3

– *LogicalChannelIdentity*

Table 4.6.3-67: *LogicalChannelIdentity*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
LogicalChannelIdentity	1		SRB1
LogicalChannelIdentity	2		SRB2
LogicalChannelIdentity	3		SRB3
LogicalChannelIdentity	n+3		DRBn

Condition	Explanation
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3
DRBn	Establishment of DRBn; n=1..29

– *MAC-CellGroupConfig*

Table 4.6.3-68: *MAC-CellGroupConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MAC-CellGroupConfig ::= SEQUENCE {			
drx-Config	Not present		
drx-Config CHOICE {			DRX
setup	DRX-Config		
}			
schedulingRequestConfig	SchedulingRequest-Config		
bsr-Config	BSR-Config		
tag-Config	TAG-Config		
phr-Config CHOICE {			
setup	PHR-Config		
}			
skipUplinkTxDynamic	false		
}			

Condition	Explanation
DRX	This condition applies when DRX is configured

– *MeasConfig*

Table 4.6.3-69: **MeasConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasConfig::= SEQUENCE {			
measObjectToRemoveList	Not present		
measObjectToAddModList	MeasObjectToAddModList		
reportConfigToRemoveList	Not present		
reportConfigToAddModList	ReportConfigToAddModList		
measIdToRemoveList	Not present		
measIdToAddModList	MeasIdToAddModList		
s-MeasureConfig	Not present		
quantityConfig	QuantityConfig		
measGapConfig	Not present		
measGapSharingConfig	Not present		
}			

– *MeasGapConfig*

Table 4.6.3-70: **MeasGapConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasGapConfig ::= SEQUENCE {			
gapFR2	Not present		
gapFR2 CHOICE {			GAP_FR2
setup SEQUENCE {			
gapOffset	159		
mgl	ms3dot5		
mgrp	ms160		
mgta	ms0		
}			
}			
gapFR1	Not present		
gapFR1 CHOICE {			GAP_FR1
setup SEQUENCE {			
gapOffset	39		
	9		SIG AND INTER-FREQ_ODD
mgl	ms6		
mgrp	ms40		
mgta	ms0		
}			
gapUE	Not present		GAP_FR1 OR GAP_FR2
gapUE CHOICE {			
setup SEQUENCE {			
gapOffset	39		
	9		SIG AND INTER-FREQ_ODD
mgl	ms6		
mgrp	ms40		
mgta	ms0		
}			
}			

}			

Condition	Explanation
GAP_FR1	Configuration for FR1 per-FR gaps
GAP_FR2	Configuration for FR2 per-FR gaps
INTER-FREQ_ODD	When the SFNoffset of inter frequency neighbour cell is odd number. SFNoffset is defined in TS 38.523-3 [23]Table 7.1.5.2-1

– *MeasGapSharingConfig*

Table 4.6.3-71: *MeasGapSharingConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasGapSharingConfig ::= SEQUENCE {			
gapSharingFR2	Not present		
}			

– *MeasId*

Table 4.6.3-72: **MeasId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasId	1		

– *MeasIdToAddModList*

Table 4.6.3-73: *MeasIdToAddModList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasIdToAddModList::= SEQUENCE (SIZE (1..maxNrofMeasId)) OF SEQUENCE {	1 entry		
measId[1]	MeasId		
measObjectId[1]	MeasObjectId		
reportConfigId[1]	ReportConfigId		
}			

– *MeasObjectEUTRA*

Table 4.6.3-74: *MeasObjectEUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasObjectEUTRA ::= SEQUENCE {			
carrierFreq	Downlink EARFCN for Freq		
allowedmeasBandwidth	The number of the resource blocks for Freq		
cellsToRemoveListEUTRAN	Not present		
cellsToAddModListEUTRAN	Not present		
blackCellsToRemoveListEUTRAN	Not present		
blackCellsToAddModListEUTRAN	Not present		
eutra-PresenceAntennaPort1	true	[at least two cell-specific antenna ports are used in all neighbouring cells]	
eutra-Q-OffsetRange	Not present		
widebandRSRQ-Meas	false		
}			

– *MeasObjectId*

Table 4.6.3-75: MeasObjectId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasObjectId	1		

– *MeasObjectNR*

Table 4.6.3-76: MeasObjectNR(Thres)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasObjectNR::= SEQUENCE {			
ssbFrequency	ARFCN-ValueNR with condition DL_SSB		
ssbSubcarrierSpacing	SubcarrierSpacing		
smtc1	SSB-MTC		
smtc2	Not present		
refFreqCSI-RS	Not present		
referenceSignalConfig SEQUENCE {			
ssb-ConfigMobility SEQUENCE {			
ssb-ToMeasure CHOICE {			
setup	SSB-ToMeasure		
}			
deriveSSB-IndexFromCell	false		
	true		FR1_TDD, FR2_TDD
ss-RSSI-Measurement	Not present		
}			
csi-rs-ResourceConfigMobility	Not present		
}			
absThreshSS-BlocksConsolidation SEQUENCE {			
thresholdRSRP	Thres	Thres is an entry value into a mapping table in TS 38.133 [13].	
thresholdRSRQ	Not present		
thresholdSINR	Not present		
}			
absThreshCSI-RS-Consolidation	Not present		
nrofSS-BlocksToAverage	2		
nrofCSI-RS-ResourcesToAverage	Not present		
quantityConfigIndex	1		
offsetMO SEQUENCE {			
rsrpOffsetSSB	dB0		
rsrqOffsetSSB	dB0		
sinrOffsetSSB	dB0		

rsrpOffsetCSI-RS	dB0		
rsrqOffsetCSI-RS	dB0		
sinrOffsetCSI-RS	dB0		
}			
cellsToRemoveList	Not present		
cellsToAddModList	Not present		
blackCellsToRemoveList	Not present		
blackCellsToAddModList	Not present		
whiteCellsToRemoveList	Not present		
whiteCellsToAddModList	Not present		
freqBandIndicatorNR-v1530	FreqBandIndicatorNR		
}			

Condition	Explanation
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz

– *MeasObjectToAddModList*

Table 4.6.3-77: *MeasObjectToAddModList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasObjectToAddModList::= SEQUENCE (SIZE (1..maxNrofMeasId)) OF SEQUENCE {	1 entry		
measObjectId[1]	MeasObjectId		
measObject CHOICE {			
measObjectNR	MeasObjectNR		
}			
}			

– *MeasResultCellListSFTD-NR*

Table 4.6.3-78: *MeasResultCellListSFTD-NR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResultCellListSFTD-NR ::= SEQUENCE {			
FFS			
}			

– *MeasResultCellListSFTD-EUTRA*

Table 4.6.3-78A: *MeasResultCellListSFTD-EUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResultCellListSFTD-EUTRA ::= SEQUENCE {			
FFS			
}			

– *MeasResults*

Table 4.6.3-79: **MeasResults**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResults::= SEQUENCE {			
measId	MeasId		
measResultServingMOList::= SEQUENCE (SIZE (1..maxNrofServingCells)) OF SEQUENCE {	1 entry		
servCellId	ServCellIndex		
measResultServingCell SEQUENCE {			
physCellId	PhysCellId		
measResult SEQUENCE {			
cellResults SEQUENCE {			
resultsSSB-Cell SEQUENCE {			
rsrp	Not checked		
rsrq	Not checked		
sinr	Not checked		
}			
resultsCSI-RS-Cell	Not present		
}			
rsIndexResults	Not present		
}			
cgi-Info	Not present		
}			
measResultBestNeighCell	Not present		
}			
measResultNeighCells	Not present		A1, A2
	Set according to specific message content		A3, A4, A5, A6
}			

Condition	Explanation
A1	If event trigger Id in corresponding Measurement Configuration was Event A1
A2	If event trigger Id in corresponding Measurement Configuration was Event A2
A3	If event trigger Id in corresponding Measurement Configuration was Event A3
A4	If event trigger Id in corresponding Measurement Configuration was Event A4
A5	If event trigger Id in corresponding Measurement Configuration was Event A5
A6	If event trigger Id in corresponding Measurement Configuration was Event A6

– *MeasResult2EUTRA*

Table 4.6.3-79A: *MeasResult2EUTRA*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResult2EUTRA ::= SEQUENCE {			
FFS			
}			

– *MeasResult2NR*

Table 4.6.3-79B: *MeasResult2NR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResult2NR ::= SEQUENCE {			
FFS			
}			

– *MeasResultSCG-Failure*

Table 4.6.3-80: *MeasResultSCG-Failure*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasResultSCG-Failure ::= SEQUENCE {		*measResultPerMOList* for each *MeasOjectNR* for which a *measId* is configured (by the NR *RRCConfiguration message*) and measurement results are available include an entry	
measResultPerMOList SEQUENCE (SIZE (1..maxFreq)) OF SEQUENCE {	*n* entries of MeasResult2NR	MOList [1] *n* denotes the number of non-serving frequencies being measured	
MeasResult2NR SEQUENCE {	entry [1]		
ssbFrequency	ARFCN-ValueNR with condition DL_SSB	the ARFCN if there is a *measId* configured with the *MeasObjectNR* and a *reportConfig* which has *rsType* set to *sbb*	

refFreqCSI-RS	INTEGER (0..3279165)	the ARFCN if there is a *measId* configured with the *MeasObjectNR* and a *reportConfig* which has *rsType* set to *csi-rs*	
measResultServingCell SEQUENCE {		if a serving cell is associated with the *MeasObjectNR*	
physCellId	INTEGER (0..1007)	the *physCellId* configured for this serving cell	
measResult SEQUENCE {			
cellResults SEQUENCE {			
resultsSSB-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
resultsCSI-RS-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
rsIndexResults SEQUENCE {			

resultsSSB-Indexes SEQUENCE (SIZE (1..maxNrofSSBs)) OF SEQUENCE {	*n* entires of ResultsPerSSB-Index	*ResultsPerSSB-IndexList*	
ResultsPerSSB-Index SEQUENCE {	entry [1]		
ssb-Index	SSB-Index	an SS-Block within an SS-Burst	
ssb-Results SEQUENCE {		*MeasQuantityResults*	
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
...		*ResultsPerSSB-Index* entry [x] if any	
}			
resultsCSI-RS-Indexes SEQUENCE (SIZE (1..maxNrofCSI-RS)) OF SEQUENCE {	*n* entires of ResultsPerCSI-RS-Index	*ResultsPerCSI-RS-IndexList*	
ResultsPerCSI-RS-Index SEQUENCE {	entry [1]		
csi-RS-Index	INTEGER (0..maxNrofCSI-RS-ResourcesRRM-1)	CSI-RS resource index associated to the measurement information to be reported	
csi-RS-Results SEQUENCE {		*MeasQuantityResults*	
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	

}			
}			
...		*ResultsPerCSI-RS-Index* entry [x] if any	
}			
}			
}			
}			
measResultNeighCellListNR SEQUENCE (SIZE (1..maxCellReport)) OF SEQUENCE {	*n* entires of MeasResultNR	include the best measured cells, ordered such that the best cell is listed first, and based on measurements collected up to the moment the UE detected the failure	
MeasResultNR SEQUENCE {	entry [1]		
physCellId	INTEGER (0..1007)	the *physCellId* configured for the measured cell	
measResult SEQUENCE {			
cellResults SEQUENCE {			
resultsSSB-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table 4.6.3-153	Integer value for RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
resultsCSI-RS-Cell SEQUENCE {			
rsrp	as specified in Table 4.6.3-152	Integer value for RSRP measurements	
rsrq	as specified in Table	Integer value for	

	4.6.3-153	RSRQ measurements	
sinr	as specified in Table 4.6.3-172	Integer value for SINR measurements	
}			
}			
}			
}			
...		*MeasResultNR* entry [x] if any	
}			
...		*MeasResult2NR* entry [x] if any	
}			
..		MOList [x] if any	
}			
}			

– *MobilityStateParameters*

Table 4.6.3-81: **MobilityStateParameters**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MobilityStateParameters ::= SEQUENCE{			
FFS			
}			

– *MultiFrequencyBandListNR*

Table 4.6.3-82: *MultiFrequencyBandListNR*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MultiFrequencyBandListNR ::= SEQUENCE (SIZE (1..maxNrofMultiBands)) OF {	1 entry		
FreqBandIndicatorNR[1]	FreqBandIndicatorNR		
}			

– *MultiFrequencyBandListNR-SIB*

Table 4.6.3-82A: *MultiFrequencyBandListNR-SIB*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
MultiFrequencyBandListNR-SIB ::= SEQUENCE (SIZE (1.. maxNrofMultiBands)) OF SEQUENCE {			
freqBandIndicatorNR[1]	FreqBandIndicatorNR		
nr-NS-PmaxList[1]	NR-NS-PmaxList		
}			

– *NextHopChainingCount*

***Table 4.6.3-83: N*extHopChainingCount**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NextHopChainingCount	0		

– *NG-5G-S-TMSI*

Table 4.6.3-84: **NG-5G-S-TMSI**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NG-5G-S-TMSI	Set to the value of the NG-5G-S-TMSI of the UE	BIT STRING (SIZE(40))	

– *NR-NS-PmaxList*

Table 4.6.3-84A: ***NR-NS-PmaxList***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NR-NS-PmaxList ::= SEQUENCE (SIZE (1.. maxNrofMultiBands)) OF SEQUENCE {			
additionalPmax [1]	P-Max		
additionalSpectrumEmission[1]	AdditionalSpectrumEmission		
}			

– *NZP-CSI-RS-Resource*

Table 4.6.3-85: *NZP-CSI-RS-Resource*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
powerControlOffset	-3		
powerControlOffsetSS	Not present		
scramblingID	ScramblingId		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-StateId		
}			

– *NZP-CSI-RS-ResourceId*

Table 4.6.3-86: *NZP-CSI-RS-ResourceId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-ResourceId	0		

– *NZP-CSI-RS-ResourceSet*

Table 4.6.3-87: *NZP-CSI-RS-ResourceSet*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-ResourceSet ::= SEQUENCE {			
nzp-CSI-ResourceSetId	NZP-CSI-RS-ResourceSetId		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF {	[1 entry]		
NZP-CSI-RS-ResourceId[1]	NZP-CSI-RS-ResourceId		
}			
repetition	off		
aperiodicTriggeringOffset	Not present		
trs-Info	Not present		
	true		TRS
}			

Condition	Explanation
TRS	Tracking-Reference Signal

– *NZP-CSI-RS-ResourceSetId*

Table 4.6.3-88: *NZP-CSI-RS-ResourceSetId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-ResourceSetId	0		

– *P-Max*

Table 4.6.3-89: **P-Max**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
P-Max	23		FR1 AND pc_dynamicPowerSharing
	23		FR1_RF_PC2_Testing_PC3
	Not present		FR1_RF_PC3
	Not present		FR1_RF_PC2
	26		FR2 AND pc_dynamicPowerSharing
	20	P-Max value when pc_dynamicPowerSharing is set to FALSE	NOT pc_dynamicPowerSharing

Condition	**Explanation**
FR1_RF_PC3	Power Class 3 UE testing Power Class 3 requirements
FR1_RF_PC2	Power Class 2 UE testing Power Class 2 requirements
FR1_RF_PC2_Testing_PC3	Power Class 2 UE testing Power Class 3 requirements.

– *PCI-List*

Table 4.6.3-90: PCI-List

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PCI-List ::= SEQUENCE {			
FFS			
}			

– *PCI-Range*

***Table 4.6.3-91:* PCI-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PCI-Range ::= SEQUENCE {			
start	PhysCellId		
range	FFS		
}			

– *PCI-RangeElement*

Table 4.6.3-92: *PCI-RangeElement*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PCI-RangeElement ::= SEQUENCE {			
FFS			
}			

– *PCI-RangeIndex*

***Table 4.6.3-93: P*CI-RangeIndex**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PCI-RangeIndex	0		

– *PCI-RangeIndexList*

Table 4.6.3-94: *PCI-RangeIndexList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PCI-RangeIndexList ::= SEQUENCE {			
FFS			
}			

– *PDCCH-Config*

***Table 4.6.3-95: PDCCH*-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCCH-Config::= SEQUENCE {			
controlResourceSetToAddModList	Not present		
controlResourceSetToReleaseList	Not present		
searchSpacesToAddModList SEQUENCE(SIZE (1..10)) OF SEQUENCE {	1 entry		
SearchSpace[1]	SearchSpace with condition USS		
}			
searchSpacesToReleaseList	Not present		
downlinkPreemption	Not present		
tpc-PUSCH	Not present		
tpc-PUCCH	Not present		
tpc-SRS	Not present		
}			

– *PDCCH-ConfigCommon*

Table 4.6.3-96: *PDCCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCCH-ConfigCommon::= SEQUENCE {			
controlResourceSetZero	ControlResourceSetZero		
commonControlResourceSet	ControlResourceSet		
searchSpaceZero	SearchSpaceZero		
commonSearchSpaceList SEQUENCE (SIZE (1..4)) OF {	2 entries		
SearchSpace[1]	SearchSpace with condition CSS		
SearchSpace[2]	SearchSpace with condition SISS		
}			
commonSearchSpaceList SEQUENCE (SIZE (1..4)) OF {	1 entry		EN-DC
SearchSpace	SearchSpace with condition CSS		
}			
searchSpaceSIB1	0		
	Not present		EN-DC
searchSpaceOtherSystemInformation	SearchSpaceId with condition SISS		
pagingSearchSpace	0		
	Not present		EN-DC
ra-SearchSpace	SearchSpaceId with condition CSS		
}			

Condition	**Explanation**
EN-DC	E-UTRA-NR Dual Connectivity

– *PDCCH-ConfigSIB1*

Table 4.6.3-97: **PDCCH-ConfigSIB1**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCCH-ConfigSIB1 ::= SEQUENCE {			
controlResourceSetZero	ControlResourceSetZero		
searchSpaceZero	SearchSpaceZero		
}			

– *PDCCH-ServingCellConfig*

Table 4.6.3-98: PDCCH-Serving**CellConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCCH-ServingCellConfig ::= SEQUENCE {			
slotFormatIndicator	Not present		
}			

– *PDCP-Config*

Table 4.6.3-99: PDCP-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCP-Config ::= SEQUENCE {			
drb SEQUENCE {			
discardTimer	infinity		
pdcp-SN-Size-UL	len18bits		
pdcp-SN-Size-DL	len18bits		
headerCompression CHOICE {			
notUsed	Null		
}			
integrityProtection	Not present		
statusReportRequired	true	AM is default	
	Not present		UM
outOfOrderDelivery	Not present		
}			
drb SEQUENCE {}	Not present		SRB
moreThanOneRLC	Not present		
moreThanOneRLC SEQUENCE {			Split
primaryPath SEQUENCE {			
cellGroup	CellGroupId		
logicalChannel	LogicalChannelIdentity		
}			
ul-DataSplitThreshold	infinity		
pdcp-Duplication	false		
}			
t-Reordering	Not present		
}			

Condition	Explanation
Split	More than one RLC.
SRB	SRB
UM	RLC UM DRB

– *PDSCH-Config*

Table 4.6.3-100: PDSCH-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
setup	DMRS-DownlinkConfig		
}			
dmrs-DownlinkForPDSCH-MappingTypeB	Not present		
tci-StatesToAddModList SEQUENCE(SIZE (1.. maxNrofTCI-States)) OF {			
TCI-State[1]	TCI-State		
}			
tci-StatesToReleaseList	Not present		
vrb-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType1		
	resourceAllocationType0		Used_for_Type0
pdsch-TimeDomainAllocationList	Not present		
pdsch-AggregationFactor	Not present		
rateMatchPatternToAddModList	Not present		
rateMatchPatternToReleaseList	Not present		
rateMatchPatternGroup1	Not present		
rateMatchPatternGroup2	Not present		
rbg-Size	config1		
mcs-Table	Not present	qam64 per default	
maxNrofCodeWordsScheduledByDCI	Not present		
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	wideband		
}			
}			
zp-CSI-RS-ResourceToAddModList	Not present		
zp-CSI-RS-ResourceToReleaseList	Not present		
aperiodic-ZP-CSI-RS-ResourceSetsToAddModList	Not present		
aperiodic-ZP-CSI-RS-ResourceSetsToReleaseList	Not present		
sp-ZP-CSI-RS-ResourceSetsToAddModList	Not present		
sp-ZP-CSI-RS-ResourceSetsToReleaseList	Not present		

p-ZP-CSI-RS-ResourceSet	Not present		
}			

Condition	Explanation
Used_for_Type0	Used for RF performance test cases

– *PDSCH-ConfigCommon*

Table 4.6.3-101: *PDSCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-ConfigCommon ::= SEQUENCE {			
pdsch-TimeDomainAllocationList	PDSCH-TimeDomainResourceAllocationList		
}			

– *PDSCH-ServingCellConfig*

Table 4.6.3-102: *PDSCH-ServingCellConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
xOverhead	Not present		
nrofHARQ-ProcessesForPDSCH	n16		
pucch-Cell	Not present		
}			

– *PDSCH-TimeDomainResourceAllocationList*

Table 4.6.3-103: *PDSCH-TimeDomainResourceAllocationList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-TimeDomainResourceAllocationList::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF SEQUENCE {	2 entries		FR1
k0[1]	Not present		
mappingType[1]	typeA		
startSymbolAndLength[1]	53	Start symbol(S)=2, Length(L)=12	
k0[2]	Not present		
mappingType[2]	typeA		
startSymbolAndLength[2]	72	S=2, L=6	
}			
PDSCH-TimeDomainResourceAllocationList ::= SEQUENCE (SIZE(1..maxNrofDL-Allocations)) OF SEQUENCE {	1 entry		FR2
k0	Not present		
mappingType	typeA		
startSymbolAndLength	53	S=2, L=12	
}			

– *PHR-Config*

Table 4.6.3-104: *PHR-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PHR-Config ::= CHOICE {			
setup SEQUENCE {			
phr-PeriodicTimer	sf10		
phr-ProhibitTimer	sf0		
phr-Tx-PowerFactorChange	dB1		
multiplePHR	false		
	true		MR-DC OR NR-CA
dummy	false		
phr-Type2OtherCell	false		
phr-ModeOtherCG	real		
}			
}			

Condition	Explanation
MR-DC	EN-DC, NGEN-DC, NE-DC or NR-DC.
NR-CA	UL CA for NR

– *PhysCellId*

Table 4.6.3-105: **PhysCellId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PhysCellId	Set according to table 4.4.2-2 for the NR Cell.		

– *PhysicalCellGroupConfig*

Table 4.6.3-106: *PhysicalCellGroupConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PhysicalCellGroupConfig ::= SEQUENCE {			
harq-ACK-SpatialBundlingPUCCH	Not present		
harq-ACK-SpatialBundlingPUSCH	Not present		
p-NR-FR1	P-Max		
pdsch-HARQ-ACK-Codebook	dynamic		
tpc-SRS-RNTI	Not present		
tpc-PUCCH-RNTI	Not present		
tpc-PUSCH-RNTI	Not present		
sp-CSI-RNTI	Not present		
cs-RNTI	Not present		
}			

– *PLMN-Identity*

***Table 4.6.3-107:* PLMN-Identity**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PLMN-Identity ::= SEQUENCE {			
mcc	See table 4.4.2-3	SEQUENCE (SIZE (3)) OF INTEGER	
mnc	See table 4.4.2-3	SEQUENCE (SIZE (2..3)) OF INTEGER	
}			

– *PLMN-IdentityInfoList*

***Table 4.6.3-108: PLMN-IdentityInfo*List**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PLMN-IdentityInfoList ::= SEQUENCE (SIZE (1..maxPLMN)) OF SEQUENCE {	1 entry		
plmn-IdentityList SEQUENCE (SIZE (1..maxPLMN)) OF PLMN-Identity {}	PLMN-Identity		
trackingAreaCode	TrackingAreaCode		
ranac	RAN-AreaCode		
cellIdentity	CellIdentity		
cellReservedForOperatorUse	notReserved		
}			

– *PRB-Id*

***Table 4.6.3-109:* PRB-Id**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PRB-Id	0		
	Set to value of the number of RBs - 1 corresponding to 10 MHz channel bandwidth in clause 4.3.1 for the carrier and subcarrier under test.		secondHopPRB

Condition	**Explanation**
secondHopPRB	The IE secondHopPRB in PUCCH-Resource is now set.

– *PTRS-DownlinkConfig*

Table 4.6.3-110: *PTRS-DownlinkConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PTRS-DownlinkConfig ::= SEQUENCE {			
frequencyDensity	Not present		
timeDensity	Not present		
epre-Ratio	0		
resourceElementOffset	Not present		
}			

– *PTRS-UplinkConfig*

Table 4.6.3-111: *PTRS-UplinkConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PTRS-UplinkConfig ::= SEQUENCE {			
transformPrecoderDisabled SEQUENCE {			
frequencyDensity	Not present		
timeDensity	Not present		
maxNrofPorts	n1		
resourceElementOffset	Not present		
ptrs-Power	p00		
}			
transformPrecoderEnabled SEQUENCE {			
sampleDensity SEQUENCE (SIZE (5)) OF INTEGER {			
INTEGER[1]	1		
INTEGER[2]	8		
INTEGER[3]	32		
INTEGER[4]	32		
INTEGER[5]	108		
}			
timeDensityTransformPrecoding	Not present		
}			
}			

– *PUCCH-Config*

Table 4.6.3-112: PUCCH-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-Config ::= SEQUENCE {			
resourceSetToAddModList SEQUENCE (SIZE (1..maxNrofPUCCH-ResourceSets)) OF SEQUENCE {	2 entries		
pucch-ResourceSetId[1]	0		
resourceList[[1] SEQUENCE (SIZE (0..maxNrofPUCCH-ResourcesPerSet)) OF {	8 entries		
PUCCH-ResourceId[1]	0		
PUCCH-ResourceId[2]	1		
PUCCH-ResourceId[3]	2		
PUCCH-ResourceId[4]	3		
PUCCH-ResourceId[5]	4		
PUCCH-ResourceId[6]	5		
PUCCH-ResourceId[7]	6		
PUCCH-ResourceId[8]	7		
}			
maxPayloadSize[1]	Not present		
pucch-ResourceSetId[2]	1		
resourceList[2] SEQUENCE (SIZE (8..maxNrofPUCCH-ResourcesPerSet)) OF {	8 entries		
PUCCH-ResourceId[1]	8		
PUCCH-ResourceId[2]	9		
PUCCH-ResourceId[3]	10		
PUCCH-ResourceId[4]	11		
PUCCH-ResourceId[5]	12		
PUCCH-ResourceId[6]	13		
PUCCH-ResourceId[7]	14		
PUCCH-ResourceId[8]	15		
}			
maxPayloadSize[2]	Not present		
}			
resourceSetToReleaseList	Not present		
resourceToAddModList SEQUENCE (SIZE (1..maxNrofPUCCH-Resources)) OF SEQUENCE {	16 entries		
pucch-ResourceId[1]	0		

startingPRB[1]	PRB-Id		
intraSlotFrequencyHopping[[1]	enabled		
secondHopPRB[1]	PRB-Id with condition secondHopPRB		
format[1] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	0		
}			
}			
pucch-ResourceId[2]	1		
startingPRB[2]	PRB-Id		
intraSlotFrequencyHopping[[2]	enabled		
secondHopPRB[2]	PRB-Id with condition secondHopPRB		
format[2] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	2		
}			
}			
pucch-ResourceId[3]	2		
startingPRB[3]	PRB-Id		
intraSlotFrequencyHopping[[3]	enabled		
secondHopPRB[3]	PRB-Id with condition secondHopPRB		
format[3] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	4		
}			
}			
pucch-ResourceId[4]	3		
startingPRB[4]	PRB-Id		
intraSlotFrequencyHopping[[4]	enabled		
secondHopPRB[4]	PRB-Id with condition secondHopPRB		
format[4] CHOICE {			

format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	6		
}			
}			
pucch-ResourceId[5]	4		
startingPRB[5]	PRB-Id		
intraSlotFrequencyHopping[[5]	enabled		
secondHopPRB[5]	PRB-Id with condition secondHopPRB		
format[5] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	8		
}			
}			
pucch-ResourceId[6]	5		
startingPRB[6]	PRB-Id		
intraSlotFrequencyHopping[[6]	enabled		
secondHopPRB[6]	PRB-Id with condition secondHopPRB		
format[6] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	10		
}			
}			
pucch-ResourceId[7]	6		
startingPRB[7]	PRB-Id		
intraSlotFrequencyHopping[[7]	enabled		
secondHopPRB[7]	PRB-Id with condition secondHopPRB		
format[7] CHOICE {			
format0 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	2		
startingSymbolIndex	12		
}			

}			
pucch-ResourceId[8]	7		
startingPRB[8]	PRB-Id		
intraSlotFrequencyHopping[[8]	enabled		
secondHopPRB[8]	PRB-Id with condition secondHopPRB		
format[8] CHOICE {			
format1 SEQUENCE {			
initialCyclicShift	0		
nrofSymbols	14		
startingSymbolIndex	0		
timeDomainOCC	0		
}			
}			
pucch-ResourceId[9]	8		
startingPRB[9]	PRB-Id		
intraSlotFrequencyHopping[[9]	enabled		
secondHopPRB[9]	PRB-Id with condition secondHopPRB		
format[9] CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	0		
}			
}			
pucch-ResourceId[10]	9		
startingPRB[10]	PRB-Id		
intraSlotFrequencyHopping[[10]	enabled		
secondHopPRB[10]	PRB-Id with condition secondHopPRB		
format[10] CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	2		
}			
}			
pucch-ResourceId[11]	10		
startingPRB[11]	PRB-Id		
intraSlotFrequencyHopping[[11]	enabled		

secondHopPRB[11]	PRB-Id with condition secondHopPRB		
format[11] CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	4		
}			
}			
pucch-ResourceId[12]	11		
startingPRB[12]	PRB-Id		
intraSlotFrequencyHopping[[12]	enabled		
secondHopPRB[12]	PRB-Id with condition secondHopPRB		
format[12] CHOICE {			
format2 SEQUENCE {			
nrofPRBs	6		
nrofSymbols	2		
startingSymbolIndex	6		
}			
}			
pucch-ResourceId[13]	12		
startingPRB[13]	PRB-Id		
intraSlotFrequencyHopping[[13]	enabled		
secondHopPRB[13]	PRB-Id with condition secondHopPRB		
format[13] CHOICE {			
format2 SEQUENCE {			
nrofPRB	6		
nrofSymbols	2		
startingSymbolIndex	8		
}			
}			
pucch-ResourceId[14]	13		
startingPRB[14]	PRB-Id		
intraSlotFrequencyHopping[[14]	enabled		
secondHopPRB[14]	PRB-Id with condition secondHopPRB		
format[14] CHOICE {			
format2 SEQUENCE {			
nrofPRBsinitial	6		

nrofSymbols	2		
startingSymbolIndex	10		
}			
}			
pucch-ResourceId[15]	14		
startingPRB[15]	PRB-Id		
intraSlotFrequencyHopping[[15]	enabled		
secondHopPRB[15]	PRB-Id with condition secondHopPRB		
format[15] CHOICE {			
format2 SEQUENCE {			
nrofPRB	6		
nrofSymbols	2		
startingSymbolIndex	12		
}			
}			
pucch-ResourceId[16]	15		
startingPRB[16]	PRB-Id		
intraSlotFrequencyHopping[[16]	enabled		
secondHopPRB[16]	PRB-Id with condition secondHopPRB		
format[16] CHOICE {			
format3 SEQUENCE {			
nrofPRBs	1		
nrofSymbols	14		
startingSymbolIndex	0		
}			
}			
}			
resourceToReleaseList	Not present		
format1CHOICE {			
setup SEQUENCE {			
interslotFrequencyHopping	enabled		
additionalDMRS	true		
maxCodeRate	zeroDot25		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	true		
}			
}			
format2 CHOICE {			

setup SEQUENCE {			
interslotFrequencyHopping	enabled		
additionalDMRS	true		
maxCodeRate	zeroDot25		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	true		
}			
}			
format3 CHOICE {			
setup SEQUENCE {			
interslotFrequencyHopping	enabled		
additionalDMRS	True		
maxCodeRate	zeroDot25		
nrofSlots	Not present		
pi2BPSK	Not present		
simultaneousHARQ-ACK-CSI	true		
}			
}			
format4	Not present		
schedulingRequestResourceToAddModList SEQUENCE (SIZE (1..maxNrofSR-Resources)) OF {	1 entry		
SchedulingRequestResourceConfig[1]	SchedulingRequestResourceConfig		
}			
schedulingRequestResourceToReleaseList	Not present		
multi-CSI-PUCCH-ResourceList	Not present		
dl-DataToUL-ACK SEQUENCE (SIZE (1..8)) OF {			
INTEGER[1]	2		
INTEGER[2]	3		
INTEGER[3]	4		
INTEGER[4]	5		
INTEGER[5]	6		
INTEGER[6]	7		
INTEGER[7]	8		
INTEGER[8]	9		
}			
spatialRelationInfoToAddModList	Not present		
spatialRelationInfoToReleaseList	Not present		
pucch-PowerControl	PUCCH-PowerControl		
}			

– *PUCCH-ConfigCommon*

Table 4.6.3-113: *PUCCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-ConfigCommon ::= SEQUENCE {			
pucch-ResourceCommon	0		
pucch-GroupHopping	enable		
hoppingId	Not present		
p0-nominal	-90		
}			

– *PUCCH-PathlossReferenceRS-Id*

Table 4.6.3-114: *PUCCH-PathlossReferenceRS-Id*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-PathlossReferenceRS-Id	0		

– *PUCCH-PowerControl*

Table 4.6.3-115: *PUCCH-PowerControl*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-PowerControl ::= SEQUENCE {			
deltaF-PUCCH-f0	0		
deltaF-PUCCH-f1	0		
deltaF-PUCCH-f2	0		
deltaF-PUCCH-f3	0		
deltaF-PUCCH-f4	0		
p0-Set	Not present		
pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUCCH-PathlossReferenceRSs)) OF SEQUENCE {	1 entry		
pucch-PathlossReferenceRS-Id[1]	PUCCH-PathlossReferenceRS-Id		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
}			
twoPUCCH-PC-AdjustmentStates	Not present		
}			

– *PUCCH-SpatialRelationInfo*

Table 4.6.3-116: PUCCH-SpatialRelationInfo

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-SpatialRelationInfo ::= SEQUENCE {			
pucch-SpatialRelationInfoId	1		
servingCellId	ServCellIndex		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
pucch-PathlossReferenceRS-Id	PUCCH-PathlossReferenceRS-Id		
p0-PUCCH-Id	1		
closedLoopIndex	i0		
}			

– *PUCCH-TPC-CommandConfig*

Table 4.6.3-117: *PUCCH-TPC-CommandConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUCCH-TPC-CommandConfig ::= SEQUENCE {			
FFS			
}			

– *PUSCH-Config*

Table 4.6.3-118: PUSCH-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPUSCH	Not present		
txConfig	Not Present		Short_DCI
	codebook		
dmrs-UplinkForPUSCH-MappingTypeA CHOICE {			
setup	DMRS-UplinkConfig		
}			
dmrs-UplinkForPUSCH-MappingTypeB	Not present		
pusch-PowerControl	PUSCH-PowerControl		
frequencyHopping	Not present		
frequencyHoppingOffsetLists	Not present		
resourceAllocation	resourceAllocationType1		
pusch-TimeDomainAllocationList	Not present		
pusch-AggregationFactor	Not present		
mcs-Table	Not present		
mcs-TableTransformPrecoder	Not present		
transformPrecoder	enabled		TRANSFORM_PRECODER_ENABLED
	Not present	TRANSFORM_PRECODER_DISABLED	
codebookSubset	Not present		Short_DCI
	nonCoherent		
maxRank	Not present		Short_DCI
	1		Non_UL_MIMO
	2		2TX_UL_MIMO
rbg-Size	Not present		
uci-OnPUSCH CHOICE {			
setup SEQUENCE {			
betaOffsets CHOICE {			
semiStatic	BetaOffsets		

}			
scaling	f1		
}			
}			
tp-pi2BPSK	Not present		
}			

Condition	Explanation
TRANSFORM_PRECODER_ENABLED	Transform precoding is enabled (DFT-s-OFDM UL waveform is configured)
Non_UL_MIMO	Non UL-MIMO test cases
2TX_UL_MIMO	UL-MIMO test cases with 2 Tx antenna ports
Short_DCI	DCI_0_0 is used

– *PUSCH-ConfigCommon*

Table 4.6.3-119: *PUSCH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-ConfigCommon ::= SEQUENCE {			
groupHoppingEnabledTransformPrecoding	Not present		
pusch-TimeDomainAllocationList	PUSCH-TimeDomainResourceAllocationList		
msg3-DeltaPreamble	1		
p0-NominalWithGrant	-90		
}			

– *PUSCH-PowerControl*

Table 4.6.3-120: *PUSCH-PowerControl*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-PowerControl ::= SEQUENCE {			
tpc-Accumulation	Not present		
msg3-Alpha	alpha08		
p0-NominalWithoutGrant	-90		
p0-AlphaSets SEQUENCE (SIZE (1..maxNrofP0-PUSCH-AlphaSets)) OF SEQUENCE {	1 entry		
p0-PUSCH-AlphaSetId	0		
p0	0		
alpha	alpha08		
}			
pathlossReferenceRSToAddModList SEQUENCE (SIZE (1..maxNrofPUSCH-PathlossReferenceRSs)) OF SEQUENCE {	1 entry		
pusch-PathlossReferenceRS-Id	0		
referenceSignal CHOICE{			
ssb-Index	SSB-Index		
}			
}			
pathlossReferenceRSToReleaseList	Not present		
twoPUSCH-PC-AdjustmentStates	Not present		
deltaMCS	Not present		
sri-PUSCH-MappingToAddModList SEQUENCE (SIZE (1..maxNrofSRI-PUSCH-Mappings)) OF SEQUENCE {	1 entry		
sri-PUSCH-PowerControlId	0		
sri-PUSCH-PathlossReferenceRS-Id	0		
sri-P0-PUSCH-AlphaSetId	0		
sri-PUSCH-ClosedLoopIndex	i0		
}			
sri-PUSCH-MappingToReleaseList	Not present		
}			

– *PUSCH-ServingCellConfig*

Table 4.6.3-121: *PUSCH-ServingCellConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
rateMatching	Not present		
xOverhead	Not present		
}			

– *PUSCH-TimeDomainResourceAllocationList*

Table 4.6.3-122: *PUSCH-TimeDomainResourceAllocationList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-TimeDomainResourceAllocationList ::= SEQUENCE (SIZE(1..maxNrofUL-Allocations)) OF {	2 entries		
PUSCH-TimeDomainResourceAllocation[1] SEQUENCE {			
k2	4		
	2		RF_FR1_15 kHz OR RF_FR1_30 kHz OR RF_FR2_DL
	6		RF_FR1_60 kHz
	4		RF_FR2_60 kHz_UL
	8		RF_FR2_12 0kHz_UL
mappingType	typeA		
startSymbolAndLength	27	Start symbol(S)=0, Length(L)=14	
}			
PUSCH-TimeDomainResourceAllocation[2] SEQUENCE {		addressed by Msg3 PUSCH time resource allocation field of the Random Access Response acc. to TS 38.213 [22] Table 8.2-1.	
k2	Not present		
	2	K2+ Δ=4 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR1_15kHz

	6	K2+ Δ=9 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR1_30kHz
	3	K2+ Δ=9 acc. to TS 38.214 [21] Table 6.1.2.1.1-5 (NOTE 1)	FR2
mappingType	typeA		
startSymbolAndLength	27	Start symbol(S)=0, Length(L)=14	
}			
}			
NOTE 1: Values are chosen so that first slot of a TDD-UL-DL slot configuration period can be used for the Random Access Response and the last slot (of the same or another period) for the corresponding Msg3.			

Condition	Explanation
FR1_15kHz	FR1 is used under the test. SCS is set to 15kHz.
FR1_30kHz	FR1 is used under the test. SCS is set to 30kHz.
RF_FR1_15kHz	RF testing in FR1. SCS is set to 15kHz.
RF_FR1_30kHz	RF testing in FR1. SCS is set to 30kHz.
RF_FR1_60kHz	RF testing in FR1. SCS is set to 60kHz.
RF_FR2_DL	RF testing in FR2. SCS is set to 60kHz or 120kHz for Rx measurements.
RF_FR2_60kHz_UL	RF testing in FR2. SCS is set to 60kHz for test cases with 1 ms measurement period for UL measurement.
RF_FR2_120kHz_UL	RF testing in FR2. SCS is set to 120kHz for test cases with 1 ms measurement period for UL measurement.

– *PUSCH-TPC-CommandConfig*

Table 4.6.3-123: *PUSCH-TPC-CommandConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
PUSCH-TPC-CommandConfig ::= SEQUENCE {			
tpc-Index	Not present		
tpc-IndexSUL	Not present		
targetCell	Not present		
}			

– *Q-OffsetRange*

***Table 4.6.3-124:* Q-OffsetRange**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Q-OffsetRange	dB0		

– *Q-QualMin*

***Table 4.6.3-125: Q*-QualMin**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Q-QualMin	FFS		

– *Q-RxLevMin*

***Table 4.6.3-126:* Q-RxLevMin**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Q-RxLevMin	FFS		

– *QuantityConfig*

Table 4.6.3-127: **QuantityConfig**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
QuantityConfig::= SEQUENCE {			
quantityConfigNR-List SEQUENCE (SIZE (1..maxNrofQuantityConfig)) OF SEQUENCE {	2 entries		
quantityConfigCell[1] SEQUENCE {			
ssb-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
csi-RS-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
}			
quantityConfigRS-Index[1] SEQUENCE {			
ssb-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
csi-RS-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
}			
quantityConfigCell[2] SEQUENCE {			
ssb-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
csi-RS-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		

filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
}			
quantityConfigRS-Index[2] SEQUENCE {			
ssb-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
csi-RS-FilterConfig SEQUENCE {			
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
}			
quantityConfigEUTRA SEQUENCE {			INTER-RAT
filterCoefficientRSRP	FilterCoefficient		
filterCoefficientRSRQ	FilterCoefficient		
filterCoefficientRS-SINR	FilterCoefficient		
}			
}			

Condition	Explanation
INTER-RAT	Configuration for EUTRA inter-RAT measurements

– *RACH-ConfigCommon*

Table 4.6.3-128: *RACH-ConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RACH-ConfigCommon::= SEQUENCE {			
rach-ConfigGeneric	RACH-ConfigGeneric		
totalNumberOfRA-Preambles	Not present		
ssb-perRACH-OccasionAndCB-PreamblesPerSSB CHOICE {			
one	n8		FR1
	n4		FR2
}			
groupBconfigured	Not present		
ra-ContentionResolutionTimer	sf64		
rsrp-ThresholdSSB	RSRP-Range		
rsrp-ThresholdSSB-SUL	Not present		
	RSRP-Range		SUL
prach-RootSequenceIndex CHOICE {			
l139	Set according to table 4.4.2-2 for the NR Cell.		
}			
msg1-SubcarrierSpacing	SubcarrierSpacing		
restrictedSetConfig	unrestrictedSet		
msg3-transformPrecoder	Not present	transform precoding is disabled for Msg3 PUSCH transmission and any PUSCH transmission scheduled with DCI format 0_0	
}			

Condition	Explanation
SUL	Supplementary uplink

– *RACH-ConfigDedicated*

Table 4.6.3-129: *RACH-ConfigDedicated*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RACH-ConfigDedicated::= SEQUENCE {			
cfra SEQUENCE {			
occasions SEQUENCE {			
rach-ConfigGeneric	RACH-ConfigGeneric		
ssb-perRACH-Occasion	one		
}			
resources CHOICE {			
ssb SEQUENCE {			
ssb-ResourceList SEQUENCE (SIZE(1..maxRA-SSB-Resources)) OF {	1 entry		
ssb[1]	SSB-Index		
ra-PreambleIndex[1]	8		
}			
ra-ssb-OccasionMaskIndex	0		
}			
}			
}			
ra-Prioritization	Not present		
}			

– *RACH-ConfigGeneric*

Table 4.6.3-130: *RACH-ConfigGeneric*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RACH-ConfigGeneric ::= SEQUENCE {			
prach-ConfigurationIndex	160		FR1
	149		FR2
msg1-FDM	four		FR1
	one		FR2
msg1-FrequencyStart	0		
zeroCorrelationZoneConfig	15		
preambleReceivedTargetPower	-118		
preambleTransMax	n7		
powerRampingStep	dB4		
ra-ResponseWindow	sl20		
	sl10		FR1_15kHz
}			

Condition	Explanation
FR1_15kHz	FR1 is used under the test. SCS is set to 15kHz.

– *RA-Prioritization*

Table 4.6.3-131: *RA-Prioritization*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RA-Prioritization	0		

– *RadioBearerConfig*

Table 4.6.3-132: *RadioBearerConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RadioBearerConfig ::= SEQUENCE {			
srb-ToAddModList	Not present		
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	1 entry		SRB1
SRB-Identity	SRB-Identity with condition SRB1		
reestablishPDCP	Not present		
discardOnPDCP	Not present		
pdcp-Config	Not present	Default	
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	1 entry		SRB2
SRB-Identity	SRB-Identity with condition SRB2		
reestablishPDCP	Not present		
discardOnPDCP	Not present		
pdcp-Config	Not present	Default	
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	1 entry		SRB3
srb-Identity	SRB-Identity with condition SRB3		
reestablishPDCP	Not present		
discardOnPDCP	Not present		
pdcp-Config	Not present	Default	
}			
srb-ToAddModList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	2 entries		SRB_NR_PDCP
SRB-Identity[1]	SRB-Identity with condition SRB1		
reestablishPDCP[1]	Not present		
discardOnPDCP[1]	Not present		
pdcp-Config[1]	Not present	Default	

SRB-Identity[2]	SRB-Identity with condition SRB2		
reestablishPDCP[2]	Not present		
discardOnPDCP[2]	Not present		
pdcp-Config[2]	Not present	Default	
}			
srb3-ToRelease	Not present		
drb-ToAddModList	Not present		
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF SEQUENCE {	1 entry		EN-DC_DRB
cnAssociation CHOICE {			
eps-BearerIdentity	6		
}			
drb-Identity	DRB-Identity using condition DRB2		
reestablishPDCP	Not present		
	true		EN-DC_DRB AND Re-establish_PDCP
recoverPDCP	Not present		
	true		EN-DC_DRB AND Recover_PDCP
pdcp-Config	PDCP-Config		
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF SEQUENCE {	1 entry		MCG_NR_PDCP
cnAssociation CHOICE {			
eps-BearerIdentity	12	EPS Bearer Id of default MCG DRB	
}			
drb-Identity	8	DRB Id of default MCG DRB	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB))	1 entry		DRB1

OF SEQUENCE {			
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}			
drb-Identity	DRB-Identity using condition DRB1		
reestablishPDCP	Not present		
	true		DRB1 AND Re-establish_PDCP
recoverPDCP	Not present		
	true		DRB1 AND Recover_PDCP
pdcp-Config	PDCP-Config		
}			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF SEQUENCE {	1 entry		DRB2
cnAssociation CHOICE {			
sdap-Config	SDAP-Config		
}			
drb-Identity	DRB-Identity using condition DRB2		
reestablishPDCP	Not present		
	true		DRB2 AND Re-establish_PDCP
recoverPDCP	Not present		
	true		DRB2 AND Recover_PDCP
pdcp-Config	PDCP-Config		
}			
drb-ToReleaseList	Not present		
securityConfig	Not present		SRB1
securityConfig SEQUENCE {			
securityAlgorithmConfig	SecurityAlgorithmConfig		
keyToUse	master		
	secondary		SRB3, EN-DC_DRB

}			
}			

Condition	Explanation
SRB3	Establishment of SRB3
MCG_NR_PDCP	EN-DC MCG DRB configured or reconfigured with NR PDCP
SRB_NR_PDCP	EN-DC SRB1 and SRB2 configured with NR PDCP
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
DRB1	Establishment of DRB1
DRB2	Establishment of DRB2
EN-DC_DRB	EN-DC DRB configured on SCG
Re-establish_PDCP	Re-establishment of PDCP
Recover_PDCP	Recovery of PDCP

– *RadioLinkMonitoringConfig*

Table 4.6.3-133: *RadioLinkMonitoringConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RadioLinkMonitoringConfig ::= SEQUENCE {			
failureDetectionResourcesToAddModList SEQUENCE (SIZE(1..maxNrofFailureDetectionResources)) OF SEQUENCE {	1 entry		
radioLinkMonitoringRS-Id	RadioLinkMonitoringRS-Id		
purpose	rlf		
detectionResource CHOICE {			
ssb-Index	SSB-Index		
}			
}			
failureDetectionResourcesToReleaseList	Not present		
beamFailureInstanceMaxCount	Not present		
beamFailureDetectionTimer	Not present		
}			

– *RadioLinkMonitoringRSId*

Table 4.6.3-134: *RadioLinkMonitoringRSId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RadioLinkMonitoringRSId	0		

– *RAN-AreaCode*

Table 4.6.3-135: RAN-AreaCode

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RAN-AreaCode	1		

– *RateMatchPattern*

Table 4.6.3-136: *RateMatchPattern*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RateMatchPattern ::= SEQUENCE {			
rateMatchPatternId	RateMatchPatternId		
patternType CHOICE {			
controlResourceSet	ControlResourceSetId		
}			
subcarrierSpacing	SubcarrierSpacing		
dummy	semiStatic	Dummy IE value	
}			

– *RateMatchPatternId*

Table 4.6.3-137: *RateMatchPatternId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RateMatchPatternId	0		

– *RateMatchPatternLTE-CRS*

Table 4.6.3-138: *RateMatchPatternLTE-CRS*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RateMatchPatternLTE-CRS ::= SEQUENCE {			
FFS			
}			

– *RejectWaitTime*

Table 4.6.3-139: *RejectWaitTime*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RejectWaitTime	1		

– *ReportConfigId*

Table 4.6.3-140: **ReportConfigId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReportConfigId	1		

– *ReportConfigInterRAT*

Table 4.6.3-141: ReportConfigInterRAT (EUTRA-Thres, NR-Thres)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReportConfigInterRAT ::= SEQUENCE {			
reportType CHOICE {			
eventTriggered SEQUENCE {			
eventId CHOICE {			
eventB1 SEQUENCE {			EVENT_B1
b1-ThresholdEUTRA CHOICE {			
rsrp	*EUTRA-Thres*	INTEGER (0..97)	
}			
reportOnLeave	FALSE		
Hysteresis	0 (0 dB)	The actual value is field value * 0.5 dB	
timeToTrigger	ms0		
}			
eventB2 SEQUENCE {			EVENT_B2
b2-Threshold1 CHOICE {			
rsrp	*NR-Thres*	INTEGER(0..127)	
}			
b2-Threshold2EUTRA CHOICE {			
rsrp	*EUTRA-Thres*	INTEGER (0..97)	
}			
reportOnLeave	FALSE		
Hysteresis	3 (1.5dB)	The actual value is field value * 0.5 dB	
timeToTrigger	ms1024		
}			
}			
rsType	ssb		
reportInterval	ms120		
reportAmount	r2		
reportQuantity SEQUENCE {			

rsrp	TRUE		
}			
maxReportCells	8		
}			
reportCGI SEQUENCE {			CGI
cellForWhichToReportCGI	EUTRA-PhysCellId		
}			
}			
}			

Condition	Explanation
EVENT_B1	Configuration of Event B1
EVENT_B2	Configuration of Event B2
CGI	Configuration of CGI measurement

– *ReportConfigNR*

Table 4.6.3-142: ReportConfigNR(Thres1, Thres2)

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReportConfigNR::= SEQUENCE {			
reportType CHOICE {			
periodical SEQUENCE {			PERIODICAL
rsType	ssb		
reportInterval	ReportInterval		
reportAmount	infinity		
reportQuantityCell SEQUENCE {			
rsrp	true		
rsrq	true		
sinr	false		
	true		pc_ss_SINR_Meas
}			
maxReportCells	8		
reportQuantityRS-Indexes	Not present		
maxNrofRS-IndexesToReport	Not present		
includeBeamMeasurements	false		
useWhiteCellList	false		
}			
eventTriggered SEQUENCE {			
eventId CHOICE {			
eventA1 SEQUENCE {			EVENT_A1
a1-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
eventA2 SEQUENCE {			EVENT_A2
a2-Threshold CHOICE {			

rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
}			
eventA3 SEQUENCE {			EVENT_A3
a3-Offset CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA4 SEQUENCE {			EVENT_A4
a4-Threshold CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA5 SEQUENCE {			EVENT_A5
a5-Threshold1 CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
a5-Threshold2 CHOICE {			
rsrp	Thres2	Thres is an entry	

		value into a mapping table in TS 38.133 [13].	

}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
eventA6 SEQUENCE {			EVENT_A6
a6-Offset CHOICE {			
rsrp	Thres1	Thres is an entry value into a mapping table in TS 38.133 [13].	
}			
reportOnLeave	false		
hysteresis	Hysteresis		
timeToTrigger	TimeToTrigger		
useWhiteCellList	false		
}			
}			
rsType	ssb		
reportInterval	ReportInterval		
reportAmount	r2		
reportQuantityCell SEQUENCE {			
rsrp	true		
rsrq	true		
sinr	false		
	true		pc_ss_SINR_Meas
}			
maxReportCells	8		
reportQuantityRS-Indexes	Not present		
maxNrofRS-IndexesToReport	Not present		
includeBeamMeasurements	false		
reportAddNeighMeas	Not present		
}			
reportCGI SEQUENCE {			CGI
cellForWhichToReportCGI	PhysCellId		
}			
}			
}			

Condition	Explanation
EVENT_A1	Configuration of Event A1
EVENT_A2	Configuration of Event A2
EVENT_A3	Configuration of Event A3
EVENT_A4	Configuration of Event A4
EVENT_A5	Configuration of Event A5
EVENT_A6	Configuration of Event A6
PERIODICAL	Configuration of periodical reporting
CGI	Configuration of CGI measurement

– *ReportConfigToAddModList*

Table 4.6.3-143: *ReportConfigToAddModList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReportConfigToAddModList::= SEQUENCE(SIZE (1..maxReportConfigId)) OF SEQUENCE {	1 entry		
reportConfigId[1]	ReportConfigId		
reportConfig[1] CHOICE {			
reportConfigNR	ReportConfigNR		
}			
}			

– *ReportInterval*

Table 4.6.3-144: **ReportInterval**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReportInterval	ms480		

– *ReselectionThreshold*

Table 4.6.3-145: Reselection Threshold

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReselectionThreshold	FFS		

– *ReselectionThresholdQ*

***Table 4.6.3-146:* ReselectionThresholdQ**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ReselectionThresholdQ	FFS		

– *ResumeCause*

Table 4.6.3-147: ResumeCause

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ResumeCause	mt-Access		

– *RLC-BearerConfig*

Table 4.6.3-148: *RLC-BearerConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RLC-BearerConfig ::= SEQUENCE {			
logicalChannelIdentity	LogicalChannelIdentity with condition DRBn		DRBn
logicalChannelIdentity	LogicalChannelIdentity with condition SRB1		SRB1
logicalChannelIdentity	LogicalChannelIdentity with condition SRB2		SRB2
logicalChannelIdentity	LogicalChannelIdentity with condition SRB3		SRB3
servedRadioBearer CHOICE {			
srb-Identity	SRB-Identity with condition SRB1		SRB1
srb-Identity	SRB-Identity with condition SRB2		SRB2
srb-Identity	SRB-Identity with condition SRB3		SRB3
drb-Identity	DRB-Identity with condition DRBn		
}			
reestablishRLC	Not present		
	true		Re-establish_RLC
RLC-Config	RLC-Config using condition AM		AM
	RLC-Config using condition UM.		UM
	Not present	Use default parameters as per TS 38.331 [6] clause 9.2.1	SRB1, SRB2, SRB3
mac-LogicalChannelConfig}	LogicalChannelConfig using condition HI		AM
	LogicalChannelConfig using condition LO		UM

	LogicalChannelConfig using condition SRBn	n= 1, 2, 3 for SRB1, SRB2, SRB3 resp.	SRB1, SRB2, SRB3

Condition	Explanation
AM	RLC AM DRB
UM	RLC UM DRB
SRB1	Establishment of SRB1
SRB2	Establishment of SRB2
SRB3	Establishment of SRB3
DRBn	Establishment of DRBn
Re-establish_RLC	Re-establishment of RLC

– *RLC-Config*

Table 4.6.3-149: **RLC-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RLC-Config ::= CHOICE {			
am SEQUENCE {			AM
ul-AM-RLC SEQUENCE {			
sn-FieldLength	size18		
t-PollRetransmit	ms80		FR1
	ms30		FR2
pollPDU	p32768		
pollByte	kB750		
maxRetxThreshold	t8		
}			
dl-AM-RLC SEQUENCE {			
sn-FieldLength	size18		
t-Reassembly	ms80		FR1
	ms30		FR2
t-StatusProhibit	ms30		
}			
}			
um-Bi-Directional SEQUENCE {			UM
ul-UM-RLC SEQUENCE {			
sn-FieldLength	size12		pc_um_WIth LongSN
	size6		NOT pc_um_WIth LongSN AND pc_um_With ShortSN
}			
dl-UM-RLC SEQUENCE {			
sn-FieldLength	size12		pc_um_WIth LongSN

	size6		NOT pc_um_WIth LongSN AND pc_um_With ShortSN
t-Reassembly	ms80		FR1
	ms30		FR2
}			
}			
}			

Condition	Explanation
AM	RLC AM
UM	RLC UM

– *RLF-TimersAndConstants*

Table 4.6.3-150: *RLF-TimersAndConstants*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RLF-TimersAndConstants ::= SEQUENCE {			
t310	ms1000		
n310	n1		
n311	n1		
t311-v1530	ms1000		
}			

– *RNTI-Value*

Table 4.6.3-151: **RNTI-Value**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RNTI-Value	SS arbitrarily selects a value between ‘0001’H and ‘FFEF’H		

– *RSRP-Range*

Table 4.6.3-152: **RSRP-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RSRP-Range	0	For measurements, 0 means L3 SS-RSRP<-156dBm according to Table 10.1.6.1-1 in TS 38.133 [13]. For thresholds, 0 means -156dBm.	

– *RSRQ-Range*

***Table 4.6.3-153:* RSRQ-Range**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RSRQ-Range	0	For measurements, 0 means SS-RSRQ<-43dB according to Table 10.1.11.1-1 in TS 38.133 [14]. For thresholds, 0 means -43.5dB.	

– *SCellIndex*

Table 4.6.3-154: SCellIndex

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SCellIndex	1		

– *SchedulingRequestConfig*

Table 4.6.3-155: *SchedulingRequestConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SchedulingRequestConfig ::= SEQUENCE { schedulingRequestToAddModList (SIZE(1..maxNrofSR-ConfigPerCellGroup)) OF SEQUENCE {	1 entry		
schedulingRequestId	SchedulingRequestId		
sr-ProhibitTimer	Not present		
sr-TransMax	n16		
}			
schedulingRequestToReleaseList	Not present		
}			

– *SchedulingRequestId*

Table 4.6.3-156: *SchedulingRequestId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SchedulingRequestId	0		

– *SchedulingRequestResourceConfig*

Table 4.6.3-157: *SchedulingRequestResourceConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SchedulingRequestResourceConfig ::= SEQUENCE {			
schedulingRequestResourceId	SchedulingRequestResourceId		
schedulingRequestID	SchedulingRequestId		
periodicityAndOffset CHOICE {			
sl10	9	With SCS = kHz15 results in repetition every 10 ms	SCS_15kHz
sl20	9	With SCS = kHz30 results in repetition every 10 ms	SCS_30kHz
sl40	19	With SCS = kHz60 results in repetition every 10 ms	FR1_60kHz
	9	With SCS = kHz60 results in repetition every 10 ms	FR2_60kHz
sl80	9	With SCS = kHz120 results in repetition every 10 ms	SCS_120kHz
}			
resource	0	ID of the PUCCH resource as configured by PUCCH-Config (Table 4.6.3-84)	
}			

Condition	Explanation
SCS_15kHz	SCS=15kHz for frequency of the cell according to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise
SCS_30kHz	SCS=30kHz for frequency of the cell according to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise
SCS_120kHz	SCS=120kHz for frequency of the cell according to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise
FR1_60kHz	FR1 is used under the test. SCS is set to 60kHz.
FR2_60kHz	FR2 is used under the test. SCS is set to 60kHz.

– *SchedulingRequestResourceId*

Table 4.6.3-158: *SchedulingRequestResourceId*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SchedulingRequestResourceId	1		

– *ScramblingId*

***Table 4.6.3-159:* ScramblingId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ScramblingId	0		

– *SCS-SpecificCarrier*

Table 4.6.3-160: *SCS-SpecificCarrier*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SCS-SpecificCarrier ::= SEQUENCE {			
offsetToCarrier	offsetToCarrier as defined for the DL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	DL_PointA
	offsetToCarrier as defined for the UL frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	UL_PointA
subcarrierSpacing	SubcarrierSpacing		
carrierBandwidth	carrierBandwidth as defined for the frequency of the cell	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1.	
txDirectCurrentLocation-v1530	Not present		
}			

Condition	Explanation
DL_PointA	IE absoluteFrequencyPointA for downlink
UL_PointA	IE absoluteFrequencyPointA for uplink

– *SDAP-Config*

Table 4.6.3-161: SDAP-Config

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SDAP-Config ::= SEQUENCE {			
pdu-Session	The same value as the PDU session ID IE of the contained message		
sdap-HeaderDL	absent		
sdap-HeaderUL	present		
defaultDRB	true		
mappedQoS-FlowsToAdd SEQUENCE (SIZE (1..maxNrofQFIs)) OF {	n entries		
INTEGER	The list of QFIs of the Authorized QoS flow descriptions IE of the contained 5GSM message		
}			
mappedQoS-FlowsToRelease SEQUENCE (SIZE (1..maxNrofQFIs)) OF {}	Not present		
}			

– *SearchSpace*

Table 4.6.3-162: SearchSpace

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SearchSpace ::= SEQUENCE {			
searchSpaceId	SearchSpaceId with condition CSS		CSS
	SearchSpaceId with condition USS		USS
	SearchSpaceId with condition SISS		SISS
controlResourceSetId	ControlResourceSetId		
monitoringSlotPeriodicityAndOffset CHOICE {			
sl1	NULL		
sl10	5		SISS
}			
duration	Not present	1 slot per default	
	2		SISS
monitoringSymbolsWithinSlot	10000000000000		
nrofCandidates SEQUENCE {			
aggregationLevel1	n0		
aggregationLevel2	n4		
	n2		FR1_5MHz OR FR1_10MHz
aggregationLevel4	n2		
	n1		FR1_5MHz OR FR1_10MHz
aggregationLevel8	n1		
	n0		FR1_5MHz OR FR1_10MHz
aggregationLevel16	n0		
}			
searchSpaceType CHOICE {			
common SEQUENCE {			CSS, SISS
dci-Format0-0-AndFormat1-0 SEQUENCE {			
}			

dci-Format2-0	Not present		
dci-Format2-1	Not present		
dci-Format2-2	Not present		
dci-Format2-3	Not present		
}			
ue-Specific SEQUENCE {			USS
dci-Formats	formats0-0-And-1-0		Short_DCI
dci-Formats	formats0-1-And-1-1		
}			
}			
}			

Condition	Explanation
FR1_5MHz	FR1 is used under the test. CBW is set to 5MHz.
FR1_10MHz	FR1 is used under the test. CBW is set to 10MHz.
CSS	Common SearchSpace
USS	UE-Specific SearchSpace
Short_DCI	Used in test scenarios requiring DCI formats0-0-And-1-0.
SISS	SearchSpace for SI

– *SearchSpaceId*

Table 4.6.3-163: **SearchSpaceId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SearchSpaceID	1		CSS
	2		USS
	3		SISS

Condition	Explanation
CSS	Common SearchSpace
USS	UE-Specific SearchSpace
SISS	SearchSpace for SI

– *SearchSpaceZero*

Table 4.6.3-164: **SearchSpaceZero**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SearchSpaceZero	0	Index addressing SearchSpace#0 parameter set in Tables 13.11 .. 13.15 of TS 38.213 [22]	

– *SecurityAlgorithmConfig*

Table 4.6.3-165: ***SecurityAlgorithmConfig***

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SecurityAlgorithmConfig ::= SEQUENCE {			
cipheringAlgorithm	nea0		RF
	Set according to PIXIT px_NR_CipheringAlgorithm	see TS 38.523-3 [23]	SIG
integrityProtAlgorithm	nia2		
	Set according to PIXIT px_NR_IntegrityProtAlgorithm	see TS 38.523-3 [23]	SIG
}			

– *ServCellIndex*

Table 4.6.3-166: ServCellIndex

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ServCellIndex	0		
	1		EN-DC

Condition	**Explanation**
EN-DC	E-UTRA-NR Dual Connectivity

– *ServingCellConfig*

Table 4.6.3-167: *ServingCellConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfig ::= SEQUENCE {			
tdd-UL-DL-ConfigurationDedicated	Not present		
initialDownlinkBWP	BWP-DownlinkDedicated		
initialDownlinkBWP	Not present		MEAS
downlinkBWP-ToReleaseList	Not present		
downlinkBWP-ToAddModList	Not present		
firstActiveDownlinkBWP-Id	BWP-Id		
firstActiveDownlinkBWP-Id	Not present		MEAS
bwp-InactivityTimer	Not present		
defaultDownlinkBWP-Id	BWP-Id		
defaultDownlinkBWP-Id	Not present		MEAS
uplinkConfig	Not present		MEAS
uplinkConfig SEQUENCE {			
initialUplinkBWP	BWP-UplinkDedicated		
	BWP-UplinkDedicated with condition SUL_NUL		PUSCH_PUCCH_ON_SUL
uplinkBWP-ToReleaseList	Not present		
uplinkBWP-ToAddModList	Not present		
firstActiveUplinkBWP-Id	BWP-Id		
pusch-ServingCellConfig CHOICE {			
setup	PUSCH-ServingCellConfig		
}			
carrierSwitching	Not present		
}			
supplementaryUplink	Not present		
supplementaryUplink SEQUENCE {			PUSCH_PUCCH_ON_SUL
initialUplinkBWP	BWP-UplinkDedicated		
uplinkBWP-ToReleaseList	Not present		
uplinkBWP-ToAddModList	Not present		
firstActiveUplinkBWP-Id	BWP-Id		
pusch-ServingCellConfig CHOICE {			

setup	PUSCH-ServingCellConfig		
}			
}			
pdcch-ServingCellConfig CHOICE {			
setup	PDCCH-ServingCellConfig		
}			
pdcch-ServingCellConfig	Not present		MEAS
pdsch-ServingCellConfig CHOICE {			
setup	PDSCH-ServingCellConfig		
}			
pdsch-ServingCellConfig	Not present		MEAS
csi-MeasConfig	Not present		
sCellDeactivationTimer	Not present		
crossCarrierSchedulingConfig	Not present		
tag-Id	0		
dummy	Not present		
pathlossReferenceLinking	Not present		
servingCellMO	Not present		
	MeasObjectId		MEAS
}			

Condition	Explanation
PUSCH_PUCCH_ON_SUL	For the purpose of SUL test under condition that supplementary uplink is configured with both PUSCH and PUCCH on SUL carrier.
MEAS	A NR or EN-DC measurement is configured.

– *ServingCellConfigCommon*

Table 4.6.3-168: *ServingCellConfigCommon*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfigCommon ::= SEQUENCE {			
physCellId	PhysCellId		
downlinkConfigCommon	DownlinkConfigCommon		
uplinkConfigCommon	UplinkConfigCommon		
	UplinkConfigCommon		SCell_add AND UL_CA
	Not present		SCell_add AND NOT UL_CA
supplementaryUplinkConfig	Not present		
n-TimingAdvanceOffset	Not present		
ssb-PositionsInBurst CHOICE {			
shortBitmap	0100		(FREQ<=3GHz AND (FR1_FDD OR NOT CASE_C)) OR (FREQ<=2.4GHz AND FR1_TDD)
mediumBitmap	01000000		(FREQ>3GHz AND FR1) OR (FREQ>2.4GHz AND FR1_TDD AND CASE_C)
longBitmap	01000000000000000000000000000000000000000000000000000000000000000000000000000000		FR2
}			
ssb-periodicityServingCell	ms20		
dmrs-TypeA-Position	pos2		

lte-CRS-ToMatchAround	Not present		
rateMatchPatternToAddModList	Not present		
rateMatchPatternToReleaseList	Not present		
ssbSubcarrierSpacing	SubcarrierSpacing	For signalling test cases see subclause 6.2.3. Otherwise, see subclause 4.3.1. Value SS block SCS.	
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		FR1_TDD, FR2_TDD
	Not present		
ss-PBCH-BlockPower	0		
}			

Condition	Explanation
FREQ<=2.4GHz	Frequency range <= 2.4GHz
FREQ>2.4GHz	Frequency range > 2.4GHz
FREQ<=3GHz	Frequency range <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
FR1_FDD	FDD frequency range < 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1
SCell_add	Add SCell
UL_CA	Uplink carrier aggregation.

– *ServingCellConfigCommonSIB*

***Table 4.6.3-169: Serving*CellConfigCommonSIB**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfigCommonSIB ::= SEQUENCE {			
downlinkConfigCommon	DownlinkConfigCommonSIB		
uplinkConfigCommon	UplinkConfigCommonSIB		
	UplinkConfigCommonSIB with condition SUL_NUL		SUL
supplementaryUplink	Not present		
	UplinkConfigCommonSIB with condition SUL_SUL		SUL
n-TimingAdvanceOffset	Not present		
ssb-PositionsInBurst SEQUENCE {			
inOneGroup	'0100 0000'B	When carrier frequency is smaller than or equal to 3 GHz, only the 4 leftmost bits are valid;	
groupPresence	Not present		
	'1000 0000'B		FR2
}			
ssb-PeriodicityServingCell	ms20		
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		FR1_TDD, FR2_TDD
	Not present		
ss-PBCH-BlockPower	0		
}			

Condition	**Explanation**
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
SUL	Supplementary uplink

– *ShortI-RNTI-Value*

Table 4.6.3-170: ShortI-RNTI-Value

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ShortI-RNTI-Value	SS arbitrarily selects a value between ’00 0001’H and ‘FF FFFF’H.	BIT STRING (SIZE(24))	

– *ShortMAC-I*

Table 4.6.3-171: *ShortMAC-I*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ShortMAC-I	The 16 least significant bits of the MAC-I calculated using the security configuration of the source PCell.		

– *SINR-Range*

Table 4.6.3-172: SINR-Range

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SINR-Range	0	For measurements, 0 means SS-SINR<-23dB according to Table 10.1.16.1-1 in TS 38.133 [14]. For thresholds, 0 means -23dB.	

– *SI-SchedulingInfo*

***Table 4.6.3-173: SI-Sched*ulingInfo**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SI-SchedulingInfo ::= SEQUENCE {			
schedulingInfoList SEQUENCE (SIZE (1..maxSI-Message)) OF SEQUENCE {	See subclause 4.4.3.1		
si-BroadcastStatus	broadcasting		
si-Periodicity	See subclause 4.4.3.1		
sib-MappingInfo SEQUENCE (SIZE (1..maxSIB)) OF SEQUENCE {			
type	See subclause 4.4.3.1		
valueTag	0		
areaScope	Not present		
}			
}			
si-WindowLength	s80		FR1
	s160		FR2
si-RequestConfig SEQUENCE {}	Not present		
si-RequestConfigSUL SEQUENCE {}	Not present		
systemInformationAreaID	’0000 0000 0000 0000 0000 0001’B		
}			

– *SK-Counter*

Table 4.6.3-173A: *SK-Counter*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SK-Counter	FFS		

– *SlotFormatCombinationsPerCell*

Table 4.6.3-174: *SlotFormatCombinationsPerCell*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SlotFormatCombinationsPerCell ::= SEQUENCE {			
FFS			
}			

– *SlotFormatIndicator*

Table 4.6.3-175: *SlotFormatIndicator*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SlotFormatIndicator ::= SEQUENCE {			
FFS			
}			

– *S-NSSAI*

***Table 4.6.3-176:* S-NSSAI**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
S-NSSAI ::= CHOICE {			
FFS			
}			

– *SpeedStateScaleFactors*

Table 4.6.3-177: SpeedStateScaleFactors

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SpeedStateScaleFactors ::= SEQUENCE {			
FFS			
}			

– *SPS-Config*

***Table 4.6.3-179:* SPS-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SPS-Config ::= SEQUENCE {			
FFS			
}			

– *SRB-Identity*

Table 4.6.3-180: SRB-Identity

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SRB-Identity	1		SRB1
	2		SRB2
	3		SRB3

Condition	Explanation
SRB1	SRB1
SRB2	SRB2
SRB3	SRB3

– *SRS-CarrierSwitching*

Table 4.6.3-181: *SRS-CarrierSwitching*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SRS-CarrierSwitching ::= SEQUENCE {			
FFS			
}			

– *SRS-Config*

Table 4.6.3-182: **SRS-Config**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SRS-Config ::= SEQUENCE {			
srs-ResourceSetToReleaseList	Not present		
srs-ResourceSetToAddModList SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SEQUENCE {	[1 entry]		
srs-ResourceSetId	0		
srs-ResourceIdList SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF {	1 entry		
SRS-ResourceId[1]	0		
}			
resourceType CHOICE {			
aperiodic SEQUENCE {			
aperiodicSRS-ResourceTrigger	1		
csi-RS	Not present		
slotOffset	7		FR1
	4		FR2
}			
}			
usage	codebook		
alpha	Alpha		
p0	0		
pathlossReferenceRS CHOICE {			
ssb-Index	SSB-Index		
}			
srs-PowerControlAdjustmentStates	Not present		
}			
srs-ResourceToReleaseList	Not present		
srs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SEQUENCE {	1 entry		
srs-ResourceId	0		
nrofSRS-Ports	ports2		2TX_UL_MIMO
	port1		
ptrs-PortIndex	Not present		
transmissionComb CHOICE {			

n2 SEQUENCE {			
combOffset-n2	0		
cyclicShift-n2	0		
}			
}			
resourceMapping SEQUENCE {			
startPosition	0		
nrofSymbols	n1		
repetitionFactor	n1		
}			
freqDomainPosition	0		
freqDomainShift	0		
freqHopping SEQUENCE {			
c-SRS	0		
	63		FR1_100MHz
	17		FR2_100MHz
b-SRS	0		
b-hop	0		
}			
groupOrSequenceHopping	groupHopping		
resourceType CHOICE {			
aperiodic SEQUENCE {			
}			
}			
sequenceId	0		
spatialRelationInfo SEQUENCE {	SRS-SpatialRelationInfo		
servingCellId	Not present		
referenceSignal CHOICE {			
ssb-Index	SSB-Index		
}			
}			
}			
tpc-Accumulation	Not present		
}			

Condition	Explanation
2TX_UL_MIMO	For the purpose of 2TX Uplink MIMO test.
FR1_100MHz	FR1 is used under the test. CBW is set to 100MHz.
FR2_100MHz	FR2 is used under the test. CBW is set to 100MHz.

– *SRS-TPC-CommandConfig*

Table 4.6.3-183: *SRS-TPC-CommandConfig*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SRS-TPC-CommandConfig ::= SEQUENCE {			
FFS			
}			

– *SSB-Index*

Table 4.6.3-184: SSB-Index

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SSB-Index	1		

– *SSB-MTC*

Table 4.6.3-185: *SSB-MTC*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SSB-MTC ::= SEQUENCE {			
periodicityAndOffset CHOICE {			
sf20	0		
	10		SIG AND INTER-FREQ_ODD
}			
duration	sf2		FR1
	sf3		FR2
}			

Condition	**Explanation**
INTER-FREQ_ODD	When the SFNoffset of inter frequency neighbour cell is odd number. SFNoffset is defined in TS 38.523-3 [23]Table 7.1.5.2-1

Table 4.6.3-186: *SSB-MTC2*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SSB-MTC2 ::= SEQUENCE {			
FFS			
}			

– *SSB-ToMeasure*

Table 4.6.3-187: SSB-ToMeasure

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SSB-ToMeasure ::= CHOICE {			
shortBitmap	0100		(FREQ<=3GHz AND (FR1_FDD OR NOT CASE_C)) OR (FREQ<=2.4GHz AND FR1_TDD)
mediumBitmap	01000000		(FREQ>3GHz AND FR1) OR (FREQ>2.4GHz AND FR1_TDD AND CASE_C)
longBitmap	01000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000		FR2
}			

Condition	Explanation
FREQ<=2.4GHz	Frequency range <= 2.4GHz
FREQ>2.4GHz	Frequency range > 2.4GHz
FREQ<=3GHz	Frequency range <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
FR1_FDD	FDD frequency range < 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1

– *SS-RSSI-Measurement*

Table 4.6.3-187A: *SS-RSSI-Measurement*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SS-RSSI-Measurement ::= SEQUENCE {			
FFS			
}			

– *SubcarrierSpacing*

Table 4.6.3-188: SubcarrierSpacing

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
SubcarrierSpacing	According to clause 6.2.3 for signalling test cases and clause 4.3.1 otherwise.		

– *TAG-Config*

Table 4.6.3-189: *TAG-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TAG-Config ::= SEQUENCE {			
tag-ToReleaseList	Not present		
tag-ToAddModList SEQUENCE (SIZE (1..maxNrofTAGs)) OF SEQUENCE {	1 entry		
tag-Id	0		
timeAlignmentTimer	infinity		
}			
}			

– *TCI-State*

***Table 4.6.3-190:* TCI-State**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TCI-State ::= SEQUENCE {			
tci-StateId	TCI-StateId		
qcl-Type1 SEQUENCE {			
cell	Not present		
bwp-Id	Not present		
referenceSignal CHOICE {			
ssb	SSB-Index		
}			
qcl-Type	typeD		
}			
qcl-Type2	Not present		
}			

– *TCI-StateId*

***Table 4.6.3-191: TCI-St*ateId**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TCI-StateId	0		

– *TDD-UL-DL-Config*

Table 4.6.3-192: *TDD-UL-DL-Config*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms5		FR1
	ms0p625		FR2
nrofDownlinkSlots	7		FR1_30kHz
	3		FR1_15kHz, FR2
	14		FR1_60kHz
	7		
nrofDownlinkSymbols	6		FR1_30kHz
	10		FR1_15kHz
	12		FR1_60kHz
	10		FR2
	6		
nrofUplinkSlots	2		FR1_30kHz
	1		FR1_15kHz, FR2
	4		FR1_60kHz
	2		
nrofUplinkSymbols	4		FR1_30kHz
	2		FR1_15kHz, FR2
	8		FR1_60kHz
	4		
}			
pattern2	Not present		
}			

Condition	Explanation
FR1_15kHz	FR1 is used under the test. SCS is set to 15kHz.
FR1_30kHz	FR1 is used under the test. SCS is set to 30kHz.
FR1_60kHz	FR1 is used under the test. SCS is set to 60kHz.

– *TrackingAreaCode*

***Table 4.6.3-193: Trac*kingAreaCode**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TrackingAreaCode	See table 4.4.2-3	BIT STRING (SIZE (24))	

– *T-Reselection*

***Table 4.6.3-194: T-Reselec*tion**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
T-Reselection	FFS		

– *TimeToTrigger*

***Table 4.6.3-195: TimeToT*rigger**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
TimeToTrigger	ms320		

– *UAC-BarringInfoSetIndex*

Table 4.6.3-196: *UAC-BarringInfoSetIndex*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UAC-BarringInfoSetIndex	FFS		

– *UAC-BarringInfoSetList*

Table 4.6.3-197: *UAC-BarringInfoSetList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UAC-BarringInfoSetList	FFS		

– *UAC-BarringPerCatList*

Table 4.6.3-198: *UAC-BarringPerCatList*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UAC-BarringPerCatList	FFS		

– *UAC-BarringPerPLMN-List*

Table 4.6.3-199: *UAC-BarringPerPLMN-List*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UAC-BarringPerPLMN-List	FFS		

– *UE-TimersAndConstants*

***Table 4.6.3-200:* UE-TimersAndConstants**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-TimersAndConstants ::= SEQUENCE {			
t300	ms1000		
t301	ms1000		
t310	ms1000		
n310	n1		
t311	ms30000		
n311	n1		
t319	ms1000		
}			

– *UplinkConfigCommon*

Table 4.6.3-201: UplinkConfigCommon

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UplinkConfigCommon ::= SEQUENCE {			
frequencyInfoUL	FrequencyInfoUL		
initialUplinkBWP	BWP-UplinkCommon		
timeAlignmentTimerCommon	infinity		
}			

– *UplinkConfigCommonSIB*

***Table 4.6.3-202: Up*linkConfigCommonSIB**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UplinkConfigCommonSIB SEQUENCE {			
frequencyInfoUL	FrequencyInfoUL-SIB		
initialUplinkBWP	BWP-UplinkCommon		
	BWP-UplinkCommon with confition SUL_SUL		SUL_SUL
	BWP-UplinkCommon with confition SUL_NUL		SUL_NUL
timeAlignmentTimerCommon	infinity		
}			

Condition	Explanation
SUL_SUL	On the SUL carrier when supplementary carrier is configured
SUL_NUL	On the NUL carrier when supplementary carrier is configured

– *UplinkTxDirectCurrentList*

***Table 4.6.3-203: UplinkTxDire*ctCurrentList**

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
UplinkTxDirectCurrentList ::= SEQUENCE (SIZE (1..maxNrofServingCells)) OF SEQUENCE {			
FFS			
}			

– *ZP-CSI-RS-Resource*

Table 4.6.3-204: ZP-CSI-RS-Resource

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ZP-CSI-RS-Resource ::= SEQUENCE {			
zp-CSI-RS-ResourceId	ZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
}			

– *ZP-CSI-RS-ResourceSet*

Table 4.6.3-205: *ZP-CSI-RS-ResourceSet*

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ZP-CSI-RS-ResourceSet ::= SEQUENCE {			
zp-CSI-RS-ResourceSetId	ZP-CSI-RS-ResourceSetId		
zp-CSI-RS-ResourceIdList SEQUENCE (SIZE(1..maxNrofZP-CSI-RS-ResourcesPerSet)) OF {	1 entry		
ZP-CSI-RS-ResourceId[1]	FFS		
}			
}			

– *ZP-CSI-RS-ResourceSetId*

Table 4.6.3-206: ZP-CSI-RS-ResourceSetId

Derivation Path: TS 38.331 [6], clause 6.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
ZP-CSI-RS-ResourceSetId	FFS		

4.6.4 UE capability information elements

– *AccessStratumRelease*

Table 4.6.4-1: AccessStratumRelease

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
AccessStratumRelease	Same as indicated in TC applicability in TS 38.523-2 [19]		

– *BandCombinationList*

Table 4.6.4-2: BandCombinationList

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
BandCombinationList::= SEQUENCE (SIZE (1..maxBandComb)) OF SEQUENCE {	At least 1 entry		
bandList[1] SEQUENCE (SIZE (1..maxSimultaneousBands)) OF CHOiCE {			
eutra SEQUENCE {			
bandEUTRA	FreqBandIndicatorEUTRA		
ca-BandwidthClassDL-EUTRA	Not checked		
ca-BandwidthClassUL-EUTRA	Not checked		
}			
nr SEQUENCE {			
bandNR	FreqBandIndicatorNR		
ca-BandwidthClassDL-NR	Not checked		
ca-BandwidthClassUL-NR	Not checked		
}			
}			
featureSetCombination	Not checked		
ca-ParametersEUTRA	Not checked		
ca-ParametersNR	Not checked		
mrdc-Parameters	Not checked		
supportedBandwidthCombinationSet	BIT STRING (SIZE (1..32))		
powerClass-v1530	Not Checked		

– *CA-BandwidthClassEUTRA*

Table 4.6.4-3: CA-BandwidthClassEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CA-BandwidthClassEUTRA	Not checked		

– *CA-BandwidthClassNR*

Table 4.6.4-4: CA-BandwidthClassNR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CA-BandwidthClassNR	Not checked		

– *CA-ParametersEUTRA*

Table 4.6.4-5: CA- ParametersEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CA-ParametersEUTRA ::= SEQUENCE {			
multipleTimingAdvance	Not checked		
simultaneousRx-Tx	Not checked		
supportedNAICS-2CRS-AP	Not checked		
additionalRx-Tx-PerformanceReq	Not checked		
ue-CA-PowerClass-N	Not checked		
supportedBandwidthCombinationSetEUTRA-v1530	Not checked		
}			

– *CA-ParametersNR*

Table 4.6.4-6: CA- ParametersNR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CA-ParametersNR ::= SEQUENCE {			
dummy	Not checked		
parallelTxSRS-PUCCH-PUSCH	Not checked		
parallelTxPRACH-SRS-PUCCH-PUSCH	Not checked		
simultaneousRxTxInterBandCA	Not checked		
simultaneousRxTxSUL	Not checked		
diffNumerologyAcrossPUCCH-Group	Not checked		
diffNumerologyWithinPUCCH-GroupSmallerSCS	Not checked		
supportedNumberTAG	Not checked		
}			

– *CA-ParametersNRDC*

Table 4.6.4-6AA: CA- ParametersNRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CA-ParametersNRDC ::= SEQUENCE {			
ca-ParametersNR-ForDC	Not checked		
ca-ParametersNR-ForDC-v1540	Not checked		
ca-ParametersNR-ForDC-v1550	Not checked		
ca-ParametersNR-ForDC-v1560	Not checked		
featureSetCombinationDC	Not checked		
}			

– *CodebookParameters*

Table 4.6.4-6A: CodebookParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
CodebookParameters ::= SEQUENCE {			
type1 SEQUENCE {			
singlePanel SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SEQUENCE {			
maxNumberTxPortsPerResource[1]	Not checked		
maxNumberResourcesPerBand[1]	Not checked		
totalNumberTxPortsPerBand[1]	Not checked		
}			
modes	Not checked		
maxNumberCSI-RS-PerResourceSet	Not checked		
}			
multiPanel SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SEQUENCE {			
maxNumberTxPortsPerResource[1]	Not checked		
maxNumberResourcesPerBand[1]	Not checked		
totalNumberTxPortsPerBand[1]	Not checked		
}			
modes	Not checked		
nrofPanels	Not checked		
maxNumberCSI-RS-PerResourceSet	Not checked		
}			
}			
type2 SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SEQUENCE {			
maxNumberTxPortsPerResource[1]	Not checked		
maxNumberResourcesPerBand[1]	Not checked		
totalNumberTxPortsPerBand[1]	Not checked		
}			
parameterLx	Not checked		
amplitudeScalingType	Not checked		

amplitudeSubsetRestriction	Not checked		
}			
type2-PortSelection SEQUENCE {			
supportedCSI-RS-ResourceList SEQUENCE (SIZE (1.. maxNrofCSI-RS-Resources)) OF SEQUENCE {			
maxNumberTxPortsPerResource[1]	Not checked		
maxNumberResourcesPerBand[1]	Not checked		
totalNumberTxPortsPerBand[1]	Not checked		
}			
parameterLx	Not checked		
amplitudeScalingType	Not checked		
}			
}			

– *FeatureSetCombination*

Table 4.6.4-7: FeatureSetCombination

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetCombination ::= SEQUENCE (SIZE (1..maxSimultaneousBands)) OF SEQUENCE (SIZE (1..maxFeatureSetsPerBand) CHOICE {			
eutra SEQUENCE {			
downlinkSetEUTRA	Not checked		
uplinkSetEUTRA	Not checked		
}			
nr SEQUENCE {			
downlinkSetNR	Not checked		
uplinkSetNR	Not checked		
}			
}			

– *FeatureSetCombinationId*

Table 4.6.4-8: FeatureSetCombinationId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetCombinationId	Not checked		

– *FeatureSetDownlink*

Table 4.6.4-9: FeatureSetDownlink

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetDownlink ::= SEQUENCE {			
featureSetListPerDownlinkCC SEQUENCE (SIZE (1..maxNrofServingCells)) OF			
FeatureSetDownlinkPerCC-Id[1]	Not checked		
intraBandFreqSeparationDL	FreqSeparationClass		
scalingFactor	Not checked		
crossCarrierSchedulingDL-OtherSCS	Not checked		
scellWithoutSSB	Not checked		
csi-RS-MeasSCellWithoutSSB	Not checked		
dummy1	Not checked		
type1-3-CSS	Not checked		
pdcchMonitoringAnyOccasions	Not checked		
dummy2	Not checked		
ue-SpecificUL-DL-Assignment	Not checked		
searchSpaceSharingCA-DL	Not checked		
timeDurationForQCL SEQUENCE {			
scs-60kHz	Not checked		
scsh-120kHz	Not checked		
}			
pdsch- ProcessingType1-DifferentTB-PerSlot SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
dummy3	Not checked		
dummy4	Not checked		
dummy5	Not checked		
dummy6	Not checked		
dummy7	Not checked		
}			

– *FeatureSetDownlinkId*

Table 4.6.4-10: FeatureSetDownlinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetDownlinkId	Not checked		

– *FeatureSetDownlinkPerCC*

Table 4.6.4-11: FeatureSetDownlinkPerCC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetDownlinkPerCC ::= SEQUENCE {			
supportedSubcarrierSpacingDL	Not checked		
supportedBandwidthDL	SupportedBandwidth		
channelBW-90mhz	Not checked		
maxNumberMIMO-LayersPDSCH	MIMO-LayersDL		
supportedModulationOrderDL	ModulationOrder		
}			

– *FeatureSetDownlinkPerCC-Id*

Table 4.6.4-12: FeatureSetDownlinkPerCC-Id

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetDownlinkPerCC-Id	Not checked		

– *FeatureSetEUTRA-DownlinkId*

Table 4.6.4-13: FeatureSetEUTRA-DownlinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetEUTRA-DownlinkId	Not checked		

– *FeatureSetEUTRA-UplinkId*

Table 4.6.4-14: FeatureSetEUTRA-UplinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetEUTRA-UplinkId	Not checked		

– *FeatureSets*

Table 4.6.4-15: FeatureSets

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSets ::= SEQUENCE {			
featureSetsDownlink SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink			
FeatureSetDownlink[1]	FeatureSetDownlink		
featureSetsDownlinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC			
FeatureSetDownlinkPerCC[1]	FeatureSetDownlinkPerCC		
featureSetsUplink SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink			
FeatureSetUplink[1]	FeatureSetUplink		
featureSetsUplinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC			
FeatureSetUplinkPerCC[1]	FeatureSetUplinkPerCC		
}			

– *FeatureSetUplink*

Table 4.6.4-16: FeatureSetUplink

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetUplink ::= SEQUENCE {			
featureSetListPerUplinkCC SEQUENCE (SIZE (1.. maxNrofServingCells)) OF FeatureSetUplinkPerCC-Id			
FeatureSetUplinkPerCC-Id[1]	Not checked		
scalingFactor	Not checked		
crossCarrierSchedulingUL-OtherSCS	Not checked		
intraBandFreqSeparationUL	FreqSeparationClass		
searchSpaceSharingCA-UL	Not checked		
dummy1	Not checked		
supportedSRS-Resources SEQUENCE {			
maxNumberAperiodicSRS-PerBWP	Not Checked		
maxNumberAperiodicSRS-PerBWP-PerSlot	Not Checked		
maxNumberPeriodicSRS-PerBWP	Not Checked		
maxNumberPeriodicSRS-PerBWP-PerSlot	Not Checked		
maxNumberSemiPersistentSRS-PerBWP	Not Checked		
maxNumberSemiPersistentSRS-PerBWP-PerSlot	Not Checked		
maxNumberSRS-Ports-PerResource	Not Checked		
}			
twoPUCCH-Group	Not checked		
dynamicSwitchSUL	Not checked		
pusch- ProcessingType1-DifferentTB-PerSlot SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
dummy2	Not checked		
}			

– *FeatureSetUplinkId*

Table 4.6.4-17: FeatureSetUplinkId

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetUplinkId	Not checked		

– *FeatureSetUplinkPerCC*

Table 4.6.4-18: FeatureSetUplinkPerCC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetUplinkPerCC ::= SEQUENCE {			
supportedSubcarrierSpacingUL	Not checked		
supportedBandwidthUL	SupportedBandwidth		
channelBW-90mhz	Not checked		
mimo-CB-PUSCH SEQUENCE {			
maxNumberMIMO-LayersCB-PUSCH	MIMO-LayersUL		
maxNumberSRS-ResourcePerSet	Not checke		
}			
maxNumberMIMO-LayersNonCB-PUSCH	MIMO-LayersUL		
supportedModulationOrderUL	ModulationOrder		
}			

– *FeatureSetUplinkPerCC-Id*

Table 4.6.4-19: FeatureSetUplinkPerCC-Id

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FeatureSetUplinkPerCC-Id	Not checked		

– *FreqBandIndicatorEUTRA*

Table 4.6.4-20: FreqBandIndicatorEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FreqBandIndicatorEUTRA	EUTRA Operating band under test		

– *FreqBandList*

Table 4.6.4-21: **FreqBandList**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FreqBandList::= SEQUENCE (SIZE (1..maxBandsMRDC)) OF CHOICE {			
bandInformationEUTRA SEQUENCE {			EN-DC
bandEUTRA	FreqBandIndicatorEUTRA		
ca-BandwidthClassDL-EUTRA	Not checked		
ca-BandwidthClassUL-EUTRA	Not checked		
}			
bandInformationNR SEQUENCE {			
bandNR	FreqBandIndicatorNR		
maxBandwidthRequestedDL	Not checked		
maxBandwidthRequestedUL	Not checked		
maxCarriersRequestedDL	Not checked		
maxCarriersRequestedUL	Not checked		
}			
}			

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity

– *FreqSeparationClass*

Table 4.6.4-22: *FreqSeparationClass*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
FreqSeparationClass	Not checked		

– *IMS-Parameters*

Table 4.6.4-23: *IMS-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
IMS-Parameters ::= SEQUENCE {			
ims-ParametersCommon SEQUENCE {			
voiceOverEUTRA-5GC	Not Checked		
}			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not Checked		
}			
}			

– *InterRAT-Parameters*

Table 4.6.4-24: *InterRAT-Parameters*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
InterRAT-Parameters ::= SEQUENCE {			
eutra SEQUENCE {			
supportedBandListEUTRA SEQUENCE (SIZE (1..maxBandsEUTRA)) OF FreqBandIndicatorEUTRA	FreqBandIndicatorEUTRA		
eutra-ParametersCommon SEQUENCE {			
mfbi-EUTRA	Not Checked		
modifiedMPR-BehaviorEUTRA	Not Checked		
multiNS-Pmax-EUTRA	Not Checked		
rs-SINR-MeasEUTRA	Not Checked		
}			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA	Not Checked		
}			
}			
}			

– *MAC-Parameters*

Table 4.6.4-25: MAC-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MAC-Parameters ::= SEQUENCE {			
mac-ParametersCommon SEQUENCE {			
lcp-Restriction	Not checked		
dummy	Not checked		
lch-ToSCellRestriction	Not checked		
}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
}			

– *MeasAndMobParameters*

Table 4.6.4-26: MeasAndMobParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasAndMobParameters::= SEQUENCE {			
measAndMobParametersCommon SEQUENCE {			
supportedGapPattern	Not checked		
ssb-RLM	Not checked		
ssb-AndCSI-RS-RLM	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
MeasAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			

– *MeasAndMobParametersMRDC*

Table 4.6.4-27: *MeasAndMobParametersMRDC*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MeasAndMobParametersMRDC::= SEQUENCE {			
measAndMobParametersMRDC -Common SEQUENCE {			
independentGapConfig	Not checked		
}			
measAndMobParametersMRDC -XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
measAndMobParametersMRDC -FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			

– *MIMO-Layers*

Table 4.6.4-28: **MIMO-Layers**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MIMO-LayersDL	Not checked		
MIMO-LayersUL	Not checked		

– *MIMO-ParametersPerBand*

Table 4.6.4-29: *MIMO-ParametersPerBand*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MIMO-ParametersPerBand ::= SEQUENCE {			
tci-StatePDSCH SEQUENCE {			
maxNumberConfiguredTCIstatesPerCC	Not checked		
maxNumberActiveTCI-PerBWP	Not checked		
}			
additionalActiveTCI-StatePDCCH	Not checked		
pusch-TransCoherence	Not checked		
beamCorrespondenceWithoutUL-BeamSweeping	Not checked		
periodicBeamReport	Not checked		
aperiodicBeamReport	Not checked		
sp-BeamReportPUCCH	Not checked		
sp-BeamReportPUSCH	Not checked		
dummy1	Not checked		
maxNumberRxBeam	Not checked		
maxNumberRxTxBeamSwitchDL SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
scs-240kHz	Not checked		
}			
maxNumberNonGroupBeamReporting	Not checked		
groupBeamReporting	Not checked		
uplinkBeamManagement SEQUENCE {			
maxNumberSRS-ResourcePerSet	Not checked		
maxNumberSRS-ResourceSet	Not checked		
}			
maxNumberCSI-RS-BFD	Not checked		
maxNumbeSSB-BFD	Not checked		
maxNumberCSI-RS-SSB-CBD	Not checked		
dummy2	Not checked		
twoPortsPTRS-UL	Not checked		
dummy5	Not checked		
dummy3	Not checked		
beamReportTiming SEQUENCE {			

scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
ptrs-DensityRecommendationSetDL SEQUENCE {			
scs-15kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-30kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-60kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
scs-120kHz			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
}			
}			
ptrs-DensityRecommendationSetUL SEQUENCE {			
scs-15kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		

timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
}			
scs-30kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
scs-60kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
scs-120kHz SEQUENCE {			
frequencyDensity1	Not checked		
frequencyDensity2	Not checked		
timeDensity1	Not checked		
timeDensity2	Not checked		
timeDensity3	Not checked		
sampleDensity1	Not checked		
sampleDensity2	Not checked		
sampleDensity3	Not checked		
sampleDensity4	Not checked		
sampleDensity5	Not checked		
}			

dummy4	Not checked		
aperiodicTRS	Not checked		
}			

– *ModulationOrder*

Table 4.6.4-30: *ModulationOrder*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
ModulationOrder	Not checked		

– *MRDC-Parameters*

Table 4.6.4-31: MRDC-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
MRDC-Parameters ::= SEQUENCE {			
singleUL-Transmission	Not checked		
dynamicPowerSharing	Not checked		
tdm-Pattern	Not checked		
ul-SharingEUTRA-NR	Not checked		
ul-SwitchingTimeEUTRA-NR	Not checked		
simultaneousRxTxInterBandENDC	Not checked		
asyncIntraBandENDC	Not checked		
}			

– *NRDC-Parameters*

Table 4.6.4-31A: NRDC-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
NRDC-Parameters ::= SEQUENCE {			
measAndMobParametersNRDC	Not checked		
generalParametersNRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA	Not checked		
}			
fdd-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
tdd-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			

fr1-Add-UE-NRDC-Capabilities SEQUENCE {	UE-MRDC-CapabilityAddFRX-Mode		
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
fr2-Add-UE-NRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
lateNonCriticalExtension	Not checked		
nonCriticalExtension	Not checked		
}			

– *PDCP-Parameters*

Table 4.6.4-32: PDCP-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCP-Parameters ::= SEQUENCE {			
supportedROHC-Profiles SEQUENCE {			
profile0x0000	Not checked		
profile0x0001	Not checked		
profile0x0002	Not checked		
profile0x0003	Not checked		
profile0x0004	Not checked		
profile0x0006	Not checked		
profile0x0101	Not checked		
profile0x0102	Not checked		
profile0x0103	Not checked		
profile0x0104	Not checked		
}			
maxNumberROHC-ContextSessions	Not checked		
uplinkOnlyROHC-Profiles	Not checked		
continueROHC-Context	Not checked		
outOfOrderDelivery	Not checked		
shortSN	Not checked		
pdcp-DuplicationSRB	Not checked		
pdcp-DuplicationMCG-OrSCG-DRB	Not checked		
}			

– *PDCP-ParametersMRDC*

Table 4.6.4-33: PDCP-ParametersMRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
PDCP-ParametersMRDC ::= SEQUENCE {			
pdcp-DuplicationSplitSRB	Not checked		
pdcp-DuplicationSplitDRB	Not checked		
}			

– *Phy-Parameters*

Table 4.6.4-34: Phy-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Phy-Parameters ::= SEQUENCE {			
phy-ParametersCommon SEQUENCE {			
csi-RS-CFRA-ForHO	Not checked		
dynamicPRB-BundlingDL	Not checked		
sp-CSI-ReportPUCCH	Not checked		
sp-CSI-ReportPUSCH	Not checked		
nzp-CSI-RS-IntefMgmt	Not checked		
type2-SP-CSI-Feedback-LongPUCCH	Not checked		
precoderGranularityCORESET	Not checked		
dynamicHARQ-ACK-Codebook	Not checked		
semiStaticHARQ-ACK-Codebook	Not checked		
spatialBundlingHARQ-ACK	Not checked		
dynamicBetaOffsetInd-HARQ-ACK-CSI	Not checked		
pucch-Repetition-F1-3-4	Not checked		
ra-Type0-PUSCH	Not checked		
dynamicSwitchRA-Type0-1-PDSCH	Not checked		
dynamicSwitchRA-Type0-1-PUSCH	Not checked		
pdsch-MappingTypeA	Not checked		
pdsch-MappingTypeB	Not checked		
interleavingVRB-ToPRB-PDSCH	Not checked		
interSlotFreqHopping-PUSCH	Not checked		
type1-PUSCH-RepetitionMultiSlots	Not checked		
type2-PUSCH-RepetitionMultiSlots	Not checked		
pusch-RepetitionMultiSlots	Not checked		
pdsch-RepetitionMultiSlots	Not checked		
downlinkSPS	Not checked		
configuredUL-GrantType1	Not checked		
configuredUL-GrantType2	Not checked		
pre-EmptIndication-DL	Not checked		
cbg-TransIndication-DL	Not checked		
cbg-TransIndication-UL	Not checked		
cbg-FlushIndication-DL	Not checked		
dynamicHARQ-ACK-CodeB-CBG-Retx-DL	Not checked		
rateMatchingResrcSetSemi-Static	Not checked		
rateMatchingResrcSetDynamic	Not checked		

bwp-SwitchingDelay	Not checked		
}			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
}			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
dummy1	Not checked		
twoFL-DMRS	Not checked		
dummy2	Not checked		
dummy3	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH- MultiPerSlot	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdcch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		

almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
phy-ParametersFR1 SEQUENCE {			
pdcchMonitoringSingleOccasion	Not checked		
scs-60kHz	Not checked		
pdsch-256QAM-FR1	Not checked		
pdsch-RE-MappingFR1- PerSymbol	Not checked		
}			
phy-ParametersFR2 SEQUENCE {			
dummy	Not checked		
pdsch-RE-MappingFR2- PerSymbol	Not checked		
}			
}			

– *Phy-ParametersMRDC*

Table 4.6.4-35: Phy-ParametersMRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Phy-ParametersMRDC ::= SEQUENCE {			
naics-Capability-List SEQUENCE (SIZE (1..maxNrofNAICS-Entries)) OF SEQUENCE {			
numberOfNAICS-CapableCC[1]	Not checked		
numberOfAggregatedPRB[1]	Not checked		
}			

– *ProcessingParameters*

Table 4.6.4-36: ProcessingParameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
ProcessingParameters ::= SEQUENCE {			
fallback	Not checked		
differentTB-PerSlot SEQUENCE {			
upto1	Not checked		
upto2	Not checked		
upto4	Not checked		
upto7	Not checked		
}			
}			

– *RAT-Type*

***Table 4.6.4-37:* RAT-Type**

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
RAT-Type	nr		
	eutra-nr		EN-DC

Condition	Explanation
EN-DC	E-UTRA-NR Dual Connectivity

– *RF-Parameters*

Table 4.6.4-38: RF-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
RF-Parameters ::= SEQUENCE {			
supportedBandListNR SEQUENCE (SIZE (1..maxBands)) OF SEQUENCE {	At least 1 entry		
bandNR[1]	FreqBandIndicatorNR		
modifiedMPR-Behaviour[n]	Not checked		
mimo-ParametersPerBand[n]	Not checked		
extendedCP[n]	Not checked		
multipleTCI[n]	Not checked		
bwp-WithoutRestriction [n]	Not checked		
bwp-SameNumerology[n]	Not checked		
bwp-DiffNumerology[n]	Not checked		
crossCarrierScheduling-SameSCS [n]	Not checked		
pdsch-256QAM-FR2[n]	Not checked		
pusch-256QAM[n]	Not checked		
ue-PowerClass[n]	Not checked		
rateMatchingLTE-CRS[n]	Not checked		
channelBWs-DL-v1530[n] CHOICE {			
fr1 SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
}			
fr2 SEQUENCE {			
scs-60kHz	Not checked		
scs-120kHz	Not checked		
}			
}			
channelBWs-UL-v1530[n] CHOICE {			
fr1 SEQUENCE {			
scs-15kHz	Not checked		
scs-30kHz	Not checked		
scs-60kHz	Not checked		
}			
fr2 SEQUENCE {			
scs-60kHz	Not checked		

scs-120kHz	Not checked		
}			
}			
}			
supportedBandCombinationList	Not checked		
appliedFreqBandListFilter	Not present		
	FreqBandList		FILTER_REQUESTED
}			

Condition	Explanation
FILTER_REQUESTED	This condition shall be set to true when UE is requested to filter the information via ‘capabilityRequestFilter’ IE in the NR5GC UECapabilityEnquiry message or via ‘requestedFreqBandsNR-MRDC’ IE in the EN-DC UECapabilityEnquiry message

– *RF-ParametersMRDC*

Table 4.6.4-39: RF-ParametersMRDC

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
RF-ParametersMRDC ::= SEQUENCE {			
supportedBandCombinationList	BandCombinationList		
appliedFreqBandListFilter	FreqBandList		
}			

– *RLC-Parameters*

Table 4.6.4-40: RLC-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
RLC-Parameters ::= SEQUENCE {			
am-WithShortSN	Not checked		
um-WithShortSN	Not checked		
um-WIthLongSN	Not checked		
}			

– *SDAP-Parameters*

Table 4.6.4-41: SDAP-Parameters

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
SDAP-Parameters::= SEQUENCE {			
as-ReflectiveQoS	Not checked		
}			

– *SRS-SwitchingTimeNR*

Table 4.6.4-42: SRS-SwitchingTimeNR

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
SRS-SwitchingTimeNR::= SEQUENCE {			
switchingTimeDL	Not checked		
switchingTimeUL	Not checked		
}			

– *SRS-SwitchingTimeEUTRA*

Table 4.6.4-43: SRS-SwitchingTimeEUTRA

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
SRS-SwitchingTimeEUTRA::= SEQUENCE {			
switchingTimeDL	Not checked		
switchingTimeUL	Not checked		
}			

– *SupportedBandwidth*

Table 4.6.4-44: SupportedBandwidth

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
SupportedBandwidth ::= CHOICE {			
fr1	Not checked		
fr2	Not checked		
}			

– *UE-CapabilityRAT-ContainerList*

Table 4.6.4-45: UE-CapabilityRAT-ContainerList

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-CapabilityRAT-ContainerList::= SEQUENCE (SIZE (0.. maxRAT-CapabilityContainers)) OF SEQUENCE {	1 entry		
rat-Type[1]	RAT-Type		
ue-CapabilityRAT-Container[1]	UE-NR-Capability		
ue-CapabilityRAT-Container[1]	UE-MRDC-Capability		EN-DC
}			
}			

– *UE-CapabilityRAT-RequestList*

Table 4.6.4-46: *UE-CapabilityRAT-RequestList*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-CapabilityRAT-RequestList::= SEQUENCE (SIZE (0..maxRAT-CapabilityContainers)) OF SEQUENCE {	1 entry		
rat-Type[1]	RAT-Type		
capabilityRequestFilter	Not present		
}			
}			

– *UE-CapabilityRequestFilterCommon*

Table 4.6.4-46A: *UE-CapabilityRequestFilterCommon*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-CapabilityRequestFilterCommon ::= SEQUENCE {			
mrdc-Request SEQUENCE {			
omitEN-DC	Not checked		
includeNR-DC	Not checked		
includeNE-DC	Not checked		
}			
}			

– *UE-CapabilityRequestFilterNR*

Table 4.6.4-47: *UE-CapabilityRequestFilterNR*

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-CapabilityRequestFilterNR::= SEQUENCE {			
frequencyBandListFilter	Not present		
nonCriticalExtension SEQUENCE {	Not present		
srs-SwitchingTimeRequest	Not present		
nonCriticalExtension SEQUENCE {			
srs-SwitchingTimeRequest	Not present		
nonCriticalExtension	Not present		
}			
}			
}			

– *UE-MRDC-Capability*

Table 4.6.4-48: UE-MRDC-Capability

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-MRDC-Capability::= SEQUENCE {			
measAndMobParametersMRDC	Not checked		
phy-ParametersMRDC-v1530	Not checked		
rf-ParametersMRDC	RF-ParametersMRDC		
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA	Not checked		
}			
fdd-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			
}			
tdd-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff SEQUENCE {			
sftd-MeasPSCell	Not checked		
sftd-MeasNR-Cell	Not checked		
}			
generalParametersMRDC SEQUENCE {			
splitSRB-WithOneUL-Path	Not checked		
splitDRB-withUL-Both-MCG-SCG	Not checked		
srb3	Not checked		
v2x-EUTRA-v1530	Not checked		
}			

}			
fr1-Add-UE-MRDC-Capabilities SEQUENCE {			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
fr2-Add-UE-MRDC-Capabilities			
measAndMobParametersMRDC-FRX-Diff SEQUENCE {			
simultaneousRxDataSSB-DiffNumerology	Not checked		
}			
}			
featureSetCombinations SEQUENCE (SIZE (1..maxFeatureSetCombinations)) OF FeatureSetCombination	Not checked		
pdcp-ParametersMRDC-v1530	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			
UE-MRDC-Capability-v1560 ::= SEQUENCE {			
receivedFilters	Not checked		
measAndMobParametersMRDC-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560 SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			
fdd-Add-UE-MRDC-Capabilities-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560 SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			
tdd-Add-UE-MRDC-Capabilities-v1560 SEQUENCE {			
measAndMobParametersMRDC-XDD-Diff-v1560 SEQUENCE {			
sftd-MeasPSCell-NEDC	Not checked		
}			
}			
nonCriticalExtension	Not checked		
}			

}			
}			

– *UE-NR-Capability*

Table 4.6.4-49: UE-NR-Capability

Derivation Path: TS 38.331 [6], clause 6.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
UE-NR-Capability::= SEQUENCE {			
accessStratumRelease	AccessStratumRelease		
pdcp-Parameters	Not checked		
rlc-Parameters	Not checked		
mac-Parameters	Not checked		
phy-Parameters	Not checked		
rf-Parameters	RF-Parameters		
measAndMobParameters	Not checked		
fdd-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
}			
tdd-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersXDD-Diff SEQUENCE {			
dynamicSFI	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		

}			
mac-ParametersXDD-Diff SEQUENCE {			
skipUplinkTxDynamic	Not checked		
logicalChannelSR-DelayTimer	Not checked		
longDRX-Cycle	Not checked		
shortDRX-Cycle	Not checked		
multipleSR-Configurations	Not checked		
multipleConfiguredGrants	Not checked		
}			
measAndMobParametersXDD-Diff SEQUENCE {			
intraAndInterF-MeasAndReport	Not checked		
eventA-MeasAndReport	Not checked		
}			
fr1-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
oneFL-DMRS-TwoAdditionalDMRS	Not checked		
twoFL-DMRS	Not checked		
twoFL-DMRS-TwoAdditionalDMRS	Not checked		
oneFL-DMRS-ThreeAdditionalDMRS	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH	Not checked		
uci-CodeBlockSegmentation	Not checked		
onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdcch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		

tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
fr2-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {	Not checked		
dynamicSFI	Not checked		
oneFL-DMRS-TwoAdditionalDMRS	Not checked		
twoFL-DMRS	Not checked		
twoFL-DMRS-TwoAdditionalDMRS	Not checked		
oneFL-DMRS-ThreeAdditionalDMRS	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH	Not checked		
uci-CodeBlockSegmentation	Not checked		

onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdcch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
featureSets	Not checked		
featureSetCombinations SEQUENCE (SIZE (1..maxFeatureSetCombinations)) OF FeatureSetCombination	Not checked		
lateNonCriticalExtension	Not checked		
nonCriticalExtension SEQUENCE {			
fdd-Add-UE-NR-Capabilities-1530 SEQUENCE {			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA	Not checked		
}			
}			
tdd-Add-UE-NR-Capabilities-v1530 SEQUENCE {			
eutra-ParametersXDD-Diff SEQUENCE {			
rsrqMeasWidebandEUTRA Not Checked			

}			
}			
dummy	Not checked		
interRAT-Parameters	Not checked		
inactiveState	Not checked		
delayBudgetReporting	Not checked		
nonCriticalExtension SEQUENCE {			
sdap-Parameters	Not checked		
overheatingInd	Not checked		
ims-Parameters	Not checked		
fr1-Add-UE-NR-Capabilities-v1540 SEQUENCE {			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not checked		
}			
}			
fr2-Add-UE-NR-Capabilities-v1540 SEQUENCE {			
ims-ParametersFRX-Diff SEQUENCE {			
voiceOverNR	Not checked		
}			
}			
fr1-fr2-Add-UE-NR-Capabilities SEQUENCE {			
phy-ParametersFRX-Diff SEQUENCE {			
dynamicSFI	Not checked		
dummy1	Not checked		
twoFL-DMRS	Not checked		
dummy2	Not checked		
dummy3	Not checked		
supportedDMRS-TypeDL	Not checked		
supportedDMRS-TypeUL	Not checked		
semiOpenLoopCSI	Not checked		
csi-ReportWithoutPMI	Not checked		
csi-ReportWithoutCQI	Not checked		
onePortsPTRS	Not checked		
twoPUCCH-F0-2-ConsecSymbols	Not checked		
pucch-F2-WithFH	Not checked		
pucch-F3-WithFH	Not checked		
pucch-F4-WithFH	Not checked		
freqHoppingPUCCH-F0-2	Not checked		
freqHoppingPUCCH-F1-3-4	Not checked		
mux-SR-HARQ-ACK-CSI-PUCCH- MultiPerSlot	Not checked		
uci-CodeBlockSegmentation	Not checked		

onePUCCH-LongAndShortFormat	Not checked		
twoPUCCH-AnyOthersInSlot	Not checked		
intraSlotFreqHopping-PUSCH	Not checked		
pusch-LBRM	Not checked		
pdcch-BlindDetectionCA	Not checked		
tpc-PUSCH-RNTI	Not checked		
tpc-PUCCH-RNTI	Not checked		
tpc-SRS-RNTI	Not checked		
absoluteTPC-Command	Not checked		
twoDifferentTPC-Loop-PUSCH	Not checked		
twoDifferentTPC-Loop-PUCCH	Not checked		
pusch-HalfPi-BPSK	Not checked		
pucch-F3-4-HalfPi-BPSK	Not checked		
almostContiguousCP-OFDM-UL	Not checked		
sp-CSI-RS	Not checked		
sp-CSI-IM	Not checked		
tdd-MultiDL-UL-SwitchPerSlot	Not checked		
multipleCORESET	Not checked		
}			
measAndMobParametersFRX-Diff SEQUENCE {			
ss-SINR-Meas	Not checked		
csi-RSRP-AndRSRQ-MeasWithSSB	Not checked		
csi-RSRP-AndRSRQ-MeasWithoutSSB	Not checked		
csi-SINR-Meas	Not checked		
csi-RS-RLM	Not checked		
}			
}			
nonCriticalExtension SEQUENCE {	Not checked		
reducedCP-Latency	Not checked		
nonCriticalExtension SEQUENCE {			
nrdc-Parameters	Not checked		
receivedFilters	Not checked		
nonCriticalExtension	Not checked		
}			
}			
}			
}			
}			

4.6.5 Other information elements

– *EUTRA-AllowedMeasBandwidth*

Table 4.6.5-1: *EUTRA-AllowedMeasBandwidth*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-AllowedMeasBandwidth	mbw25		

– *EUTRA-MBSFN-SubframeConfigList*

Table 4.6.5-2: *EUTRA-MBSFN-SubframeConfigList*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-MBSFN-SubframeConfigList ::=			
radioframeAllocationPeriod[1]	FFS		
radioframeAllocationOffset[1]	FFS		
subframeAllocation1[1] CHOICE {			
oneFrame	FFS		
fourFrames	FFS		
}			
subframeAllocation2[1] CHOICE {			
oneFrame	FFS		
fourFrames	FFS		
}			
}			

– *EUTRA-MultiBandInfoList*

Table 4.6.5-3: *EUTRA-MultiBandInfoList*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-MultiBandInfoList ::= SEQUENCE (SIZE (1..maxMultiBands)) OF SEQUENCE {			
eutra-FreqBandIndicator[1]	FreqBandIndicatorEUTRA		
eutra-NS-PmaxList[1]	EUTRA-NS-PmaxList		
}			

– *EUTRA-NS-PmaxList*

Table 4.6.5-4: *EUTRA-NS-PmaxList*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-NS-PmaxList ::= SEQUENCE (SIZE (1..maxEUTRA-NS-Pmax)) OF SEQUENCE {			
additionalPmax[1]	FFS		
additionalSpectrumEmission[1]	FFS		
}			

– *EUTRA-PhysCellId*

Table 4.6.5-5: *EUTRA-PhysCellId*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-PhysCellId	Set according to TS 36.508 [2] Table 4.4.2-1A for E-UTRA cell		

– *EUTRA-PhysCellIdRange*

Table 4.6.5-6: *EUTRA-PhysCellIdRange*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-PhysCellIdRange ::= SEQUENCE {			
start	EUTRA-PhysCellId		
Range	FFS		
}			

– *EUTRA-PresenceAntennaPort1*

Table 4.6.5-7: *EUTRA-PresenceAntennaPort1*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-PresenceAntennaPort1	FFS		

– *EUTRA-Q-OffsetRange*

Table 4.6.5-8: *EUTRA-Q-OffsetRange*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
EUTRA-Q-OffsetRange	FFS		

Table 4.6.5-9: *Void*

Table 4.6.5-10: *Void*

– *OtherConfig*

Table 4.6.5-11: *OtherConfig*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
OtherConfig ::=SEQUENCE {			
delayBudgetReportingConfig CHOICE{			
release	FFS		
setup SEQUENCE {			
delayBudgetReportingProhibitTimer	FFS		
}			
}			
}			

– *RRC-TransactionIdentifier*

Table 4.6.5-12: *RRC-TransactionIdentifier*

Derivation Path: TS 38.331 [6], clause 6.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
RRC-TransactionIdentifier	0		

4.7 Default 5GC NAS message and information elements contents

4.7.0 General

4.7.0.1 Interpretation of IE presence and values

For Uplink NAS messages, the following terms and their meanings shall be used to determine how to test specific IEs:

- "Not present": test cases fail if IE is present.
- "Present but contents not checked": test cases fail if IE is not present. No requirements regarding contents of the IE.
- "If present: contents not checked": IE may or may not be present. No requirements regarding contents of the IE.
- "If present: <specific values>": IE may or may not be present. If present, its contents shall be as specified.
- "<specific values>": test cases fail if IE is not present. Its contents shall be as specified.
- "Present if <condition>: contents not checked: test cases fail if condition is fulfilled and IE is not present. Contents of IE are not checked, even if present.
- "Present if <condition>: <specific values>": test cases fail if condition is fulfilled and IE is not present. When IE shall be present, its contents shall be as specified.

4.7.0.2 Security protected 5GS NAS messages

In subclause 4.7.1, all 5GS NAS messages are described in the plain 5GS NAS message format.

When a 5GS NAS message is security protected, the message shall be contained by SECURITY PROTECTED 5GS NAS MESSAGE unless contained by another NAS message.

The default contents of SECURITY PROTECTED 5GS NAS MESSAGE message is defined in table 4.7.1-28.

4.7.1 Contents of 5GMM messages

– *Authentication request*

Table 4.7.1-1: AUTHENTICATION REQUEST

Derivation Path: 24.501 clause 8.2.1			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication request message identity	‘0101 0110’B		
ngKSI			
NAS key set identifier	An arbitrarily selected value between '000'B and '110'B, different from the valid NAS key set identifier of the UE if such a value exists.		
TSC	'0'B	native security context (for KSI_{AMF})	
Spare half octet	'0000'B		
ABBA	‘0000 0000 0000 0000’B		
Authentication parameter RAND (5G authentication challenge)	Not Present		EAP-AKA
	An arbitrarily selected 128 bits value		5G-AKA
Authentication parameter AUTN (5G authentication challenge)	Not Present		EAP-AKA
	128 bits value generated according to TS 24.501 [28] subclause 9.11.3.15		5G-AKA
EAP message	Not Present		5G-AKA
EAP message	EAP-request/AKA'-challenge	See Table 4.7.3.2-01	EAP-AKA

Condition	Explanation
EAP_AKA	EAP based primary authentication and key agreement procedure
5G-AKA	5G AKA based primary authentication and key agreement procedure

NOTE: Within a test execution this message is sent without integrity protection before NAS security mode control procedure has been successfully completed; and sent integrity protected and ciphered within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed. SS does not maintain information for 5GS NAS security mode control procedure after a TC is completed.

– *Authentication response*

Table 4.7.1-2: AUTHENTICATION RESPONSE

Derivation Path: 24.501 clause 8.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication response message identity	‘0101 0111’B		
Authentication response parameter	16 octets RES* value calculated according to TS 24.501 [28] subclause 9.11.3.17		5G-AKA
	Not Present		EAP-AKA
EAP message	EAP-response/AKA'-challenge	See Table 4.7.3.2-02	EAP-AKA

Condition	Explanation
EAP-AKA	EAP based primary authentication and key agreement procedure
5G-AKA	5G AKA based primary authentication and key agreement procedure

NOTE: When sent in response to an AUTHENTICATION REQUEST message which is not integrity protected and not ciphered, the AUTHENTICATION RESPONSE message is sent integrity protected and ciphered when a valid security context exists and without integrity protection and ciphering otherwise.

– *Authentication result*

Table 4.7.1-3: AUTHENTICATION RESULT

Derivation Path: 24.501 clause 8.2.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication result message identity	‘0101 1010’B		
ngKSI	The same value as the last AUTHENTICATION REQUEST message		
Spare half octet	'0000'B		
EAP message	EAP-Success	See Table 4.7.3.2-03	
ABBA	‘0000 0000 0000 0000’B		

NOTE: The security protection of this message is the same as the previous AUTHENTICATION REQUEST message.

– *Authentication failure*

Table 4.7.1-4: AUTHENTICATION FAILURE

Derivation Path: 24.501 clause 8.2.4			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication failure message identity	‘0101 1001’B		
5GMM cause	Present but contents not checked		
Authentication failure parameter	If present: contents not checked		

NOTE: The security protection of this message is the same as the previous AUTHENTICATION REQUEST message.

– *Authentication reject*

Table 4.7.1-5: AUTHENTICATION REJECT

Derivation Path: 24.501 clause 8.2.5			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Authentication reject message identity	‘0101 1000’B		
EAP message	Not present		
EAP message	EAP-Response/AKA-Authentication-Reject	See Table 4.7.3.2-04	EAP-AKA

Condition	Explanation
EAP-AKA	EAP based primary authentication and key agreement procedure

NOTE: This message is sent without integrity protection.

– *Registration request*

Table 4.7.1-6: REGISTRATION REQUEST

Derivation Path: 24.501 clause 8.2.6			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration request message identity	‘0100 0001’B		
5GS registration type			
5GS registration type value	‘001’B	Initial registration	
	‘010’B		MOBILITY
	‘011’B		PERIODIC
	‘100’B		EMERGENCY
FOR	Present but contents not checked		
FOR	'1'B	Follow-on request pending	EMERGENCY
ngKSI	Present but contents not checked		
5GS mobile identity	Present but contents not checked		
Non-current native NAS key set identifier	If present: contents not checked		NON_CLEARTEXT_IE
5GMM capability	If present: contents not checked		NON_CLEARTEXT_IE
UE security capability	If present: contents not checked		
Requested NSSAI	If present: contents not checked		NON_CLEARTEXT_IE
Last visited registered TAI	If present: contents not checked		NON_CLEARTEXT_IE
S1 UE network capability	If present: contents not checked		NON_CLEARTEXT_IE

Uplink data status	If present: contents not checked		NON_CLEAREXT_IE
PDU session status	If present: contents not checked		NON_CLEAREXT_IE
MICO indication	If present: contents not checked		NON_CLEAREXT_IE
UE status	If present: contents not checked		
Additional GUTI	If present: contents not checked		
Allowed PDU session status	If present: contents not checked		NON_CLEAREXT_IE
UE's usage setting	If present: contents not checked		NOT pc_IMS AND NON_CLEAREXT_IE
UE's usage setting	Present but contents not checked		NON_CLEAREXT_IE
Requested DRX parameters	If present: contents not checked		NON_CLEAREXT_IE
EPS NAS message container	If present: contents not checked		
LADN indication	If present: contents not checked		NON_CLEAREXT_IE
Payload container type	If present: contents not checked		NON_CLEAREXT_IE
Payload container	If present: contents not checked		NON_CLEAREXT_IE
Network slicing indication	If present: contents not checked		NON_CLEAREXT_IE
5GS update type	If present: contents not checked		NON_CLEAREXT_IE
NAS message container	The complete, ciphered, REGISTRATION REQUEST message including all IEs.		CIPHERED_MESSAGE

Condition	Explanation
INITIAL	Initial registration
MOBILITY	Mobility registration updating
PERIODIC	Periodic registration updating
EMERGENCY	Emergency registration
NON_CLEARTEXT_IE	An information element that is not allowed to be sent in cleartext and shall only be included in the complete REGISTRATION REQUEST message in the NAS message container IE.
CIPHERED_MESSAGE	If any of the IEs marked with the condition NON_CLEARTEXT_IE is present, and the UE has a valid 5G NAS security context, this condition applies.

NOTE: This message is sent without integrity protection, including only cleartext IEs, before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed.

– *Registration accept*

Table 4.7.1-7: REGISTRATION ACCEPT

Derivation Path: 24.501 clause 8.2.7			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration accept message identity	‘0100 0010’B		
5GS registration result			
5GS registration result value	‘001’B	3GPP access	
SMS allowed	‘0’B	SMS over NAS not allowed	
5G-GUTI	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
Equivalent PLMNs	Not Present		
TAI list			
Length of tracking area identity list contents	'0000 0111'B	7 octets	
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 Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
MNC	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
TAC 1	See Table 4.4.2-3	For 5GC NAS test cases see Table 6.3.2.2-1	
Allowed NSSAI			
S-NSSAI			

Length of S-NSSAI contents	‘0000 0001’B	SST	
SST	‘0000 0001’B	SST value 1 (eMBB)	
Rejected NSSAI	Not Present		
Configured NSSAI	Not Present		
5GS network feature support	‘0000 1101 0000 0000’B	IMS voice over PS session supported over 3GPP access, Emergency services supported in NR connected to 5GCN and E-UTRA connected to 5GCN. All other features set to "not supported" including the 'Interworking without N26 interface not supported'.	
PDU session status	The same value as the PDU session status IEof the most recently received REGISTRATION REQUEST message		
PDU session reactivation result	Not Present		
PDU session reactivation result error cause	Not Present		
LADN information	Not Present		
MICO indication	Not Present		
Network slicing indication	Not Present		
Service area list	Not Present		
T3512 value			INITIAL
Timer value	'0 0000'B		
Unit	'111'B	value indicates that the timer is deactivated	
T3512 value	Not Present		

Non-3GPP de-registration timer value	Not Present		
T3502 value	Not Present		
Emergency number list	Not Present		
Extended emergency number list	Not Present		
SOR Transparent container	Not Present		
EAP message	Not Present		
NSSAI inclusion mode	Not Present		
Operator-defined access category definitions	Not Present		
Negotiated DRX parameters	Not Present		
Non-3GPP NW policies	Not Present		

Condition	Explanation
INITIAL	Initial registration

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Registration complete*

Table 4.7.1-8: REGISTRATION COMPLETE

Derivation Path: 24.501 clause 8.2.8			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration complete message identity	‘0100 0011’B		
SOR transparent container	If present: contents not checked		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Registration reject*

Table 4.7.1-9: REGISTRATION REJECT

Derivation Path: 24.501 clause 8.2.9			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Registration reject message identity	‘0100 0100’B		
5GMM cause	Set according to specific message content		
T3346 value	Not Present		
T3502 value	Not Present		
EAP message	Not Present		

NOTE: This message is sent without integrity protection before the secure exchange of NAS messages has been established and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after the secure exchange of NAS messages has been established.

– *UL NAS transport*

Table 4.7.1-10: UL NAS TRANSPORT

Derivation Path: 24.501 clause 8.2.10			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
UL NAS TRANSPORT message identity	‘0110 0111’B		
Payload container type	Set according to specific message content		
Payload container type	‘0001’B	N1 SM information	INITIAL_PDU_REQUEST
Spare half octet	'0000'B		
Payload container	Set according to specific message content		
Payload container	PDU SESSION ESTABLISHMENT REQUEST message		INITIAL_PDU_REQUEST
PDU session ID	If present: contents not checked		
PDU session ID	Same PDU session ID as defined in the PDU SESSION ESTABLISHMENT REQUEST message in the Payload container		INITIAL_PDU_REQUEST
Old PDU session ID	If present: contents not checked		
Request type	If present: contents not checked		
Request type	‘001’B	initial request	INITIAL_PDU_REQUEST
S-NSSAI	If present: contents not checked		

DNN	If present: contents not checked		
Additional information	If present: contents not checked		

Condition	Explanation
INITIAL_PDU_REQUEST	The UL NAS TRANSPORT message is used to transport a PDU SESSION ESTABLISHMENT REQUEST message to establish a new PDU session.

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *DL NAS transport*

Table 4.7.1-11: DL NAS TRANSPORT

Derivation Path: 24.501 clause 8.2.11			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
DL NAS TRANSPORT message identity	‘0110 1000’B		
Payload container type	Set according to specific message content		
Payload container type	‘0001’B	N1 SM information	5GSM_MESSAGE
Spare half octet	'0000'B		
Payload container	Set according to specific message content		
Payload container	5GSM message		5GSM_MESSAGE
PDU session ID	Not Present		
PDU session ID	Set to the same value as the PDU session ID of the 5GSM message in the Payload container.		5GSM_MESSAGE
Additional information	Not Present		
5GMM cause	Not Present		
Back-off timer value	Not Present		

Condition	Explanation
5GSM_MESSAGE	The DL NAS TRANSPORT message is used to transport a 5GSM message

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *De-registration request (UE originating de-registration)*

Table 4.7.1-12: DEREGISTRATION REQUEST_1

Derivation Path: 24.501 clause 8.2.12			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration request message identity	‘0100 0101’B		
De-registration type			
Switch off	‘0’B		NORMAL
	‘1’B		SWITCH_OFF
Re-registration required	‘0’B		
Access type	‘01’B	3GPP access	
ngKSI	Present but contents not checked		
5GS mobile identity	Present but contents not checked		

Condition	**Explanation**
NORMAL	Normal de-registration
SWITCH_OFF	Switch off

NOTE: If this message is sent as an initial NAS message, it is sent with integrity protection but without ciphering. Otherwise it is sent without integrity protection and ciphering before SS has started the ciphering and integrity and ciphered protected after SS has started the ciphering.

– *De-registration accept (UE originating de-registration)*

Table 4.7.1-13: DEREGISTRATION ACCEPT_1

Derivation Path: 24.501 clause 8.2.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration accept message identity	‘0100 0110’B		

NOTE: This message is sent using the same security protection as in the previous DETACH REQUEST message received from the UE.

– *De-registration request (UE terminated de-registration)*

Table 4.7.1-14: DEREGISTRATION REQUEST_2

Derivation Path: 24.501 clause 8.2.14			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration request message identity	‘0100 0111’B		
De-registration type	Set according to specific message content		
Spare half octet	'0000'B		
5GMM cause	Not Present		
T3346 value	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *De-registration accept (UE terminated de-registration)*

Table 4.7.1-15: DEREGISTRATION ACCEPT_2

Derivation Path: 24.501 clause 8.2.15			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
De-registration accept message identity	‘0100 1000’B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Service request*

Table 4.7.1-16: SERVICE REQUEST

Derivation Path: 24.501 clause 8.2.16			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service request message identity	‘0100 1100’B		
ngKSI			
NAS key set identifier	The valid NAS key set identifier of the UE		
TSC	'0'B	native security context (for KSI_{AMF})	
Service type	‘0010’B	mobile terminated services	
5G-S-TMSI	The valid 5G-S-TMSI of the UE		
Uplink data status	If present: contents not checked		NON_CLEARTEXT_IE
PDU session status	If present: contents not checked		NON_CLEARTEXT_IE
Allowed PDU session status	If present: contents not checked		NON_CLEARTEXT_IE
NAS message container	If present, the complete, ciphered, SERVICE REQUEST message including all IEs.		CIPHERED_MESSAGE

Condition	Explanation
NON_CLEARTEXT_IE	An information element that is not allowed to be sent in cleartext and shall only be included in the complete SERIVICE REQUEST message in the NAS message container IE. NOTE: This condition is only applicable if the SERVICE REQUEST message is sent as an initial NAS message.
CIPHERED_MESSAGE	If any of the IEs marked with the condition NON_CLEARTEXT_IE is present, this condition applies. NOTE: This condition is only applicable if the SERVICE REQUEST message is sent as an initial NAS message.

NOTE: This message is sent without integrity protection, including only cleartext IEs, before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed

– *Service accept*

Table 4.7.1-17: SERVICE ACCEPT

Derivation Path: 24.501 clause 8.2.17			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service accept message identity	‘0100 1110’B		
PDU session status	Not Present		
PDU session reactivation result	Not Present		
PDU session reactivation result error cause	Not Present		
EAP message	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Service reject*

Table 4.7.1-18: SERVICE REJECT

Derivation Path: 24.501 clause 8.2.18			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Service reject message identity	’0100 1101’B		
5GMM cause	The value is set according to specific message content		
PDU session status	Not Present		
T3346 value	Not Present		
EAP message	Not Present		

NOTE: This message is sent without integrity protection before NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after NAS security mode control procedure has been successfully completed

– *Configuration update command*

Table 4.7.1-19: CONFIGURATION UPDATE COMMAND

Derivation Path: 24.501 clause 8.2.19			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Configuration update command message identity	‘0101 0100’B		
Configuration update indication	Not Present		
5G-GUTI	Not Present		
TAI list	Not Present		
Allowed NSSAI	Not Present		
Service area list	Not Present		
Full name for network	Not Present		
Short name for network	Not Present		
Local time zone	Not Present		
Universal time and local time zone	Not Present		
Network daylight saving time	Not Present		
LADN information	Not Present		
MICO indication	Not Present		
Network slicing indication	Not Present		
Configured NSSAI	Not Present		
Rejected NSSAI	Not Present		
Operator-defined access category definitions	Not Present		
SMS indication	Not Present		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Configuration update complete*

Table 4.7.1-20: CONFIGURATION UPDATE COMPLETE

Derivation Path: 24.501 clause 8.2.20			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Configuration update complete message identity	‘0101 0101’B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Identity request*

Table 4.7.1-21: IDENTITY REQUEST

Derivation Path: 24.501 clause 8.2.21			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Identity request message identity	‘0101 1011’B		
Identity type	Set according to specific message contents		
Spare half octet	'0000'B		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Identity response*

Table 4.7.1-22: IDENTITY RESPONSE

Derivation Path: 24.501 clause 8.2.22			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Identity response message identity	0101 1100’B		
Mobile identity	Present but contents not checked		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Notification*

Table 4.7.1-23: NOTIFICATION

Derivation Path: 24.501 clause 8.2.23			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Notification message identity	‘0110 0101’B		
Access type	‘01’B	3GPP access	
Spare half octet	'0000'B		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Notification response*

Table 4.7.1-24: NOTIFICATION RESPONSE

Derivation Path: 24.501 clause 8.2.24			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Notification response message identity	‘0110 0110’B		
PDU session status	If present: contents not checked		

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

– *Security mode command*

Table 4.7.1-25: SECURITY MODE COMMAND

Derivation Path: 24.501 clause 8.2.25			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode command message identity	‘0101 1101’B		
Selected NAS security algorithms			
Type of ciphering algorithm	Set according to PIXIT px_NAS_5GC_Ciphering Algorithm for default ciphering algorithm		
Type of ciphering algorithm	‘0000’B	5G encryption algorithm 5G EA0 (null ciphering algorithm)	For RF
Type of integrity protection algorithm	Set according to PIXIT px_NAS_5GC_IntegrityProtAlgorithm for default integrity protection algorithm	This value should not be equal to the null integrity algorithm.	
ngKSI			
NAS key set identifier	The valid NAS key set identifier		
TSC	'0'B	native security context (for KSI_{AMF})	
Spare half octet	'0000'B		
Replayed UE security capabilities	Set according to the received UE security capabilities		
IMEISV request	Not Present		
Selected EPS NAS security algorithms	Not Present		
Selected EPS NAS security algorithms			S1_SUPPORTED

Type of ciphering algorithm	Set according to PIXIT px_NAS_CipheringAlgorithm for default ciphering algorithm	The px_NAS_CipheringAlgorithm PIXIT is defined in TS 36.523-3 [x]	
Type of integrity protection algorithm	Set according to PIXIT px_NAS_IntegrityProtAlgorithmfor default integrity protection algorithm	The px_NAS_IntegrityProtAlgorithm is defined in TS 36.523-3 [x]	
Additional 5G security information	Not Present		
Additional 5G security information			NO_VALID_SS_SECURITY_CONTEXT
RINMR	‘1’B	Retransmission of the initial NAS message requested	
HDP	‘0’B	K_{AMF} derivation is not required	
EAP message	Not Present		
EAP message	EAP-Success	See Table 4.7.3.2-03	EAP-AKA
ABBA	‘0000 0000 0000 0000’B		EAP-AKA
Replayed S1 UE security capabilities	Not Present		
Replayed S1 UE security capabilities	Set according to the received UE security capabilities in the last REGISTRATION REQUEST message		S1_SUPPORTED

Condition	Explanation
NO_VALID_SS_SECURITY_CONTEXT	If the SS doesn’t have a valid security context
EAP_AKA	EAP based primary authentication and key agreement procedure
For RF	Used for RF/RRM test cases
S1_SUPPORTED	The UE indicated support of S1 in the last REGISTRATION REQUEST message

NOTE: This message is always sent integrity protected with new 5GS NAS security context.

– *Security mode complete*

Table 4.7.1-26: SECURITY MODE COMPLETE

Derivation Path: 24.501 clause 8.2.26			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode complete message identity	‘0101 1110’B		
IMEISV	Not present		
NAS message container	Not present		
	Complete initial NAS message		RINMR_INDICATED

Condition	Explanation
RINMR_INDICATED	The SS requested retransmission of the initial NAS message in the last SECURITY MODE COMMAND

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message with new 5GS NAS security context.

– *Security mode reject*

Table 4.7.1-27: SECURITY MODE REJECT

Derivation Path: 24.501 clause 8.2.27			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0111 1110’B	5GS mobility management messages	
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
Security mode reject message identity	‘0101 1111’B		
5GMM cause	The value is set according to specific message content		

NOTE: This message is sent without integrity protection before 5GS NAS security mode control procedure has been successfully completed and sent within SECURITY PROTECTED 5GS NAS MESSAGE message after 5GS NAS security mode control procedure has been successfully completed.

– *Security protected 5GS NAS message*

Table 4.7.1-28: SECURITY PROTECTED 5GS NAS MESSAGE

Derivation Path: 24.501 clause 8.2.28			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	'0001'B	Integrity protected	UNCIPHERED
	'0010'B	Integrity protected and ciphered	CIPHERED
	'0011'B	Integrity protected with new 5G NAS security context	UNCIPHERED-NEW
	'0100'B	Integrity protected and ciphered with new 5G NAS security context	CIPHERED-NEW
Spare half octet	'0000'B		
Message authentication code	The calculated value of MAC-I for this message.	The value of MAC-I is calculated by SS using Sequence number sent by UE.	SENT-BY-SS
	The same value as the XMAC-I value calculated by SS.		SENT-BY-UE
Sequence number	The internal counter of the SS		SENT-BY-SS
	Any allowed value		SENT-BY-UE
Plain 5GS NAS message	Set according to specific message content		

Condition	Explanation
UNCIPHERED	This condition applies to unciphered NAS message exchange
CIPHERED	This condition applies to ciphered NAS message exchange
UNCIPHERED-NEW	This condition applies to unciphered NAS message exchange with new 5G NAS security context
CIPHERED-NEW	This condition applies to ciphered NAS message exchange with new 5G NAS security context
SENT-BY-SS	Use for the message sent from SS to UE
SENT-BY-UE	Use for the message sent from UE to SS

– *5GMM status*

Table 4.7.1-29: 5GMM STATUS

Derivation Path: 24.501 clause 8.2.29			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	5GMM		
Security header type	’0000’B	Plain 5GS NAS message, not security protected	
Spare half octet	'0000'B		
5GMM STATUS message identity	‘0110 0100’B		
5GMM cause	‘0110 1111’B	Protocol error, unspecified	SENT-BY-SS
	Present but contents not checked		SENT-BY-UE

Condition	Explanation
SENT-BY-SS	Use for the message sent from SS to UE
SENT-BY-UE	Use for the message sent from UE to SS

NOTE: This message is always sent within SECURITY PROTECTED 5GS NAS MESSAGE message.

4.7.2 Contents of 5GSM messages

– *PDU session establishment request*

Table 4.7.2-1: PDU SESSION ESTABLISHMENT REQUEST

Derivation Path: 24.501 clause 8.3.1			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	Any value according to TS 24.501 [25] subclause 9.4		
PTI	Any value from 1 to 254		
PDU SESSION ESTABLISHMENT REQUEST message identity	‘1100 0001’B		
Integrity protection maximum data rate	Present but contents not checked		
PDU session type	Any value between '001'B, '010'B and '011'B	The allowed values are respectively IPv4, IPv6 and IPv4v6	
SSC mode	If present: contents not checked		
5GSM capability	If present: contents not checked		
Maximum number of supported packet filters	If present: contents not checked		
Always-on PDU session requested	If present: contents not checked		
SM PDU DN request container	If present: contents not checked		

Extended protocol configuration options	If present: contents not checked	The SS shall remember if this IE is present and its contents because this affects subsequent SS behaviour, e.g. coding of PDU SESSION ESTABLISHMENT ACCEPT.	

– *PDU session establishment accept*

Table 4.7.2-2: PDU SESSION ESTABLISHMENT ACCEPT

Derivation Path: 24.501 clause 8.3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PDU SESSION ESTABLISHMENT ACCEPT message identity	‘1100 0010’B		
Selected PDU session type	'001'B		IPv4
	'010'B		IPv6
	'011'B		IPv4v6
Selected SSC mode	‘001’B	SSC mode 1	
Authorized QoS rules	Reference QoS rule #1 as defined in Table 4.8.2.1-1.		
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		IMS_DNN_ Requested
Session AMBR			
Unit for Session-AMBR for downlink	‘000 00101’	Value is incremented in multiples of 256 Kbps	
Session-AMBR for downlink	‘0000 0000 0000 0100’B	1024 Kbps	
Unit for Session-AMBR for uplink	‘000 00101’	Value is incremented in multiples of 256 Kbps	
Session-AMBR for uplink	‘0000 0000 0000 0100’B	1024 Kbps	

5GSM cause	Not Present		
PDU address			IPv4
Length of PDU address contents	5 octets		
PDU type value	‘001’B	IPv4	
PDU address information	IPv4 address	The SS provides a valid IPv4 address	NOT IPv4-DHCP
	0.0.0.0	DHCPv4 is to be used to allocate the IPv4 address	IPv4-DHCP
PDU address			IPv6
Length of PDU address contents	9 octets		
PDU type value	‘010’B	IPv6	
PDU address information	IPv6 interface identifier	The SS provides a valid IPv6 interface identifier	
PDU address			IPv4v6
Length of PDU address contents	13 octets		
PDU type value	‘011’B	IPv4v6	
PDU address information (Octets 4 to 11)	IPv6 interface identifier	The SS provides a valid IPv6 interface identifier	
PDU address information (Octets 12 to 15)	IPv4 address	The SS provides a valid IPv4 address	NOT IPv4-DHCP
	0.0.0.0	DHCPv4 is to be used to allocate the IPv4 address	IPv4-DHCP
RQ timer value	Not Present		
S-NSSAI			
Length of S-NSSAI contents	‘0000 0001’B	SST	
SST	‘0000 0001’B	SST value 1 (eMBB)	
Always-on PDU session indication	Not Present		
Always-on PDU session indication			
APSI	‘0’B	Always-on PDU session not allowed	Always_On_Requested
Mapped EPS bearer contexts	Not Present		
Mapped EPS bearer contexts			Interworking_with_EPS
Mapped EPS bearer context			
EPS bearer identity	12	EBI 12	
EPS bearer identity	5	EBI 5	IMS_DNN_

			Requested

Operation code	‘001’B	Create new EPS bearer	
E bit	'1'B	Parameters list is included	
Number of EPS parameters	’0001’B	1 parameter	
Mapped EPS QoS parameters	See Reference default EPS bearer context #1 in TS 36.508 [7] Table 6.6.1-1	QCI 9	
Mapped EPS QoS parameters	See Reference default EPS bearer context #2 in TS 36.508 [7] Table 6.6.1-1	QCI 5	IMS_DNN_ Requested
EAP message	Not Present		
Authorized QoS flow descriptions	Reference QoS flow #1 as defined in Table 4.8.2.3-1.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		IMS_DNN_ Requested
Extended protocol configuration options	Not Present		
Extended protocol configuration options			P-CSCF_IPv6 OR P-CSCF_IPv4
Container ID 1	‘0001’H		P-CSCF_IPv6
Length of container ID 1 contents		Length value determined by testimplementation	
Container ID 1 contents	IPv6 address	P-CSCF IPv6 Address	
Container ID 2	‘000C’H		P-CSCF_IPv4
Length of container ID 2 contents		Length value determined by test implementation	
Container ID 2 contents	IPv4 address	P-CSCF IPv4 Address	
DNN	The SS defines a Default DNN		

DNN	DNN as provided in the UL NAS TRANSPORT message transporting the last PDU SESSION ESTABLISHMENT REQUEST message		DNN_Provided and NOT IMS_DNN_Requested
DNN	Use DNN Network Identifier as provided in the DNN IE of the UL NAS TRANSPORT message transporting the last PDU SESSION ESTABLISHMENT REQUEST message and the DNN Operator Identifier mnc<MNC>.mcc<MCC>.gprs. The <MNC> and <MCC> are set to the same values as in IMSI.		IMS_DNN_Requested

Condition	Explanation
IPv4	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '001'B
IPv6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '010'B
IPv4v6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the PDU session type = '011'B
IPv4-DHCP	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message, the IE Extended protocol configuration options contains a configuration protocol option = '000BH' ("IPv4 address allocation via DHCPv4", length of contents = 0). Note: This condition is used in conjunction with IPv4 or IPv4v6 as indicated in the "PDU address information" just above.
DNN_Provided	If the UL NAS TRANSPORT message transporting the last PDU SESSION ESTABLISHMENT REQUEST message included the DNN IE
Always_On_Requested	If the last PDU SESSION ESTABLISHMENT REQUEST message included the Always-on PDU session requested IE
IMS_DNN_Requested	If the UL NAS TRANSPORT message transporting the last PDU SESSION ESTABLISHMENT REQUEST message included an IMS DNN in the DNN IE
P-CSCF_IPv6	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message the IE Extended protocol configuration options contains a configuration protocol option = '0001H' (“P-CSCF IPv6 Address Request", length of contents = 0)
P-CSCF_IPv4	If in the last PDU SESSION ESTABLISHMENT REQUEST sent prior to this message the IE Extended protocol configuration options contains a configuration protocol option = '000CH' (“P-CSCF IPv4 Address Request", length of contents = 0)
Interworking_with_EPS	If the UE has indicated support of S1, then the SS shall include this IE to provide details for the interworking with EPS being supported for a PDU session. This requirement is set up for the purpose of facilitating the test description. It is not mandatory for the Network to support Mapped EPS bearer contexts.

– *PDU session establishment reject*

Table 4.7.2-3: PDU SESSION ESTABLISHMENT REJECT

Derivation Path: 24.501 clause 8.3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	The same value as the value set in PDU SESSION ESTABLISHMENT REQUEST message		
PDU SESSION ESTABLISHMENT REJECT message identity	‘1100 0011’B		
5GSM cause	The value is set according to specific message content		
Back-off timer value	Not Present		
Allowed SSC mode	Not Present		
EAP message	Not Present		
Extended protocol configuration options	Not Present		

– *PDU session authentication command*

Table 4.7.2-4: PDU SESSION AUTHENTICATION COMMAND

Derivation Path: 24.501 clause 8.3.4			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	Set according to specific message content		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION COMMAND message identity	‘1100 0101’B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	Not Present		

– *PDU session authentication complete*

Table 4.7.2-5: PDU SESSION AUTHENTICATION COMPLETE

Derivation Path: 24.501 clause 8.3.5			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION AUTHENTICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION COMPLETE message identity	‘1100 0110’B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	If present: contents not checked		

– *PDU session authentication result*

Table 4.7.2-6: PDU SESSION AUTHENTICATION RESULT

Derivation Path: 24.501 clause 8.3.6			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION AUTHENTICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION AUTHENTICATION RESULT message identity	‘1100 0111’B		
EAP message	FFS	See TS 24.501 [25] subclause 9.11.2.2	
Extended protocol configuration options	Not Present		

– *PDU session modification request*

Table 4.7.2-7: PDU SESSION MODIFICATION REQUEST

Derivation Path: 24.501 clause 8.3.7			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	Any value from 1 to 254		
PDU SESSION MODIFICATION REQUEST message identity	‘1100 1001’B		
5GSM capability	If present: contents not checked		
5GSM cause	If present: contents not checked		
Maximum number of supported packet filters	If present: contents not checked		
Always-on PDU session requested	If present: contents not checked		
Integrity protection maximum data rate	If present: contents not checked		
Requested QoS rules	If present: contents not checked		
Requested QoS flow descriptions	If present: contents not checked		
Mapped EPS bearer contexts	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *PDU session modification reject*

Table 4.7.2-8: PDU SESSION MODIFICATION REJECT

Derivation Path: 24.501 clause 8.3.8			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION REQUEST message.		
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		
PDU SESSION MODIFICATION REJECT message identity	‘1100 1010’B		
5GSM cause	Set according to specific message content.		
Back-off timer value	Not Present		
Extended protocol configuration options	Not Present		

– *PDU session modification command*

Table 4.7.2-9: PDU SESSION MODIFICATION COMMAND

Derivation Path: 24.501 clause 8.3.9			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PDU session ID	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PTI	'0000 0000'B	No procedure transaction identity assigned	
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PDU SESSION MODIFICATION COMMAND message identity	‘1100 1011’B		
5GSM cause	Not Present		
Session AMBR	Not Present		
RQ timer value	Not Present		
Always-on PDU session indication	Not Present		
Always-on PDU session indication			
APSI	‘0’B	Always-on PDU session not allowed	Always_On_Requested
Authorized QoS rules	Not Present		
Mapped EPS bearer contexts	Not Present		
Authorized QoS flow descriptions	Not Present		
Extended protocol configuration options	Not Present		

Condition	Explanation
Always_On_Requested	If the last PDU SESSION MODIFICATION REQUEST message included the Always-on PDU session requested IE
UE_Initiated_Modification	If this message was triggered by a PDU SESSION MODIFICATION REQUEST message sent by the UE

– *PDU session modification complete*

Table 4.7.2-10: PDU SESSION MODIFICATION COMPLETE

Derivation Path: 24.501 clause 8.3.10			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PTI	The value indicated in PDU SESSION MODIFICATION REQUEST message.		UE_Initiated_Modification
PDU SESSION MODIFICATION COMPLETE message identity	‘1100 1100’B		
Extended protocol configuration options	If present: contents not checked		

Condition	Explanation
UE_Initiated_Modification	If this message was triggered by a PDU SESSION MODIFICATION REQUEST message sent by the UE

– *PDU session modification command reject*

Table 4.7.2-11: PDU SESSION MODIFICATION COMMAND REJECT

Derivation Path: 24.501 clause 8.3.11			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION MODIFICATION COMMAND message		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION MODIFICATION COMMAND REJECT message identity	‘1100 1101’B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *PDU session release request*

Table 4.7.2-12: PDU SESSION RELEASE REQUEST

Derivation Path: 24.501 clause 8.3.12			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION ESTABLISHMENT REQUEST message		
PTI	Any value from 1 to 254		
PDU SESSION RELEASE REQUEST message identity	‘1101 0001’B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *PDU session release reject*

Table 4.7.2-13: PDU SESSION RELEASE REJECT

Derivation Path: 24.501 clause 8.3.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION RELEASE REQUEST message.		
PTI	The value indicated in PDU SESSION RELEASE REQUEST message.		
PDU SESSION RELEASE REJECT message identity	‘1101 0010’B		
5GSM cause	Set according to specific message content.		
Extended protocol configuration options	Not Present		

– *PDU session release command*

Table 4.7.2-14: PDU SESSION RELEASE COMMAND

Derivation Path: 24.501 clause 8.3.14			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION RELEASE COMMAND message identity	‘1101 0011’B		
5GSM cause	‘0001 1010’B	Insufficient resources	
Back-off timer value	Not Present		
EAP message	Not Present		
Extended protocol configuration options	Not Present		

– *PDU session release complete*

Table 4.7.2-15: PDU SESSION RELEASE COMPLETE

Derivation Path: 24.501 clause 8.3.15			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	The value indicated in PDU SESSION RELEASE COMMAND message.		
PTI	'0000 0000'B	No procedure transaction identity assigned	
PDU SESSION RELEASE COMPLETE message identity	‘1101 0100’B		
5GSM cause	If present: contents not checked		
Extended protocol configuration options	If present: contents not checked		

– *5GSM status*

Table 4.7.2-16: 5GSM STATUS

Derivation Path: 24.501 clause 8.3.16			
Information Element	**Value/remark**	**Comment**	**Condition**
Extended protocol discriminator	‘0010 1110’B	5GS session management messages	
PDU session ID	Set according to specific message content.		
PTI	Set according to specific message content.		
5GSM STATUS message identity	‘1101 0110’B		
5GSM cause	Set according to specific message content.		

4.7.3 Contents of EAP-AKA' messages

For all the message definitions below, the acceptable order and syntax of attributes and fields within these attributes must be according to IETF RFCs where those attributes have been defined. Typically the order of attributes is not significant, but there could be well defined exceptions where the order is important.

The contents of the messages described in the present Annex is not complete - only the attributes required to be checked or generated by SS are listed here. The messages sent by the UE may contain additional attributes which are not checked and must thus be ignored by SS.

4.7.3.1 EAP-AKA' message attributes

Table 4.7.3.1-1: AT_RAND_Def

Derivation Path: IETF RFC 4187 [30] clause 10.6			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_RAND	'0000 0001'B	1	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
RAND	An arbitrarily selected 128 bits value		

Table 4.7.3.1-2: AT_AUTN_Def

Derivation Path: IETF RFC 4187 [30] clause 10.7			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_AUTN	'0000 0010'B	2	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
AUTN	128 bits value generated according to TS 24.501 [28] subclause 9.11.3.15		

Table 4.7.3.1-3: AT_KDF_Def

Derivation Path: IETF RFC 5448 [31] clause 3.3			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_KDF	'0001 1000'B	24	
Length	'0000 0001'B	1	
KDF	'0000 0000 0000 0001'	1: EAP_AKA'	

Table 4.7.3.1-4: AT_KDF_INPUT_Def

Derivation Path: IETF RFC 5448 [31] clause 3.2			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_KDF_INPUT	'0001 0111'B	23	
Length	Set to the Length of attribute AT_KDF_INPUT in 4 bytes		
Actual Network Name Length	Set to the actual length of 'Network Name' in bytes excluding any appended all zero bytes at end		
Network Name	Value generated according to TS 24.501 [28] clause 9.12.1 and shall be a multiple of 4 bytes (appended with 1,2 or 3 bytes of all zero bits when necessary)		

Table 4.7.3.1-5: AT_MAC_Def

Derivation Path: IETF RFC 4187 [30] clause 10.15			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_MAC	'0000 1011'B	11	
Length	'0000 0101'B	5	
Reserved	'0000 0000 0000 0000'B		
MAC	128 bits value generated according to RFC 4187 [30] subclause 10.15		

Table 4.7.3.1-6: AT_RES_Def

Derivation Path: IETF RFC 4187 [30] clause 10.08			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_RES	'0000 0011'B	3	
Length	Set to Length of AT_RES attribute in 4 bytes.	1 byte	
RES_LENGTH	Set to the actual length of 'RES' in bytes excluding any appended all zero bytes at end		
RES	RES* value calculated according to TS 24.501 [28] clause 9.11.3.17, possibly appended with 1,2 or 3 bytes of all zero bits to make lenght multiple of 4 bytes.		

Table 4.7.3.1-7: AT_AUTS_Def

Derivation Path: IETF RFC 4187 [30] clause 10.08			
Information Element	**Value/remark**	**Comment**	**Condition**
AT_AUTS	'0000 0100'B	4	
Length	'0000 0100'B	4	
AUTS	14 octets RES* value not checked		

4.7.3.2 EAP-AKA' messages

Table 4.7.3.2-1: EAP-Request/AKA'-Challenge

Derivation Path: IETF RFC 4187 [30] clause 9.3, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	1	Request	
Length	Set to length of EAP packet		
Data			
AT_RAND	AT_RAND_Def		
AT_AUTN	AT_AUTN_Def		
AT_KDF	AT_KDF_Def		
AT_KDF_INPUT	AT_KDF_INPUT_Def		
AT_MAC	AT_MAC_Def		

Table 4.7.3.2-2: EAP-Response/AKA'-Challenge

Derivation Path: IETF RFC 4187 [30] clause 9.4, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	2	Response	
Length	Set to length of EAP packet		
Data			
AT_Res	AT_Res_Def		
AT_MAC	AT_MAC_Def		

Table 4.7.3.2-3: EAP-Succes

Derivation Path: IETF RFC 4187 [30] clause 6.3.4, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	3	Success	
Length	Set to length of EAP packet		
Data	Not present	Specific attributes not present	

Table 4.7.3.2-4: EAP-Response/AKA-Authentication-Reject

Derivation Path: IETF RFC 4187 [30] clause 9.5, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	4	Failure	
Length	Set to length of EAP packet		
Data	Not checked		

Table 4.7.3.2-5: EAP-Response/AKA-Synchronization-Failure

Derivation Path: IETF RFC 4187 [30] clause 9.6, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	4	Failure	
Length	Set to length of EAP packet		
Data			
AT_AUTS	AT_AUTS_Def		

Table 4.7.3.2-6: EAP-Failure

Derivation Path: IETF RFC 4187 [30] clause 6.3.3, RFC 3748 [32] clause 4			
Information Element	**Value/remark**	**Comment**	**Condition**
Code	4	Failure	
Length	Set to length of EAP packet		
Data	Not present	Specific attributes not present	

4.7A Default TC message and information element contents

This clause contains the default values of common TC (Test Control, see [11]) messages and information elements, which apply to all test cases unless otherwise specified. All the messages and information elements are listed in alphabetical order.

4.7A.1 Test mode messages

- *ACTIVATE TEST MODE* with the following exception:
  - The supported test modes for 5GS are limited to those specified in subclause 38.509 [11] 5.3.4.

Same as TS 36.508 [2], Table 4.7A-1.

- *ACTIVATE TEST MODE COMPLETE*

Same as TS 36.508 [2], Table 4.7A-2.

- *DEACTIVATE TEST MODE*

Same as TS 36.508 [2], Table 4.7A-5.

- *DEACTIVATE TEST MODE COMPLETE*

Same as TS 36.508 [2], Table 4.7A-6.

4.7A.2 Test loop messages

- *CLOSE UE TEST LOOP*

Same as TS 36.508 [2], Table 4.7A-3 with the following exception:

- The supported test modes for 5GS are limited to those specified in subclause 38.509 [11] 5.3.4.

- *CLOSE UE TEST LOOP COMPLETE*

Same as TS 36.508 [2], Table 4.7A-4.

- *OPEN UE TEST LOOP*

Same as TS 36.508 [2], Table 4.7A-7.

- *OPEN UE TEST LOOP COMPLETE*

Same as TS 36.508 [2], Table 4.7A-8.

4.7A.3 Beamlock messages

- *ACTIVATE BEAMLOCK*

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.3-1: ACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.1			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 0		
UE Beamlock test Function	0 0 0 0 0 0 0 1		Tx Only
UE Beamlock test Function	0 0 0 0 0 0 1 0		Rx Only
UE Beamlock test Function	0 0 0 0 0 0 1 1		Tx and Rx

Condition	Explanation
Tx Only	Activation UE beamlock function for Tx only
Rx Only	Activation UE beamlock function for Rx only
Tx and Rx	Activation UE beamlock function for both Tx and Rx

- *ACTIVATE BEAMLOCK COMPLETE*

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.3-2: ACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 1		

- *DEACTIVATE BEAMLOCK*

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.3-3: DEACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 0		

- *DEACTIVATE BEAMLOCK COMPLETE*

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.3-4: DEACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.4			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 1		

4.7A.4 UE SS-RSRP per receiver branch reporting messages

- *SS-RSRPB REPORT REQUEST*

FFS

- *SS-RSRPB REPORT RESPONSE*

FFS

4.7A.5 UE Positioning messages

- *RESET UE POSITIONING STORED INFORMATION*

FFS

- *UPDATE UE LOCATION INFORMATION*

FFS

4.7A.6 NSSAI delete messages

- *NSSAI DELETE REQUEST*

This message is only sent in the direction SS to UE, embedded in a RRC *DLInformationTransfer* message.

Table 4.7A.6-1: NSSAI DELETE REQUEST

Derivation Path: 38.509 clause 6.7.1			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 0 0 0 1 1 0		
Delete NSSAI type	Set according to specific message contents		
Configured NSSAI	Set according to specific message contents		
Allowed NSSAI	Set according to specific message contents		

- *NSSAI DELETE RESPONSE*

This message is only sent in the direction UE to SS, embedded in a RRC *ULInformationTransfer* message.

Table 4.7A.6-2: NSSAI DELETE RESPONSE

Derivation Path: 38.509 clause 6.7.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 1 1 1		

4.8 Reference configurations

4.8.1 Radio configurations

– *RRCReconfiguration-DRB(n, m)*

Table 4.8.1-1: RRCReconfiguration-DRB (n, m)

Derivation Path: TS 38.508-1, table 4.6.1-13			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig-DRB(n,m)		
secondaryCellGroup	CellGroupConfig-DRB(n.m)		
}			
}			
}			

– *RRCReconfiguration-HO*

Table 4.8.1-1A: RRCReconfiguration-HO

Derivation Path: TS 38.508-1, table 4.6.1-13			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig	RadioBearerConfig with conditions SRB1 and SRB2 and DRBn and Re-establish_PDCP		RBConfig_KeyChange
	RadioBearerConfig with conditions DRBn and Recover_PDCP		RBConfig_NoKeyChange
secondaryCellGroup	Not present		
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig with conditions PCell_change	OCTET STRING (CONTAINING CellGroupConfig)	
}			
}			
}			
}			

Condition	Explanation
RBConfig_KeyChange	RadioBearerConfig to perform Intra-NR handover with security key change
RBConfig_NoKeyChange	RadioBearerConfig to perform Intra-NR handover without security key change

– *RRCReconfiguration-SRB2-DRB(n, m)*

Table 4.8.1-1B: RRCReconfiguration-SRB2-DRB(n, m)

Derivation Path: TS 38.508-1, table 4.6.1-13 with condition NR			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig-SRB2-DRB(n,m)		
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig-SRB2-DRB(n, m)	OCTET STRING (CONTAINING CellGroupConfig)	
}			
}			
}			
}			

– *RRCReconfiguration-Speech*

Table 4.8.1-1C: RRCReconfiguration-Speech

Derivation Path: TS 38.508-1, table 4.6.1-13 with condition NR			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration::= SEQUENCE {			
criticalExtensions CHOICE {			
c1 CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
radioBearerConfig	RadioBearerConfig-DRB(0,1)		
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup	CellGroupConfig-DRB(0.1)	OCTET STRING (CONTAINING CellGroupConfig)	
}			
}			
}			
}			

– *CellGroupConfig-DRB(n, m)*

Table 4.8.1-2: CellGroupConfig-DRB(n, m)

Derivation Path: TS 38.508-1, table 4.6.3-19: CellGroupConfig (the same conditions are applicable as for table 4.6.3-19)			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupConfig::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF {	n+m entries	BID is the total number of established DRBs in the UE, before applying the contents of this IE	
RLC-BearerConfig[k, k=1..n]	RLC-BearerConfig with conditions AM and DRBj (with j=BID+k)		n>0
RLC-BearerConfig[k, k=n+1..n+m]	RLC-BearerConfig with conditions UM and DRBj (with j=BID+k)		m>0
}			
}			

Condition	Explanation
n>0	n is greater than zero
m>0	m is greater than zero

– *CellGroupConfig-SRB3*

Table 4.8.1-2A: CellGroupConfig-SRB3

Derivation Path: TS 38.508-1, table 4.6.3-19: CellGroupConfig with condition EN-DC			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	2 entry		
RLC-BearerConfig[1]	RLC-BearerConfig with conditions AM and DRB2		
RLC-BearerConfig[2]	RLC-BearerConfig with condition SRB3		
}			
}			

– *CellGroupConfig-SRB2-DRB(n, m)*

Table 4.8.1-2B: CellGroupConfig-SRB2-DRB(n, m)

Derivation Path: TS 38.508-1, table 4.6.3-19: CellGroupConfig			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupConfig ::= SEQUENCE {			
rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF SEQUENCE {	1+n+m entries		
RLC-BearerConfig[1]	RLC-BearerConfig with condition SRB2		
RLC-BearerConfig[k, k=2..n+1]	RLC-BearerConfig with conditions AM and DRBj	j is allocated according to internal TTCN mapping	n>0
RLC-BearerConfig[k, k=n+2..n+m+1]	RLC-BearerConfig with conditions UM and DRBj	j is allocated according to internal TTCN mapping	m>0
}			
mac-CellGroupConfig	Not present		
physicalCellGroupConfig	Not present		
spCellConfig	Not present		
}			

– *RadioBearerConfig-DRB (n, m)*

Table 4.8.1-3: RadioBearerConfig-DRB (n, m)

Derivation Path: TS 38.508-1, table 4.6.3-132 and condition EN-DC			
Information Element	**Value/remark**	**Comment**	**Condition**
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF {	n+m entries	BID is the total number of established DRBs in the UE, before applying the contents of this IE	
DRB-ToAddMod[k=1..n+m] := SEQUENCE {			
cnAssociation CHOICE {			
eps-BearerIdentity	l, l=BID+5..BID+4+n+m		
sdap-Config	Not present		
}			
drb-Identity	l, l=BID+1..BID+n+m		
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		k <= n
	PDCP-Config with condition UM		k > n
}			
}			
}			
}			

– *RadioBearerConfig-SRB2-DRB (n, m)*

Table 4.8.1-4: RadioBearerConfig-SRB2-DRB (n, m)

Derivation Path: TS 38.508-1, table 4.6.3-132 and condition SRB2			
Information Element	**Value/remark**	**Comment**	**Condition**
RadioBearerConfig ::= SEQUENCE {			
drb-ToAddModList SEQUENCE (SIZE (1..maxDRB)) OF {	n+m entries		
DRB-ToAddMod[k=1..n+m] := SEQUENCE {			
cnAssociation CHOICE {			
sdap-Config	SDAP-Config	SDAP-Config is configured according to internal TTCN mapping	
}			
drb-Identity	j	j is allocated according to internal TTCN mapping	
reestablishPDCP	Not present		
recoverPDCP	Not present		
pdcp-Config	PDCP-Config		k <= n
	PDCP-Config with condition UM		k > n
}			
}			
}			
}			

4.8.2 5GC configurations

4.8.2.1 Reference QoS rules

Table 4.8.2.1-1: Reference QoS rule #1

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0001’B	1 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘1’B	The QoS rule is the default QoS rule.	
Number of packet filters	‘0001’B	1 packet filters	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	‘0000 0000’B	0 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0001’B	QFI 1 (Table 4.8.2.3-1)	

Table 4.8.2.1-2: Reference QoS rule #2

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0010’B	2 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘1’B	The QoS rule is the default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	‘0000 0010’B	2 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0010’B	QFI 2 (Table 4.8.2.3-2)	

Table 4.8.2.1-3: Reference QoS rule #3

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0011’B	3 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule is the non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-2	Packet filter list #2	
QoS rule precedence	‘0000 0011’B	3 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0001’B	QFI 1 (Table 4.8.2.3-1)	

Table 4.8.2.1-4: Reference QoS rule #4

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0100’B	4 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘1’B	The QoS rule is the default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-3	Packet filter list #3	
QoS rule precedence	‘0000 00100’B	4 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0010’B	QFI 2 (Table 4.8.2.3-2)	

Table 4.8.2.1-4a: Reference QoS rule #4a

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 1111’B	15 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule is the non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-3a	Packet filter list #3a	
QoS rule precedence	‘0000 1111’B	15 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0100’B	QFI 4 (Table 4.8.2.3-2a)	

Table 4.8.2.1-5: Reference QoS rule #5

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0101’B	5 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule is the non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-4	Packet filter list #4	
QoS rule precedence	‘0000 0101’B	5 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0101’B	QFI 5 (Table 4.8.2.3-3)	

Table 4.8.2.1-6: Reference QoS rule #6

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0110’B	6 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule is the non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-5	Packet filter list #5	
QoS rule precedence	‘0000 0110’B	6 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0110’B	QFI 6 (Table 4.8.2.3-4)	

Table 4.8.2.1-7: Reference QoS rule #7

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS rules			
QoS rule			
QoS rule identifier	‘0000 0001’B	1 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘1’B	The QoS rule is the default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-1	Packet filter list #1	
QoS rule precedence	‘0000 0101’B	5 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0010’B	QFI 2 (Table 4.8.2.3-2)	
QoS rule			IMS_VOICE
QoS rule identifier	‘0000 0010’B	2 (unique per PDU session)	
Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule a non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-6	Packet filter list #6	
QoS rule precedence	‘0000 0001’B	1 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0101’B	QFI 5 (Table 4.8.2.3-7)	
QoS rule			IMS_VIDEO
QoS rule identifier	‘0000 0011’B	3 (unique per PDU session)	

Rule operation code	‘001’B	Create new QoS rule	
DQR bit	‘0’B	The QoS rule a non-default QoS rule.	
Number of packet filters	‘0001’B	1 packet filter	
Packet filter list	See table 4.8.2.2-7	Packet filter list #7	
QoS rule precedence	‘0000 001’B	2 (unique per PDU session)	
Spare bit	‘0’B		
Segregation	‘0’B	Spare	
QoS flow identifier (QFI)	’00 0110’B	QFI 6 (Table 4.8.2.3-8)	

Condition	Explanation
IMS_VOICE	If this QoS rule is used to setup an IMS voice session
IMS_VIDEO	If this QoS rule is used to setup an IMS video session

4.8.2.2 Reference packet filters

Table 4.8.2.2-1: Packet filter list #1

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘0000’B	Id 0	
Component type 1 ID	‘0000 0001’B	Match-all type	

Table 4.8.2.2-2: Packet filter list #2

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘0010’B	Id 2	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix lenght type	remoteIPv6
Component type 1 Value	10.10.10.2 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C002 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-3: Packet filter list #3

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘0011’B	Id 3	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix lenght type	remoteIPv6
Component type 1 Value	10.10.10.3 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C003 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-3a: Packet filter list #3a

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘1111’B	Id 15	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix lenght type	remoteIPv6
Component type 1 Value	10.10.10.30 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C030 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-4: Packet filter list #4

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘0100’B	Id 4	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix lenght type	remoteIPv6
Component type 1 Value	10.10.10.4 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C004 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-5: Packet filter list #5

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	‘0101’B	Id 5	
Component type 1 ID	0 0 0 1 0 0 0 0	IPv4 remote address type	remoteIPv4
	0 0 1 0 0 0 0 1	IPv6 remote address type/prefix lenght type	remoteIPv6
Component type 1 Value	10.10.10.5 255.255.255.255	See Note 1	remoteIPv4
	C0C0:C0C0:C0C0:C005 C0C0:C0C0:C0C0:C0C0/ 64	See Note 1	remoteIPv6
Note 1: This IP address is also the address of an IP server able to send a flow of downlink IP packets to the UE. remoteIPv4 applies if the UE has acquired an IPv4 address only, remoteIPv6 applies if the UE has acquired an IPv6 address only, or both an IPv6 and an IPv4 address.			

Table 4.8.2.2-6: Packet filter list #6

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	0110’B	Id 6	
Component type 1 ID	0 1 0 1 0 0 0 1	Remote port range type	
Component type 1 Value	media port	SS speech media port as used in the SDP negotiation (RTP remote port); see Note 1	
	media port + 1	RTCP remote port; see Note 1	
Component type 2 ID	0 0 1 1 0 0 0 0	Protocol identifier/Next header type	
Component type 2 Value	17	UDP	
Note 1: According to to TS 26.114 [45] and RFC 4566 [46] a "media port" can be understood as the transport port to which a media stream is sent.			

Table 4.8.2.2-7: Packet filter list #7

Derivation Path: TS 24.501, table 9.11.4.13			
Information Element	**Value/remark**	**Comment**	**Condition**
Packet filter list			
Packet filter direction	‘11’B	bidirectional	
Packet filter identifier	0111’B	Id 7	
Component type 1 ID	0 1 0 1 0 0 0 1	Remote port range type	
Component type 1 Value	media port	SS video media port as used in the SDP negotiation (RTP remote port); see Note 1	
	media port + 1	RTCP remote port; see Note 1	
Component type 2 ID	0 0 1 1 0 0 0 0	Protocol identifier/Next header type	
Component type 2 Value	17	UDP	
Note 1: According to to TS 26.114 [45] and RFC 4566 [46] a "media port" can be understood as the transport port to which a media stream is sent.			

4.8.2.3 Reference QoS flow descriptions

Table 4.8.2.3-1: Reference QoS flow #1

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0001’B	QFI 1	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
Number of parameters	’00 0010’B	2 parameters	Interworking_with_EPS
5QI	‘0000 1001’B	5QI 9	
EPS bearer identity	12	EBI 12	Interworking_with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-2: Reference QoS flow #2

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0010’B	QFI 2	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
Number of parameters	’00 0010’B	2 parameters	Interworking_with_EPS
5QI	‘0000 0101’B	5QI 5	
EPS bearer identity	5	EBI 5	Interworking_with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-2a: Reference QoS flow #2a

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0100’B	QFI 4	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
5QI	‘0000 0101’B	5QI 5	

Table 4.8.2.3-3: Reference QoS flow #3

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0101’B	QFI 5	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
5QI	‘0000 0101’B	5QI 5	

Table 4.8.2.3-4: Reference QoS flow #4

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0110’B	QFI 6	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
5QI	‘0000 0101’B	5QI 5	

Table 4.8.2.3-5: Reference QoS flow #5

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 0111’B	QFI 7	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
Number of parameters	’00 0010’B	2 parameters	Interworking_with_EPS
5QI	5QI 1	5QI 1	
EPS bearer identity	‘0000 011 ’B	EBI 6	Interworking_with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

Table 4.8.2.3-6: Reference QoS flow #6

Derivation Path: TS 24.501, table 9.11.4.12			
Information Element	**Value/remark**	**Comment**	**Condition**
QoS flow descriptions			
QoS flow description			
QFI	‘00 1000’B	QFI 8	
Operation code	‘001’B	Create new QoS flow description	
E bit	‘1’B	Parameters list is included	
Number of parameters	’00 0001’B	1 parameter	
Number of parameters	’00 0010’B	2 parameters	Interworking_with_EPS
5QI	‘0000 0010’B	5QI 2	
EPS bearer identity	‘0000 0111 ’B	EBI 7	Interworking_with_EPS

Condition	Explanation
Interworking_with_EPS	If this flow is used in the Authorized QoS flow descriptions IE of a PDU SESSION ESTABLISHMENT ACCEPT message also including the Mapped EPS bearer context IE.

4.8.3 Common test USIM parameters

This clause defines default parameters for programming the elementary files of the test UICC when running conformance test cases defined in 3GPP TS 38.523-1[12].

4.8.3.1 General

See clause 4.9.1 in 3GPP TS 36.508 [2] for the definition of test algorithm for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure.
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure, further the Derivation of MSK, EMSK and other keys shaall be as derived as clause 3.3 of IETF RFC 5448 [31], using Key derivation function HMAC-SHA-256 algorithm.

4.8.3.2 Default parameters for the test USIM and ISIM

Same as clause 4.9.2 in 3GPP TS 36.508 [2] for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure.
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure.

4.8.3.3 Default settings for the Elementary Files (EFs)

Same as clause 4.9.3 in 3GPP TS 36.508 [2] for

- authentication via EPC;
- authentication via 5GC using 5G AKA based primary authentication and key agreement procedure
- authentication via 5GC using EAP-AKA' based primary authentication and key agreement procedure..

4.8.3.3.1 Modified contents of the USIM Elementary Files

Table 4.8.3.3.1-1: EF_{UST} (USIM Service Table)

Services		Activated	Version	Condition
Service n°122	5GS Mobility Management Information	Optional		5GC
Service n°123	5GS Security Parameters	Optional		5GC
Service n°124	Subscription identifier privacy support	Optional		5GC
Service n°125	SUCI calculation by the USIM	Optional		5GC
Service n°126	UAC Access Identities Configuration	Optional		5GC
Service n°127	Control plane-based steering of UE in VPLMN	Optional		5GC
Service n°128	Call control on PDU Session by USIM	Optional		
Service n°129	5GS Operator PLMN List	Optional		
Note: Only 5GS related services indicated				

Condition	Explanation
5GC	Authentication via 5GC

4.8.3.3.2 Contents of Elementary Files at the DF_{5GS} level

This clause defines the default contents of Elementary Files (EF) that are specific for 5GS and which are grouped in Data File (DF) structure 5GS.

$EF_{5GS3GPPLOCI}$ (5GS 3GPP location information)

File size: 20 Bytes

Default values: Bytes 1 to 13 (HEX): FF FF FF FF FF FF FF FF FF FF FF FF FF (5G-GUTI)

Bytes 14 to 19 (HEX): 42 F6 18 FF FF FE (Last visited registered TAI in 5GS for 3GPP access)

Byte 20 (BIN): 00000001 (5GS update status for 3GPP access = "5U2 not updated")

Bytes 14 to 19: TAI-MCC = 246 (bytes 14 to 15) and TAI-MNC = 81 (byte 16) are frequently used. The TAC (bytes 17 to 19) is set to "FF FF FE" since this, in conjunction with byte 20 setting of "01", is used to ensure that the UE performs registration at the beginning of a test.

Bytes in this file (e.g. GUTI in bytes 1 to 13) may be updated as a result of a registration attempt by the UE.

$EF_{5GSN3GPPLOCI}$ (5GS non-3GPP location information)

File size: 20 Bytes

Default values: Bytes 1 to 13 (HEX): FF FF FF FF FF FF FF FF FF FF FF FF FF (5G-GUTI)

Bytes 14 to 19 (HEX): 42 F6 18 FF FF FE (Last visited registered TAI in 5GS for 3GPP access)

Byte 20 (BIN): 00000001 (5GS update status for 3GPP access = "5U2 not updated")

Bytes 14 to 19: TAI-MCC = 246 (bytes 14 to 15) and TAI-MNC = 81 (byte 16) are frequently used. The TAC (bytes 17 to 19) is set to "FF FF FE" since this, in conjunction with byte 20 setting of "01", is used to ensure that the UE performs registration at the beginning of a test.

Bytes in this file (e.g. GUTI in bytes 1 to 13) may be updated as a result of a registration attempt by the UE.

$EF_{5GS3GPPNSC}$ (5GS 3GPP Access NAS Security Context)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

$EF_{5GSN3GPPNSC}$ (5GS non-3GPP Access NAS Security Context)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

$EF_{5GAUTHKEYS}$ (5G authentication keys)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

EF_{UAC_AIC} (UAC Access Identities Configuration)

The programming of this EF is a test house option.

$EF_{SUCI_Calc_Info}$ (Subscription Concealed Identifier Calculation Information EF)

The programming of this EF is a test house option.

EF_{OPL5G} (5GS Operator PLMN List)

The programming of this EF follows default parameter written in 3GPP TS 31.102 [33], annex E.

4.9 Test procedures

4.9.1 Test procedure to check user plane connectivity on DRB#n

This procedure aims at checking whether the UE User Plane Access Stratum is capable of exchanging data on DRB#n (#n is the DRB Id specified in the test case when the present procedure is called). In case the UE supports IP, it is also checked that the UE IP stack is connected to the UE User Plane Access Stratum.

Table 4.9.1-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Steps 1a1 to 1c2 describe behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place depending on the UE implementation.	-	-	-	-
1a1	IF (pc_IP_Ping = TRUE AND pc_IPv4 = TRUE) THEN, the SS sends an ICMP Echo request to the IPv4 address assigned to the UE on DRB#n.	<--	*ICMP ECHO REQUEST (NOTE 3)*	-	-
1a2	Check: Does the UE send an ICMP Echo reply on DRB#n?	-->	*ICMP ECHO REPLY*	-	P
1b1	ELSE IF (pc_IP_Ping = TRUE AND (pc_IPv4 = FALSE AND pc_IPv6 = TRUE)) THEN, the SS sends an ICMPv6 Echo request to the IPv6 address assigned to the UE on DRB#n.	<--	*ICMPv6 ECHO REQUEST (NOTE 3)*	-	-
1b2	Check: Does the UE send an ICMPv6 Echo reply on DRB#n?	-->	*ICMPv6 ECHO REPLY*	-	P
1c1	ELSE, the SS transmits one IP Packet to verify data path on DRB#n. See NOTE 1, 2.	-	-	-	-
1c2	Check: Does UE send the IP Packet on DRB#n in the uplink?	-	-	-	P

NOTE 1: A Test Loop is assumed to already have been closed.
NOTE 2: When DRB#n is a dedicated bearer, the IP Packet shall match the packet filters as configured for DRB#n. When DRB#n is a default bearer, the IP Packet shall match none of the dedicated bearers associated to DRB#n (if any). (NOTE 4)
NOTE 3: When DRB#n is a dedicated bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be the same as the remote address of the DL/UL packet filters.
When DRB#n is a default bearer, the source address of the ICMP/ICMPv6 ECHO REQUEST shall be different than the remote address of the DL/UL packet filters for an associated dedicated bearer (if any). (NOTE 4)
NOTE 4: For 5GC QoS rules and the associated packet filters are specified in clause 4.8.2.
For EPC the TFTs and associated packet filters are specified in clause 6.6.2 of TS 36.508 [2] and the IP packet shall be as according to clause 7.14.2 of TS 36.523-3 [41].

4.9.2 Test procedure to activate UE Beamlock Test Function (UBF)

4.9.2.1 Initiation

UE is operating in FR2 in RRC_CONNECTED state.

4.9.2.2 Procedure

Table 4.9.2.2-1: Test procedure Sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	SS request UE to activate UE beamlock function.	<--	*ACTIVATE BEAMLOCK*	-	-
2	UE confirms that UE beamlock function is activated	-->	*ACTIVATE BEAMLOCK COMPLETE*	-	-

4.9.2.3 Specific Message contents

Table 4.9.2.3-1: ACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.1			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 0		
UE Beamlock test Function	0 0 0 0 0 0 0 1		Tx Only
UE Beamlock test Function	0 0 0 0 0 0 1 0		Rx Only
UE Beamlock test Function	0 0 0 0 0 0 1 1		Tx and Rx

Condition	Explanation
Tx Only	Activation UE beamlock function for Tx only
Rx Only	Activation UE beamlock function for Rx only
Tx and Rx	Activation UE beamlock function for both Tx and Rx

Table 4.9.2.3-2: ACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.2			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 0 1		

4.9.3 Test procedure to deactivate UE Beamlock Test Function (UBF)

4.9.3.1 Initiation

UE is operating in FR2 in RRC_CONNECTED state with UE beamlock test function activated.

4.9.3.2 Procedure

Table 4.9.3.2-1: Test procedure Sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	SS request UE to deactivate UE beamlock function.	<--	*DEACTIVATE BEAMLOCK*	-	-
2	UE confirms that UE beamlock function is activated	-->	*DEACTIVATE BEAMLOCK COMPLETE*	-	-

4.9.3.3 Specific Message contents

Table 4.9.3.3-1: DEACTIVATE BEAMLOCK

Derivation Path: 38.509 clause 6.4.3			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 0		

Table 4.9.3.3-2: DEACTIVATE BEAMLOCK COMPLETE

Derivation Path: 38.509 clause 6.4.4			
Information Element	**Value/remark**	**Comment**	**Condition**
Protocol discriminator	1 1 1 1		
Skip indicator	0 0 0 0		
Message type	1 0 1 0 0 0 1 1		

4.9.4 Test procedure to check that UE is in state 5GC RRC_IDLE on a certain NR/NGC cell

4.9.4.1 Scope

This procedure aims at checking whether the UE is in state 5GC RRC_IDLE on a certain cell (as specified in the test case).

4.9.4.2 Procedure description

4.9.4.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.4.2.2 Procedure

Table 4.9.4.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	Step 1 of Generic procedure for bringing the UE in RRC_CONNECTED state with connectivity *NR* as specified in Table 4.5.4.2-3 is performed.	-	-	-	-
2	Check: Does the UE transmit an *RRCSetupRequest* message on the cell specified in the test case?	-->	NR RRC: *RRCSetupRequest*	-	P
3-8	Steps 3-8 of Generic procedure for bringing the UE in RRC_CONNECTED state with connectivity *NR* as specified in Table 4.5.4.2-3 are performed.	-	-	-	-
-	EXCEPTION: Step 9a1 describes a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
9a1	IF '*connected without release*' is not present THEN the SS transmits an *RRCRelease* message to release RRC connection and move the UE to RRC_IDLE..	<--	NR RRC: *RRCRelease*	-	-

4.9.4.2.3 Specific Message content

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.5 Test procedure to check that UE is camped on a new NR/NGC cell belonging to a new TA

4.9.5.1 Scope

This procedure aims at checking whether the UE performs a mobility registration updating (Tracking Area (TA) update) procedure when it camps on a new cell (as specified in the test case) belonging to a new TA.

4.9.5.2 Procedure description

4.9.5.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.5.2.2 Procedure sequence

Table 4.9.5.2.2-1: Test procedure sequence mobility registration updating (TA update)

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	The UE transmits an *RRCConnectionRequest* message.	-->	NR RRC: *RRCSetupRequest*	-	-
2	SS transmit an *RRCConnectionSetup* message.	<--	NR RRC: *RRCSetup*	-	-
3	The UE transmits an *RRCConnectionSetupComplete* message to confirm the successful completion of the connection establishment and a REGISTRATION REQUEST message indicating "mobility registration updating" is sent to update the registration of the actual tracking area.	-->	NR RRC: *RRCSetupComplete* 5GMM: REGISTRATION REQUEST	-	-
4	SS sends a REGISTRATION ACCEPT message containing a 5G-GUTI. (NOTE 1, NOTE 2)	<--	NR RRC: *DLInformationTransfer* 5GMM: REGISTRATION ACCEPT	-	-
5	Check: Does the UE send a REGISTRATION COMPLETE?	-->	NR RRC: *ULInformationTransfer* 5GMM: REGISTRATION COMPLETE	-	P
-	EXCEPTION: Step 6a1 describes a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
6a1	IF '*connected without release*' is not present THEN the SS transmits an *RRCConnectionRelease* message to release RRC connection and move the UE to RRC_IDLE.	<--	NR RRC: *RRCRelease*	-	-

NOTE 1 If a PDU session status IE was included in the REGISTRATION REQUEST message then the SS includes a PDU session status IE in the REGISTRATION ACCEPT message indicating that all the PDU sessions are active.
NOTE 2: If the UE has indicated S1 mode supported then the SS shall indicate in the 5GS network feature support IE in the REGISTRATION ACCEPT message the IWK N26 bit set to "interworking without N26 not supported". The setting of the "interworking without N26 not supported" has been chosen to ensure that the UE is operating in the single-registration mode allowing for a clearly pre-determined UE behaviour.

4.9.5.2.3 Specific Message content

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.6 Test procedures for Switch off / Power off UE

4.9.6.1 Switch off / Power off procedure in RRC_IDLE

Table 4.9.6.1-1: Switch off procedure in RRC_IDLE

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE, IF pc_USIM_Removal THEN remove the USIM (Note 1)	-	-
1a2	UE transmits an *RRCRequest* message.	-->	RRC: *RRCRequest*
1a3	SS transmit an *RRCSetup* message.	<--	RRC: *RRCSetup*
1a4	The UE transmits an *RRCSetupComplete* message including the DEREGISTRATION REQUEST message.	-->	RRC: *RRCSetupComplete* 5GMM: DEREGISTRATION REQUEST
1a5	The SS transmits an *RRCRelease* message	<--	RRC: *RRCRelease*
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don’t support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.6.2 Switch off / Power off procedure in RRC_INACTIVE

4.9.6.2.1 Procedure

Table 4.9.6.2.1-1: Switch off procedure in RRC_INACTIVE

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE, IF pc_USIM_Removal THEN remove the USIM (Note 1)	-	-
1a2	UE transmits an *RRCResumeRequest* message.	-->	NR RRC: *RRCResumeRequest*
1a3	SS transmit an *RRCResume* message.	<--	NR RRC: *RRCResume*
1a4	The UE transmits an *RRCResumeComplete* message including the DEREGISTRATION REQUEST message.	-->	NR RRC: *RRCResumeComplete* 5GMM: DEREGISTRATION REQUEST
1a5	The SS transmits an *RRCRelease* message	<--	NR RRC: *RRCRelease*
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.6.2.2 Specific Message contents

Table 4.9.6.2.1-1: RRCResumeRequest

Derivation Path: TS 38.331 [6], clause 6.2.2			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCResumeRequest ::= SEQUENCE {			
rrcResumeRequest SEQUENCE {			
resumeIdentity	Not checked		
resumeMAC-I	Not checked		
resumeCause	Not checked		
spare	Not checked		
}			
}			

4.9.6.3 Switch off / Power off procedure in RRC_CONNECTED

Table 4.9.6.3-1: Switch off procedure in RRC_CONNECTED

Step	**Procedure**	**Message Sequence**	
		U - S	**Message**

-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [30] pc_SwitchOnOff or [31] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE (Note 1, Note 3)	-	-
1a2	Start timer1 = 10 sec (T3540).	-	-
1a2a1	The UE transmits a DEREGISTRATION REQUEST message.	-->	5GMM: DEREGISTRATION REQUEST
1a2a2	Stop timer1 = 10 sec (T3540).		
1a2b1	Timer1 = 10 sec (T3540) expires. NOTE: On expiry of T3540 the UE may locally release the connection. Start timer2 = 5 sec(DEREGISTRATION Timer)	-	-
1a2b1a1-1a2b1a3	Steps 1a2-1a4 as described in Table 4.9.6.1-1: Switch off procedure in RRC_IDLE take place.	-	-
1a2b1a4	Stop timer2 = 5 sec (T3540).	-	-
1a2b1b1	Timer2 = 5 sec expires. SS assume that UE has locally switched off.	-	-
1a3	The SS transmits an *RRCRelease* message	<--	RRC: *RRCRelease*
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected. Note 3: Depending on the time which the physical switching off the UE may require, the timer T3540 started in the UE may expire which may lead the UE to locally release the NAS signalling connection (see TS 24.501 [28], Table 10.2.1).			

4.9.6.4 Switch off / Power off procedure in State DEREGISTERED

Table 4.9.6.4-1: Switch off procedure in State DEREGISTERED

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [36] pc_SwitchOnOff or [37] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE (Note 1)	-	-
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don’t support switch off or USIM removal.			

4.9.6.5 Switch off / Power off procedure in WLAN Ipsec_SA_Established

Table 4.9.6.5-1: Switch off procedure in Ipsec_SA_Established

Step	Procedure	Message Sequence	
		U - S	Message
-	EXCEPTION: Steps 1a1 to 1b1 describe behaviour that depends on the UE capability; the "lower case letter" identifies a step sequence that take place if [30] pc_SwitchOnOff or [31] pc_USIM_Removal is supported	-	-
1a1	IF pc_SwitchOnOff THEN switch off UE (Note 1)	-	-
1a2	The UE transmits a DEREGISTRATION REQUEST message.	-->	5GMM: DEREGISTRATION REQUEST
1a3	The generic procedure for SS-requested IPsec Secure tunnel disconnection, specified in subclause 4.5A.5, takes place performing disconnection of security association	-	-
1b1	ELSE power off UE (Note 2)	-	-
Note 1: USIM removal is a feasible alternative to switch off UE. Note 2: Power off is used when UE don't support switch off or USIM removal, in which case no UE originated deregistration procedure is expected.			

4.9.7 Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode

4.9.7.1 Scope

This procedure aims at verifying that the UE performs a Tracking Area Update (TAU) procedure when it performs inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE.

NOTE: At present the procedure handles only the scenario with N26 interface supported on network side and single registration on the UE side.

The procedure provides different security context handling options based on the condition parameters defined in Table 4.9.7.1-1.

Table 4.9.7.1-1: Condition parameters

Condition	Explanation
new security context	When this parameter is present the SS will establish and take into account a new security context.
existing EPS security context	When this parameter is present the SS will take into account an existing EPS security context. A prerequisite for using this condition is the existence of an EPS security context
NOTE 1: If none of the defined condition parameters is present when the procedure is referred to then the SS will apply mapped 5G security context. A prerequisite for using this condition is the existence of 5G security context.	

4.9.7.2 Procedure description

4.9.7.2.1 Initial conditions

System Simulator:

- 1 E-UTRA cell connected to EPC, default parameters, system information combination 31 as defined in TS 36.508 [2], subclause 4.4.3.1.1.

NOTE: Details about the NGC cell from which the UE will move to the E-UTRA cell are to be specified in the test.

User Equipment:

- The Test UICC shall be inserted. It shall provide relevant details on the EPC and 5GC.

All details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.7.2.2 Procedure sequence

Table 4.9.7.2.2-1: Test procedure sequence UE Tracking area updating / inter-system change from N1 mode to S1 mode in EMM-IDLE mode

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	The UE transmits an *RRCConnectionRequest* message on the cell specified in the test case.	-->	RRC: *RRCConnectionRequest*	-	-
2	SS transmits an *RRCConnectionSetup* message.	<--	RRC: *RRCConnectionSetup*	-	-
3	The UE transmits an *RRCConnectionSetupComplete* message to confirm the successful completion of the connection establishment and a TRACKING AREA UPDATE REQUEST message is sent to update the registration of the actual tracking area.	-->	RRC: *RRCConnectionSetupComplete* NAS: TRACKING AREA UPDATE REQUEST	-	-
-	EXCEPTION: Steps 4a1-4b2 describe a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
4a1	IF *'new security context'* THEN the SS transmits an AUTHENTICATION REQUEST message to initiate the EPS authentication and AKA procedure. NOTE: [?]	<--	RRC: *DLInformationTransfer* NAS: AUTHENTICATION REQUEST	-	-
4a2	The UE transmits an AUTHENTICATION RESPONSE message and establishes mutual authentication.	-->	RRC: *ULInformationTransfer* NAS: AUTHENTICATION RESPONSE	-	-
4a3	The SS transmits a NAS SECURITY MODE COMMAND message to activate NAS security.	<--	RRC: *DLInformationTransfer* NAS: SECURITY MODE COMMAND	-	-
4a4	The UE transmits a NAS SECURITY MODE COMPLETE message and establishes the initial security configuration.	-->	RRC: *ULInformationTransfer* NAS: SECURITY MODE COMPLETE	-	-
4b1	IF *'existing EPS security context'* THEN the SS transmits a NAS SECURITY MODE COMMAND message to activate NAS security.	<--	RRC: *DLInformationTransfer* NAS: SECURITY MODE COMMAND	-	-

4b2	The UE transmits a NAS SECURITY MODE COMPLETE message and establishes the initial security configuration.	-->	RRC: *ULInformationTransfer* NAS: SECURITY MODE COMPLETE	-	-
-	EXCEPTION: If none of the branches 4a or 4b takes place then the SS shall apply mapped 5G security context, otherwise the SS shall apply the security context depending on the branch.	-	-	-	-
5	SS responds with TRACKING AREA UPDATE ACCEPT message.	<--	RRC: *DLInformationTransfer* NAS: TRACKING AREA UPDATE ACCEPT	-	-
6	Check: Does the UE transmit TRACKING AREA UPDATE COMPLETE?	-->	RRC: *ULInformationTransfer* NAS: TRACKING AREA UPDATE COMPLETE	-	P
-	EXCEPTION: Step 7a1 describes a step sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
7a1	IF '*connected without release*' is not present THEN the SS transmits an *RRCConnectionRelease* message to release RRC connection and move the UE to RRC_IDLE.	<--	RRC: *RRCConnectionRelease*	-	-

4.9.7.2.3 Specific Message content

Default message contents as specified in TS 36.508 [2] with the following exceptions.

Table 4.9.7.2.3-1: TRACKING AREA UPDATE REQUEST (Step 3, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-27, condition NR.			
Information Element	**Value/remark**	**Comment**	**Condition**
EPS update type			
EPS update type Value	'000'B	TA updating	
"Active" flag	'0'B	No bearer establishment requested	
NAS key set identifier	the eKSI indicating the 5G NAS security context value assigned at the initial registration when the UE entered N1		
Old GUTI	GUTI, mapped from the 5G-GUTI assigned at the initial registration when the UE entered N1		
Last visited registered TAI	The TAI the last visited E-UTRA Cell belonged to, if any. Not included if the UE does not have last stored EPC TAI.		
UE radio capability information update needed	'1'B	UE radio capability information update needed	
EPS bearer context status	Present, Content not checked	EBI corresponding to active PDU Sessions need to be set to 1	
Old GUTI type	"Native GUTI"		
UE status	"UE is in 5GMM-REGISTERED state"		
NOTE: The message shall be integrity protected using the 5GS security context available in the UE.			

Table 4.9.7.2.3-2: AUTHENTICATION REQUEST (Step 4a1, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-7.			
Information Element	**Value/remark**	**Comment**	**Condition**
NAS key set identifier$_{ASME}$			
NAS key set identifier	An arbitrarily selected value between '000'B and '110'B, different from the valid NAS key set identifier of the UE if such a value exists.	Value shall be different to the 5G NAS security context value if there is one assigned	

Table 4.9.7.2.3-3: SECURITY MODE COMMAND (Step 4a3, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-19.			
Information Element	**Value/remark**	**Comment**	**Condition**
NAS key set identifier$_{ASME}$			
NAS key set identifier	The 4G NAS key set identifier assigned in step 4a1.		

Table 4.9.7.2.3-4: SECURITY MODE COMMAND (Step 4b1, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-19.			
Information Element	**Value/remark**	**Comment**	**Condition**
NAS key set identifier$_{ASME}$			
NAS key set identifier	The 4G NAS key set identifier assigned in the latest Authentication procedure.		

Table 4.9.7.2.3-5: TRACKING AREA UPDATE ACCEPT (Step 5, Table 4.9.7.2.2-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-24, condition NR.

4.9.8 Procedure for Registration Reject

4.9.8.1 Scope

The purpose of this procedure is to reject the registration request, with a specific cause value, which may allow fields to be cleared in the USIM.

4.9.8.2 Procedure description

4.9.8.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.8.2.2 Procedure sequence

Table 4.9.8.2.2-1: Procedure for Registration Reject

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits an *RRCSetupRequest* message.	-->	NR RRC: *RRCSetupRequest*
2	The SS transmits an *RRCSetup* message.	<--	NR RRC: *RRCSetup*
3	The UE transmits an *RRCSetupComplete* message and a REGISTRATION REQUEST message.	-->	NR RRC: *RRCSetupComplete* 5GMM: REGISTRATION REQUEST
4	The SS transmits an AUTHENTICATION REQUEST message including EAP-Request/AKA'-Challenge or 5G AKA Challenge.	<--	5GMM: AUTHENTICATION REQUEST
5	The UE transmits an AUTHENTICATION RESPONSE message including EAP-Response/AKA'-Challenge or 5G AKA Response.	-->	5GMM: AUTHENTICATION RESPONSE
6	The SS transmits a SECURITY MODE COMMAND message including EAP-Success if EAP-AKA' used.	<--	5GMM: SECURITY MODE COMMAND
7	The UE transmits a SECURITY MODE COMPLETE message.	-->	5GMM: SECURITY MODE COMPLETE
8	The SS transmits a REGISTRATION REJECT message with the cause value set to *Reject Cause*.	<--	5GMM: REGISTRATION REJECT
9	The SS transmits an *RRCRelease* message	<--	RRC: *RRCRelease*
10	Test procedure for Switch off / Power off in State DEREGISTERED as specified in subclause 4.9.6.4		

4.9.8.2.3 Specific message contents

Table 4.9.8.2.3-1: REGISTRATION REJECT

Derivation Path: table 4.7.1-9			
Information Element	**Value/remark**	**Comment**	**Condition**
5GMM cause	Set according to *Reject Cause*	*Reject Cause* set to #6 Illegal ME as default	

4.9.9 Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode

4.9.9.1 Scope

This procedure aims at verifying that the UE performs a Mobility and periodic registration update procedure when it performs inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE.

NOTE: At present the procedure handles only the scenario with N26 interface supported on network side and single registration on the UE side.

4.9.9.2 Procedure description

4.9.9.2.1 Initial conditions

System Simulator:

- 1 NGC Cell connected to 5GC, default parameters, system information combination NR-6 as defined in subclause 4.4.3.1.2.

NOTE: Details about the E-UTRA cell from which the UE will move to the NGC cell are to be specified in the test.

User Equipment:

- The Test UICC shall be inserted. It shall provide relevant details on the EPC and 5GC.

All details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.9.2.2 Procedure sequence

Table 4.9.9.2.2-1: Test procedure sequence UE Tracking area updating / inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1-3	Check: Does the UE perform on the NGC Cell the mobility and periodic registration update procedure as described in Steps 1-3 of Table 4.9.5.2.2-1.	-	-	-	P
4	The SS transmits a DLInformationTransfer message and an AUTHENTICATION REQUEST message.	<--	NR RRC: DLInformationTransfer 5GMM: AUTHENTICATION REQUEST	-	-
5	The UE transmits an ULInformationTransfer message and an AUTHENTICATION RESPONSE message.	-->	NR RRC: ULInformationTransfer 5GMM: AUTHENTICATION RESPONSE	-	-
6	The SS transmits a DLInformationTransfer message and a SECURITY MODE COMMAND message.	<--	NR RRC: DLInformationTransfer 5GMM: SECURITY MODE COMMAND	-	-
7	The UE transmits an ULInformationTransfer message and a SECURITY MODE COMPLETE message.	-->	NR RRC: ULInformationTransfer 5GMM: SECURITY MODE COMPLETE	-	-
8	The SS transmits a SecurityModeCommand message.	<--	NR RRC: SecurityModeCommand	-	-
9	The UE transmits a SecurityModeComplete message.	-->	NR RRC: SecurityModeComplete	-	-
10-11	Steps 4-5 of Table 4.9.5.2.2-1 of the generic procedure are performed.	-	-	-	-

4.9.9.2.3 Specific Message content

Table 4.9.9.2.3-1: REGISTRATION REQUEST (step 1, Table 4.9.9.2.2-1; step 3, TS 38.508-1 [4] Table 4.9.5.2.2-1)

Derivation Path: TS 38.508-1 [4], Table 4.7.1-6.

Information Element	Value/remark	Comment	Condition
5GS registration type	'00xxx010'	mobility registration updating x - not checked	
ngKSI			
NAS key set identifier	KSI_{AMF} that was created when the UE last registered to 5GCN		Registered_Previously_on_5GCN
	'111'B	No key	Not_Registered_Previously_on_5GCN
TSC	'0'B	native security context (for KSI_{AMF})	Registered_Previously_on_5GCN
	Not applicable	TSC does not apply for NAS key set identifier value "111"	Not_Registered_Previously_on_5GCN
5GS mobile identity	5G-GUTI mapped from the 4G-GUTI assigned when the UE last registered to EPC E-UTRA		
Non-current native NAS key set identifier	Not present		
5GMM capability	'0000 0xx1'	S1 mode supported x - not checked	
Last visited registered TAI	The TAI the last visited NGC Cell belonged to, if any. Not included if the UE does not have last storred 5GC TAI.		

S1 UE network capability			
All octets with the exception of octet 8, bit 8 and octet 9, bit 6	Not checked		
Extended protocol configuration options (ePCO) (octet 8, bit 8)	'1'	Extended protocol configuration options IE supported	
N1 mode supported (N1mode) (octet 9, bit 6)	'1'	N1 mode supported	
PDU session status	Not checked		
UE status	"UE is in EMM-REGISTERED state"		
Additional GUTI	5G-GUTI assigned when the UE last registered to 5GC N		Registered_Previously_on_5GCN
	Not present		Not_Registered_Previously_on_5GCN
EPS NAS message container	TRACKING AREA UPDATE REQUEST message	See Table 4.9.9.2.3-2	

Condition	Explanation
Not_Registered_Previously_on_5GCN	UE has not_registered_previously_on_5GCN. UE does not have valid 5G NAS security context and 5G-GUTI.
Registered_Previously_on_5GCN	UE has registered_previously_on_5GCN. UE have valid 5G NAS security context and 5G-GUTI

Table 4.9.9.2.3-2: TRACKING AREA UPDATE REQUEST (Table 4.9.9.2.3-1)

Derivation Path: TS 36.508 [2], Table 4.7.2-27.			
Information Element	**Value/remark**	**Comment**	**Condition**
EPS update type			
EPS update type Value	'000'B	TA updating	
"Active" flag	'1'B	Bearer Establishment requested	
NAS key set identifier	the eKSI for the current EPS security context		
Old GUTI	4G-GUTI assigned when the UE last registered to EPC E-UTRA		
UE network capability	Not present		
Last visited registered TAI	Not present		
DRX parameter	Not present		
UE radio capability information update needed	Not present		
EPS bearer context status	Not present		
MS network capability	Not present		
Old location area identification	Not present		
TMSI status	Not present		
Mobile station classmark 2	Not present		
Mobile station classmark 3	Not present		
Supported Codecs	Not present		
Additional update type	Not present		
Voice domain preference and UE's usage setting	Not present		
Old GUTI type	Not present		
Device properties	Not present		
MS network feature support	Not present		
TMSI based NRI container	Not present		
T3324 value	Not present		
T3412 extended value	Not present		
Extended DRX parameters	Not present		
UE additional security capability	Not present		
UE status	Not present		
Additional information requested	Not present		
NOTE: The message shall be integrity protected using the current EPS security context.			

4.9.10 Test procedure to check that the UE is in RRC_CONNECTED state

4.9.10.1 Scope

This procedure aims at checking whether the UE is in the RRC_CONNECTED state.

4.9.10.2 Procedure description

4.9.10.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.10.2.2 Procedure

Table 4.9.10.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1	The SS sends *UECapabilityEnquiry* message to the UE.	<--	NR RRC: *UECapabilityEnquiry*	-	-
2	Check: Does the UE send a *UECapabilityInformation* message?	-->	NR RRC: *UECapabilityInformation*		P

4.9.10.2.3 Specific Message content

None.

4.9.11 Test Procedure for IMS Emergency call establishment in 5GC with IMS emergency registration

4.9.11.1 Scope

This procedure aims at verifying the UE establishment of IMS Emergency call in 5GC when the UE is in 5GMM-IDLE and when IMS emergency registration is required e.g. under Normal Service conditions.

4.9.11.2 Procedure description

4.9.11.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 1N-A, subclause 4.4A.2 on the NR Cell. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.11.2.2 Procedure sequence

Table 4.9.11.2.2-1: Test procedure sequence UE IMS Emergency call establishment in 5GC with IMS emergency registration

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	Check: Does the UE transmit an *RRCSetupRequest* message with 'establishmentCause' set to 'emergency'?	-->	NR RRC: *RRCSetupRequest*	-	P
2	The SS transmits an *RRCSetup* message.	<--	NR RRC: *RRCSetup*	-	-
3	Check: Does the UE transmit an *RRCSetupComplete* message and a SERVICE REQUEST message with 'Service type' set to 'emergency services'?	-->	NR RRC: *RRCSetupComplete* 5GMM: SERVICE REQUEST	-	P
4	The SS transmits a *SecurityModeCommand* message.	<--	NR RRC: *SecurityModeCommand*	-	-
5	The UE transmits a *SecurityModeComplete* message.	-->	NR RRC: *SecurityModeComplete*	-	-
6	The SS transmits an *RRCReconfiguration* message and a SERVICE ACCEPT message to establish SRB2 and DRB.	<--	NR RRC: *RRCReconfiguration* 5GMM: SERVICE ACCEPT	-	-
7	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*	-	-
8	Check: Does the UE transmit an UL NAS TRANSPORT message with 'Request type' set to 'initial emergency request', and, a PDU SESSION ESTABLISHMENT REQUEST?	-->	NR RRC: *ULInformationTransfer* 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST	-	P
-	EXCEPTION: In parallel to the events described in steps 9-10 below the events specified in steps 1a1 to 2 of Table 4.9.11.2.2-2 take place.	-	-	-	-
9	The SS transmits an *RRCReconfiguration* message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: *RRCReconfiguration* 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT	-	-
10	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*	-	-

-	EXCEPTION: In parallel to the events described in steps 11-13 below the events specified in steps 3 of Table 4.9.11.2.2-2 take place.	-	-	-	-
11	The SS transmits an RRCReconfiguration message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: RRCReconfiguration 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
12	The UE transmits an RRCReconfigurationComplete message	-->	NR RRC: RRCReconfigurationComplete	-	-
13	Check: Does the UE transmits a ULInformationTransfer message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: ULInformationTransfer 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

Table 4.9.11.2.2-2: IMS signalling and Emergency call establishment

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Step 1a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
1a1	The generic procedure for IP address allocation in the user plane specified in subclause 4.5A.3 takes place.	-	-	-	-
2	Generic Test Procedure for IMS emergency registration - 5GS as defined in TS 34.229-1 [44], annex C.20a is performed.	-	-	-	-
3	Generic test procedure for setting up emergency speech call - 5G as defined in TS 34.229-1 [44], annex C.22a is performed.	-	-	-	-

4.9.11.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.12.2.3-1: *SIB1* (at any time prior and during the procedure, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-28.			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB1 ::= SEQUENCE {			
ims-EmergencySupport	Present	true	
}			

Table 4.9.11.2.3-2: *RRCSetupRequest* (step 1, Table 4.9.11.2.2-1)

Derivation Path: Table 4.6.1-23.			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	emergency		
}			
}			

Table 4.9.11.2.3-3: SERVICE REQUEST (step 3, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-16.			
Information Element	**Value/remark**	**Comment**	**Condition**
Service type	‘0011’B	emergency services	

Table 4.9.11.2.3-4: UL NAS TRANSPORT (step 8, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-10, condition INITIAL_PDU_REQUEST.			
Information Element	**Value/remark**	**Comment**	**Condition**
Request type	‘011’B	initial emergency request	
S-NSSAI	Not Present		
DNN	Not Present		

Table 4.9.11.2.3-5: PDU SESSION ESTABLISHMENT REQUEST (step 8, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-1.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	A value that is not currently being used by another PDU session		
PTI	A value currently not used		
SSC mode	'001'B	SSC mode 1	

Table 4.9.11.2.3-6: DL NAS TRANSPORT (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.1-11, condition 5GSM_MESSAGE.

Table 4.9.11.2.3-7: PDU SESSION ESTABLISHMENT ACCEPT (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	**Value/remark**	**Comment**	**Condition**
Selected SSC mode	'001'B	SSC mode 1	
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

Table 4.9.11.2.3-8: *RRCReconfiguration* (step 9, Table 4.9.11.2.2-1)

Derivation Path: Table 4.8.1-1: RRCReconfiguration-DRB (1, 0)

Table 4.9.11.2.3-9: PDU SESSION MODIFICATION COMMAND (step 11, Table 4.9.11.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.11.2.3-10: *RRCReconfiguration* (step 11, Table 4.9.11.2.2-1)

Derivation Path: 4.8.1-1C RRCReconfiguration-Speech

4.9.12 Generic Test Procedure for IMS Emergency call establishment in 5GC without IMS emergency registration

4.9.12.1 Scope

This procedure aims at verifying the UE establishment of IMS Emergency call in 5GC without the need for IMS emergency registration to take place beforehand e.g. under Limited Service or SIM/USIM not available, the SIM/USIM is considered invalid by the UE conditions.

4.9.12.2 Procedure description

4.9.12.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters unless specified otherwise. PLMN/TAI which the cell belongs to, shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it

User Equipment:

- Whether the Test UICC shall be inserted or not, and, its settings e.g. in regard to the provision of Emergency Numbers, shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12.2.2 Procedure sequence

Table 4.9.12.2.2-1: Test procedure sequence UE IMS Emergency call establishment in 5GC without IMS emergency registration

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Unless otherwise stated all the messages below are transmitted on the cell specified in the test case.	-	-	-	-
1	Check: Does the UE transmits an *RRCSetupRequest* message with 'establishmentCause' set to 'emergency'?	-->	NR RRC: *RRCSetupRequest*	-	P
2	The SS transmits an *RRCSetup* message.	<--	NR RRC: *RRCSetup*	-	-
3	Check: Does the UE transmits an *RRCSetupComplete* message and a REGISTRATION REQUEST message with 'Service type' set to 'emergency services'?	-->	NR RRC: *RRCSetupComplete* 5GMM: REGISTRATION REQUEST	-	P
4	The SS transmits a *DLInformationTransfer* message and a SECURITY MODE COMMAND message with 'Selected NAS security algorithms' set to "null integrity protection algorithm" (5G-IA0), "null ciphering algorithm" (5G-EA0).	<--	NR RRC: *DLInformationTransfer* 5GMM: SECURITY MODE COMMAND	-	-
5	The UE transmits an *ULInformationTransfer* message and a SECURITY MODE COMPLETE message.	-->	NR RRC: *ULInformationTransfer* 5GMM: SECURITY MODE COMPLETE	-	P
6	The SS transmits a *SecurityModeCommand* message with cipheringAlgorithm set to '*NULL*' ciphering algorithm (nea0) and integrityProtAlgorithm set to '*NULL*' integrity protection algorithm (nia0).	<--	NR RRC: *SecurityModeCommand*	-	-
7	The UE transmits a *SecurityModeComplete* message.	-->	NR RRC: *SecurityModeComplete*	-	P
8	The SS transmits a *UECapabilityEnquiry* message.	<--	NR RRC: *UECapabilityEnquiry*	-	-
9	The UE transmits a *UECapabilityInformation* message.	-->	NR RRC: *UECapabilityInformation*	-	-
10	The SS transmits a *DLInformationTransfer* message and a REGISTRATION ACCEPT message.	<--	NR RRC: *DLInformationTransfer* 5GMM: REGISTRATION ACCEPT	-	-

11	The UE transmits an *ULInformationTransfer* message and a REGISTRATION COMPLETE message.	-->	NR RRC: *ULInformationTransfer* 5GMM: REGISTRATION COMPLETE	-	-
12	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*	-	-
13	Check: Does the UE transmits an UL NAS TRANSPORT message with 'Request type' set to 'initial emergency request', and, a PDU SESSION ESTABLISHMENT REQUEST?	-->	NR RRC: *ULInformationTransfer* 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT REQUEST	-	P
-	EXCEPTION: In parallel to the events described in steps 14-15 below the events specified in steps 1a1 to 2 of Table 4.9.12.2.2-2 take place.	-	-	-	-
14	The SS transmits an *RRCReconfiguration* message and an PDU SESSION ESTABLISHMENT ACCEPT	<--	NR RRC: *RRCReconfiguration* 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION ESTABLISHMENT ACCEPT	-	-
15	The UE transmits an *RRCReconfigurationComplete* message.	-->	NR RRC: *RRCReconfigurationComplete*	-	-
-	EXCEPTION: In parallel to the events described in steps 16-18 below the events specified in steps 3 of Table 4.9.12.2.2-2 take place.	-	-	-	-
16	The SS transmits an RRCReconfiguration message and an PDU SESSION MODIFICATION COMMAND	<--	NR RRC: RRCReconfiguration 5GMM: DL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMMAND	-	-
17	The UE transmits an RRCReconfigurationComplete message	-->	NR RRC: RRCReconfigurationComplete	-	-
18	Check: Does the UE transmits a ULInformationTransfer message and an PDU SESSION MODIFICATION COMPLETE message?	-->	NR RRC: ULInformationTransfer 5GMM: UL NAS TRANSPORT 5GSM: PDU SESSION MODIFICATION COMPLETE	-	P

Table 4.9.12.2.2-2: IMS signalling and Emergency call establishment

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
-	EXCEPTION: Step 1a1 describes behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-	-	-
1a1	The generic procedure for IP address allocation in the user plane specified in subclause 4.5A.3 takes place.	-	-	-	-
2	Generic test procedure for setting up emergency speech call - 5G as defined in TS 34.229-1 [44], annex C.22a is performed.	-	-	-	-

4.9.12.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

NOTE: Some of the specific message contents provided below assume that the UE is in the state 5GMM-DEREGISTERED.LIMITED-SERVICE or 5GMM-REGISTERED.LIMITED-SERVICE (e.g. the selected cell over 3GPP access is in a forbidden PLMN or is in a forbidden tracking area respectively), or, in 5GMM-DEREGISTERED.NO-SUPI as defined in TS 24.501 [28], subclauses 5.1.3.2.1.3.3 and 5.1.3.2.1.3.6 respectively. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

Table 4.9.12.2.3-1: *SIB1* (at any time prior and during the procedure, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-28.			
Information Element	**Value/remark**	**Comment**	**Condition**
SIB1 ::= SEQUENCE {			
ims-EmergencySupport	Present	true	
}			

Table 4.9.12.2.3-2: *RRCSetupRequest* (step 1, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-23.			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCSetupRequest ::= SEQUENCE {			
rrcSetupRequest SEQUENCE {			
establishmentCause	emergency		
}			
}			

Table 4.9.12.2.3-3: REGISTRATION REQUEST (step 3, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-6, condition EMERGENCY.

Table 4.9.12.2.3-4: SECURITY MODE COMMAND (step 4, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-25.			
Information Element	**Value/remark**	**Comment**	**Condition**
Selected NAS security algorithms			
Type of ciphering algorithm	5G-EA0	null ciphering algorithm	
Type of integrity protection algorithm	5G-IA0	null integrity protection algorithm	
ngKSI			
NAS key set identifier	'000'B		

Table 4.9.12.2.3-5: *SecurityModeCommand* (step 6, Table 4.9.12.2.2-1)

Derivation Path: Table 4.6.1-25.			
Information Element	**Value/remark**	**Comment**	**Condition**
SecurityModeCommand ::= SEQUENCE {			
criticalExtensions CHOICE {			
securityModeCommand SEQUENCE {			
securityConfigSMC SEQUENCE {			
securityAlgorithmConfig SEQUENCE {			
cipheringAlgorithm	nea0	'*NULL*' ciphering algorithm	
integrityProtAlgorithm	nia0	'*NULL*' integrity protection algorithm	
}			
}			
}			
}			
}			

Table 4.9.12.2.3-6: REGISTRATION ACCEPT (step 10, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-7, condition EMERGENCY.

Table 4.9.12.2.3-7: UL NAS TRANSPORT (step 13, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-10, condition INITIAL_PDU_REQUEST.			
Information Element	**Value/remark**	**Comment**	**Condition**
Request type	‘011’B	initial emergency request	
S-NSSAI	Not Present		
DNN	Not Present		

Table 4.9.12.2.3-8: PDU SESSION ESTABLISHMENT REQUEST (step 13, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-1.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	A value that is not currently being used by another PDU session		
PTI	A value currently not used		
SSC mode	'001'B	SSC mode 1	

Table 4.9.12.2.3-9: DL NAS TRANSPORT (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.1-11, condition 5GSM_MESSAGE.

Table 4.9.12.2.3-10: PDU SESSION ESTABLISHMENT ACCEPT (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	**Value/remark**	**Comment**	**Condition**
Selected SSC mode	'001'B	SSC mode 1	
Authorized QoS rules	Reference QoS rule #2 as defined in Table 4.8.2.1-2.		
Authorized QoS flow descriptions	Reference QoS flow #2 as defined in Table 4.8.2.3-2.		

Table 4.9.12.2.3-11: *RRCReconfiguration* (step 14, Table 4.9.12.2.2-1)

Derivation Path: Table 4.8.1-1: RRCReconfiguration-DRB (1, 0)

Table 4.9.12.2.3-12: PDU SESSION MODIFICATION COMMAND (step 16, Table 4.9.12.2.2-1)

Derivation Path: Table 4.7.2-2.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	Same value as sent in PDU SESSION ESTABLISHMENT REQUEST message.		
Authorized QoS rules	Reference QoS rule #7 as defined in Table 4.8.2.1-7 using condition IMS_VOICE.		
Authorized QoS flow descriptions	Reference QoS flow #5 as defined in Table 4.8.2.3-5.		

Table 4.9.12.2.3-13: *RRCReconfiguration* (step 16, Table 4.9.12.2.2-1)

Derivation Path: 4.8.1-1C RRCReconfiguration-Speech

4.9.12A Test Procedure for IMS MO Emergency call release

4.9.12A.1 Scope

This procedure aims at verifying the UE initiated release of an ongoing IMS Emergency call in 5GC

4.9.12A.2 Procedure description

4.9.12A.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 3N-A, subclause 4.4A.2 on the NR Cell with an active IMS emergency call. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12A.2.2 Procedure sequence

Table 4.9.12A.2.2-1: Test procedure sequence IMS MO Emergency call release

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1-3	Generic test procedure for MO release of speech call, steps 1-3, as defined in clause C.32 of TS 34.229-1 [44] is performed.	-	-	-	-
4	The SS transmits a *RRCReconfiguration* message and a PDU SESSION RELEASE COMMAND message.	<--	NR RRC: *RRCReconfiguration* NR NAS: PDU SESSION RELEASE COMMAND	-	-
5	The UE transmit a *RRCReconfigurationComplete* message and a PDU SESSION RELEASE COMPLETE message?	-->	NR RRC: *RRCReconfigurationComplete* NR NAS: PDU SESSION RELEASE COMPLETE	-	-

4.9.12A.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.12A.2.3-1: *RRCReconfiguration* (step 4, Table 4.9.12A.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	2 entries		
drb-Identity[1]	DRB-Identity linked to the IMS emergency signalling bearer		
drb-Identity[2]	DRB-Identity linked to the IMS emergency speech bearer		
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	2 entries		
logicalChannelIdentity[1]	Same value as drb-Identity[1] above		
logicalChannelIdentity[2]	Same value as drb-Identity[2] above		
}			
}			
}			
}			
}			
}			

Table 4.9.12A.2.3-2: PDU SESSION RELEASE COMMAND (step 4, Table 4.9.12A.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	Set according to the Emergency session ID.		
5GSM cause	'0010 0100'B	Regular deactivation	

4.9.12B Test Procedure for IMS MT Emergency call release

4.9.12B.1 Scope

This procedure aims at verifying the network initiated release of an ongoing IMS Emergency call in 5GC

4.9.12B.2 Procedure description

4.9.12B.2.1 Initial conditions

System Simulator:

- 1 NR Cell connected to 5GC, default parameters.

User Equipment:

- The Test UICC shall be inserted. It shall provide Emergency Numbers.

The procedure assumes that the UE is in test state 3N-A, subclause 4.4A.2 on the NR Cell with an active IMS emergency call. All necessary details required shall be explicitly specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.12B.2.2 Procedure sequence

Table 4.9.12B.2.2-1: Test procedure sequence IMS MT Emergency call release

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message/PDU/SDU		
1-2	Generic test procedure for MT release of speech call, steps 1-2, as defined in clause C.33 of TS 34.229-1 [44] is performed.	-	-	-	-
3	The SS transmits a *RRCReconfiguration* message and a PDU SESSION RELEASE COMMAND message.	<--	NR RRC: *RRCReconfiguration* NR NAS: PDU SESSION RELEASE COMMAND	-	-
4	The UE transmit a *RRCReconfigurationComplete* message and a PDU SESSION RELEASE COMPLETE message?	-->	NR RRC: *RRCReconfigurationComplete* NR NAS: PDU SESSION RELEASE COMPLETE	-	-

4.9.12B.2.3 Specific Message content

All specific message contents shall be according subclause 4.6 and 4.7 with the exceptions below.

Table 4.9.12B.2.3-1: *RRCReconfiguration* (step 3, Table 4.9.12B.2.2-1)

Derivation Path: Table 4.6.1-13.			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration SEQUENCE {			
radioBearerConfig SEQUENCE {			
drb-ToReleaseList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	2 entries		
drb-Identity[1]	DRB-Identity linked to the IMS emergency signalling bearer		
drb-Identity[2]	DRB-Identity linked to the IMS emergency speech bearer		
}			
}			
nonCriticalExtension SEQUENCE {			
masterCellGroup SEQUENCE {			
rlc-BearerToReleaseList SEQUENCE (SIZE (1..2)) OF SEQUENCE {	2 entries		
logicalChannelIdentity[1]	Same value as drb-Identity[1] above		
logicalChannelIdentity[2]	Same value as drb-Identity[2] above		
}			
}			
}			
}			
}			
}			

Table 4.9.12B.2.3-2: PDU SESSION RELEASE COMMAND (step 3, Table 4.9.12B.2.2-1)

Derivation Path: Table 4.7.1-14.			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	Set according to the Emergency session ID.		
5GSM cause	'0010 0100'B	Regular deactivation	

4.9.13 Test procedure for no response to paging

4.9.13.1 Scope

This procedure aims at checking that the UE ignores paging messages with a specified identity.

4.9.13.2 Procedure description

4.9.13.2.1 Initial conditions

As specified in the TC which calls the procedure in its entirety or refers to parts of it.

4.9.13.2.2 Procedure sequence

Table 4.9.13.2.2-1: Test procedure sequence

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits a paging message using the NG-5G-S-TMSI which is specified in the referring test step, and on the cell which is specified in the referring test step.	<--	*Paging*	-	-
2	Check: Does the UE send an *RRCSetupRequest* message on the cell where the paging was transmitted within the next 3s?	-->	*RRCSetupRequest*	-	F

4.9.13.3 Specific Message content

None.

4.9.14 Procedure for UE-requested PDU session modification after the first S1 to N1 mode change

4.9.14.1 Scope

The purpose of this procedure is to handle UE-requested PDU session modification after the first S1 to N1 mode change.

NOTE: At present the procedure handles only the scenario with N26 interface supported on network side and single registration on the UE side.

4.9.14.2 Procedure description

4.9.14.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

4.9.14.2.2 Procedure sequence

Table 4.9.14.2.2-1: Procedure for UE-requested PDU session modification after the first S1 to N1 mode change

St	Procedure	Message Sequence	
		U – S	Message
0	Set K = 0, L = 0 (Note 1), N = ExpectedNumberOfPDUSessionModifications (Note 2)	-	-
1	Wait until the UE transmits a PDU SESSION MODIFICATION REQUEST according to step 1 of table 4.9.14.2.2-2 and perform all subsequent steps of table 4.9.14.2.2-2	-	-
2	Set K = K +1	-	-
-	EXCEPTION: In parallel to the events described in steps 3-6a1 below the events specified in Table 4.9.14.2.2-2 may take place.	-	-
3	The SS transmits a PDU SESSION MODIFICATION COMMAND	<--	5GSM: PDU SESSION MODIFICATION COMMAND
4	The UE transmits a PDU SESSION MODIFICATION COMPLETE message.	-->	5GSM: PDU SESSION MODIFICATION COMPLETE
-	EXCEPTION: Steps 7a1 to 7b2 describe behaviour depending UE implementation; the "lower case letter" identifies a step sequence that take place if the UE performs a specific action.	-	-
7a1	IF L > K (Note 3) THEN repeat from step 2	-	-
7b1	ELSE IF K < N (Note 4) THEN wait until the UE transmits another PDU SESSION MODIFICATION REQUEST according to step 1 of Table 4.9.14.2.2-2 and perform all subsequent steps of table 4.9.14.2.2-2	-	-
7b2	Repeat from step 2	-	-

Note 1:	K is the number of PDU SESSION MODIFICATION REQUEST messages already processed including the one that is currently being processed. L is the number of PDU SESSION MODIFICATION REQUEST messages being received so far; L is incremented for each PDU SESSION MODIFICATION REQUEST in the behaviour of Table 4.9.14.2.2-2.
Note 2:	ExpectedNumberOfPDUSessionModifications is the number of PDU session modification procedures to be handled by the procedure. It depends how on how many PDU sessions are carried over from S1 mode. ExpectedNumberOfNewPDUSessions shall be > 0.
Note 3:	One (or more) further PDU SESSION MODIFICATION REQUEST message has been received in parallel.
Note 4:	Less PDU SESSION MODIFICATION REQUEST messages than expected have been received and processed so far ⇒ Further request are expected from the UE.

Table 4.9.14.2.2-2: Reception of PDU SESSION MODIFICATION REQUEST message

St	Procedure	Message Sequence	
		U – S	Message
1	The UE transmits an *ULInformationTransfer* message and a PDU SESSION MODIFICATION REQUEST	-->	5GSM: PDU SESSION MODIFICATION REQUEST
2	Set L = L +1 (Note 1, 2)	-	-
Note 1:	The SS shall raise a fail/inconclusive verdict when there are more PDU SESSION MODIFICATION REQUEST messages than expected (L > N; Note 2).		
Note 2:	L and N are as defined for Table 4.9.14.2.2-1		

4.9.14.2.3 Specific message contents

All specific message contents shall be according clause 4.6 and 4.7 with the below exceptions:

Table 4.9.14.2.3-1: PDU SESSION MODIFICATION REQUEST

Derivation Path: 38.508-1[4] table 4.7.2-7			
Information Element	**Value/remark**	**Comment**	**Condition**
PDU session ID	The PDU session ID is associated with the DNN(same as APN in S1 mode) included in the *ULInformationTransfer* message when the PDN connection was established in S1 mode.		
5GSM capability	Present. Contents not checked.		
Integrity protection maximum data rate	Present. Contents not checked.		

5 Test environments for RF test

5.0 General

5.0.1 Single PDU configuration for RF testing

For RF and performance test case execution on 5G SA UE's defined in TS 38.521-1 [14], TS 38.521-2 [15], TS 38.521-4 [17], IMS shall not be considered and UE's shall be able use RRC (IDLE, CONNECTED) preambles defined in TS 38.508-1 clause 4.5. Before entering RRC_CONNECTED or RRC_IDLE state during initial conditions or test procedure, it is recommended that UE is pre-configured with only 1 PDU (non-IMS) along with appropriate settings to ensure UE operates and stays on NR cell.

5.1 Requirements of test equipment

5.1.1 Requirements for transmission and reception tests

5.1.1.1 Requirements common for conducted and OTA tests

No common RF test environment requirements are specified in addition to the common requirements described in clause 4.2.

5.1.1.2 Requirements for conducted tests

No common RF test environment requirements are specified in addition to the common requirements described in clause 4.2.

5.1.1.3 Requirements for OTA tests

Editor's Note:

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.
- The permitted test methods for transmission and reception test are DFF, DFF with simplification for centre of beam measurements, IFF and NFTF and are described in TR 38.810[24]. The minimum requirements for each test setup are described in the following clauses.
- For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled.

5.1.1.3.1 DFF and DFF with simplification for centre of beam measurements

- Far-field measurement system in an anechoic chamber.
  - The minimum far-field distance R for a traditional far field anechoic chamber can be calculated based on the following equation: $R > \frac{2D^2}{\lambda}$, where D is the diameter of the smallest sphere that encloses the radiating parts of the DUT.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- For DFF(without simplification), a positioning system such that the angle between the link antenna and the DUT has at least two axes of freedom and maintains a polarization reference; this positioning system for the link antenna is in addition to the positioning system for the measurement antenna and provides for an angular relationship independently controllable from the measurement antenna.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1 UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.1.3.2 IFF

- Indirect Far field of Compact Antenna Test Range(CATR) with quiet zone diameter at least D.
- The CATR system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ to achieve a plane wave as in a standard far field range.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.1.3.3 NFTF

- Radiated Near Field UE beam pattern are measured and based on the NFTF mathematical transform, the final metric such as EIRP is the same as the metric for the DFF setup
- A positioning system such as the angle between the dual-polarized measurement/link antenna and the DUT has at least two axes of freedom and maintains a polarization reference
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.
- Maximum permitted test system uncertainty is specified in Annex F in 38.521-2[15].

5.1.2 Requirements for performance tests

5.1.2.1 Requirements common for conducted and OTA tests

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to performance tests and common for conducted and OTA tests.

5.1.2.2 Requirements for conducted test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to conducted test environment for performance tests.

5.1.2.3 Requirements for OTA test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to OTA test environment for performance tests.

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.
- For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled.

5.2 Reference test conditions

5.2.1 Signal levels

5.2.1.1 Signal Levels for conducted testing

For NR FR1 cell, the downlink power settings are specified in TS 38.521-1[14] and TS 38.521-3[16].

The uncertainty value is specified in TS 38.521-1 [14] Annex F or in TS 38.521-2 [15] Annex F.

5.2.1.2 Signal Levels for OTA testing

5.2.1.2.1 Downlink Signal Levels

For E-UTRA cell in EN-DC with FR2 NR, the downlink power settings are specified in clause 4.7 of TS 38.521-3[16].

For FR2 NR cell, the downlink power settings are specified in Annex C.0 of TS 38.521-2[15] and Annex C.0 of TS 38.521-3[16].

5.3 Void

Editor‘s Note: Reserved for future use.

5.4 Default NG-RAN RRC message and information elements contents

5.4.1 Radio resource control information elements

As defined in clause 4.6.3 with the following exceptions:

For Tx test cases in which Power Class 3 UEs verifying Power Class 3 requirements, refer to Table 5.4.1-1; For Tx test cases in which Power Class 2 UEs verifying Power Class 2 requirements, refer to Table 5.4.1-2; And for Tx test cases in which Power Class 2 UEs verifying Power Class 3 requirements, refer to Table 5.4.1-3.

Table 5.4.1-1: P-Max-PC3

Derivation Path: Table 4.6.3-89 with condition FR1_RF_PC3

***Table 5.4.1-2: P-Max*-PC2**

Derivation Path: Table 4.6.3-89 with condition FR1_RF_PC2

***Table 5.4.1-3:* P-Max-PC2_Testing_PC3**

Derivation Path: Table 4.6.3-89 with condition FR1_RF_PC2_Testing_PC3

5.4.2 Radio resource control information elements for Demodulation Performance and CSI reporting tests

As defined in clause 4.6.3 with the following exceptions:

Common Serving Parameters

ServingCellConfigCommon

Table 5.4.2-1: ServingCellConfigCommon

Derivation Path: Table 4.6.3-168			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfigCommon ::= SEQUENCE {			
physCellId	PhysCellId		
downlinkConfigCommon	DownlinkConfigCommon		
ssb-PositionsInBurst CHOICE {			
shortBitmap	1000		(FREQ<=3GHz AND (FR1_FDD OR NOT CASE_C)) OR (FREQ<=2.4GHz AND FR1_TDD)
mediumBitmap	10000000		(FREQ>3GHz AND FR1) OR (FREQ>2.4GHz AND FR1_TDD AND CASE_C)
}			
ssb-periodicityServingCell	ms20		
dmrs-TypeA-Position	pos2		
subcarrierSpacing	SubcarrierSpacing according to test case id		
tdd-UL-DL-ConfigurationCommon	TDD-UL-DL-ConfigCommon		
ss-PBCH-BlockPower	0		
}			

Condition	Explanation
FREQ<=2.4GHz	Frequency range <= 2.4GHz
FREQ>2.4GHz	Frequency range > 2.4GHz
FREQ<=3GHz	Frequency range <= 3GHz
FREQ>3GHz	Frequency range > 3GHz
FR1_TDD	TDD frequency range < 6GHz
FR2_TDD	TDD frequency range > 6GHz
FR1_FDD	FDD frequency range < 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1

TDD-UL-DL-Config

Table 5.4.2-2: TDD-UL-DL-Config

Derivation Path: Table 4.6.3-192			
Information Element	**Value/remark**	**Comment**	**Condition**
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms5		FR1.15-1, FR1.30-1 FR1.30-1A
	ms2p5		FR1.30-2, FR1.30-3
nrofDownlinkSlots	7		FR1.30-1
	3		FR1.15-1 FR1.30-1A FR1.30-2 FR1.30-3
nrofDownlinkSymbols	6		FR1.30-1 FR1.30-1A
	10		FR1.15-1 FR1.30-2 FR1.30-3
nrofUplinkSlots	2		FR1.30-1 FR1.30-1A
	1		FR1.15-1 FR1.30-2 FR1.30-3
nrofUplinkSymbols	4		FR1.30-1 FR1.30-1A
	2		FR1.15-1 FR1.30-2 FR1.30-3
}			
pattern2	Not present		
}			

Condition	Explanation
FR1.15-1	FR1 is used under the test. SCS is set to 15kHz. Ref Annex A.1.2 of TS 38.521-4
FR1.30-1	FR1 is used under the test. SCS is set to 30kHz. Ref Annex A.1.2 of TS 38.521-4
FR1.30-1A	FR1 is used under the test. SCS is set to 30kHz. Ref Annex A.1.2 of TS 38.521-4
FR1.30-2	FR1 is used under the test. SCS is set to 30kHz. Ref Annex A.1.2 of TS 38.521-4
FR1.30-3	FR1 is used under the test. SCS is set to 30kHz. Ref Annex A.1.2 of TS 38.521-4

PDCCH Configuration

PDCCH-config

Table 5.4.2-3: PDCCH-ControlResourceSet

Derivation Path: Table 4.6.3-28			
Information Element	**Value/remark**	**Comment**	**Condition**
ControlResourceSet ::= SEQUENCE {			
controlResourceSetId	ControlResourceSetId		
frequencyDomainResources	Table 5.2-2 for tested channel bandwidth and subcarrier spacing		
Duration	2	SearchSpace duration of 2 symbols	
cce-REG-MappingType CHOICE {			
nonInterleaved	Null		
}			
precoderGranularity	sameAsREG-bundle		
tci-StatesPDCCH-ToAddList {			
	0	TCI State #0	
	1	TCI State #1	
}			
}			

Table 5.4.2-4: PDCCH Search Space

Derivation Path: Table 4.6.3-162			
Information Element	**Value/remark**	**Comment**	**Condition**
SearchSpace ::= SEQUENCE {			
monitoringSlotPeriodicityAndOffset CHOICE {			
sl1	NULL		
}			
monitoringSymbolsWithinSlot	10000000000000	Starting symbol 0	
nrofCandidates SEQUENCE {			
aggregationLevel1	n0		
aggregationLevel2	n0		
aggregationLevel4	n0		
aggregationLevel8	n1	AL8	
aggregationLevel16	n0		
}			
searchSpaceType CHOICE {			
common SEQUENCE {			
ue-Specific SEQUENCE {			
dci-Formats	formats0-1-And-1-1	DCI Format 1_1	
}			
}			
}			

CSI-RS for Tracking

CSI-RS-ResourceMapping

Table 5.4.2-5: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	k_0=0 for CSI-RS resource 1,2,3,4	TRS
}			
firstOFDMSymbolInTimeDomain	6	l_0 = 6 for CSI-RS resource 1 and 3	TRS
	10	l_0 = 10 for CSI-RS resource 2 and 4	TRS
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	TRS
Cdm-Type	noCDM		TRS
Density CHOICE{			
three	Null		TRS
}			
freqBand	CSI-FrequencyOccupation		TRS
}			

Table 5.4.2-6: CSI-ResourcePeriodicityAndOffset for TRS

Derivation Path: Table 4.6.3-43			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
slots20	10	Periodicity 20 slots and offset 10 for CSI-RS resource 1 and 2	
slots20	11	Periodicity 20 slots and offset 11 for CSI-RS resource 3 and 4	
}			

Table 5.4.2-7: CSI-FrequencyOccupation for TRS

Derivation Path: Table 4.6.3-33			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	56	BW 10 MHz SCS 15kHz	TRS
	52	BW 20 MHz SCS 30kHz	TRS
	108	BW 40 MHz SCS 30KHz	TRS
}			

NZP CSI-RS for CSI Acquisition

NZP-CSI-RS-Resource

Table 5.4.2-8: NZP-CSI-RS-Resource

Derivation Path: Table 4.6.3-85			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp-CSI-RS-ResourceId	NZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2-9: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000001	K0 = 0, row3, 2Tx test cases	
row4	001	K0 = 0, 4Tx test cases	
}			
nrofPorts	P2	2Tx test cases	
	P4	4Tx test cases	
firstOFDMSymbolInTimeDomain	12	I0 = 12	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	CSI- FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2-10: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots20	0		SCS 15kHz
Slots40	0		SCS 30kHz
}			

CSI-FrequencyOccupation

Table 5.4.2-11: CSI-FrequencyOccupation for CSI Acquisition

Derivation Path: Table 4.6.3-33			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10 MHz SCS 15kHz
	52		BW 20 MHz SCS 30kHz
	108		BW 40 MHz SCS 30KHz
}			

ZP CSI-RS for CSI Acquisition

ZP-CSI-RS-Resource

Table 5.4.2-12: ZP-CSI-RS-Resource

Derivation Path: Table 4.6.3-204			
Information Element	**Value/remark**	**Comment**	**Condition**
ZP-CSI-RS-Resource ::= SEQUENCE {			
zp-CSI-RS-ResourceId	ZP-CSI-RS-ResourceId		
resourceMapping	CSI-RS-ResourceMapping		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset		
qcl-InfoPeriodicCSI-RS	TCI-State #1		
}			

CSI-RS-ResourceMapping

Table 5.4.2-13: CSI-RS-ResourceMapping

Derivation Path: Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
other	000100	K0 = 4	
}			
nrofPorts	P4		
firstOFDMSymbolInTimeDomain	12	l0 = 12	
cdm-Type	fd-CDM2		
density CHOICE {			
one	NULL		
}			
freqBand	CSI-FrequencyOccupation		
}			

CSI-ResourcePeriodicityAndOffset

Table 5.4.2-14: CSI-ResourcePeriodicityAndOffset

Derivation Path: Table 4.6.3-43			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots20	0		SCS 15kHz
Slots40	0		SCS 30kHz
}			

CSI-FrequencyOccupation

Table 5.4.2-15: CSI-FrequencyOccupation for CSI Acquisition

Derivation Path: Table 4.6.3-33			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10 MHz SCS 15kHz
	52		BW 20 MHz SCS 30kHz
	108		BW 40 MHz SCS 30KHz
}			

PDSCH DMRS Configuration

DMRS-DownlinkConfig

Table 5.4.2-16: DMRS-DownlinkConfig

Derivation Path: Table 4.6.3-50			
Information Element	**Value/remark**	**Comment**	**Condition**
DMRS-DownlinkConfig ::= SEQUENCE {			
dmrs-Type	Type 1		
dmrs-AdditionalPosition	pos1		
maxLength	len1		
phaseTrackingRS	Not present		
}			

PDSCH Configuration

PDSCH-ServingCellConfig

Table 5.4.2-17: PDSCH-ServingCellConfig

Derivation Path: Table 4.6.3-102			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-ServingCellConfig ::= SEQUENCE {			
codeBlockGroupTransmission	Not present		
xOverhead	Not present		
nrofHARQ-ProcessesForPDSCH	Set according to the test id	Typically n4 for FDD, n8 for TDD	
pucch-Cell	Not present		
}			

PDSCH-Config

Table 5.4.2-18: PDSCH-Config

Derivation Path: Table 4.6.3-100			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-Config ::= SEQUENCE {			
dataScramblingIdentityPDSCH	0		
dmrs-DownlinkForPDSCH-MappingTypeA CHOICE {			
Setup	DMRS-DownlinkConfig		
}			
tci-StatesToAddModList SEQUENCE(SIZE (1.. maxNrofTCI-States)) OF {			
TCI-State[1]	TCI-StateId 0		
qcl-type1 {	QCL Type is Type1		
Cell	ServCellIndex		
Bwp-id	0	BWP ID	
referenceSignal	Ssb : 0	SSB # 0	
Qcl-Type	Type C		
}			
TCI-State[2]	TCI-StateId 1		
qcl-type1 {	QCL Type is Type1		
Cell	ServCellIndex		
Bwp-id	0	BWP ID	
referenceSignal	csi-rs : 0	CSI-RS # 0	
Qcl-Type	Type A		
}			
}			
vrb-ToPRB-Interleaver	Not present		
resourceAllocation	resourceAllocationType0		
pdsch-AggregationFactor	Not present		
prb-BundlingType CHOICE {			
staticBundling SEQUENCE {			
bundleSize	Not present	PRB Bundling size of 2	
}			
}			
}			

PDSCH-TimeDomainResourceAllocationList

Table 5.4.2-19: PDSCH-TimeDomainResourceAllocationList

Derivation Path: Table 4.6.3-103			
Information Element	**Value/remark**	**Comment**	**Condition**
PDSCH-TimeDomainResourceAllocationList::= SEQUENCE(SIZE(1..maxNrofDL-Allocations)) OF {	2 entries		
PDSCH-TimeDomainResourceAllocation[1] SEQUENCE {			
K0	Not present		
mappingType	typeA		
startSymbolAndLength	44	Start symbol(S)=2, Length(L)=4	For Slot i, if mod(i, 10) = 7 for i from {0,…,39}
PDSCH-TimeDomainResourceAllocation[2] SEQUENCE {			
K0	Not present		
mappingType	typeA		
	53	Start symbol(S)=2, Length(L)=12	For Slot i, if mod(i, 10) = {0,1,2,3,4,5,}) for i from {1,…,39}
}			
}			

CRS for Rate Matching

RateMatchPatternLTE-CRS

Table 5.4.2-20: RateMatchPatternLTE-CRS

Derivation Path: Table 4.6.3-138			
Information Element	**Value/remark**	**Comment**	**Condition**
RateMatchPatternLTE-CRS ::= SEQUENCE {			TC 5.2.2.1.4-2 and TC 5.2.3.1.4-2 of TS 38.521-4
carrierFreqDL	LTE EARFCN		
carrierBandwidthDL	n50	10MHz	
nrofCRS-Ports	n4		
v-Shift	n0		
}			

5.5 Common procedures for RF testing

5.5.1 Procedure to configure SCC for NR RF CA testing

5.5.1.1 Scope

The purpose of this procedure is to establish one or more SCC for NR CA testing.

5.5.1.2 Procedure description

5.5.1.2.1 Initial conditions

UE is operating in NR RRC_CONNECTED state on NR Cell 1 without any SCell configured.

System Simulator:

- SS configures the number of SCells used by the test case using NR parameters for NR Cell 2 for SCC1, NR Cell 3 for SCC2, NR Cell 4 for SCC3 etc. as specified in Table 4.4.2-2.

- System information combination NR-2 as defined in clause 4.4.3.1.2 is used in all NR cells.

5.5.1.2.2 Procedure sequence

Table 5.5.1.2.2-1: Procedure to configure SCC

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an RRCReconfiguration message including sCellToAddModList with SCell addition for the SCC under test.	<--	NR RRC: RRCReconfiguration	-	-
2	The UE transmits an RRCReconfigurationComplete message.	-->	NR RRC: RRCReconfigurationComplete	-	-

5.5.1.2.3 Specific message contents

Table 5.5.1.2.3-1: RRCReconfiguration-SCell(n)

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-SCell(n)	n is number of SCC to be added.	
}			
}			
}			
}			

Table 5.5.1.2.3-2: CellGroupConfig-SCell(n) (Table 5.5.1.2.3-1)

Derivation Path: 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..maxNrofSCells)) OF SEQUENCE {	n entries	n the number of SCC to be added	
sCellIndex[k, k=1..n]	k		
sCellConfigCommon	ServingCellConfigCommon with condition SCell_add		
}			
}			

5.5.2 Procedure to configure SCC for EN-DC RF CA testing

5.5.2.1 Scope

The purpose of this procedure is to establish one or more SCC for EN-DC CA testing.

5.5.2.2 Procedure description

5.5.2.2.1 Initial conditions

The UE is in RRC_CONNECTED state.

5.5.2.2.2 Procedure sequence

Table 5.5.2.2.2-1: Procedure to configure SCC

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
1	The SS transmits an *RRCConnectionReconfiguration* message using n.	<--	RRC: *RRCConnectionReconfiguration*	-	-
2	The UE transmits an *RRCConnectionReconfigurationComplete* message.	-->	RRC: *RRCConnectionReconfigurationComplete*	-	-
-	EXCEPTION: Steps 3a1 to 3a3 describe the SS sequence depending on procedure parameters; the "lower case letter" identifies a step sequence that take place if a procedure parameter has a particular value	-	-	-	-
3a1-3a3	IF E-UTRA SCC > 0, same as TS 36.508 [2] table 5.2A.4-1, steps 1-3.	-	-	-	-
Note 1: n > 0 in step 1.					

5.5.2.2.3 Specific message contents

Table 5.5.2.2.3-1: *RRCReconfiguration* (step 1, Table 5.5.2.2.2-1)

Derivation Path: TS 38.508-1 [4] Table 4.6.1-13 with condition EN-DC_SCell_add			
Information Element	**Value/remark**	**Comment**	**Condition**
RRCReconfiguration ::= SEQUENCE {			
criticalExtensions CHOICE {			
rrcReconfiguration ::= SEQUENCE {			
secondaryCellGroup	CellGroupConfig (n)	n is number of SCC to be added.	
}			
}			
}			

Table 5.5.2.2.2.3-2: CellGroupConfig (n) (Table 5.5.2.2.2.3-1)

Derivation Path: 38.508-1 [4] Table 4.6.1-13 with condition SCell_add			
Information Element	**Value/remark**	**Comment**	**Condition**
CellGroupConfig ::= SEQUENCE {			
sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SEQUENCE {	n entries	n is equal to the number of SCCs to be added	
sCellIndex[k, k=1..n]	k		
sCellConfigCommon	ServingCellConfigCommon with condition SCell_add		
sCellConfigDedicated	ServingCellConfig		
}			
}			

6 Test environments for Signalling test

6.1 Requirements of test equipment

6.1.1 Requirements common for conducted and OTA tests

The requirements of test equipment specified in this subclause apply to Signalling test cases defined in TS 38.523-1 [12], in addition to the common requirements of test equipment specified in clause 4.2 of this specification.

Test equipment shall be able to simulate cells of Radio Access Technologies NR and E-UTRA, The number of cells to be simulated simultaneously by the test equipment shall not exceed the resources specified in Table 6.1-1

Table 6.1-1: Maximum resources in terms of number / configuration of cells to be simulated simultaneously in a test setup

Simulation of	Max. number of cells (NR)		Max. number of cells (E-UTRA)
	Conducted	OTA	
NR single-mode networks (FDD or TDD)	4 cells	FFS	n/a
NR dual-mode networks (FDD and TDD)	4 cells	FFS	n/a
NR networks involving Carrier Aggregation	4 cells	FFS	n/a
NR dual connectivity (NR-DC)	4 cells	FFS	n/a
NR dual connectivity (EN-DC)	4 cells	FFS	2 cells
NR dual connectivity (EN-DC) involving Carrier Aggregation	4 cells	FFS	2 cells
Mixed E-UTRA / NR networks	4 cells	FFS	2 cells
Note 1: No differentiation between cell configuration types (as defined in clause 6.3.1) here, because these types are only relevant to specific test cases and their TTCN-3 implementation. Note 2: Only network scenarios specified in clauses 4.4.1 and 6.3.2.1 have been covered. Note 3: In case of Carrier Aggregation, each cell can act as a SpCell, an SCell, or a standalone cell (not used as a CA component carrier). Note 4: In order to support test case requirements for conducted and OTA test methods, the number of active cells at any given time should be minimised in order to ensure maximum re use of SS Tx/Rx resources.			

Exceptions to the requirements outlined above are possible but need special evidence to be provided explicitly in the test case prose and should be allowed only if the test case purpose cannot be met otherwise.

Due to limited power level range for FR2 OTA test methods, when defining test cases requirements, care shall be taken to ensure that the number of active cells is minimised as this has an impact to have distinguishable power level difference. Cells that are used in initial parts of test cases and are no longer required for the rest of the procedure shall be clearly defined as Non-suitable "Off" cell to facilitate re use of SS Tx/Rx resources

6.1.2 Requirements for conducted test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to conducted test environment for signalling tests.

6.1.3 Requirements for OTA test method

6.1.3.1 General

Editor's Note: The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.

The DFF or IFF based OTA test methodologies, defined in Annex B.1 should be used for Signalling test.

NOTE: For single cell test cases, usage of NF test methodology is not precluded.

The section 6.1.3.2 describes a sample OTA measurement test setup and section 6.1.3.3 describes approaches to select a UE orientation.

For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled.and for calibration.

6.1.3.2 Sample OTA Measurement Test Setup

Please refer to Figure 6.1.3.2-1 for a sample OTA measurement test setup.

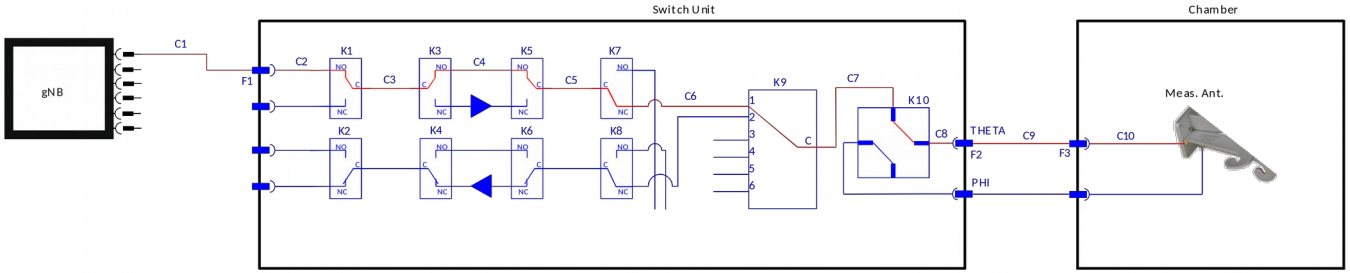


Figure 6.1.3.2-1: Sample OTA measurement setup

NOTE: Figure 6.1.3.2-1 is for illustrative purposes only.

For 5G NR signalling test cases, depending on the dynamic range of measurements the system complexity can be reduced. In the switch unit, as shown in Figure 6.1.3.2-1, the switches K7, K8, K9, K10 can be removed. The amplifier (PA/LNA) is optional. For the "single cell" and "multiple cell" test cases, the gNB emulator can be directly connected to the feed horn.

6.1.3.3 Procedure for selecting UE Orientation and for calibration

Set calibrated power level at the centre of the quiet zone for each polarization individually.

Before starting the test, the UE orientation with which the test system can provide a wide enough dynamic range to perform the test scenarios needs to be identified in order to obtain sufficient link budget.

The UE orientation can be determined by either of the approaches below:

- Approach 1: UE vendor declares the direction in which the measurement has to be made. In this case, the declaration confirms that the Rx Beam peak conditions in FR2 specified in TS 38.133 [13] Annex B are met

RSRP measurements can be configured by SS in X2NR meas configurations.

When signal level calibrated with a reference antenna:

- If the RSRP reported from the DUT is not within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1, then follow steps below for further orientation.
- Start with UE vendor declared position as θ-default and φ-default.

1. Start rotating the DUT with step size of 5 degreesin θ-plane, keeping the φ constant.
2. Wait for the beam to be formed (dwell time= [30sec]).
3. Check for reported RSRP is within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1, Approach-1 Beam-search passes and DUT exits this stage of beam-search moving on to the actual test.
4. If the RSRP is not as expected, proceed with rotating the DUT with Step size of 5 degrees to cover ±45 degrees around the[boresight] or [Antenna panel side aligned with TxRxP], with a total coverage of 90 degrees in θ-plane, recording the RSRP at each step.
5. If after completing the 90 degrees in θ-plane, DUT's reported RSRP is still not as desired, repeat the Level 2 Beam-search for φ-plane again covering ±45 degrees around the [boresight] or [Antenna panel side aligned with TxRxP], keeping the θ constant, with a total coverage of 90 degrees in φ-plane, recording the RSRP at each step.
6. Exit condition at any of the above step during θ-plane & φ-plane remains a check of reported RSRP within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1.
7. If DUT still fails to report the desired RSRP, Approach-1.1 Beam-search is started.

- Approach 1.1: Perform an Rx-beam peak search

For Approach 1.1 an Rx beam peak search needs to be performed as per the procedure in TS 38.521-2 [15] Annex K, which finds the direction in which Rx Beam peak conditions in FR2 specified in TS 38.133 [13] Annex B are met.

- Approach 2: UE vendor does not declares the direction in which the measurement has to be made.

RSRP measurements can be configured by SS in X2NR meas configurations.

- the DUT is positioned such that the 2 faces (front/back) and 4 edges (top/bottom, left/right) towards the measurement antenna one by one
- follow the procedure given below (2 to 3) to identify the direction which gives the best RSRP reported value

2. Wait for the beam to be formed (dwell time = [30sec]).

3. If the DUT reported RSRP is within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1, Level 1 Beam-search passes and DUT exits this stage of beam-search moving on to the actual test. The actual test is performed at position ($\theta_{default}$, $\varphi_{default}$).

4. If the DUT doesn't report RSRP within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1, ,then DUT exits first stage of beam-search moving on to the Approach 2 Course Beam-search.

Approach 2 Course Beam Search

1. Start rotating the DUT with step size of 5 degrees in θ-plane, keeping the φ constant.

2. Wait for the beam to be formed (dwell time= [30sec]).

3. Check for reported RSRP is within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1, Level 2 Beam-search passes and DUT exits this stage of beam-search moving on to the actual test.

4. If the RSRP is not as expected, proceed with rotating the DUT with Step size of 5 degrees to cover ±45 degrees around the[boresight] or [Antenna panel side aligned with TxRxP], with a total coverage of 90 degrees in θ-plane, recording the RSRP at each step.

5. If after completing the 90 degrees in θ-plane, DUT's reported RSRP is still not as desired, repeat the Level 2 Beam-search for φ-plane again covering ±45 degrees around the [boresight] or [Antenna panel side aligned with TxRxP], keeping the θ constant, with a total coverage of 90 degrees in φ-plane, recording the RSRP at each step.

6. Exit condition at any of the above step during θ-plane & φ-plane remains a check of reported RSRP within [±10dB] of expected RSRP mentioned in Table 6.2.2.2-1.

7. If DUT still fails to report the desired RSRP, Approach-2.1 Beam-search is started.

- Approach 2.1: Perform an Rx-beam peak search

For Approach 2.1 an Rx beam peak search needs to be performed as per the procedure in TS 38.521-2 [15] Annex K, which finds the direction in which Rx Beam peak conditions in FR2 specified in TS 38.133 [13] Annex B are met.

When signal level calibrated with the RSRP-based calibration:

- Before starting the tests, Rx-beam peak directions need to be determined using Approach 1 or Approach 2 above. Rx beam peak direction may depend on the operating band under test. If Rx-beam peak directions for all the operating bands required for test scenarios are identical, three different levels in Table 6.2.2.2-2 can be used in the test scenarios.

- Rx-beam peak directions are decided to be 'identical', if the detected beam peak positions are direct neighbours on the measurement grid.

If Rx-beam peak directions are identical:

1. Position the UE so that the Rx beam peak direction is aligned towards the measurement antenna.

2. Make the UE report SS-RSRP at each frequency used in the test scenarios, while setting the downlink SS power at the centre of the quiet zone to -82dBm/SCS. Here, the SS-RSRP reported levels are denoted as $P_{RSRP}(f)$.

3. Calculate 'Delta(NRf)' for each carrier frequency used in the test case, using the equation: Delta(NRf) = $P_{RSRP}(f)$ + 82.

6.1.3.4 Handling of Thresholds

Where a threshold value is specified in the test case (value identified as $TH_{test\ case}$) it is signalled to the UE with a value TH_{sig} according to table 6.1.3.4-1.

Table 6.1.3.4-1: Handling of signalled threshold values

Type of Threshold	Signalled value	Comment
Absolute	$TH_{sig}(f) = TH_{test\ case}$ + Delta(NRf)	Delta(NRf) value according to the frequency of the cell being compared to the threshold
Relative, intra-frequency	$TH_{sig}(f) = TH_{test\ case}$	
Relative, inter-frequency	*a3-Offset* $_{sig}$ = *a3-Offset* $_{test\ case}$ + Delta(NRf_n) - Delta(NRf_p)	Delta(NRf_p) is the Delta value for the SpCell frequency Delta(NRf_n) is the Delta value for the neighbour cell frequency
Relative, inter-frequency, Event A6	*a6-Offset* $_{sig}$ = *a6-Offset* $_{test\ case}$ + Delta(NRf_n) - Delta(NRf_s)	Delta(NRf_s) is the Delta value for the SCell frequency Delta(NRf_n) is the Delta value for the neighbour cell frequency

6.1.4 Requirements for timer tolerances

The timer tolerances specified for the test environment in this subclause apply to all Signalling test cases defined in TS 38.523-1 [12] unless otherwise specified.

All the timers used during testing are within a tolerance margin given by the equation below. If for a specific test a different tolerance value is required, then this should be specified in the relevant test document (i.e. the document where the test is described).

Timer tolerance = 10%.

6.2 Reference test conditions

6.2.1 Physical Channel Allocations

6.2.1.1 Antennas

If the UE has two or more Rx antennas, the same downlink signal is applied to each one, except if MIMO is tested. All UE Rx antennas shall be connected.

If the UE has one Rx antenna, the downlink signal is applied to it.

6.2.1.2 Downlink physical channels and physical signals

In general for signalling test cases the power allocation for downlink physical channels and signals is specified in relation to a reference cell power.

Unless specifically specified otherwise in a signalling test case prose, all cells use only one beam.

In case of only one beam per cell this reference cell power is the EPRE of the secondary synchronization signal (SSS) and referred to as “SS/PBCH SSS EPRE”.

In case of more than one beam per cell the power levels of the different SS/PBCH blocks may be different what makes it difficult to specify the EPREs of other physical channels and signals relative to the EPRE of any SSS. Therefore for multiple beams test cases the power levels are specified relative to the reference cell power.

For single beam per cell test cases the power allocation of downlink physical channels for signalling test cases is specified in table 6.2.1.2-1, for multiple beams per cell test cases the power allocation is specified in table 6.2.1.2-2.

Table 6.2.1.2-1: Power allocation for OFDM symbols and reference signals for signalling test cases (single beam)

Parameter	Unit	Value	Comment
SSS transmit power	dBm/SCS	Test specific (Note 1)	referred to as “SS/PBCH SSS EPRE”
EPRE ratio of PSS to SSS	dB	0	
EPRE ratio of PBCH DMRS to SSS	dB	0	
EPRE ratio of PBCH to PBCH DMRS	dB	0	
EPRE ratio of PDCCH DMRS to SSS	dB	0	
EPRE ratio of PDCCH to PDCCH DMRS	dB	0	
EPRE ratio of PDSCH DMRS to SSS	dB	0	
EPRE ratio of PDSCH to PDSCH DMRS	dB	-3	To reduce interference from PDSCH of intra-frequency neighbour cells.
EPRE ratio of PTRS to PDSCH	dB	3	i.e. the EPRE ratio of PTRS to SSS is 0dB
Note 1: Power level chosen to align with cell power level as specified in clause 6.2.2.			

Table 6.2.1.2-2: Power allocation for OFDM symbols and reference signals for signalling test cases (multiple beam)

Parameter	Unit	Value	Comment
Reference cell power $EPRE_{CellRef}$	dBm/SCS	Test specific (Note 1)	
EPRE ratio of $SSS_{SSB\#N}$ to $EPRE_{CellRef}$	dB	Test specific (Note 2)	power of SSS within SSB with index N
EPRE ratio of $PSS_{SSB\#N}$ to $SSS_{SSB\#N}$	dB	0	power of PSS within SSB with index N
EPRE ratio of PBCH $DMRS_{SSB\#N}$ to $SSS_{SSB\#N}$	dB	0	power of PBCH DMRS within SSB with index N
EPRE ratio of $PBCH_{SSB\#N}$ to PBCH $DMRS_{SSB\#N}$	dB	0	power of PBCH within SSB with index N
EPRE ratio of PDCCH DMRS to $EPRE_{CellRef}$	dB	0	(Note 3)
EPRE ratio of PDCCH to PDCCH DMRS	dB	0	
EPRE ratio of PDSCH DMRS to $EPRE_{CellRef}$	dB	0	(Note 3)
EPRE ratio of PDSCH to PDSCH DMRS	dB	-3	To reduce interference from PDSCH of intra-frequency neighbour cells.
EPRE ratio of PTRS to PDSCH	dB	3	i.e. the EPRE ratio of PTRS to $EPRE_{CellRef}$ is 0dB
EPRE ratio of $CSI\text{-}RS_N$ to $EPRE_{CellRef}$	dB	Test specific (Note 2)	power of CSI-RS with index N; CSI-RS configured if required by a test case in TS 38.523-1 [12]
Note 1: Power level chosen to align with cell power level as specified in clause 6.2.2. Note 2: Test cases may specify “OFF” in which case the attenuation shall result in an absolute EPRE value being equal or less than the power level specified for a non-suitable "Off" cell in clause 6.2.2. Note 3: In general the UE cannot distinguish from which beam DL data is sent ⇒ PDCCH and PDSCH are considered as cell specific rather than beam specific.			

6.2.2 Signal levels

6.2.2.1 Signal Levels for conducted testing

For NR FR1 cell, the downlink power settings in Table 6.2.2.1-1 and 6.2.2.1-2 are used unless otherwise specified in a test case.

Table 6.2.2.1-1: Default Downlink power levels for FR1 NR cell (5MHz – 25MHz)

	SCS(kHz)	Unit	Channel bandwidth				
			5MHz	10MHz	15MHz	20MHz	25MHz
Channel BW Power	15	dBm	-63	-60	-58	-57	-56
	30	dBm	-67	-63	-61	-60	-59
	60	dBm	N/A	-67	-65	-63	-62
SS/PBCH SSS EPRE	All	dBm/SCS (Note 3)	-88	-88	-88	-88	-88

Note 1: The channel bandwidth powers are informative, based on -88 dBm/ SCS(SubCarrier Spacing) SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed.
Note 2: The power level is specified at each UE Rx antenna.
Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density of -88 dBm/SCS(SubCarrier Spacing).

Table 6.2.2.1-2: Default Downlink power levels for FR1 NR cell (30MHz – 100MHz)

	SCS(kHz)	Unit	Channel bandwidth						
			30MHz	40MHz	50MHz	60MHz	80MHz	90MHz	100MHz
Channel BW Power	15	dBm	-55	-54	-53	N/A	N/A	N/A	N/A
	30	dBm	-58	-57	-56	-55	-54	-53	-53
	60	dBm	-61	-60	-59	-58	-57	-56	-56
SS/PBCH SSS EPRE	All	dBm/SCS (Note 3)	-88	-88	-88	-88	-88	-88	-88

Note 1: The channel bandwidth powers are informative, based on -88dBm/SCS(SubCarrier Spacing) SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed.
Note 2: The power level is specified at each UE Rx antenna.
Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with a power spectrum density of -88dBm/SCS(SubCarrier Spacing).

With simultaneous transmission of 24 RBs, a maximum of -78dBm/SCS SS/PBCH SSS EPRE can be allocated as cell power level.

The default settings of suitable cells and non-suitable cells for NR are specified in table 6.2.2.1-3.

Cells which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.1-3.

Table 6.2.2.1-3: Default settings of suitable / non-suitable cells

Power level type	NR (Note 1-3)		E-UTRAN
	Unit	Power level	
Serving cell	dBm/SCS	-88	Table 6.2.2.1-1 [2]
Suitable neighbour intra-frequency cell	dBm/SCS	-94	Table 6.2.2.1-1 [2]
Suitable neighbour inter-frequency cell	dBm/SCS	-99	Table 6.2.2.1-1 [2]
Non-suitable cell	dBm/SCS	-115	Table 6.2.2.1-1 [2]
Non-suitable "Off" cell	dBm/SCS	≤ -145	Table 6.2.2.1-1 [2]

Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the Full RE allocation with no boost or deboost is assumed. SS.
Note 2: The power level is specified at each UE Rx antenna.
Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density of -88dBm/SCS.
Note 4: The default settings assume that the UE is making relative measurements of neighbour cells compared to the serving cell.

The default signal level uncertainty is specified in table 6.2.2.1-4 for any level specified, unless a tighter uncertainty is specified by a test case in TS 38.523-1 [12].

Table 6.2.2.1-4: SS signal level uncertainty

	Absolute signal level uncertainty for each cell	Relative signal level uncertainty between multiple cells
Intra-frequency	+/-3 dB at each test port	+/-3 dB
Inter-frequency	+/-3 dB at each test port	See Note 1

Note 1: For Inter-frequency cells the relative signal level uncertainty between multiple cells is determined by the absolute uncertainty of each cell, and does not have any additional constraint.

SS/PBCH SSS EPRE setting should be equal to or higher than -115 dBm except for Non-suitable "Off" cell. The figure is chosen to ensure that for all bands the DL signal is within the RSRP measurement range specified in TS 38.133 [13], taking into account the SS default absolute signal level uncertainty.

NOTE: (The power spectral density of a white noise source; specified in TS 38.133 [13]) can be assumed to be -Infinity [dBm/SCS] for all intra and inter frequency test cases. It is applicable to both idle mode and connected mode in TS 38.523-1 [12], unless otherwise specified in specific test cases.

6.2.2.1.1 Measurement accuracy and side conditions

RSRP measurement accuracy in RRC_CONNECTED state is specified in table 6.2.2.1.1-1, derived from TS 38.133 [13] clauses 10.1.2 and 10.1.4 selecting Normal condition with maximum Io less than -50 dBm/$BW_{Channel}$. The ranges and side conditions in TS 38.133 [13] clauses 10.1.2 and 10.1.4 apply. This measurement accuracy is applicable to connected mode test cases specified in TS 38.523-1 [12]. For the serving cell and suitable neighbour cells, the following side conditions shall be satisfied including the effect of signal level uncertainty.

- RSRP ≥ -124 dBm

- RSRP Ês/Iot > -6 dB

- Io : 117.5 dBm/SCS for 15kHz SCS and -114.5 dBm/SCS for 15kHz SCS dBm/SCS … -50 dBm/BWChannel (for absolute and relative RSRP measurement accuracy)

RSRP measurement accuracy in RRC_CONNECTED state is specified in table 6.2.2.1.1-1, derived from TS 38.133 [13] clauses 10.1.2 and 10.1.4 selecting Normal condition.

Table 6.2.2.1.1-1: RSRP measurement accuracy in RRC_CONNECTED state

	Absolute RSRP measurement accuracy	Relative RSRP measurement accuracy
Intra-frequency	+/-8 dB	+/-3 dB
Inter-frequency	+/-8 dB	+/-4.5 dB

6.2.2.2 Signal Levels for OTA testing

The power levels defined in this section are based on the following assumptions:

- For EN-DC, no more than one E-UTRA cell is configured in the test case
- AWGN is not configured in the test case

For NR FR2 cell, the downlink power settings in Table 6.2.2.2-1 are used unless otherwise specified in a test case.

Table 6.2.2.2-1: Default Downlink power levels for FR2 NR cell (50MHz - 400MHz)

	SCS(kHz)	Unit	Channel bandwidth			
			50MHz	100MHz	200MHz	400MHz
Channel BW Power	60	dBm	FFS	FFS	FFS	FFS
	120	dBm	-57	-57	-57	-57
SS/PBCH SSS EPRE	All	dBm/SCS	-82	-82	-82	-82
Note 1: The channel bandwidth powers are informative, based on -82 dBm/SCS SS/PBCH SSS EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. A maximumRE allocation of 24 simultaneously transmitted RBs with no boost or deboost is assumed. Note 2: The power level is specified at the centre of quiet zone.						

The default settings of suitable cells and non-suitable cells for NR are specified in table 6.2.2.2-2.

Cells which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.2-2.

Table 6.2.2.2-2: Default settings of suitable / non-suitable FR2 NR cells

Power level type	NR (Note 1-3)	
	Unit	Power level
Serving cell	dBm/SCS	-82
Suitable neighbour intra-frequency cell	dBm/SCS	-91
Suitable neighbour inter-frequency cell	dBm/SCS	-91
Non-suitable cell	dBm/SCS	-100
Non-suitable "Off" cell	dBm/SCS	≤-139
Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the SS. Note 2: The power level is specified at the centre of quiet zone. Note 3: DL level is applied for any of the Subcarrier Spacing configuration (μ) with the same power spectrum density in dBm/SCS (SubCarrier Spacing).		

For E-UTRA cell in EN-DC with FR2 NR, since the LTE OTA link is uncalibrated in the signalling test setup, the table 6.2.2.2-3 provides only suggestive value. It is left to the TE vendor to ensure that LTE cell power level fulfils the cell selection criteria.

Table 6.2.2.2-3: Default Downlink power levels for E-UTRA cells with NR FR2

	Unit	Channel bandwidth					
		1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
Number of RBs		6	15	25	50	75	100
Channel BW Power	dBm	-77	-73	-71	-68	-66	-65
RS EPRE	dBm/15kHz	-96	-96	-96	-96	-96	-96
Note 1: The channel bandwidth powers are informative, based on -96 dBm/15kHz RS_EPRE, then scaled according to the number of RBs and rounded to the nearest integer dBm value. Full RE allocation with no boost or deboost is assumed. Note 2: The power level is specified at the centre of quiet zone.							

The default settings of suitable cells and non-suitable cells for E-UTRA in EN-DC with FR2 NR are specified in table 6.2.2.2-4.

E-UTRA Cells in EN-DC with FR2 NR which are expected to be undetectable for UE under test shall fulfil the condition of non-suitable "Off" cell in table 6.2.2.2-4.

Table 6.2.2.2-4: Default settings of suitable / non-suitable E-UTRA cells in EN-DC with NR FR2

Power level type	E-UTRAN (Note 1-2)	
	Unit	Power level
Serving cell	dBm/15KHz	-96
Suitable neighbour intra-frequency cell	dBm/15KHz	TBD
Suitable neighbour inter-frequency cell	dBm/15KHz	TBD
Non-suitable cell	dBm/15KHz	TBD
Non-suitable "Off" cell	dBm/15KHz	TBD
Note 1: The power level is specified in terms of SS/PBCH SSS EPRE instead of RSRP as RSRP is a measured value and cannot be directly controlled by the SS. Note 2: The power level is specified at the centre of quiet zone.		

The Test system default signal level uncertainty is specified in tables 6.2.2.2-5 and 6.2.2.2-6 for any level specified, unless a tighter uncertainty is specified by a test case in TS 38.523-1 [12].

Table 6.2.2.2-5: SS Absolute FR2 NR signal level uncertainty

	Absolute signal level uncertainty
At each frequency	+/-6 dB at centre of the quiet zone

Table 6.2.2.2-6: SS Relative FR2 NR signal level uncertainty

	Relative signal level uncertainty between any two SS EPRE levels at the same frequency
At each frequency	+/-2.0 dB

6.2.3 Default test frequencies

Editor's note: For FR2 test frequencies using 100 MHz default channel bandwidth it is FFS if 100MHz channel bandwidth can be used for FR2 multicell protocol testing.

6.2.3.1 Test frequencies for NR standalone signalling testing

The default channel bandwidth for signalling test is specified per NR band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

For signalling test cases, the mapping of frequency ranges to NR test frequencies are as follows:

- for band with only one test frequency (e.g. n51 or n76): Low Range (NRf1);
- for band with up to two test frequencies: Low Range (NRf1) and High Range (NRf2);
- for band with up to three test frequencies: Low Range (NRf1), Mid Range (NRf2) and High Range (NRf3);
- for band with up to four test frequencies: Low Range (NRf1), Mid Low Range (NRf2), Mid High Range (NRf3) and High Range (NRf4);

The signalling test frequencies NRf5, NRf6, NRf7 are mapped respectively as NRf1, NRf2, NRf3 on the operating band for inter-band.

The test frequencies, subcarrier spacing, default channel bandwidth, SS/PBCH block and CORESET#0 parameters for signalling is specified in Table 6.2.3.1-1 (FDD FR1 BW 5MHz), Table 6.2.3.1-2 (FDD FR1 BW 10MHz), Table 6.2.3.1-3 (TDD FR1 BW 5MHz), Table 6.2.3.1-4 (TDD FR1 BW 10MHz), Table 6.2.3.1-4A (TDD FR1 BW 60MHz), Table 6.2.3.1-5 (TDD FR1 BW 100MHz), Table 6.2.3.1-6 (TDD FR2 BW 100MHz) and Table 6.2.3.1-7 (NR FDD FR1 SUL bands).

Table 6.2.3.1-1: Test frequencies for NR FDD FR1 bands using 5 MHz channel bandwidth

NR Band	SCS [kHz]	Band width [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n5	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.15 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	878.2	175640	873.79	174758	12	15	2197	175730	12	4	2	16
					Mid-High	884.8	176960	877.33	175466	29		2212	176930	8	0	0	30
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.5 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	833.2	166640	824.47	164894	36	-	-	-	-	-	-	-
					Mid-High	839.8	167960	817.03	163406	114	-	-	-	-	-	-	-
n8	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.8 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	937.5	187500	932.19	186438	17	15	2343	187470	8	0	0	18
					Mid-High	947.5	189500	940.93	188186	24		2368	189410	0	0	0	24
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.8 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	892.5	178500	883.77	176754	36	-	-	-	-	-	-	-
					Mid-High	902.5	180500	879.73	175946	114	-	-	-	-	-	-	-
n12	15	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
				Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
n20	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.20 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	801.8	160360	796.49	159298	17	15	2003	160330	8	0	0	18
					Mid-High	810.2	162040	802.73	160546	29		2024	162010	8	0	0	30
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.20 for bandwidth=5 MHz and SCS=15 kHz.											
					Mid-Low	842.8	168560	834.07	166814	36	-	-	-	-	-	-	-
					Mid-High	851.2	170240	828.43	165686	114	-	-	-	-	-	-	-
n29	15	5	25	Downlink (SDL)	Mid	Same values as for Mid range in clause 4.3.1.1.1.29 for bandwidth=5 MHz and SCS=15 kHz.											
n70	15	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.70 for DL bandwidth=5 MHz, UL bandwidth=5 MHz and SCS=15 kHz.											
				Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.70 for DL bandwidth=5 MHz, UL bandwidth=5 MHz and SCS=15 kHz.											

n71	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.71 for bandwidth=5 MHz and SCS=15 kHz.										
					Mid-Low	629.5	125900	625.09	125018	12	15	1573	125810	0	0	0	12
					Mid-High	639.5	127900	632.03	126406	29		1598	127930	4	2	1	32
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.71 for bandwidth=5 MHz and SCS=15 kHz.										
					Mid-Low	675.5	135100	666.77	133354	36	-	-	-	-	-	-	-
					Mid-High	685.5	137100	662.73	132546	114	-	-	-	-	-	-	-
n74	15	5	25	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.74 for bandwidth=5 MHz and SCS=15 kHz.										
					Mid-Low	1491	298200	1484.16	296832	12	15	3720	297630	2	0	0	12
					Mid-High	1502	300400	1492.1	298420	29		3749	300010	2	4	2	34
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.74 for bandwidth=5 MHz and SCS=15 kHz.										
					Mid-Low	1443	288600	1431.84	286368	36	-	-	-	-	-	-	-
					Mid-High	1454	290800	1428.8	285760	114	-	-	-	-	-	-	-
n76	15	5	25	Downlink (SDL)	Mid	Same values as for Mid range in clause 4.3.1.1.1.76 for bandwidth=5 MHz and SCS=15 kHz.										

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 6.2.3.1-2: Test frequencies for NR FDD FR1 bands using 10 MHz channel bandwidth

NR Band	SCS [kHz]	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n1	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.1 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2131.7	426340	2124.86	424972	12	15	5321	425770	2	0	0	12
					Mid-High	2148.3	429660	2138.4	427680	29		5364	429150	10	0	0	30
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.1 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1941.7	388340	1930.54	386108	36	-	-	-	-	-	-	-
					Mid-High	1958.3	391660	1933.1	386620	114	-	-	-	-	-	-	-
n2	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1951.7	390340	1944.86	388972	12	15	4871	389770	2	0	0	12
					Mid-High	1968.3	393660	1958.4	391680	29		4914	393150	10	0	0	30
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.2 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1871.7	374340	1860.54	372108	36	-	-	-	-	-	-	-
					Mid-High	1888.3	377660	1863.1	372620	114	-	-	-	-	-	-	-
n3	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.3 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1831.7	366340	1824.86	364972	12	15	4571	365770	2	0	0	12
					Mid-High	1853.3	370660	1844.3	368860	24		4625	370090	2	0	0	24
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.3 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1736.7	347340	1725.54	345108	36	-	-	-	-	-	-	-
					Mid-High	1758.3	351660	1733.1	346620	114	-	-	-	-	-	-	-
n7	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.7 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2645	529000	2637.26	527452	17	15	6605	528490	10	0	0	18
					Mid-High	2665	533000	2655.1	531020	29		6658	532610	2	4	2	34
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.7 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2525	505000	2513.84	502768	36	-	-	-	-	-	-	-
					Mid-High	2545	509000	2519.8	503960	114	-	-	-	-	-	-	-
n25	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.25 for bandwidth=10 MHz and SCS=15 kHz.											

					Mid-Low	1953.3	390660	1945.56	389112	17	15	4878	390270	2	4	2	22
					Mid-High	1971.7	394340	1961.8	392360	29		4924	393890	6	2	1	32
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.25 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1873.3	374660	1862.14	372428	36	-	-	-	-	-	-	-
					Mid-High	1891.7	378340	1866.5	373300	114	-	-	-	-	-	-	-
n28	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.28 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	774.7	154940	767.86	153572	12	15	1930	154370	2	0	0	10
					Mid-High	786.3	157260	776.4	155280	29		1959	156750	10	0	0	30
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.28 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	719.7	143940	708.54	141708	36	-	-	-	-	-	-	-
					Mid-High	731.3	146260	706.1	141220	114	-	-	-	-	-	-	-
n65	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.65 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2141.7	428340	2133.96	426792	17	15	5349	427950	2	4	2	22
					Mid-High	2168.3	433660	2158.4	431680	29		5414	433210	6	2	1	32
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.65 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1951.7	390340	1940.54	388108	36	-	-	-	-	-	-	-
					Mid-High	1978.3	395660	1953.1	390620	114	-	-	-	-	-	-	-
n66	15	10	52	Downlink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.66 for DL bandwidth=10 MHz, UL bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2141.7	428340	2133.96	426792	17	15	5349	427950	2	4	2	22
					Mid-High	2168.3	433660	2158.4	431680	29		5414	433210	6	2	1	32
				Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.66 for DL bandwidth=10 MHz, UL bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1741.7	348340	1730.54	346108	36	-	-	-	-	-	-	-
					Mid-High	1768.3	353660	1743.1	348620	114	-	-	-	-	-	-	-
n75	15	10	52	Downlink (SDL)	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.75 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1462	292400	1455.16	291032	12	15	-	291824	-	-	-	-
					Mid-High	1487	297400	1478	295600	24		-	296824	-	-	-	-

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 6.2.3.1-3: Test frequencies for NR TDD FR1 bands using 5 MHz channel bandwidth

NR Band	SCS [kHz]	Band width [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n34	15	5	25	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.12 for bandwidth=5 MHz and SCS=15 kHz.											
n51	15	5	25	Downlink & Uplink	Low	Same values as for Mid range in clause 4.3.1.1.1.51 for bandwidth=5 MHz and SCS=15 kHz.											

Table 6.2.3.1-4: Test frequencies for NR TDD FR1 bands using 10 MHz channel bandwidth

NR Band	SCS [kHz]	Band width [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n38	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.38 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2588.3	517660	2580.56	516112	17	15	6464	517210	6	2	1	20
					Mid-High	2601.7	520340	2591.8	518360	29		6499	519890	6	2	1	32
n39	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.39 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1895	379000	1887.26	377452	17	15	4730	378490	10	0	0	18
					Mid-High	1905	381000	1896	379200	24		4755	380430	2	0	0	24
n40	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.40 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	2335	467000	2327.26	465452	17	15	5833	466610	2	4	2	22
					Mid-High	2365	473000	2355.1	471020	29		5908	472610	2	4	2	34
n48	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.48 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	3601.665	640111	3593.925	639595	17	30	7917	640128	5	6	1	24
					Mid-High	3648.375	643225	3638.475	642565	29		7949	643200	11	2	0	32
n50	15	10	52	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.50 for bandwidth=10 MHz and SCS=15 kHz.											
					Mid-Low	1462	292400	1454.26	290852	17	15	3649	291890				18
					Mid-High	1487	297400	1477.1	295420	29	Uplink	3710	296890	10	0	0	30

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22] for all bands in the table. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 6.2.3.1-4A: Test frequencies for NR TDD FR1 bands using 60 MHz channel bandwidth

NR Band	SCS [kHz]	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n41	30	60	162	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.41 for bandwidth=60 MHz and SCS=30 kHz.											

Table 6.2.3.1-5: Test frequencies for NR TDD FR1 bands using 100 MHz channel bandwidth

NR Band	SCS [kHz]	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n77	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.77 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	3616.68	641112	3563.22	637548	12	30	7896	638112	12	1	1	26
					Mid-High	3883.32	658888	3825.54	655036	24	-	8081	655872	20	0	0	48
n78	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.78 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	3483.33	632222	3429.87	628658	12	30	7804	629280	22	3	3	30
					Mid-High	3616.68	641112	3558.9	637260	24	-	7896	638112	12	1	1	50
n79	30	100	273	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.1.1.79 for bandwidth=100 MHz and SCS=30 kHz.											
					Mid-Low	4617.69	707846	4564.23	704282	12	30	8592	704928	22	4	1	32
					Mid-High	4780.74	718716	4722.96	714864	24	-	8704	715680	0	0	0	48
Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-4 in TS 38.213 [22] for all bands in the table except for band n79 where Table 13-6 apply. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.																	

Table 6.2.3.1-6: Test frequencies for NR TDD FR2 bands using 100 MHz channel bandwidth

NR Band	SCS [kHz]	Band width [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n257	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.1 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	27514.56	2071075	27449.76	2069995	12	120	22443	2070523	0	0	0	24
					Mid-High	28482.24	2087203	28400.16	2085835	24	-	22499	2086651	0	0	0	48
n258	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.2 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	25348.8	2034979	25284	2033899	12	120	22318	2034523	0	4	1	32
					Mid-High	26401.56	2052525	26319.48	2051157	24	-	22379	2052091	11	4	1	56
n260	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.4 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	38015.04	2246083	37950.24	2245003	12	120	23051	2245627	0	4	1	32
					Mid-High	38982.72	2262211	38900.64	2260843	24	-	23107	2261755	0	4	1	56
n261	120	100	66	Downlink & Uplink	Low, High	Same values as for Low and High range in clause 4.3.1.2.1.5 for bandwidth=100 MHz and SCS=120 kHz.											
					Mid-Low	27801.24	2075853	27736.44	2074773	12	120	22460	2075419	11	4	1	32
					Mid-High	28050	2079999	27967.92	2078631	24	-	22474	2079451	2	0	0	48

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-8 in TS 38.213 [22]. The value of CORESET#0 Index is signalled in controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2.

Table 6.2.3.1-7: Test frequencies for NR FDD FR1 SUL bands

NR Band	SCS [kHz]	Band width [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
n80	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.80-1 for bandwidth=10 MHz and SCS=15 kHz.											
n81	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.81-1 for bandwidth=10 MHz and SCS=15 kHz.											
n82	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.82-1 for bandwidth=10 MHz and SCS=15 kHz.											
n83	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.83-1 for bandwidth=10 MHz and SCS=15 kHz.											
n84	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.84-1 for bandwidth=10 MHz and SCS=15 kHz.											
n86	15	10	52	Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.86-1 for bandwidth=10 MHz and SCS=15 kHz.											

6.2.3.2 Test frequencies for EN-DC band combinations for signalling testing

6.2.3.2.1 General

The default channel bandwidths for EN-DC signalling test are specified per NR and E-UTRA band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

6.2.3.2.2 E-UTRA 1CC and NR 1CC

For EN-DC Inter-band case with E-UTRA 1CC and NR 1CC (one E-UTRA band and one NR band) the EN-DC configurations are specified in clause 4.3.1.4.1.2 for EN-DC with NR FR1 and 4.3.1.5.1.2 for EN-DC with NR FR2.

The E-UTRA and NR test frequencies are specified in TS 36.508 [2], clause 6.2.3.1 for the E-UTRA band (E-UTRA f1, f2, f3 and f4); and in clause 6.2.3.1 for the NR band (NRf1, NRf2, NRf3, NRf4) and for the secondary NR band (NRf5, NRf6, NRf7) of the secondary EN-DC inter-band configuration.

For EN-DC Intra-band Contiguous case with E-UTRA 1CC and NR 1CC the EN-DC configurations and the test frequencies are specified in Table 6.2.3.2-1.

For EN-DC Intra-band Non-Contiguous with E-UTRA 1CC and NR 1CC case the EN-DC configurations and test frequencies are specified in Table 6.2.3.2-2.

For EN-DC Intra-Band Contiguous and EN-DC Intra-Band Non-Contiguous cases with E-UTRA 1CC and NR 1CC the mapping of frequency ranges to NR test frequencies NRf1, NRf2, NRf3, and NRf4 to PSCell; and to E-UTRA test frequencies f1, f2, f3, and f4 for PCell are as follows:

- for band combinations with only one test frequency: Low Range (NRf1, f1);
- for band combinations with up to two frequencies: Low Range (NRf1, f1), High Range (NRf2, f2);
- for band combinations with up to three frequencies: Mid Range (NRf3, f3), Low Range (NRf1, f1) and High Range (NRf2, f2);
- for band combinations with up to four frequencies: Mid-Low Range (NRf3, f3), High Range (NRf2, f2), Low Range (NRf1, f1) and Mid-High Range (NRf4, f4).

Table 6.2.3.2.2-1: Test frequencies for EN-DC Intra-band Contiguous configurations with E-UTRA 1CC and NR 1CC

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
DC_(n)41AA	E-UTRA CC1	20	100	Downlink & Uplink	Low, High	Same values as for Low and High range values in Table 4.3.1.4.2.41.1-2 (SCS 30 kHz, 30 kHz NR raster and NR CC at the band edges) and EN-DC channel bandwidth combination “E-UTRA: 20MHz + NR: 60MHz”.											
	NR CC1	60	162	Downlink & Uplink	Low, High												
DC_(n)71AA	E-UTRA CC1	5	25	Downlink	Low, Mid, High	Same values as for Low, Mid and High range values in Table 4.3.1.4.2.71.1-1 (SCS 15 kHz, 100 kHz NR raster and NR CC at the band edges) and EN-DC channel bandwidth combination “E-UTRA: 5MHz + NR: 5MHz”.											
				Uplink	Low, Mid, High												
	NR CC1	5	25	Downlink	Low, Mid, High												
				Uplink	Low, Mid, High												

Table 6.2.3.2.2-2: Test frequencies for EN-DC Intra-Band Non-Contiguous configurations with E-UTRA 1CC and NR 1CC

EN-DC channel bandwidth combination	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
DC_41A_n41A	E-UTRA CC1	20	100	Downlink & Uplink	Low	Same values as for Test Frequency ID = ”Low with maxWgap (NR – E-UTRA)” in Table 4.3.1.4.41.1-1 with NR SCS=30 kHz and CBW=60MHz; and E-UTRA CBW=20 MHz.											
	NR CC1	60	162	Downlink & Uplink	Low												

6.2.3.2.3 E-UTRA 1CC and NR CA 2CC

For EN-DC Inter-band case with E-UTRA 1CC and NR CA 2CC the EN-DC configurations are specified in clause 4.3.1.4.1.3 for EN-DC and NR CA 2CC with FR1 bands, 4.3.1.5.1.3 for EN-DC with NR CA 2CC with FR2 bands and 4.3.1.6.1.2 for EN-DC and NR CA 2CC´with FR1 and FR2 bands.

For EN-DC Inter-band case (3 bands), the E-UTRA test frequencies are specified in TS 36.508 [2], clause 6.2.3.1 for the E-UTRA band (E-UTRA f1) and the NR test frequencies are specified in clause 6.2.3.1 for the NR band used as PCell (NRf1, NRf2, NRf3, NRf4) and for the NR band used as Scell (NRf5, NRf6, NRf7).

For EN-DC Intra-band Contiguous case with E-UTRA 1CC and NR CA 2CC the EN-DC configurations and the test frequencies are specified in Table 6.2.3.2.3-1.

For EN-DC Intra-band Non-Contiguous case with E-UTRA 1CC and NR 2CC the EN-DC configurations and test frequencies are specified in Table 6.2.3.2.3-2.

For EN-DC Intra-Band Contiguous and EN-DC Intra-Band Non-Contiguous cases with E-UTRA 1CC and NR CA 2CC the mapping of frequency ranges to NR test frequencies NRf1 for PSCell (CC1) and NRf2 for SCell (CC2); and to E-UTRA test frequency f1 for PCell is:

- for band combinations with only one test frequency: Low Range (NRf1=CC1, NRf2=CC2, f1); and
- for band combinations with up to two frequencies: Low Range (NRf1=CC1, NRf2=CC2, f1), High Range (NRf3=CC1, NRf4=CC2, f2).

Editor's note: No EN-DC Intra-band Contiguous configurations with NR CA 2CC have yet been introduced in TS 38.101-3.

Table 6.2.3.2.3-1: Test frequencies for EN-DC Intra-band Contiguous configurations with E-UTRA 1CC and NR CA 2CC

FFS

Editor's note: No EN-DC Intra-band Non-Contiguous configurations with NR CA 2CC have yet been introduced in TS 38.101-3.

Table 6.2.3.3-2: Test frequencies for EN-DC Intra-Band Non-Contiguous configurations with E-UTRA 1CC and NR CA 2CC

FFS

6.2.3.3 Test frequencies for NR and E-UTRA Inter-RAT signalling testing

For NR and E-UTRA Inter-RAT testing, it is assumed that the NR and E-UTRA bands under test are different in order to avoid unnecessary interferences:

- for NR bands, the frequencies NRf1, NRf2, NRf3 and NRf4 are mapped as per clause 6.2.3.1
- for E-UTRA bands, the signalling test frequencies E-UTRA f1, E-UTRA f2, E-UTRA f3 and E-UTRA f4 are mapped respectively on f1, f2, f3 and f4 as per TS 36.508 [2] clause 6.2.3.1.

6.2.3.4 Test frequencies for NR CA configurations for signalling testing

The default channel bandwidths for NR CA signalling test are specified per NR band. The test frequencies are defined so that no frequency overlapping takes place, in order to avoid unnecessary inter-frequency interference.

For NR CA Inter-band case (2 bands) the NR CA configurations are specified in clause 4.3.1.1.2 and NR test frequencies are specified in clause 6.2.3.1 for the NR band used as PCell (NRf1, NRf2, NRf3, NRf4) and for the NR band band used as Scell (NRf5, NRf6, NRf7).

For NR CA Intra-band Contiguous case (2 CCs) the NR CA configurations and the test frequencies are specified in Table 6.2.3.4-1 for FR1 and in Table 6.2.3.4-2 for FR2. For NR CA Intra-band Non-Contiguous (2 CCs) case the NR CA configurations and test frequencies are specified in Table 6.2.3.4-3 for FR1 and in Table 6.2.3.4-4 for FR2.

For NR CA Intra-Band Contiguous case (2 CCs) and NR CA Intra-Band Non-Contiguous case (2 CCs) the mapping of frequency ranges to NR test frequencies NRf1, NRf2, NRf3, and NRf4 and PCell (CC1) amd SCell (CC2) are as follows:

- for Intra-band configurations with only one test frequency: Low Range (NRf1=CC1 and NRf2=CC2); and
- for Intra-band configurations with up to two frequencies: Low Range (NRf1=CC1 and NRf2=CC2), High Range (NRf3=CC1 and NRf4=CC2).

Table 6.2.3.4-1: Test frequencies for NR CA Intra-band Contiguous configurations with FR1

NR CA configuration	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
CA_n41C	CC1	60	162	Downlink & Uplink	Low	Same values as for Test Frequency ID = ”60+60” in Table 4.3.1.1.3.41.1-1 with NR SCS=30 kHz, CBW CC1=60MHz and CC2=60MHz.											
	CC2	60	162	Downlink & Uplink	Low												
CA_n78C	CC1	100	273	Downlink & Uplink	Low, High	Same values as for Test Frequency ID = ”100+100” in Table 4.3.1.1.3.78.1-1 with NR SCS=30 kHz, CBW CC1=100MHz and CC2=100MHz.											
	CC2	100	273	Downlink & Uplink	Low, High												

Table 6.2.3.4-2: Test frequencies for NR CA Intra-band Contiguous configurations with FR2

NR CA configuration	CC	Bandwidth [MHz]	*carrierBandwidth* [PRBs]	Range		Carrier centre [MHz] Note 2	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN	*absoluteFrequencySSB* [ARFCN]	k_{SSB}	CORESET#0 Offset [RBs] Note 1	CORESET#0 Index Note 1	offsetToPointA (SIB1) [PRBs] Note 1
CA_n257G	CC1	100	66	Downlink & Uplink	Low, High	Same values as for Test Frequency ID = ”100+100” in Table 4.3.1.2.3.1.6-3 with NR SCS=120 kHz, CBW CC1=100MHz and CC2=100MHz.											
	CC2	100	66	Downlink & Uplink	Low, High												

Table 6.2.3.4-3: Test frequencies for NR CA Intra-Band Non-Contiguous configurations with FR1

FFS

Table 6.2.3.4-4: Test frequencies for NR CA Intra-Band Non-Contiguous configurations with FR2

FFS

6.2.3.5 Test frequencies for MFBI signalling testing

For signalling test cases, the mapping of MFBI frequency ranges to NR test frequencies are as follows: Low Range (NRf1), Mid Range (NRf2) and High Range (NRf3).

The test frequencies, subcarrier spacing, default channel bandwidth, SS/PBCH block and CORESET#0 parameters for signalling are specified in Table 6.2.3.5-1.

Table 6.2.3.5-1: Test frequencies for MFBI NR bands in FR1

NR Band	MFBI overlapping NR Band	SCS [kHz]	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA* [ARFCN]	*offsetToCarrier* [Carrier PRBs]	SS block SCS [kHz]	GSCN
n2	n25	15	10	52	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for						
					Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for						
n25	n2	15	10	52	Downlink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for						
					Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.2 for						
n38	n41	15	10	52	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.38 fo						
n41	n38	15	10	52	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.38 fo						
n77	n78	30	100	273	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.78 fo						
n78	n77	30	100	273	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.1.1.78 fo						

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORES controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assu 60 kHz subcarrier spacing for FR2.

Table 6.2.3.5-2: Test frequencies for MFBI NR bands in FR2

NR Band	MFBI overlapping NR Band	SCS [kHz]	Bandwidth [MHz]	carrierBandwidth [PRBs]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	point A [MHz]	*absoluteFrequencyPointA*[ARFCN]	*offsetToCarrier* [CarrierPRBs]	SS block SCS [kHz]	GSCN
n257	n258	120	100	66	Downlink & Uplink	Low	26557.08	2055117	26509.56	2054325	0	120	22388
						Mid	27006.36	2062605	26811.96	2059365	102		22414
						High	27438.36	2069805	26665.08	2056917	504		22439
n257	n261	120	100	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.2.1.5 for ban						
n258	n257	120	100	66	Downlink & Uplink	Low	26557.08	2055117	26509.56	2054325	0	120	22388
						Mid	27006.36	2062605	26811.96	2059365	102		22414
						High	27438.36	2069805	26665.08	2056917	504		22439
n261	n257	120	100	66	Downlink & Uplink	Low, Mid, High	Same values as for Low, Mid and High range in clause 4.3.1.2.1.5 for ban						

Note 1: The CORESET#0 Index and the associated CORESET#0 Offset refers to Table 13-1 in TS 38.213 [22]. The value of CORES controlResourceSetZero (pdcch-ConfigSIB1) in the MIB. The offsetToPointA IE is expressed in units of resource blocks assur 60 kHz subcarrier spacing for FR2.

6.3 Reference system configurations

6.3.1 Cell configurations

Editor's Note: To define different types of SS cell configurations. It may be similar as defined in 3GPP TS 36.508 [2], clause 6.3.3 and 6.3.4 i.e. full, minimum uplink, broadcast only and virtual cell configuration. But details are FFS and depending on different connectivity options (MR-DC and SA).

6.3.1.1 Intra-frequency neighbouring cell list in SIB3 for NR cells

Intra-frequency neighbouring cell list for signalling test cases is defined in table 6.3.1.1-1. This table is referred to in the default contents of IE *intraFreqNeighCellList* in *SIB3* defined in table 4.6.2-2.

Table 6.3.1.1-1: Intra-frequency neighbouring cell lists for NR cells

cell ID	Test Frequency	intra-frequency neighbouring cell list			
		number of entries	physCellId[*n*]		
			1	1	3
NR Cell 1	NRf1	3	NR Cell 2	NR Cell 4	NR Cell 11
NR Cell 2	NRf1	3	NR Cell 1	NR Cell 4	NR Cell 11
NR Cell 4	NRf1	3	NR Cell 1	NR Cell 2	NR Cell 11
NR Cell 11	NRf1	3	NR Cell 1	NR Cell 2	NR Cell 4
NR Cell 3	NRf2	1	NR Cell 23	-	-
NR Cell 23	NRf2	1	NR Cell 3	-	-

Editor's Note: The intra-frequency NR neighbouring cell list for signalling NAS test cases when cells are on same PLMN is FFS.

6.3.1.2 Inter-frequency carrier frequency list in SIB4 for NR cells

Inter-frequency NR carrier frequency list for signalling test cases is defined in table 6.3.1.2-1. This table is referred to in the default contents of IE *interFreqCarrierFreqList* in *SIB4* defined in table 4.6.2-3.

Table 6.3.1.2-1: Inter-frequency carrier frequency lists for NR cells

cell ID	Test Frequency	interFreqCarrierFreqList			
		number of entries	dl-CarrierFreq[*n*]		
			1	2	3
NR Cell 1 NR Cell 2 NR Cell 4 NR Cell 11	NRf1 (Note 2)	3	NRf2	NRf3	NRf5
NR Cell 3 NR Cell 23	NRf2 (Note 2)	3	NRf1	NRf3	NRf5
NR Cell 6	NRf3 (Note 2)	3	NRf1	NRf2	NRf5
NR Cell 10	NRf5 (Note 3)	3	NRf1	NRf2	NRf3
Note 1: Depending on the Band under test, NRf3 may not be applicable. Note 2: In case of Test frequency NRf1, NRf2 and NRf3, dl-CarrierFreq NRf5 as part of inter-frequency list is applicable only in case of multi-band scenarios. Note 3: Test frequency NRf5 is applicable only in case of multi-band scenarios.					

Editor's Note: The inter-frequency NR carrier frequency list for signalling NAS test cases when cells are on same PLMN is FFS.

6.3.1.3 E-UTRA carrier frequency list in SIB5 for NR cells

The frequency mapping of E-UTRA cells are defined as per TS 36.508 [2] clause 4.4.2 and TS 36.508 [2] clause 6.3.2 for NGC NAS test cases, E-UTRA frequency mapping is according to clause 6.2.3.3. E-UTRA carrier frequency list for signalling test cases is defined in table 6.3.1.3-1. This table is referred to in the default contents of IE *carrierFreqListEUTRA* in *SIB5* defined in table 4.6.2-4.

Table 6.3.1.3-1: E-UTRA carrier frequency lists for NR cells

interFreqCarrierFreqList	
number of entries	carrierFreq[*n*]
	1
1	E-UTRA f1
2	E-UTRA f2
3	E-UTRA f3
4	E-UTRA f4
Note 1: E-UTRAf1, E-UTRAf2, E-UTRAf3, E-UTRAf4 are according to clause 6.2.3.3 Note 2: Depending on the Band under test, E-UTRA f2 or E-UTRA f3 or E-UTRA f4 may not be applicable.	

Table 6.3.1.3-2: Void

6.3.2 Default configurations for NAS test cases

The default configurations specified in this subclause apply only to NAS test cases. They apply to all NAS test cases unless otherwise specified.

6.3.2.1 Simulated network scenarios for NAS test cases

Simulated network scenarios for NAS test cases to be tested are specified in the pre-test conditions of each individual test case.

Any combination is allowed with the following restrictions:

- NGC Cell B shall not be used if NGC Cell D is used
- a maximum 3 cells on the same frequency can be used, i.e. only 3 cells out of NGC Cell A, NGC Cell B, NGC Cell C and NGC Cell D may be used simultaneously in each individual test case when cells in the test case are in different PLMNs (refer to Table 6.3.2.2-3).

6.3.2.2 Simulated NAS cells

Simulated NAS cells and default NAS parameters are specified in Table 6.3.2.2-1. Unless otherwise specified in a test case, default radio parameters of the NAS cells are specified as per Table 6.3.2.2-2.

Unless otherwise specified, the default parameters specified in section 4.4.2 will also apply to all NAS cells.

Table 6.3.2.2-1: Default NAS parameters for simulated NAS cells

NAS cell ID	Tracking Area				TA# list (Note 1)	5G-GUTI (Note 2)			
	TA#	PLMN		TAC		AMF Identifier			5G-TMSI
		MCC	MNC			AMF Region ID	AMF Set ID	AMF Pointer	
NGC Cell A	TAI-1	(Note 3)		1	TAI-1	254	1	1	Arbitrarily selected according to TS 23.003 subclause 2.10.1 [26].
NGC Cell B	TAI-2	(Note 3)		2	TAI-2	254	1	1	
NGC Cell C	TAI-3	(Note 3)		3	TAI-3	252	1	1	
NGC Cell D	TAI-4	(Note 3)		4	TAI-4	252	1	1	
NGC Cell E	TAI-12	002	101	3	TAI-12	244	1	1	
NGC Cell F	TAI-11	003	101	2	TAI-11	239	1	1	
NGC Cell G	TAI-7	(Note 4)	02	1	TAI-7	238	1	1	
NGC Cell H	TAI-8	(Note 4)	02	2	TAI-8	237	1	1	
NGC Cell I	TAI-9	002	101	1	TAI-9	244	1	1	
NGC Cell J	TAI-10	003	101	1	TAI-10	236	1	1	

Note 1: The value(s) in the column TA# list indicates TAI(s) included in the response messages of the registration procedure for initial access or mobility (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.
Note 2: The value in the column 5G-GUTI indicates GUTI included in the response messages of the registration procedure (REGISTRATION ACCEPT) when the UE performs the registration procedure on a corresponding cell.
Note 3: Set to the same Mobile Country Code and Mobile Network Code stored in EF_{IMSI} on the test USIM card (subclause 4.8.3).
Note 4: Set to the same Mobile Country Code stored in EF_{IMSI} on the test USIM card (subclause 4.8.3).

Table 6.3.2.2-2: Default radio parameters for simulated NAS cells when cells are in same PLMN and access stratum is NR

NAS cell ID	Frequency	NR Cell ID (Note 1)
NGC Cell A	NRf1	NR Cell 1
NGC Cell B	NRf1	NR Cell 2
NGC Cell C	NRf1	NR Cell 4
NGC Cell D	NRf1	NR Cell 11
NGC Cell E	NA	NA
NGC Cell F	NRf2	NR Cell 3
NGC Cell G	NA	NA
NGC Cell H	NA	NA
NGC Cell I	NA	NA
NGC Cell J	NRf2	NR Cell 12
Note 1: Default NR parameters for simulated NR cells are as specified in Table 4.4.2-2. Note 2: For signalling tests, simultaneous co-existence of NGC Cells B and D is not allowed (in line with Table 4.4.2-1)		

Table 6.3.2.2-3: Default PLMN and radio parameters for simulated NAS cells when cells are in different PLMNs and access stratum is NR

NAS cell ID	PLMN	Frequency	NR Cell ID (Note 1)
NGC Cell A	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 1
NGC Cell B	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 2
NGC Cell C	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 4
NGC Cell D	MCC/MNC=MCC/MNC in USIM	NRf1	NR Cell 11
NGC Cell E	MCC=002 MNC=101	NRf2	NR Cell 3
NGC Cell F	MCC=003 MNC=101	NRf4	NR Cell 14
NGC Cell G	MCC = MCC in USIM MNC=02	NRf2	NR Cell 12
NGC Cell H	MCC = MCC in USIM MNC=02	NRf2	NR Cell 23
NGC Cell I	MCC=002 MNC=101	NRf3	NR Cell 6
NGC Cell J	MCC=002 MNC=101	NRf3	NR Cell 13
Note 1: Default NR parameters for simulated NR cells are as specified in Table 4.4.2-2 Note 2: for signalling tests, simultaneous co-existence of NGC Cells B and D is not allowed (In line with Table 4.4.2-1)			

6.4 Signalling Test Case specific USIM Configurations

6.4.1 General

The default USIM fields are specified in section 4.8.3. Specific USIM fields are set according to the USIM configuration specified in the tables below. PLMN settings are defined in TS 36.523-1 [42] Table 6.0.1-1.

Note: Changes to any existing USIM configuration can be done only if the change WILL NOT HAVE IMPACT on any of the tests which are referring to the configuration! To establish whether this might be the case, the test case author needs to review all tests in all RAN5 test specifications, which refer to the particular USIM configuration e.g. all test cases in TS 38.523-1 [12].

Table 6.4.1-1 : USIM Configuration 1

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN4.	
$EF_{PLMNwAcT}$	1 2 3	Default PLMN3 PLMN2 Remaining mandatory entries use default values	Default All specified NG-RAN
$EF_{OPLMNwACT}$	1	PLMN1 Remaining defined entries use default values	All specified
$EF_{HPLMNwAcT}$	1	PLMN4	NG-RAN
EF_{UST}		Services 20, 42, 43 and 74 are supported. Service 71 is not supported (there is no EHPLMN list).	
EF_{HPPLMN}		1 (6 minutes)	

Table 6.4.1-2: USIM Configuration 2

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN4	
$EF_{PLMNwAcT}$		Empty	
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF_{UST}		Service n°71 and n°74 are "available"	
EFEHPLMN	1 2	PLMN15 PLMN1	
$EF_{LRPLMNSI}$		01	

Table 6.4.1-3: USIM Configuration 3

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN4	
$EF_{PLMNwAcT}$		Empty	
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF_{UST}		Service n°74 is "available"	
EFEHPLMN		Empty	
$EF_{LRPLMNSI}$		01	

Table 6.4.1-4: USIM configuration 4

USIM field	Priority	Value	Access Technology Identifier
EF_{EHPLMN}	1	PLMN1 Remaining mandatory entries use default values	
$EF_{PLMNwAcT}$	1	PLMN2 Remaining mandatory entries use default values	NG-RAN
$EF_{OPLMNwACT}$	1	PLMN3 Remaining mandatory entries use default values	NG-RAN
EF_{UST}		Services 20, 42 and 71 are supported.	

Table 6.4.1-5: USIM configuration 5

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN4 (See preamble)	
$EF_{PLMNwAcT}$		Empty	
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
EF_{UST}		Service 71 is not supported Service 74 is supported.	
$EF_{LRPLMNSI}$		00	
EF_{EHPLMN}		0xFF..FF	

Table 6.4.1-6: USIM configuration 6

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN1 (See preamble)	
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN3.	
$EF_{PLMNwAcT}$	1	PLMN1 Remaining mandatory entries use default values	NG-RAN
$EF_{OPLMNwACT}$	1 2	PLMN2 PLMN4 Remaining defined entries use default values	NG-RAN NG-RAN
EF_{UST}		Service 71 is not supported	

Table 6.4.1-7: USIM configuration 7

USIM field	Priority	Value	Access technology	Comment
$EF_{PLMNwAcT}$	1 2	PLMN13 PLMN13	NG-RAN E-UTRAN	
$EF_{OPLMNwAcT}$	1 2 4	PLMN2 PLMN14 PLMN13	All E-UTRAN NG-RAN	

Table 6.4.1-8: USIM configuration 8

USIM field	Priority	Value	Access technology	Comment
$EF_{OPLMNwAcT}$	1 2 3 4	PLMN15 PLMN15 PLMN17 PLMN16	NG-RAN E-UTRAN E-UTRAN NG-RAN	

Table 6.4.1-9: USIM configuration 9

USIM field	Priority	Value	Access technology	Comment
$EF_{PLMNwAcT}$	1 2	PLMN1 PLMN15	NG-RAN E-UTRAN	
EF_{HPPLMN}		1(=6 min)		The HPLMN Search Period on the USIM shall be set to 6 minutes.

Table 6.4.1-10: USIM configuration 10

USIM field	Priority	Value	Access Technology Identifier
$EF_{OPLMNwACT}$	1 2 3 Remaining defined entries use default values	PLMN4 PLMN3 PLMN2	NG-RAN NG-RAN NG-RAN
EF_{UST}		Service n°127 is "available"	
EF_{HPPLMN}		1(=6 min)	

Table 6.4.1-11: USIM configuration 11

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN1 (See preamble)	
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN4.	
$EF_{PLMNwAcT}$	1	Default	NG-RAN
	2	PLMN2	NG-RAN
$EF_{OPLMNwACT}$	1	PLMN1	
		Remaining defined entries use default values	
$EF_{HPLMNwAcT}$	1	PLMN4	NG-RAN
EF_{UST}		Services 20, 42, 43, 74 and 96 are supported. Service 71 is not supported (there is no EHPLMN list).	
EF_{HPPLMN}		1 (6 minutes)	NG-RAN
$EF_{NASCONFIG}$		MinimumPeriodicSearchTimer set to 7 minutes	

Table 6.4.1-12: USIM configuration 12

USIM field	Priority	Value	Access technology	Comment
$EF_{PLMNwAcT}$		3GPP TS 31.102, Annex E		The EF is empty.
$EF_{OPLMNwAcT}$	1 2 3	PLMN2 PLMN13 PLMN13	NG-RAN E-UTRAN NG-RAN	

Table 6.4.1-13: USIM configuration 13

USIM field	Priority	Value	Access technology	Comment
$EF_{OPLMNwAcT}$	1 3 4	PLMN2 PLMN2 PLMN13	NG-RAN E-UTRAN NG-RAN	

Table 6.4.1-14: USIM configuration 14

USIM field	Priority	Value	Access Technology Identifier
$EF_{5GS3GPPLOCI}$		PLMN1 (See pre-amble)	

Table 6.4.1-15: USIM Configuration 15

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	NR
EF_{FPLMN}		PLMN2	NR

Table 6.4.1-16: USIM Configuration 16

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
$EF_{PLMNwAcT}$	1	PLMN1	NG-RAN
EF_{UST}		Service n°126 is "available".	
EF_{EHPLMN}		Empty	
EF_{UAC_AIC} and EF_{ACC}		For Bits b1, b2 in byte 1 of EF_{UAC_AIC} (defined in TS 31.102 clause 4.4.11.7) and Bits b5 to b7 in byte 1 of EF_{ACC} (defined in TS 31.102 clause 4.2.15), any single bit can be set to 1. All remaining bits of the two file are set to 0.	

Table 6.4.1-17: USIM Configuration 17

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
$EF_{PLMNwAcT}$	1	PLMN1	NG-RAN
EF_{UST}		Service n°126 is "available".	
EF_{EHPLMN}		PLMN1	
EF_{UAC_AIC} and EF_{ACC}		For Bits b4 and b8 in byte 1 of EF_{ACC} (defined in TS 31.102 clause 4.2.15), only single bit is set to 1. Bits b1 and b2 in byte 1 of EF_{UAC_AIC} (defined in TS 31.102 clause 4.4.11.7), and all remaining bits of EF_{ACC} and EF_{UAC_AIC} are set to 0.	

Table 6.4.1-18: USIM Configuration 18

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
$EF_{PLMNwAcT}$	1	PLMN2	NG-RAN
$EF_{HPLMNwAcT}$	1	PLMN1	NG-RAN
EF_{UST}		Service n°126 (for UAC Access Identities Configuration) defined in TS 31.102 clause 4.2.8 is declared "available"	
EF_{UAC_AIC}		Bit b1 in byte 1 defined in TS 31.102 clause 4.4.11.7 is set to 1 and bit b2 in byte 1 is set to 0.	
EF_{ACC}		For Bit b1 in byte 2 defined in TS 31.102 clause 4.2.15, only single bit set to 1. All remaining bits of byte 1 and byte 2 are set to 0.	

Editor's note: This USIM table is used for TC 11.3.5 which will be handled in RAN5 #86 meeting.

Table 6.4.1-19: USIM Configuration 19

USIM field	Priority	Value	Access Technology Identifier
EF_{IMSI}		The HPLMN (MCC+MNC) of the IMSI is set to PLMN1.	
$EF_{PLMNwAcT}$	1	PLMN2	NG-RAN
$EF_{HPLMNwAcT}$	1	PLMN1	NG-RAN
EF_{UST}		Service n°126 (for UAC Access Identities Configuration) defined in TS 31.102 clause 4.2.8 is declared "available"	
EF_{UAC_AIC}		Bit b2 in byte 1 defined in TS 31.102 clause 4.4.11.7 is set to 1 and bit b1 in byte 1 is set to 0.	
EF_{ACC}		For Bit b2 in byte 2 defined in TS 31.102 clause 4.2.15, only single bit set to 1. All remaining bits of byte 1 and byte 2 are set to 0.	

Table 6.4.1-20: USIM Configuration 20

USIM field	Priority	Value	Access Technology Identifier
EF_{ECC}		144, 117	NR

7 Test environments for RRM tests

7.0 General

7.0.1 Single PDU configuration for RRM testing

For RRM test case execution on 5G SA UEs defined in TS 38.533 [18]7.1 Requirements, IMS shall not be considered and UE's shall be able use RRC (IDLE, CONNECTED) preambles defined in TS 38.508-1 Section 4.5. Before entering RRC_CONNECTED or RRC_IDLE state during initial conditions or test procedure, it is recommended that UE is pre-configured with only 1 PDU (non-IMS) along with appropriate settings to ensure UE operates and stays on NR cell.

7.1 Test equipment requirements

7.1.1 Requirements common for conducted and OTA tests

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to RRM tests and common for conducted and OTA tests.

7.1.2 Requirements for conducted test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to conducted test environment for RRM tests.

7.1.3 Requirements for OTA test method

Editor's Note: This subclause is intended to describe the test equipment requirements which are specific to OTA test environment for RRM tests.

7.1.3.1 General

Editor's Note:

- The UE pre-configuration mentioned below to disable UL Tx diversity schemes shall be voided once a test methodology solution to minimize spectral flatness artefacts between TE and UE over all test points is defined.

For conformance testing using the OTA test environment, the UE under test shall be pre-configured with UL Tx diversity schemes disabled.

7.1.3.2 RRM baseline setup

The RRM baseline setup shall fulfil the capabilities detailed in this section.

The following permitted test setups are considered for OTA RRM testing:

- DFF test setup as described in Clause B.2.2.
- Simplified DFF test setup as described in Clause B.2.3.
- IFF test setup as described in Clause B.2.4.
- Enhanced IFF test setup based in the IFF test setup described in Clause B.2.4, with the enhancements described in this clause.

7.1.3.2.1 General description

TRxPs and Cells:

- Up to 2 NR transmission reception points TRxPs are emulated.

Support of interworking scenarios

- For test scenarios involving both, LTE and NR FR2 carriers, the test setup shall be capable to provide LTE link to the DUT. The emulated LTE cell provides a stable LTE signal without precise propagation modelling or path loss control between it and the DUT. No performance verification for and relative to LTE carriers is supported.

- For test scenarios involving both, NR FR1 and NR FR2 carriers, the test setup shall be capable to provide NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control. No performance verification for and relative to NR FR1 carriers is supported.

Antennas, polarization, simultaneously active AoAs:

- N dual-polarized antennas transmitting the signals from the emulated gNB sources to the DUT.

- The antennas transmit into the test zone in such a way that signal polarization does not prevent the DUT receiving a consistent, predictable power level.

- $N \geq N_{MAX_AoAs}$, where N_{MAX_AoAs} is the maximum number of simultaneously active (emulating signal) angles of arrival AoAs. The N_{MAX_AoAs} for the different permitted test methods is:

  - For UE RRM baseline measurement setup based on DFF, the supported $N_{MAX_AoAs} = 2$.

  - For UE RRM baseline measurement setup based on simplified DFF, the supported $N_{MAX_AoAs} = 1$.

  - For UE RRM baseline measurement setup based on IFF, the supported $N_{MAX_AoAs} = 1$.

  - For UE RRM baseline measurement setup based on enhanced IFF, the supported $N_{MAX_AoAs} = 2$.

Angular Relationship:

- A positioning system such that an angular relationship with two axes of freedom is provided between the DUT and the test system antennas (or the setup should provide equivalent functionality).

- For $N_{MAX_AoAs} = 2$ the setup shall enable following relative angular relationships between the N_{MAX_AoAs} simultaneously active AoAs: 30°, 60°, 90°, 120° and 150°.

- For single active probe scenarios, in case that step change of AoA is required, the setup shall enable following relative angular change between initial and target AoA: 30°, 60°, 90°, 120° and 150°.

Wanted and noise (AWGN) signals can be transmitted from one or both active probes. Test description will define the exact signal/noise/SNR/SINR level per TRxP at the reference point.

Multiple DL transmission antenna ports:

- In case of multiple DL transmission antenna ports are required for RRM testing, the different antenna ports are mapped to different polarizations.

Measurement Uncertainty:

- The threshold MU for the equivalence framework for RRM will be based on direct far field (DFF) test method for $D \leq 5$ cm and on indirect far field (IFF) test method for $D > 5$ cm. If the MTSU for the IFF test method for $D \leq 5$ cm is finalized before DFF, the IFF MTSU shall be used as provisional threshold MU until DFF is completed.

7.1.3.2.2 Applicability criteria

The applicability criteria for the RRM measurement setup based on DFF is described in B.2.2.1.

The applicability criteria for the RRM measurement setup based on simplified DFF is described in B.2.3.1.

The applicability criteria for the RRM measurement setup based on IFF is described in B.2.4.1.

The applicability criteria for the RRM measurement setup based on enhanced IFF is described in B.2.4.1:

7.1.3.2.3 Measurement distance and quiet zone

For RRM baseline measurement setup based on DFF:

- The measurement distance defined for the DFF UE RF test method described in B.2.2.4 applies.
- A DFF measurement setup has the centre of the Quiet Zone (QZ) located at the centre of the rotational axes (of DUT and measurement antenna). For the RRM measurement baseline setup based on DFF, the vertices of the N probes have to be aligned to the resulting centre of the QZ. The centre of the QZ is taken as the reference point for MU definition for each probe. The same QZ size as for DFF UE RF test method described in B.2.2.2 applies.

For RRM baseline measurement setup based on simplified DFF:

- The measurement distance defined for the simplified DFF UE RF test method described in B.2.3.4 applies.
- The same QZ size and definition as for simplified DFF UE RF test method described in B.2.3.2 applies.

For RRM baseline measurement setup based on IFF:

- The measurement distance defined for the IFF UE RF test method described in B.2.4.4 applies.
- The Quiet Zone definition for the IFF UE RF test method described in B.2.4.2 applies.

For RRM baseline measurement setup based on enhanced IFF:

- The measurement distance defined for the IFF UE RF test method described in B.2.4.4 applies.
- An IFF measurement setup has the centre of the Quiet Zone (QZ) located at the centre of the rotational axes (of DUT). For the RRM measurement baseline setup based on IFF, the reflectors have to be aligned to transmit a plane wave to the resulting centre of the QZ. The centre of the QZ is taken as the reference point for MU definition for each reflector. The QZ is a sphere of radius R. The size of the QZ defined in B.2.4.2 applies.

7.1.3.2.4 Quality of the quiet zone

The quality of the quiet zone for the RRM measurement setup based on DFF is described in B.2.2.3.

The quality of the quiet zone for the RRM measurement setup based on simplified DFF is described in B.2.3.3.

The quality of the quiet zone for the RRM measurement setup based on IFF is described in B.2.4.3.

The quality of the quiet zone for the RRM measurement setup based on enhanced IFF is FFS.

7.2 Reference test conditions

7.2.1 Signal levels

7.2.1.1 Signal Levels for conducted testing

TBD

7.2.1.2 Signal Levels for OTA testing

TBD

7.3 Default NG-RAN RRC message and information elements contents for RRM

7.3.1 Radio resource control information elements for RRM

As defined in clause 4.6.3 with the following exceptions:

– *TDD-UL-DL-Config*

Table 7.3.1-1: TDD-UL-DL-Config

Derivation Path: Table 4.6.3-192			
Information Element	**Value/remark**	**Comment**	**Condition**
TDD-UL-DL-ConfigCommon ::= SEQUENCE {			
referenceSubcarrierSpacing	SubcarrierSpacing		
pattern1 SEQUENCE {			
dl-UL-TransmissionPeriodicity	ms0p625		TDDConf.3.1
	ms5		
nrofDownlinkSlots	3		TDDConf.2.1, TDDConf.3.1
	1		TDDConf.1.1
nrofDownlinkSymbols	10		TDDConf.1.1, TDDConf.3.1
	6		TDDConf.2.1
nrofUplinkSlots	2		TDDConf.1.1
	1		TDDConf.3.1
	4		TDDConf.2.1
nrofUplinkSymbols	4		TDDConf.2.1
	2		TDDConf.1.1, TDDConf.3.1
dl-UL-TransmissionPeriodicity-v1530	Not present		
	ms4		TDDConf.1.1, TDDConf.2.1
}			
pattern2	Not present		
pattern2 SEQUENCE {			TDDConf.1.1, TDDConf.2.1
dl-UL-TransmissionPeriodicity	ms1		TDDConf.1.1, TDDConf.2.1
nrofDownlinkSlots	1		TDDConf.1.1
	2		TDDConf.2.1
nrofDownlinkSymbols	0		TDDConf.1.1, TDDConf.2.1
nrofUplinkSlots	0		TDDConf.1.1, TDDConf.2.1
nrofUplinkSymbols	0		TDDConf.1.1, TDDConf.2.1
}			
}			

Condition	Explanation
TDDConf.1.1	TDD UL/DL configuration for SCS=15kHz
TDDConf.2.1	TDD UL/DL configuration for SCS=30kHz
TDDConf.3.1	TDD UL/DL configuration for SCS=120kHz

– *FilterCoefficient*

Table 7.3.1-2: FilterCoefficient

Derivation Path: Table 4.6.3-57			
Information Element	**Value/remark**	**Comment**	**Condition**
FilterCoefficient	fc0	L3 filtering is not used	

– *SSB-MTC*

Table 7.3.1-3: *SSB-MTC*

Derivation Path: Table 4.6.3-185			
Information Element	**Value/remark**	**Comment**	**Condition**
SSB-MTC ::= SEQUENCE {			
periodicityAndOffset CHOICE {			
sf20	0		SMTC.1, SMTC.2
sf160	0		SMTC.3
}			
duration	sf1		SMTC.1, SMTC.3
	sf5		SMTC.2
}			

Condition	**Explanation**
SMTC.1	SMTC pattern 1 as defined in 38.533 Annex A.4
SMTC.2	SMTC pattern 2 as defined in 38.533 Annex A.4
SMTC.3	SMTC pattern 3 as defined in 38.533 Annex A.4

– *ServingCellConfigCommon*

Table 7.3.1-4: *ServingCellConfigCommon*

Derivation Path: Table 4.6.3-168			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfigCommon ::= SEQUENCE {			
ssb-PositionsInBurst CHOICE {			
shortBitmap	1000	1 SS Block in low FR1 frequencies	LOW_FREQ
	1100	2 SS Blocks in low FR1 frequencies	2SSB AND LOW_FREQ
mediumBitmap	10000000	1 SS Block in high FR1 frequencies	HIGH_FREQ
	11000000	2 SS Blocks in high FR1 frequencies	2SSB AND HIGH_FREQ
longBitmap	10000000000000000000000000000000000000000000000000000000000000000000000000000000	1 SS Block in FR2	FR2
	11000000000000000000000000000000000000000000000000000000000000000000000000000000	2 SS Blocks in FR2	2SSB AND FR2
}			
ssb-periodicityServingCell	ms20		
ssbSubcarrierSpacing	kHz15		
	kHz30		SCS30kHz
	kHz120		FR2
}	kHz240		FR2 AND SCS240kHz

Condition	Explanation
LOW_FREQ	Frequency <= 2.4 GHz for TDD or Frequency <= 3 GHz for FDD
HIGH_FREQ	FR1 and (Frequency > 2.4 GHz for TDD or Frequency > 3 GHz for FDD or CASE_C)
FR1	Frequency range 1, frequency <= 6GHz
FR2	TDD frequency range 2, frequency > 6GHz
CASE_C	SS Block pattern “Case C” to be applied for the given band and subcarrier spacing according to TS 38.101-1 [7] Table 5.4.3.3-1
SSB.n FRm	As defined in TS 38.533 [18] Annex A.3.1, where n=1, 2, 3 or 4 and m = 1 or 2
2SSB	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 contain 2 SSBs within a burst
SCS30kHz	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 is for 30 kHz SCS
SCS240kHz	The SSB pattern as defined in TS 38.533 [18] Annex A.3.1 is for 240 kHz SCS

– *ServingCellConfigCommonSIB*

Table 7.3.1-5: ServingCellConfigCommonSIB-RRM

Derivation Path: Table 4.6.3-169			
Information Element	**Value/remark**	**Comment**	**Condition**
ServingCellConfigCommonSIB ::= SEQUENCE {			
ssb-PositionsInBurst SEQUENCE {			
inOneGroup	’1000 0000’B	When carrier frequency <= 3 GHz for FDD or <= 2.4 GHz for TDD, only the 4 leftmost bits are valid;	
	’1100 0000’B		2SSB
groupPresence	Not present		
	’1000 0000’B		FR2
}			
}			

Condition	Explanation
FR2	Frequency range 2
2SSB	For configuration with 2 SS Blocks

- CSI-RS for Tracking

Table 7.3.1-6: CSI-MeasConfig for TRS

Derivation Path: TS 38.508-1 Table 4.6.3-38			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-MeasConfig::= SEQUENCE {			
nzp-CSI-RS-ResourceToAddModList SEQUENCE {	5 entries		
NZP-CSI-RS-Resource[1]	NZP-CSI-RS-Resource for TRS (0)		
NZP-CSI-RS-Resource[2]	NZP-CSI-RS-Resource for TRS (1)		
NZP-CSI-RS-Resource[3]	NZP-CSI-RS-Resource for TRS (2)		
NZP-CSI-RS-Resource[4]	NZP-CSI-RS-Resource for TRS (3)		
NZP-CSI-RS-Resource[5]	NZP-CSI-RS-Resource		
}			
nzp-CSI-RS-ResourceSetToAddModList SEQUENCE {	2 entries		
NZP-CSI-RS-ResourceSet[1]	NZP-CSI-RS-ResourceSet		
NZP-CSI-RS-ResourceSet[2]	NZP-CSI-RS-ResourceSet for TRS		
}			
csi-IM-ResourceToAddModList	Not present		
csi-IM-ResourceSetToAddModList	Not present		
csi-SSB-ResourceSetToAddModList	Not present		
csi-ResourceConfigToAddModList SEQUENCE {	1 entry		
CSI-ResourceConfig[1]	CSI-ResourceConfig for TRS		
}			
reportTriggerSize	Not present		
aperiodicTriggerStateList SetupRelease	Not present		
}			

Table 7.3.1-7: NZP-CSI-RS-Resource for TRS

Derivation Path: 38.508-1 Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-Resource ::= SEQUENCE {			
NZP-CSI-RS-ResourceId	Id		
CSI-RS-ResourceMapping	CSI-RS-ResourceMapping for TRS		
powerControlOffsetSS	db-3		
periodicityAndOffset	CSI-ResourcePeriodicityAndOffset for TRS		
}			

Table 7.3.1-8: CSI-RS-ResourceMapping for TRS

Derivation Path: Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-RS-ResourceMapping ::= SEQUENCE {			
frequencyDomainAllocation CHOICE {			
row1	0001	k_0=0 for CSI-RS resource 1,2,3,4	
}			
firstOFDMSymbolInTimeDomain	6	l_0 = 6 for CSI-RS resource 1 and 3	
	10	l_0 = 10 for CSI-RS resource 2 and 4	
nrofPorts	p1	1 for CSI-RS resource 1,2,3,4	
Cdm-Type	noCDM		
Density CHOICE{			
three	Null		
}			
freqBand	CSI-FrequencyOccupation-TRS		
}			

Table 7.3.1-9: CSI-ResourcePeriodicityAndOffset for TRS

Derivation Path: Table 4.6.3-43			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourcePeriodicityAndOffset ::= CHOICE {			
Slots40	20	Periodicity 40 slots and offset 20 for CSI-RS resource 1 and 2	BW 40 MHz SCS 30KHz
Slots40	21	Periodicity 40 slots and offset 21 for CSI-RS resource 3 and 4	BW 40 MHz SCS 30KHz
slots20	10	Periodicity 20 slots and offset 10 for CSI-RS resource 1 and 2	BW 10 MHz SCS 15kHz
slots20	11	Periodicity 20 slots and offset 11 for CSI-RS resource 3 and 4	BW 10 MHz SCS 15kHz
}			

Table 7.3.1-10: CSI-FrequencyOccupation-TRS

Derivation Path: Table 4.6.3-33			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-FrequencyOccupation ::= SEQUENCE {			
nrofRBs	52		BW 10 MHz SCS 15kHz
	108		BW 40 MHz SCS 30KHz
}			

Table 7.3.1-11: NZP-CSI-RS-ResourceSet for TRS

Derivation Path: Table 4.6.3-45			
Information Element	**Value/remark**	**Comment**	**Condition**
NZP-CSI-RS-Resource ::= SEQUENCE {			
nzp_CSI_ResourceSetId	Id		
nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF{	4 entries		
NZP-CSI-RS-ResourceId[0]	0		
NZP-CSI-RS-ResourceId[1]	1		
NZP-CSI-RS-ResourceId[2]	2		
NZP-CSI-RS-ResourceId[3]	3		
}			
repetition	on		
aperiodicTriggeringOffset	Not present		
trs_Info	true		
}			

Table 7.3.1-12: CSI-ResourceConfig for TRS

Derivation Path: TS 38.508-1 Table 4.6.3-41			
Information Element	**Value/remark**	**Comment**	**Condition**
CSI-ResourceConfig ::= SEQUENCE {			
csi-RS-ResourceSetList CHOICE {			
nzp-CSI-RS-SSB SEQUENCE {			
nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF {	2 entries		
NZP-CSI-RS-ResourceSetId[0]	0		
NZP-CSI-RS-ResourceSetId[1]	1		
}			
}			
}			
}			

7.4 FFS

Void.

7.5 Common procedures for RRM testing

7.5.1 Procedure to configure SCC(s) for NR RRM CA testing

Same procedure as described in clause 5.5.1.

7.5.2 Procedure to configure SCC(s) for EN-DC RRM CA testing

Same procedure as described in clause 5.5.1.

Annex A (informative): Connection Diagrams

A.1 Definition of Terms

System Simulator or SS – A device or system, that is capable of generating simulated Node B signalling and analysing UE signalling responses on one or more RF channels, in order to create the required test environment for the UE under test. It will also include the following capabilities:

1. Measurement and control of the UE Tx output power through TPC commands
2. Measurement of Throughput
3. Measurement of signalling timing and delays
4. Ability to simulate UTRAN and/or E-UTRAN and/or GERAN signalling

Test System – A combination of devices brought together into a system for the purpose of making one or more measurements on a UE in accordance with the test case requirements. A test system may include one or more System Simulators if additional signalling is required for the test case. The following diagrams are all examples of Test Systems.

NOTE 1: The above terms are logical definitions to be used to describe the test methods used in the documents TS 38.521-1, TS 38.521-2, TS 38.521-3, TS 38.523-1 and TS 38.533 in practice, real devices called 'System Simulators' may also include additional measurement capabilities or may only support those features required for the test cases they are designed to perform.

NOTE 2: Components in the connection diagrams:
The components in the connection diagrams represent ideal components. They are intended to display the wanted signal flow. They don’t mandate real implementations.

Connection: Each connection is displayed as a one or two sided arrow, showing the intended signal flow. In some cases, for some tests, some connections shown may not be necessary (for example UL RX connection for a second cell).

Circulator: The signal, entering one port, is conducted to the adjacent port, indicated by the arrow. The attenuation among the above mentioned ports is ideally 0 and the isolation among the other ports is ideally ∞.

Splitter: a splitter has one input and 2 or more outputs. The signal at the input is equally divided to the outputs. The attenuation from input to the outputs is ideally 0 and the isolation between the outputs is ideally ∞.

Combiner: a combiner has one output and 2 or more inputs. The signals at the inputs are conducted to the output, all with the same, ideally 0 attenuation. The isolation between the inputs is ideally ∞.

Switch: contacts a sink (or source) alternatively to two or more sources (or sinks).

Fader: The fader has one input and one output. The MIMO fading channel is represented by several single faders (e.g. 8 in case of a MIMO antenna configuration 4x2) The correlation among the faders is described in TS 36.521-1 clause B.2.2. In some cases, for some tests, diagrams with fader(s) are referenced when no fading is required; in this case the fader(s) is omitted.

Attenuator: TBD

Test Equipment Part (TE): is the section of the connection diagram focused including a combination of devices to perform one or several measurements on a UE depending on the test requirements specified in 3GPP TS 38.101-1 [7], 3GPP TS 38.101-2 [8] and 3GPP TS 38.101-3 [9]. The basic TE is the system simulator to enable the connection between the gNB (and the eNB, if NSA mode) and the DUT. The number of cells, the number of streams per cell and how to combine them, channel and propagations conditions, etc. are also part of the TE. Other instruments as external spectrum analyser, interferer generators, external faders or external AWGN generators can be also considered part of the TE, as these instruments allow to measure a test requirement or to set the UE under certain conditions.

DUT Part (UE): for conducted measurement this section is focused on the number of physical antenna connectors and how to combine in the DUT. For radiated measurement this section shows the connections needed to translate the UL/DL streams to the radiated part.

A.2 General considerations on Connections Diagram

In order to improve the maintainability and the readability of this section and to make easy to identify the whole connection diagram to use per each test case, several considerations have been used for this section:

- The whole connection diagram to use for a specific test has been split in Test Equipment (TE) and User Equipment (UE) parts.

- The same connection diagram will be used for SA and NSA, where the LTE link is specified in each connection diagram (TE and UE) with a dashed line (and this part will be only used for NSA).

- To obtain the whole connection diagram required per each test case is necessary to specify the TE part required for each measurement and the UE part will depend on the UE antenna implementation.

A.3 Setup Diagrams

A.3.1 Test Equipment Parts for Conducted Measurements

A.3.1.1 Basic Transmitter/Receiver tests

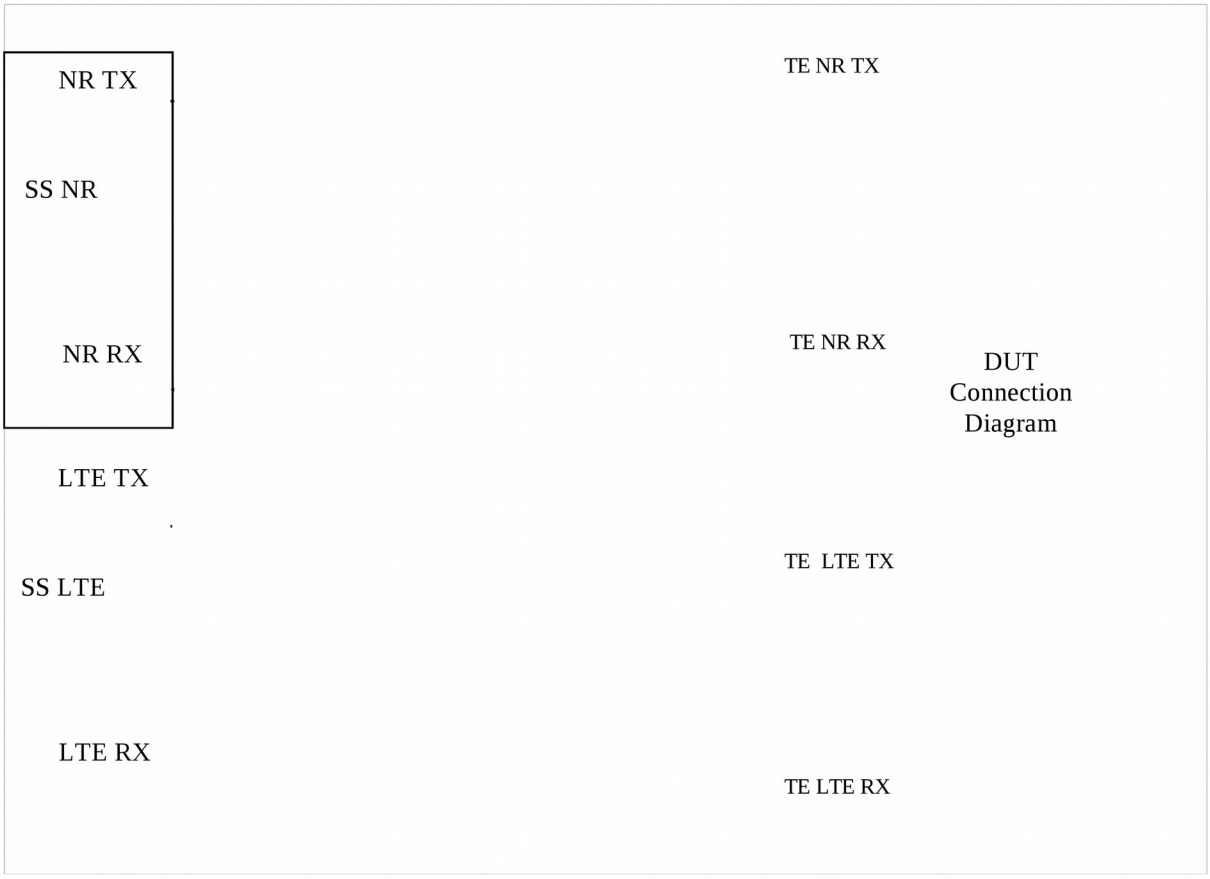


Figure A.3.1.1.1: Test Equipment connection for basic single cell, RX and TX tests

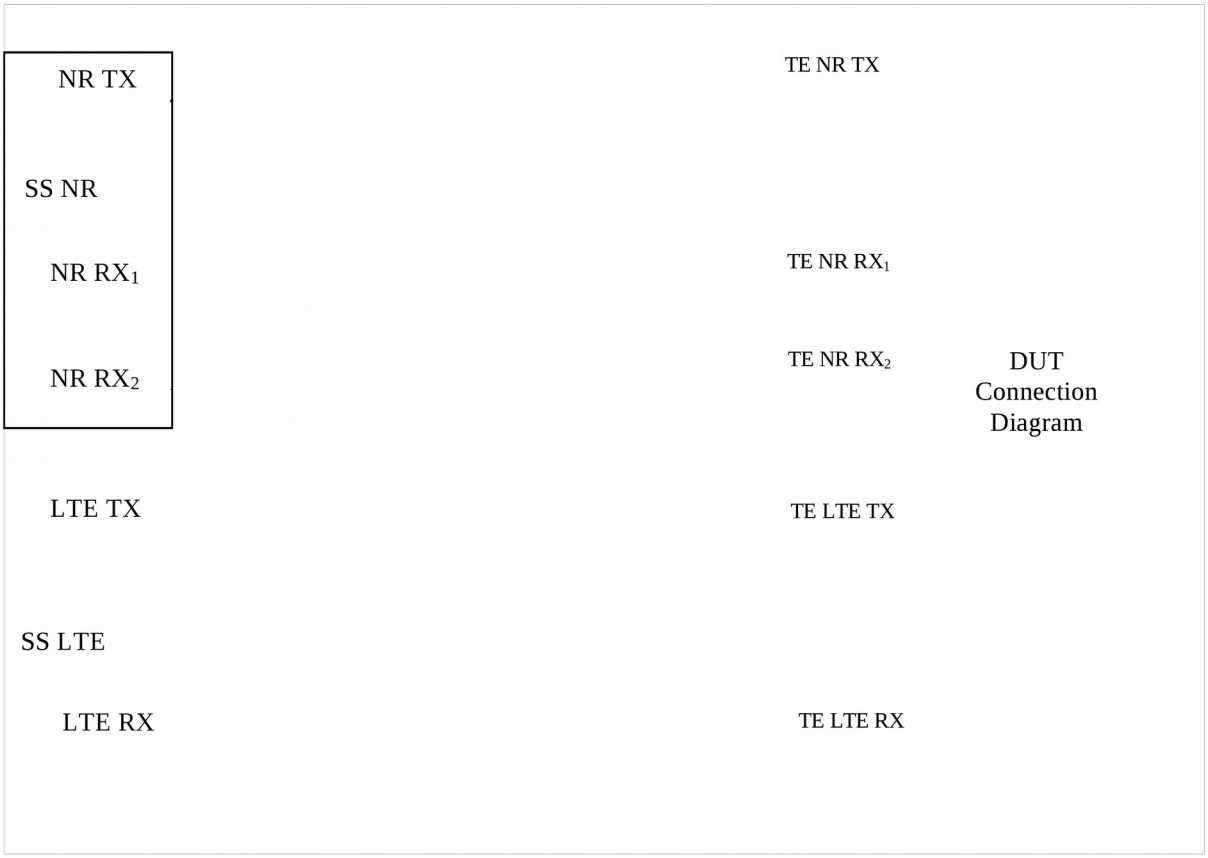


Figure A.3.1.1.2: Test Equipment connection for single cell, RX and TX tests for NR UL MIMO

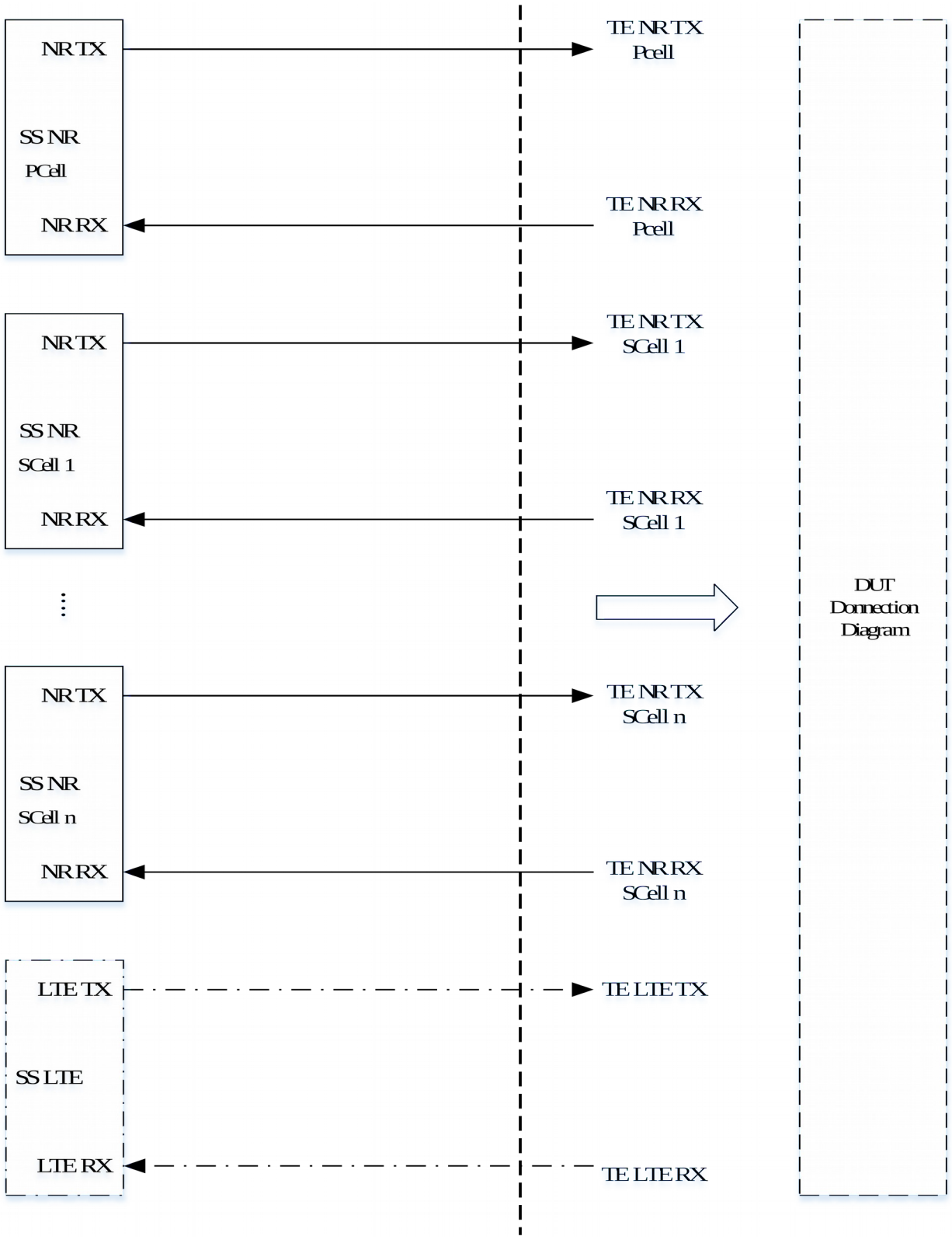


Figure A.3.1.1.3: Test Equipment connection for NR CA, basic RX and TX tests

A.3.1.2 Transmitter tests using Spectrum Analyser

A.3.1.2 Transmitter tests using Spectrum Analyser

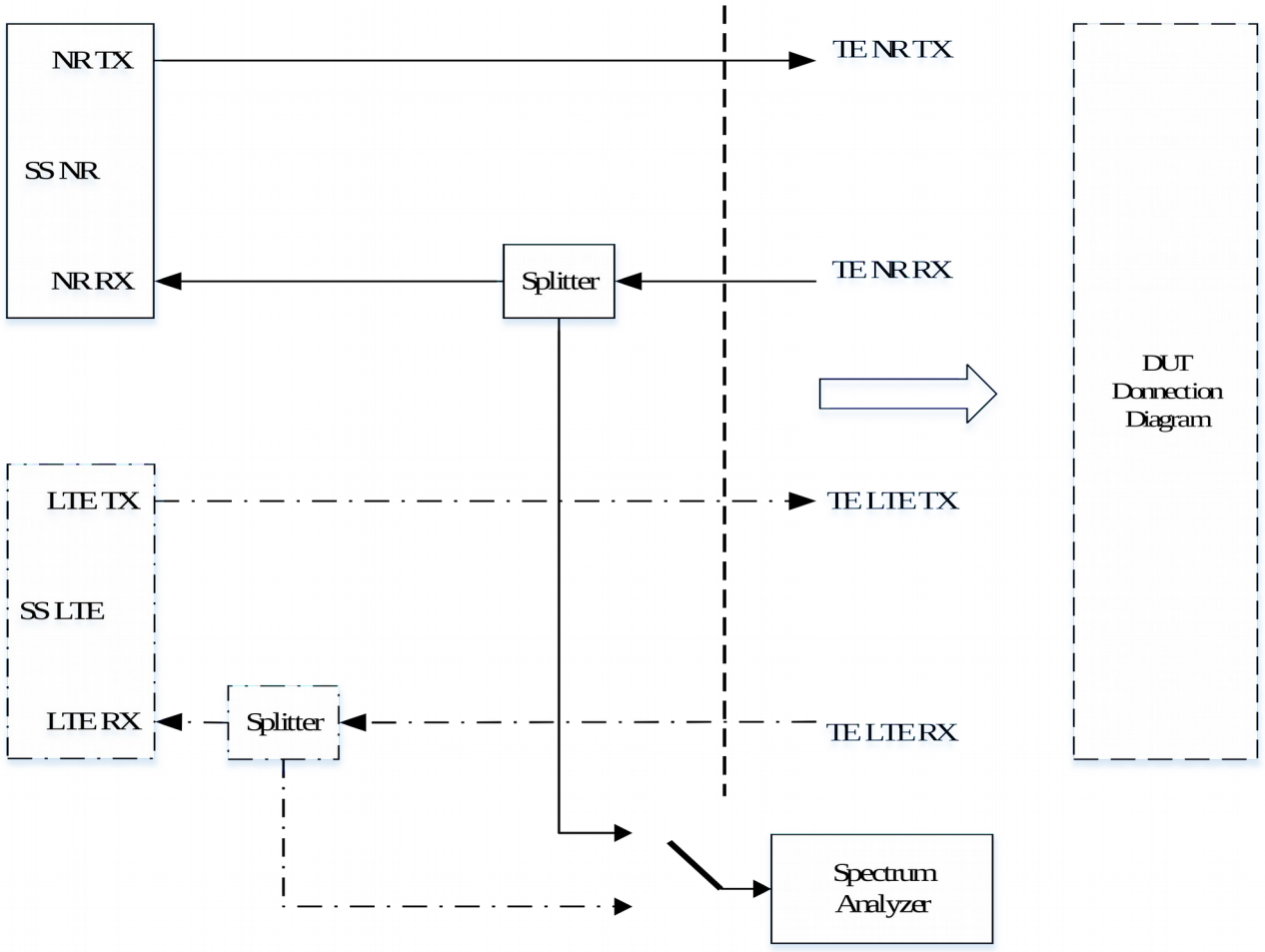


Figure A.3.1.2.1: Test Equipment connection for TX-tests with additional Spectrum Analyzer

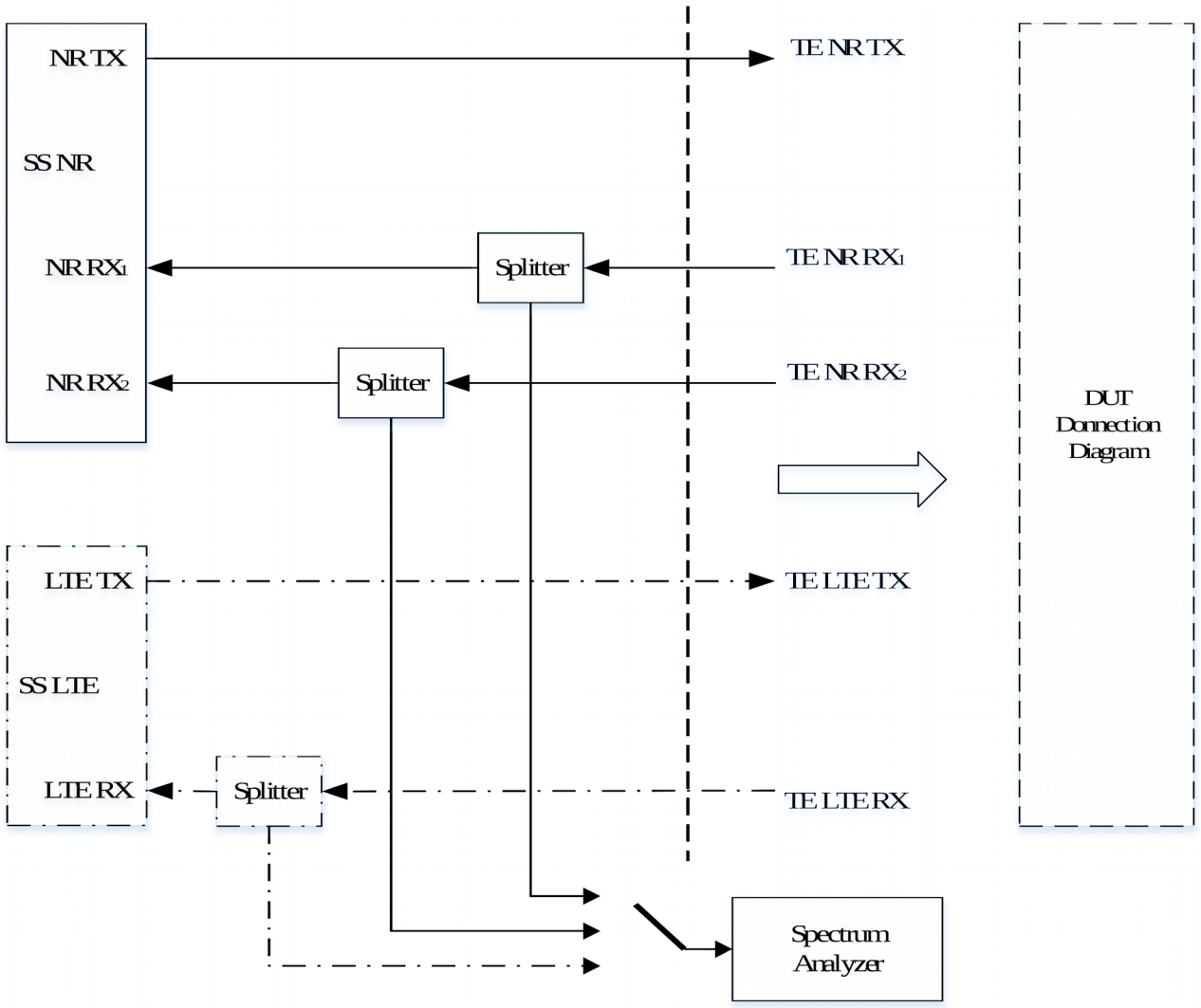


Figure A.3.1.2.2: Test Equipment connection for TX-tests for UL MIMO with additional Spectrum Analyser

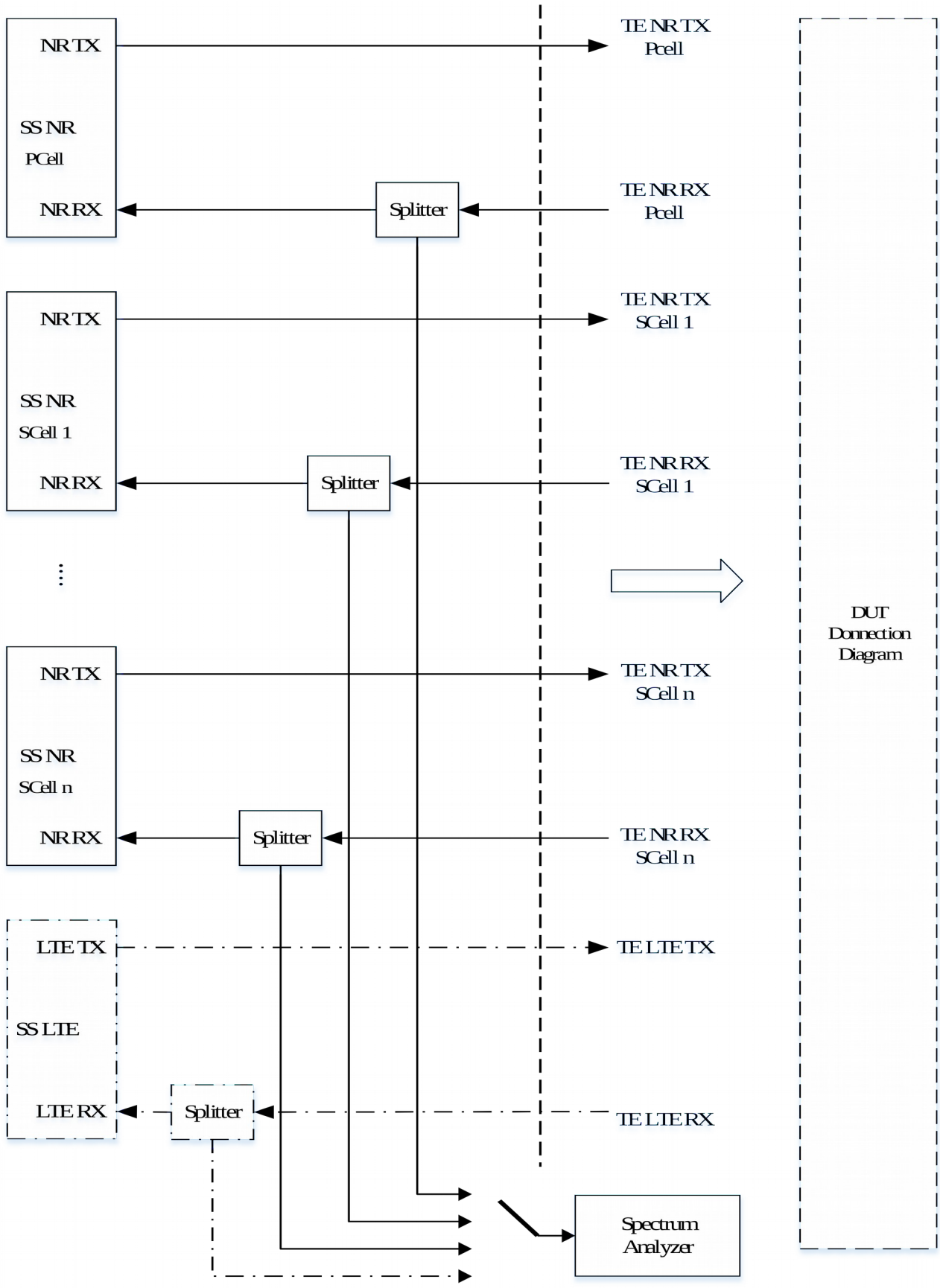


Figure A.3.1.2.3: Test Equipment connection for NR CA TX-tests with additional Spectrum Analyser

A.3.1.3 Transmitter tests using Spectrum Analyser and Signal Generator

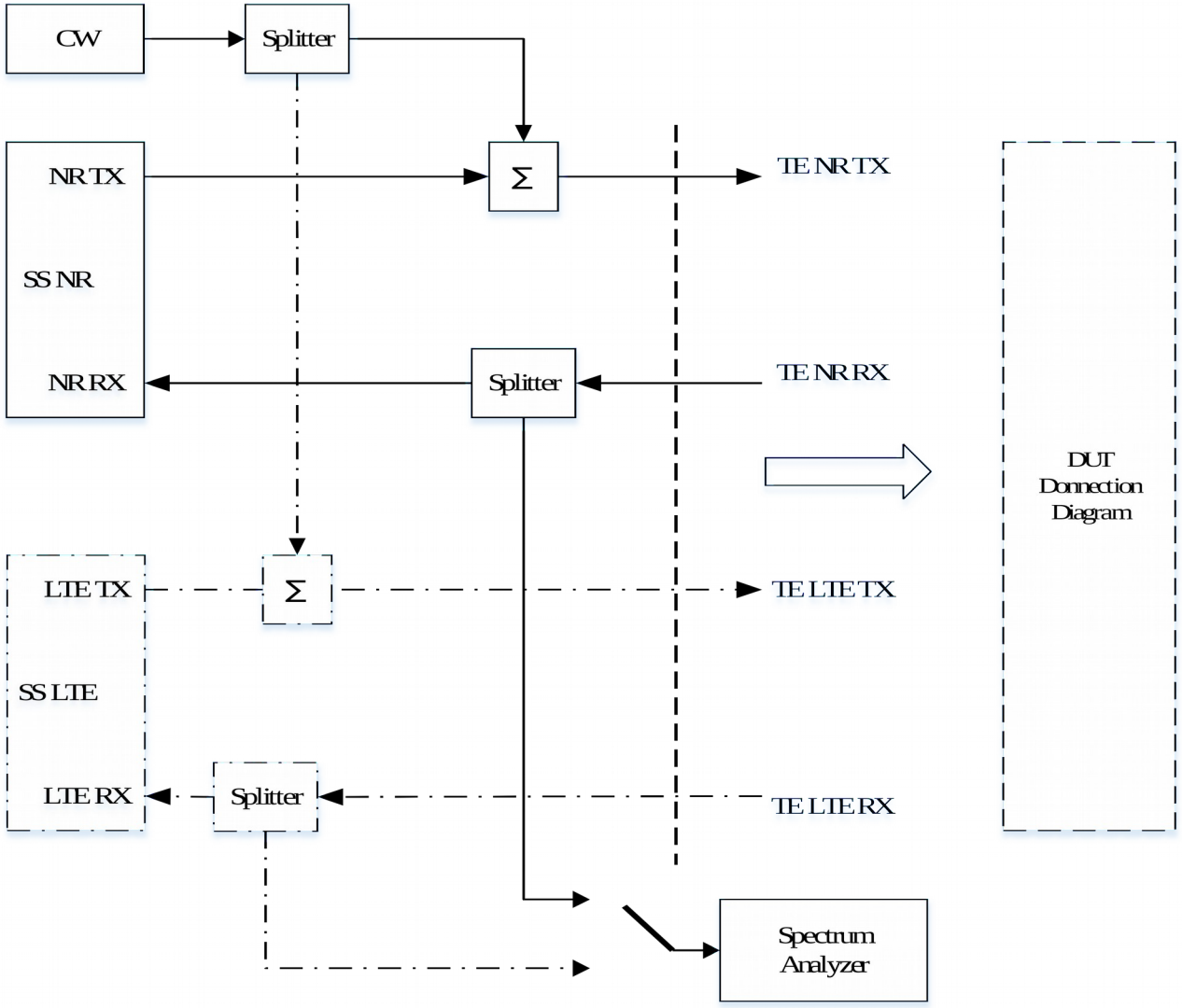


Figure A.3.1.3.1: Test Equipment connection for Transmitter tests with CW Interference and spectrum analyser

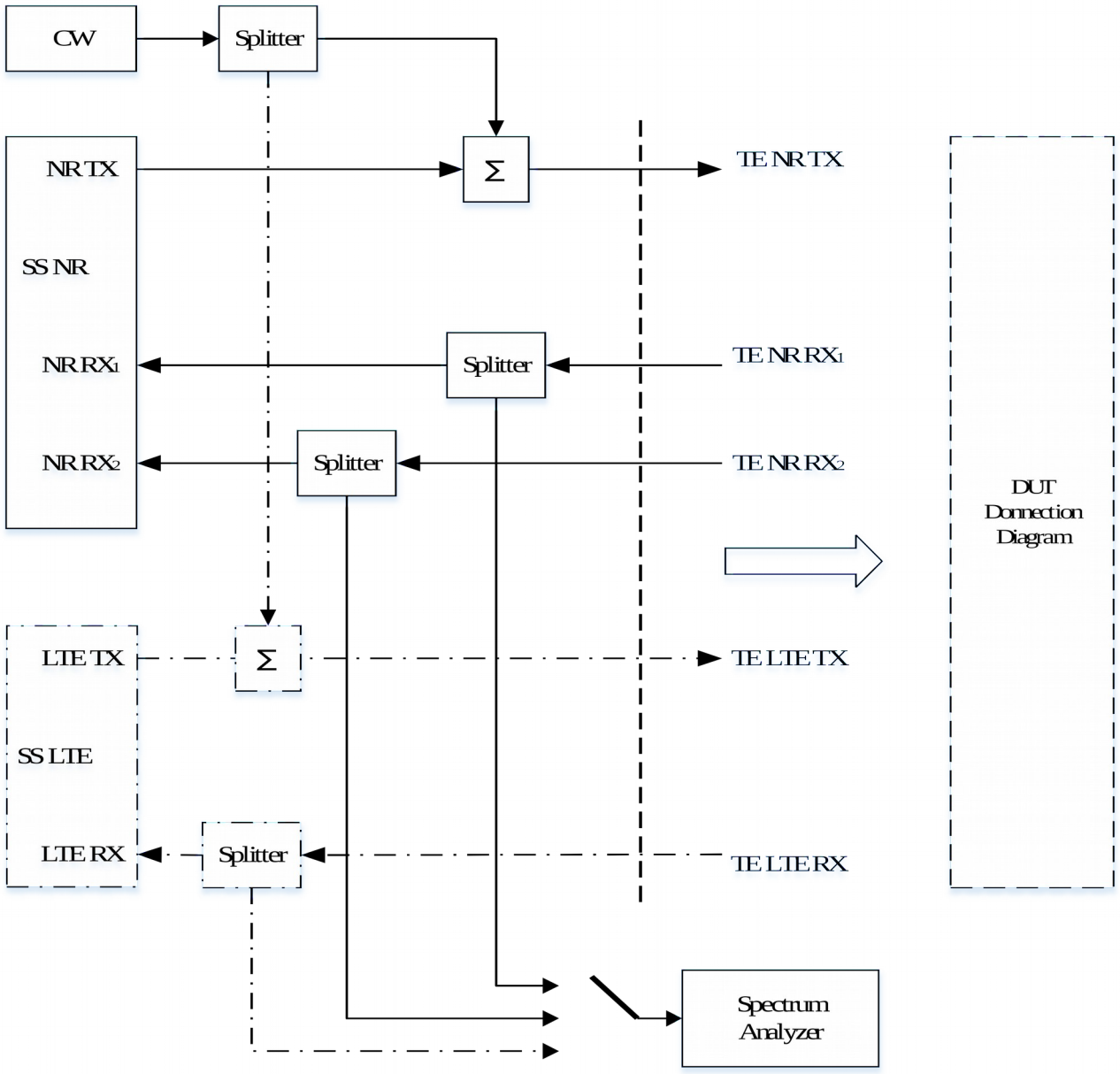


Figure A.3.1.3.2: Test Equipment connection for Transmitter tests for UL MIMO with CW Interference and spectrum analyser

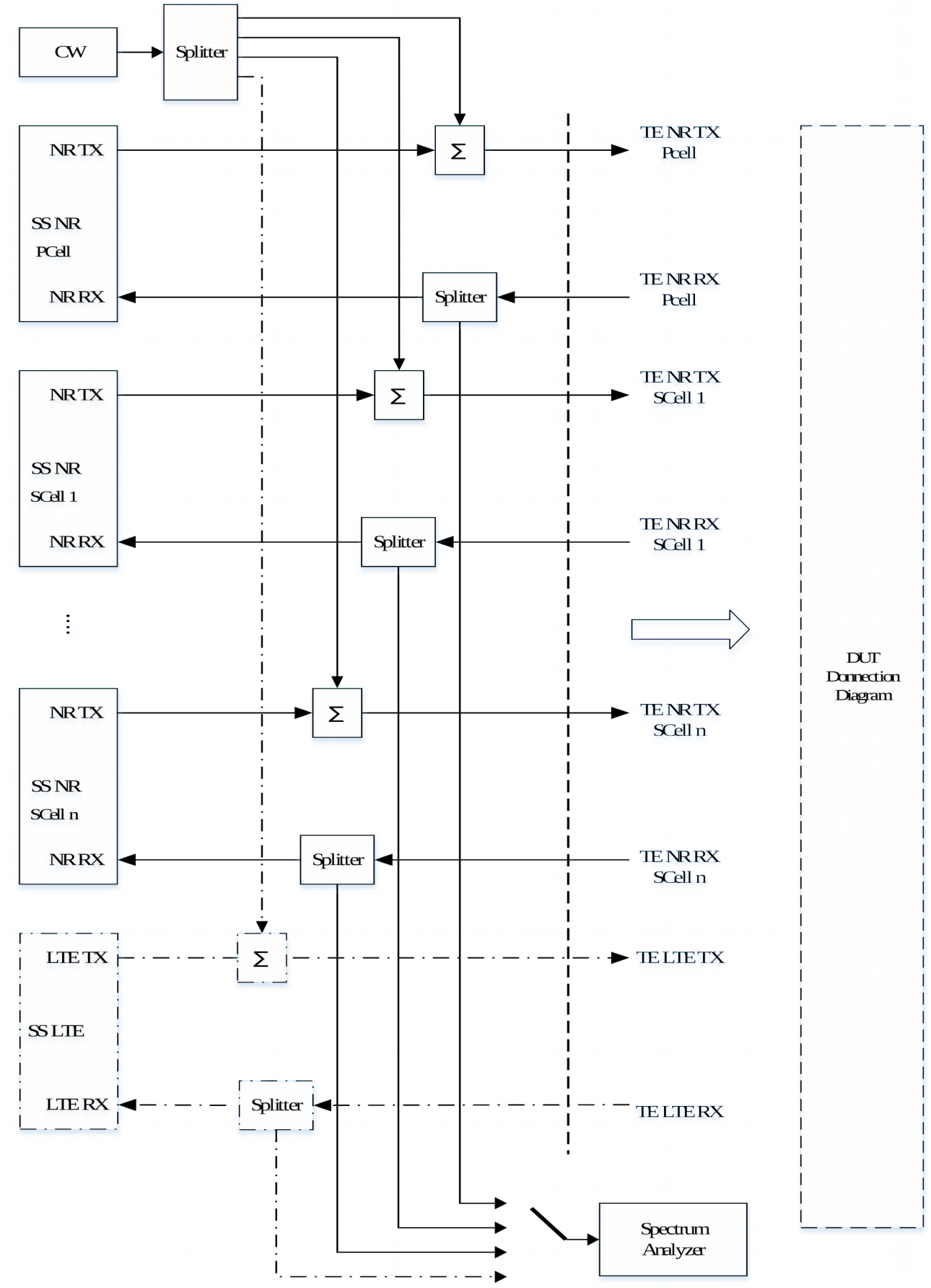


Figure A.3.1.3.3: Test Equipment connection for NR CA Transmitter tests with CW Interference and spectrum analyser

A.3.1.4 Receiver tests using Signal Generator

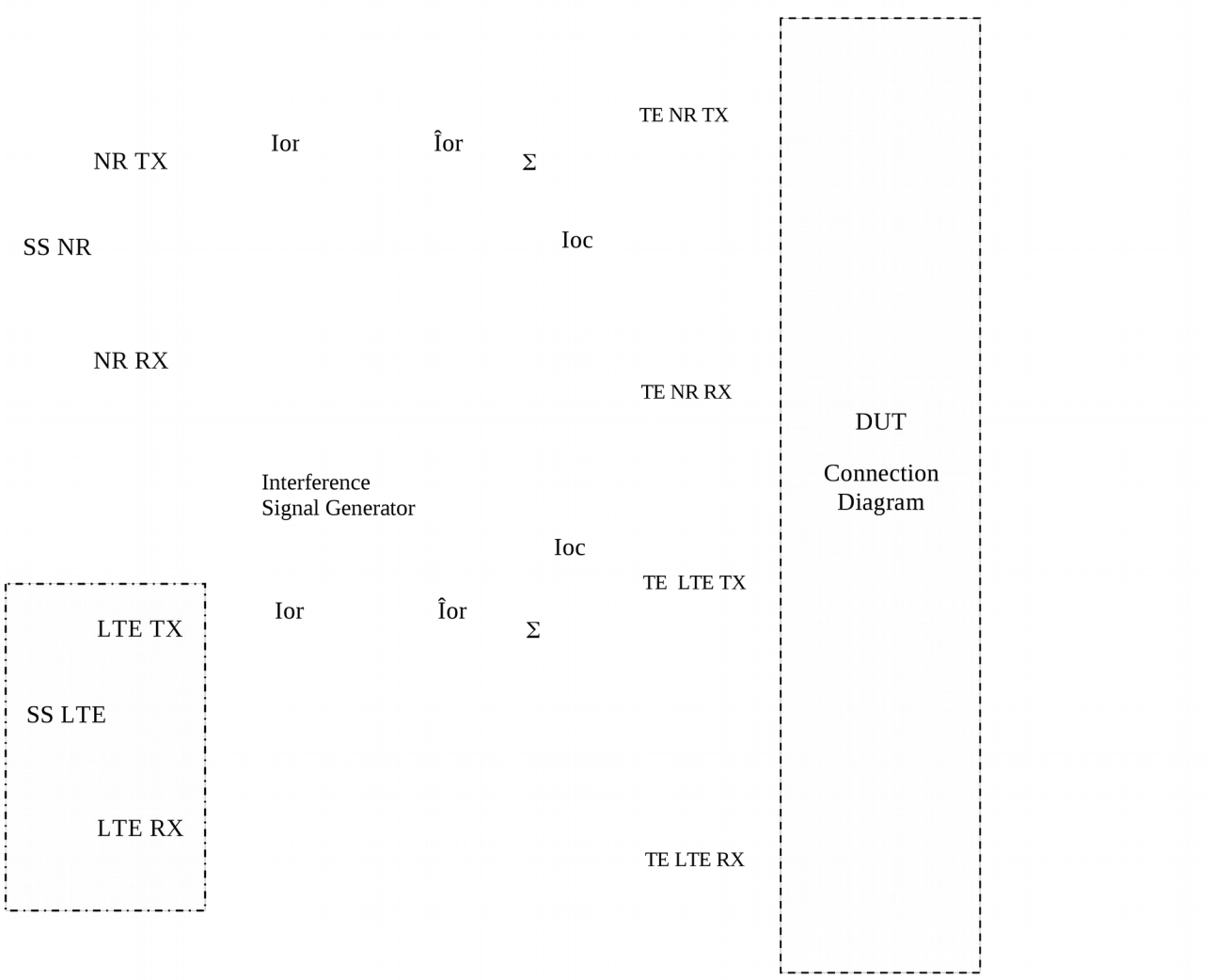


Figure A.3.1.4.1: Test Equipment connection for Receiver tests with Modulated Interference

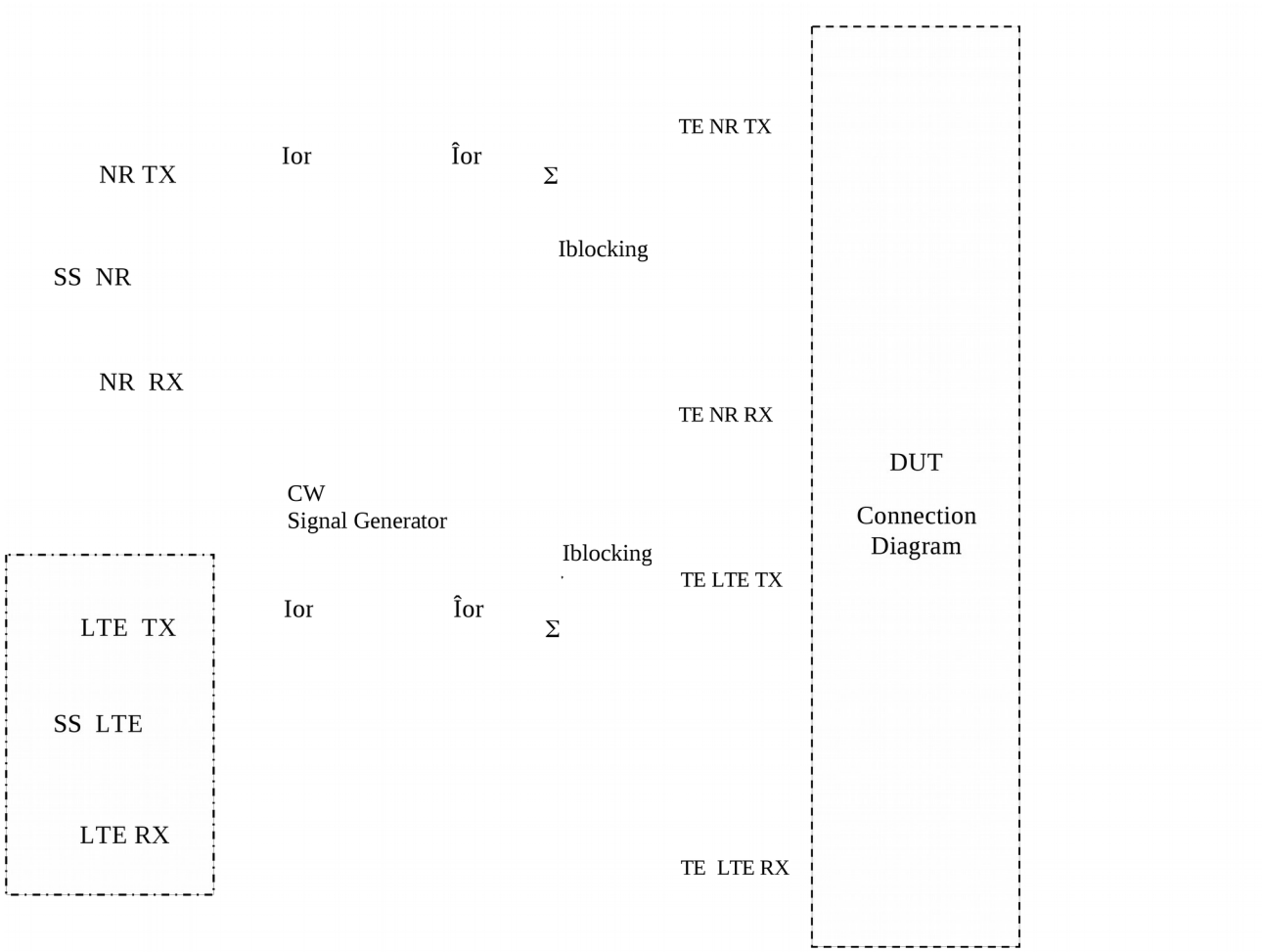


Figure A.3.1.4.2: Test Equipment connection for Receiver tests with CW Interference

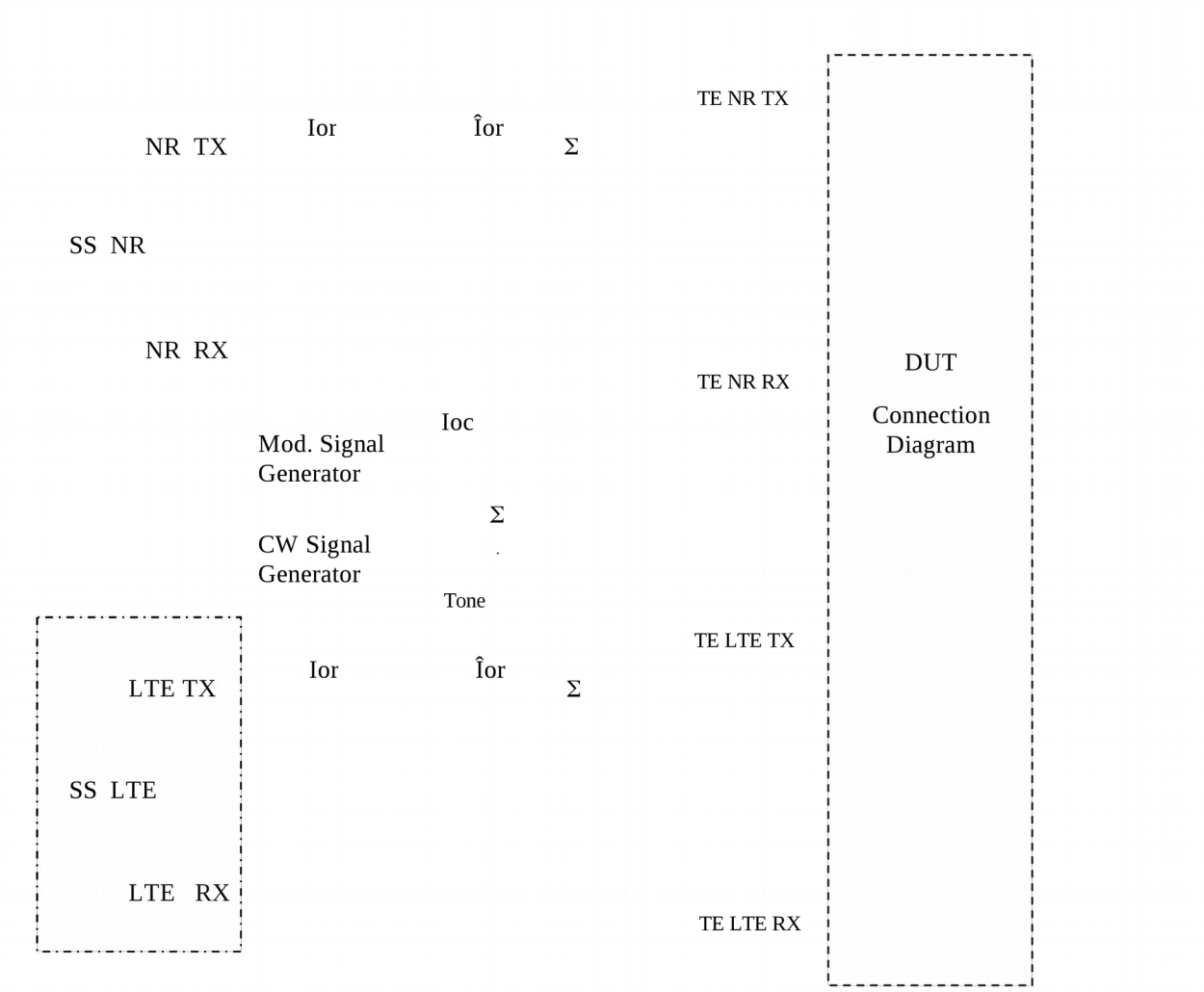


Figure A.3.1.4.3: Test Equipment connection for Receiver tests both Modulated and additional CW Interference signal

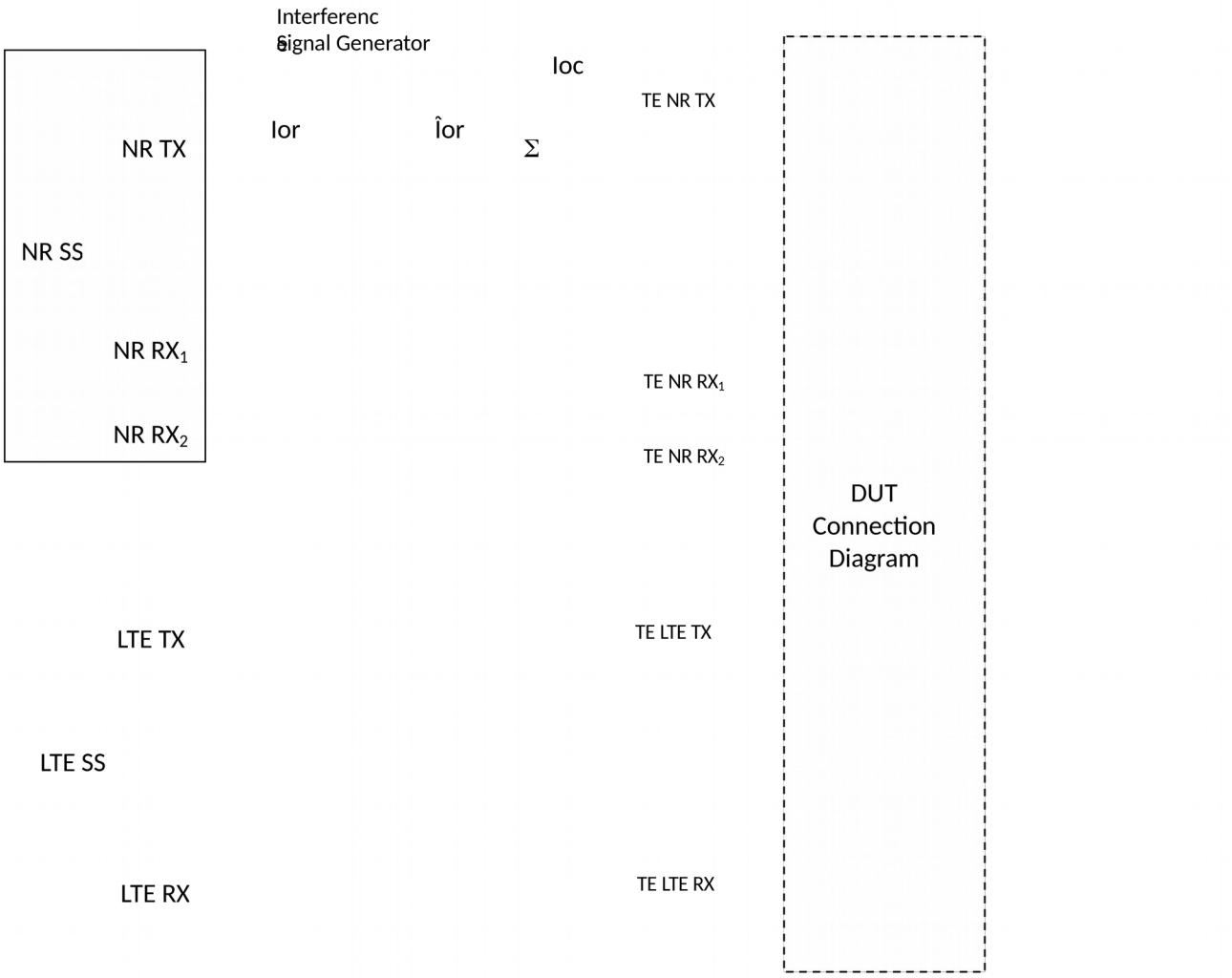


Figure A.3.1.4.4: Test Equipment connection for Receiver tests for UL MIMO with Modulated Interference

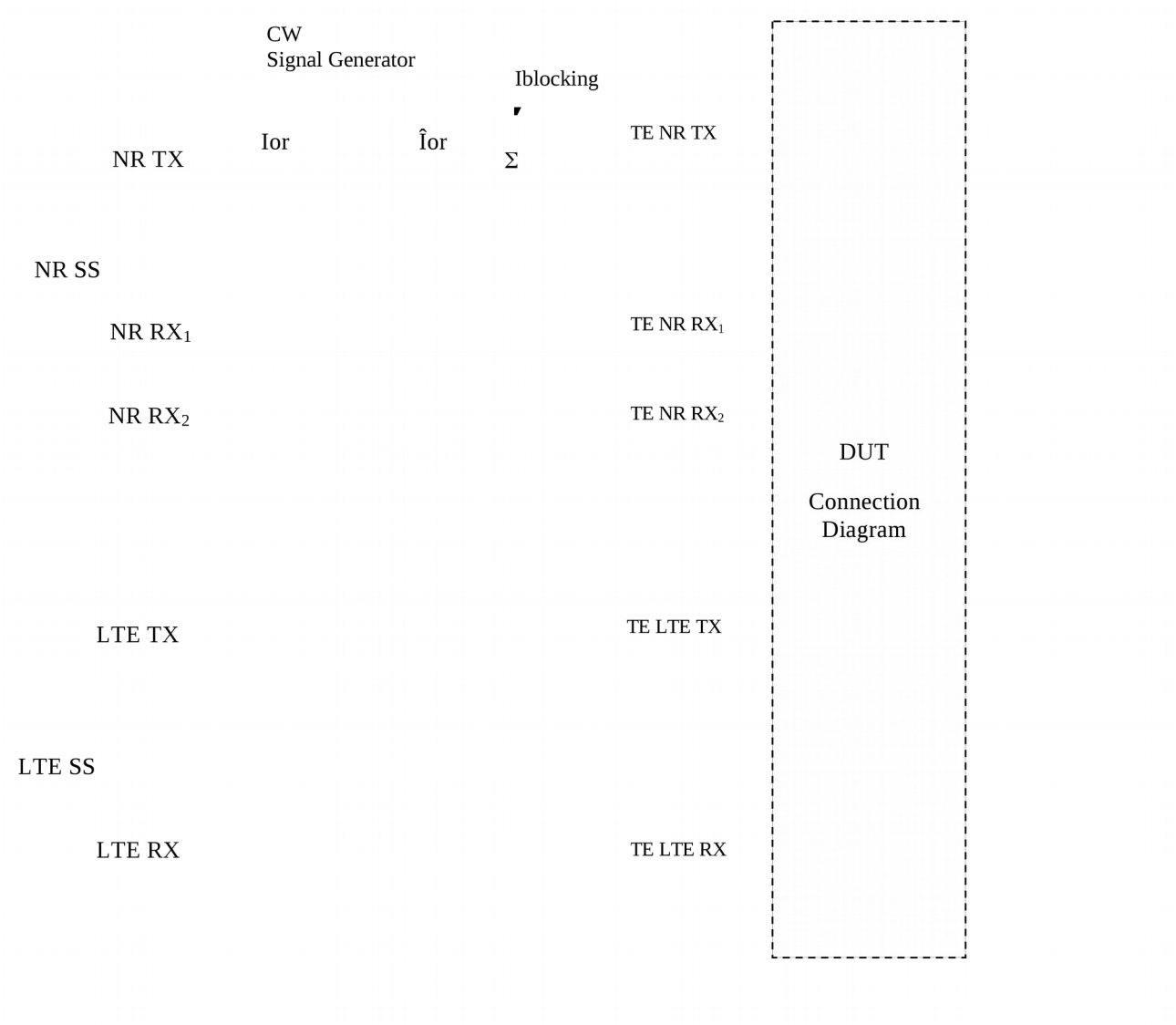


Figure A.3.1.4.5: Test Equipment connection for Receiver tests for UL MIMO with CW Interference

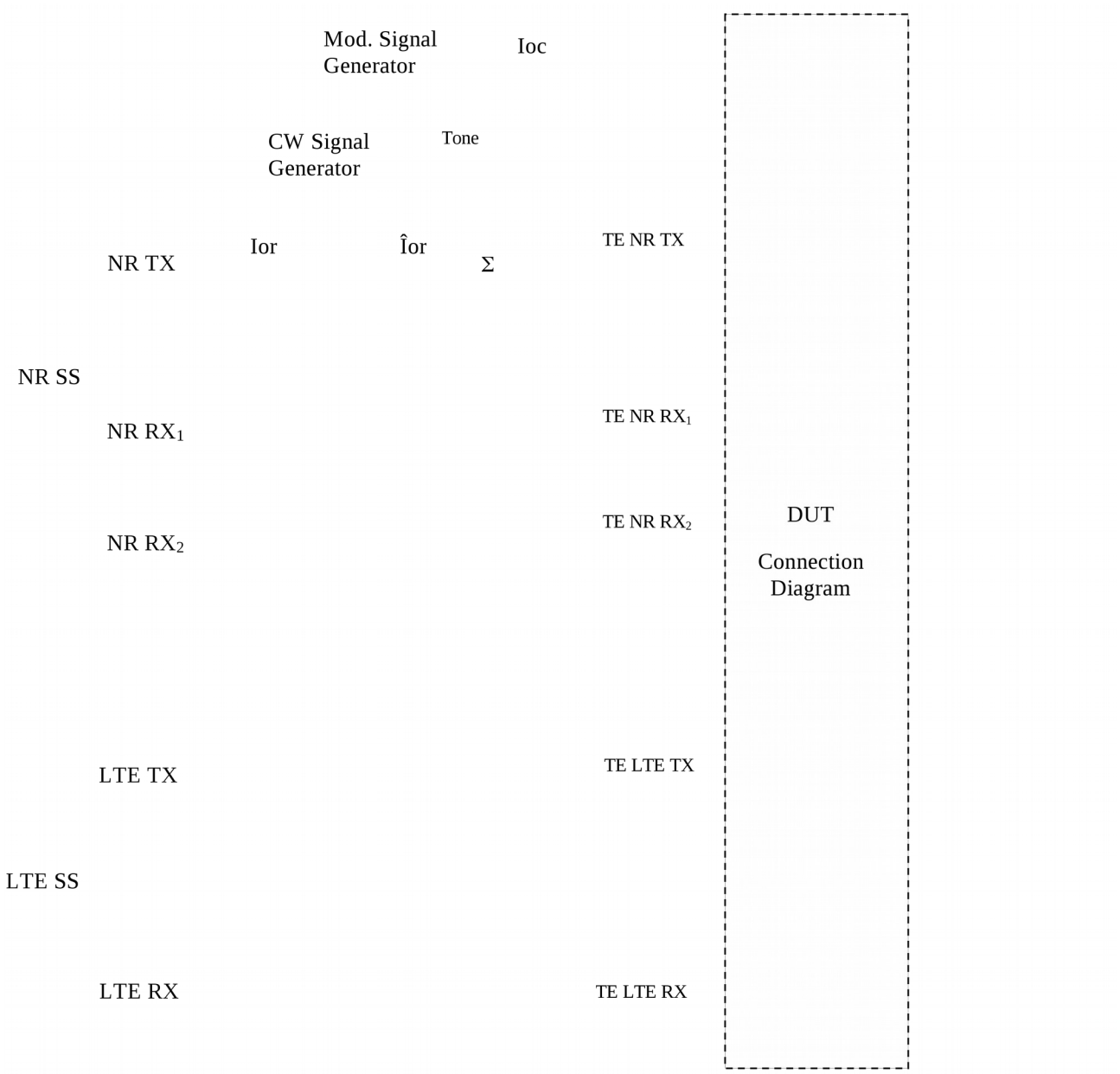


Figure A.3.1.4.6: Test Equipment connection for Receiver tests for UL MIMO with both Modulated and additional CW Interference signal

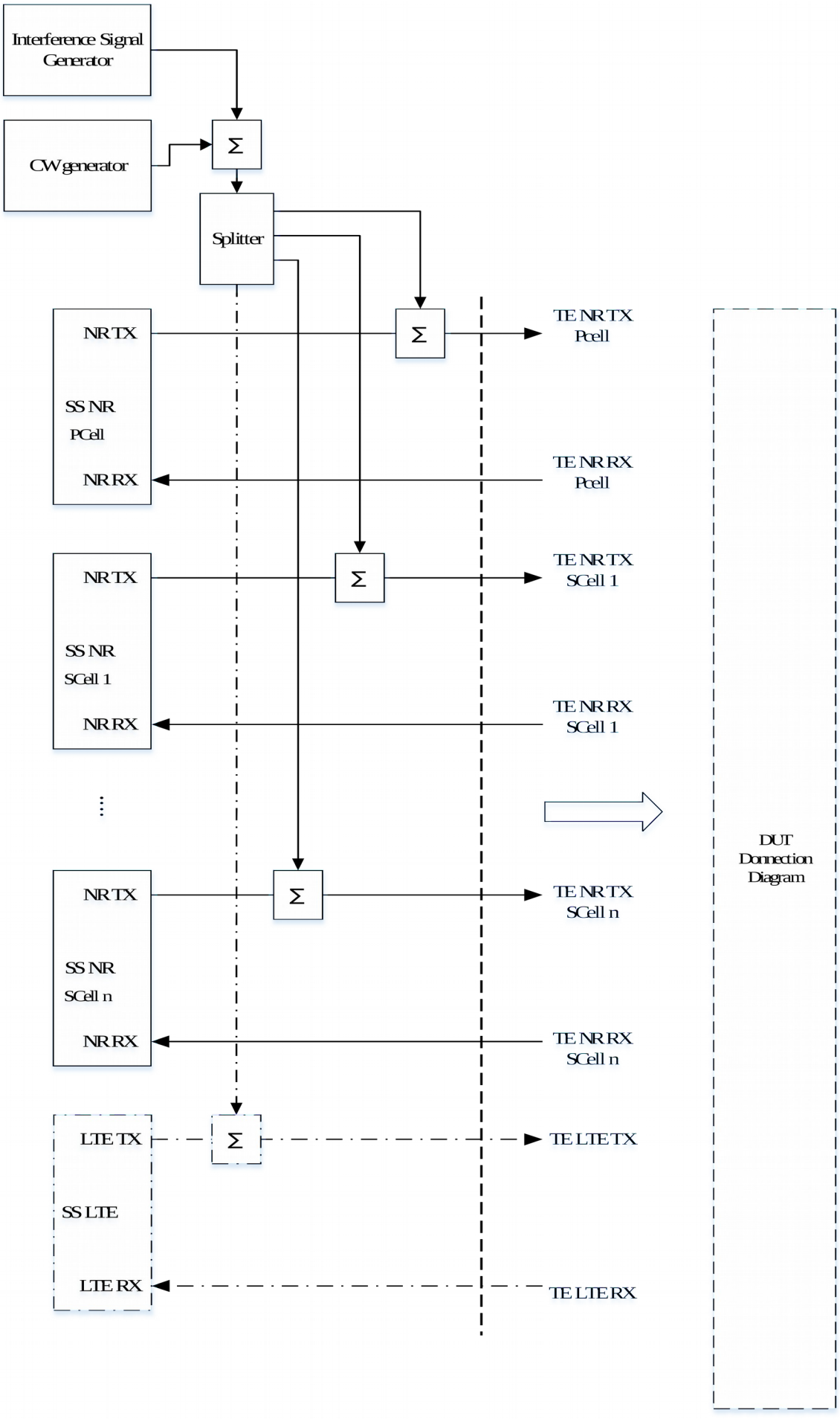

Interference Signal Generator
CW generator
Σ
Splitter
NR TX
SS NR PCell
NR RX
Σ
TE NR TX Pcell
TE NR RX Pcell
NR TX
SS NR SCell 1
NR RX
Σ
TE NR TX SCell 1
TE NR RX SCell 1
NR TX
SS NR SCell n
NR RX
Σ
TE NR TX SCell n
TE NR RX SCell n
LTE TX
SS LTE
LTE RX
Σ
TE LTE TX
TE LTE RX
DUT Donnection Diagram

Figure A.3.1.4.7: Test Equipment connection for NR CA Receiver tests with additional Modulated Interference signal and/or CW Interference signal

A.3.1.5 Receiver tests using Spectrum Analyser

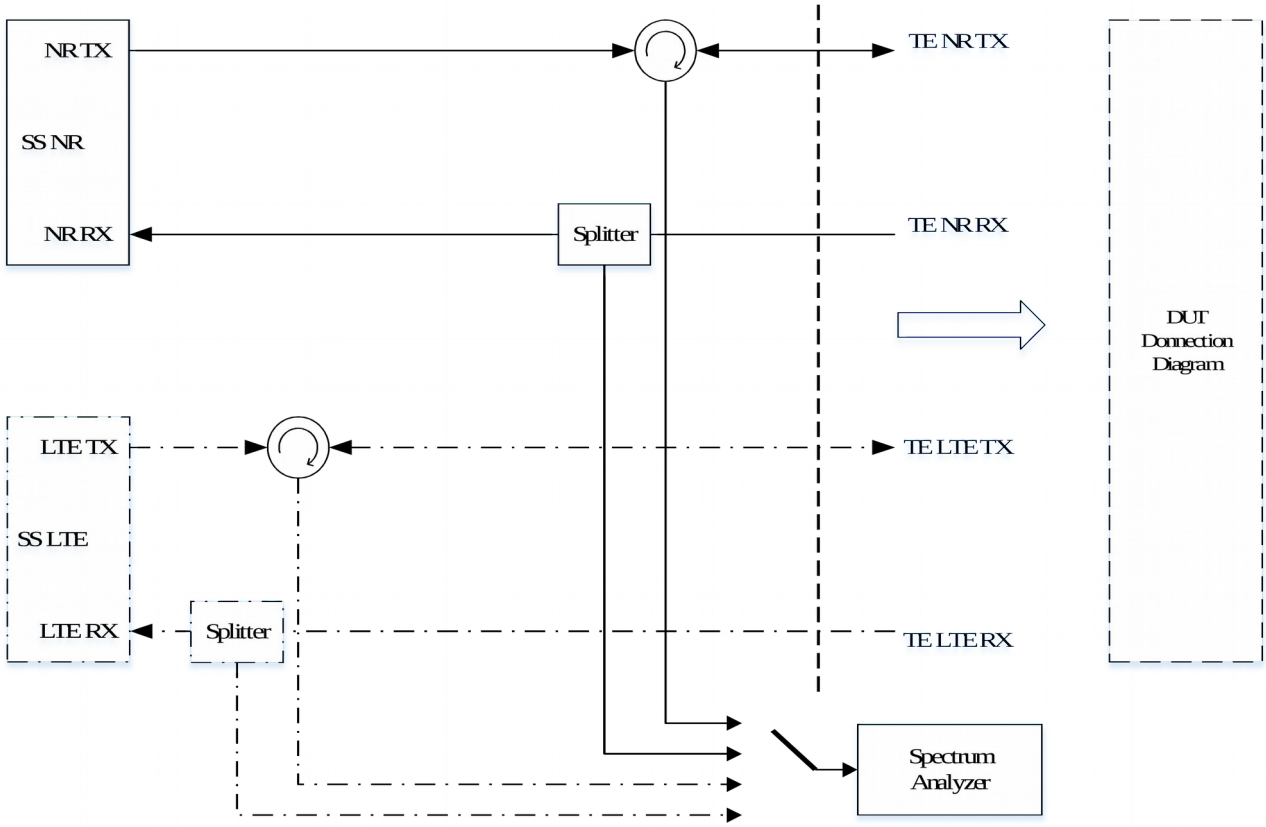


Figure A.3.1.5.1: Test Equipment connection for RX-tests with additional Spectrum Analyzer

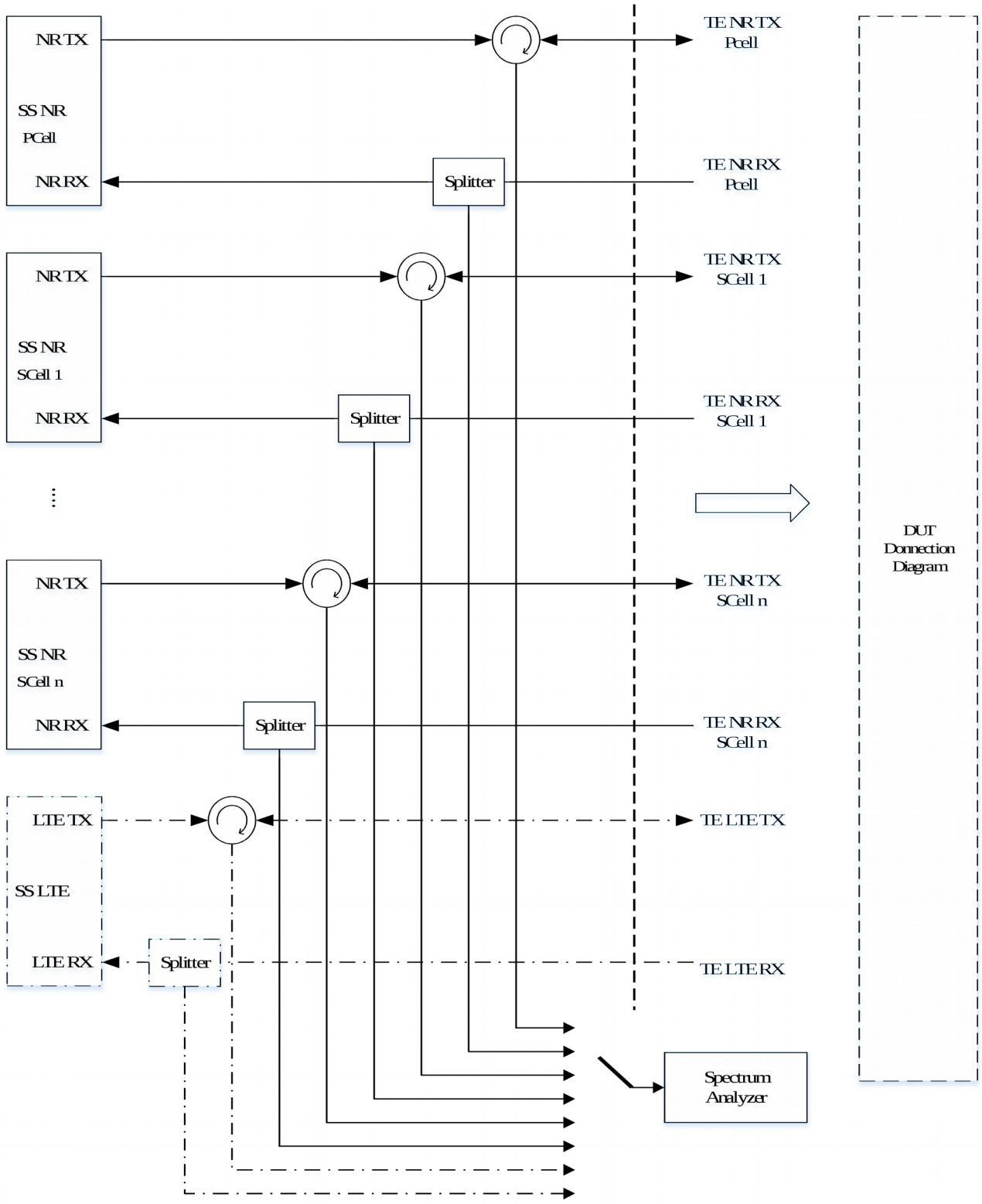


Figure A.3.1.5.2: Test Equipment connection for NR CA RX-tests with additional Spectrum Analyzer

A.3.1.6 Receiver Performance tests

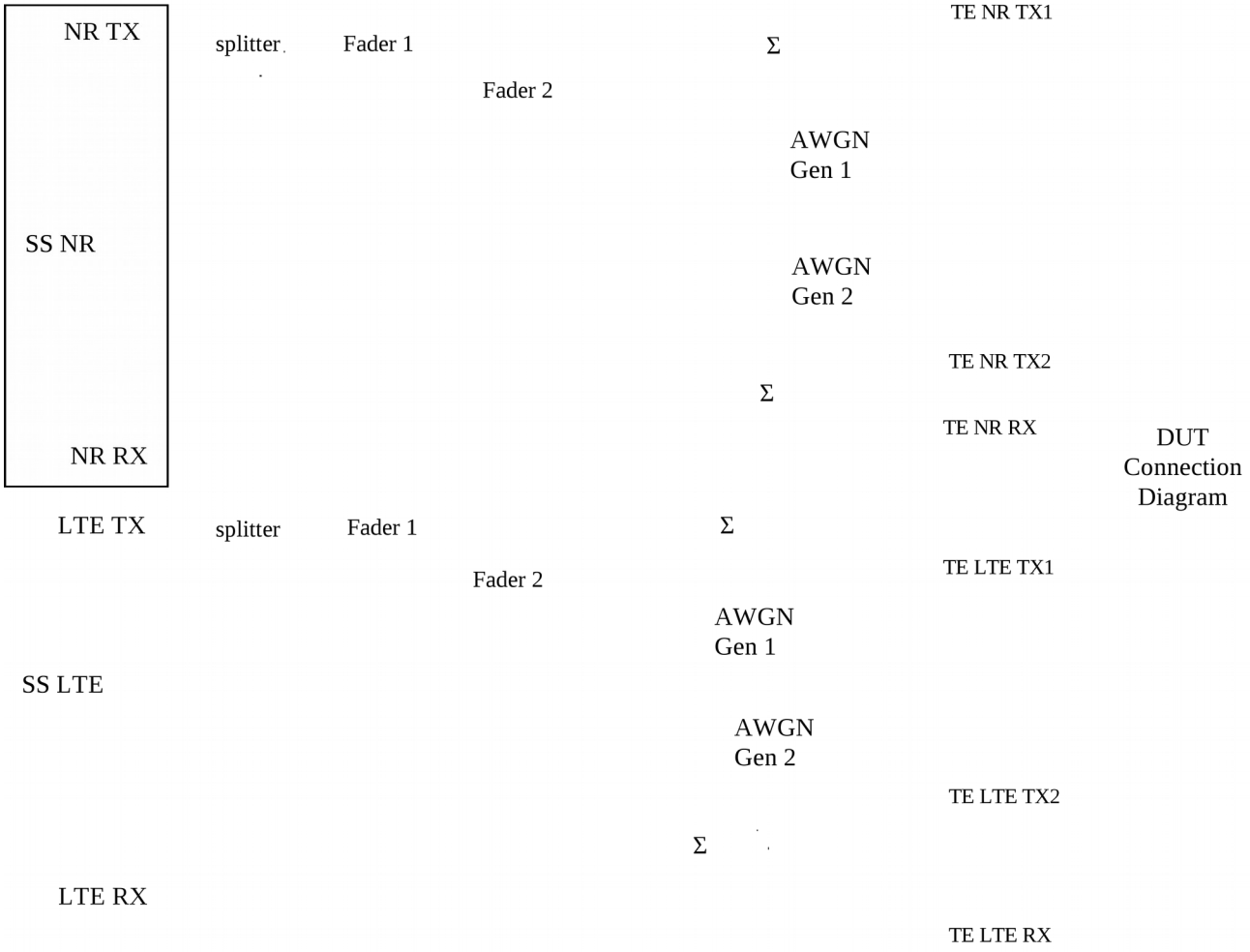


Figure A.3.1.6.1: Test Equipment connection for Receiver Performance tests with antenna configuration 1x2

A.3.1.7 Demodulation Performance and CSI reporting tests

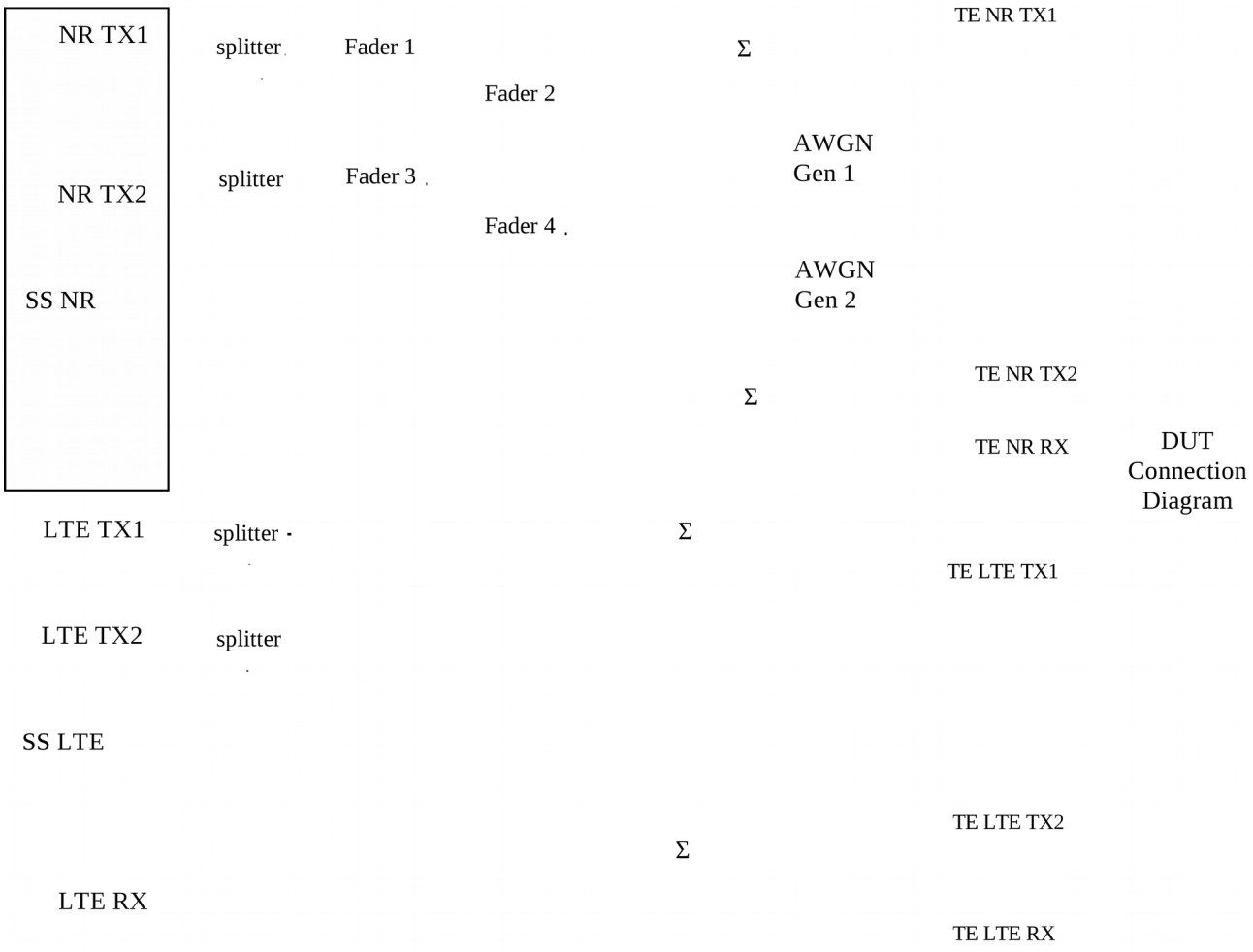


Figure A.3.1.7.1: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x2

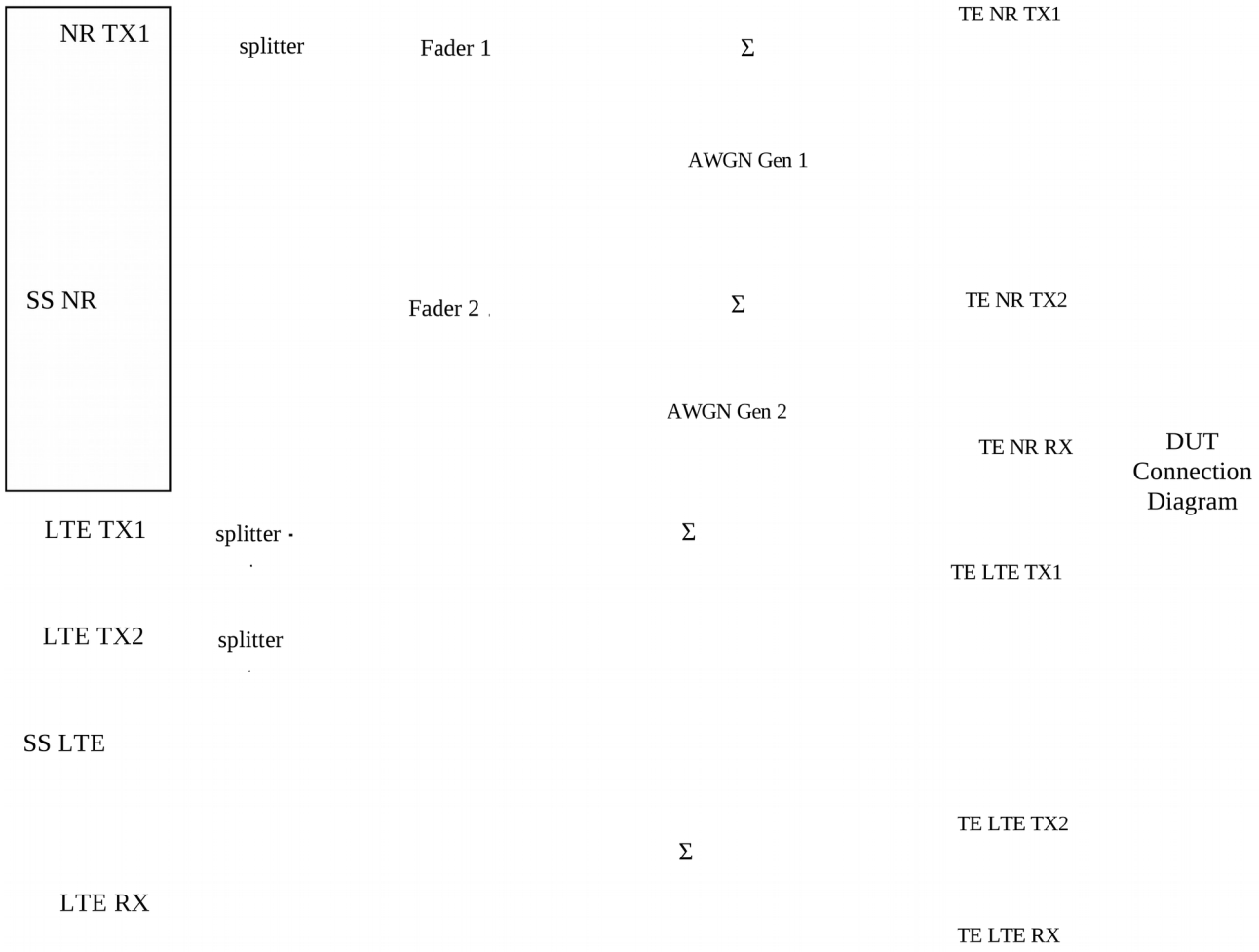


Figure A.3.1.7.2: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x2

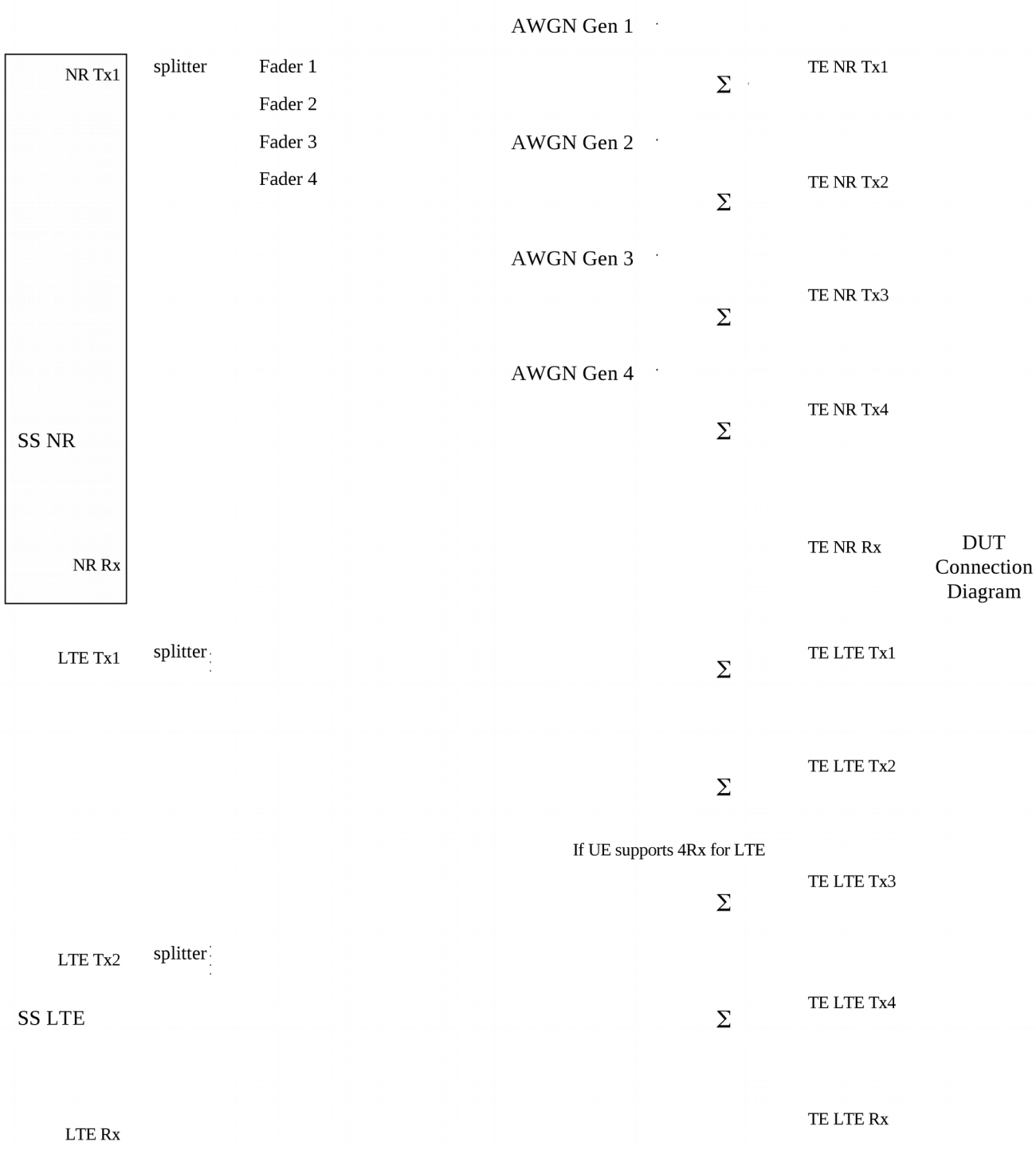


Figure A.3.1.7.3: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x4
(Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

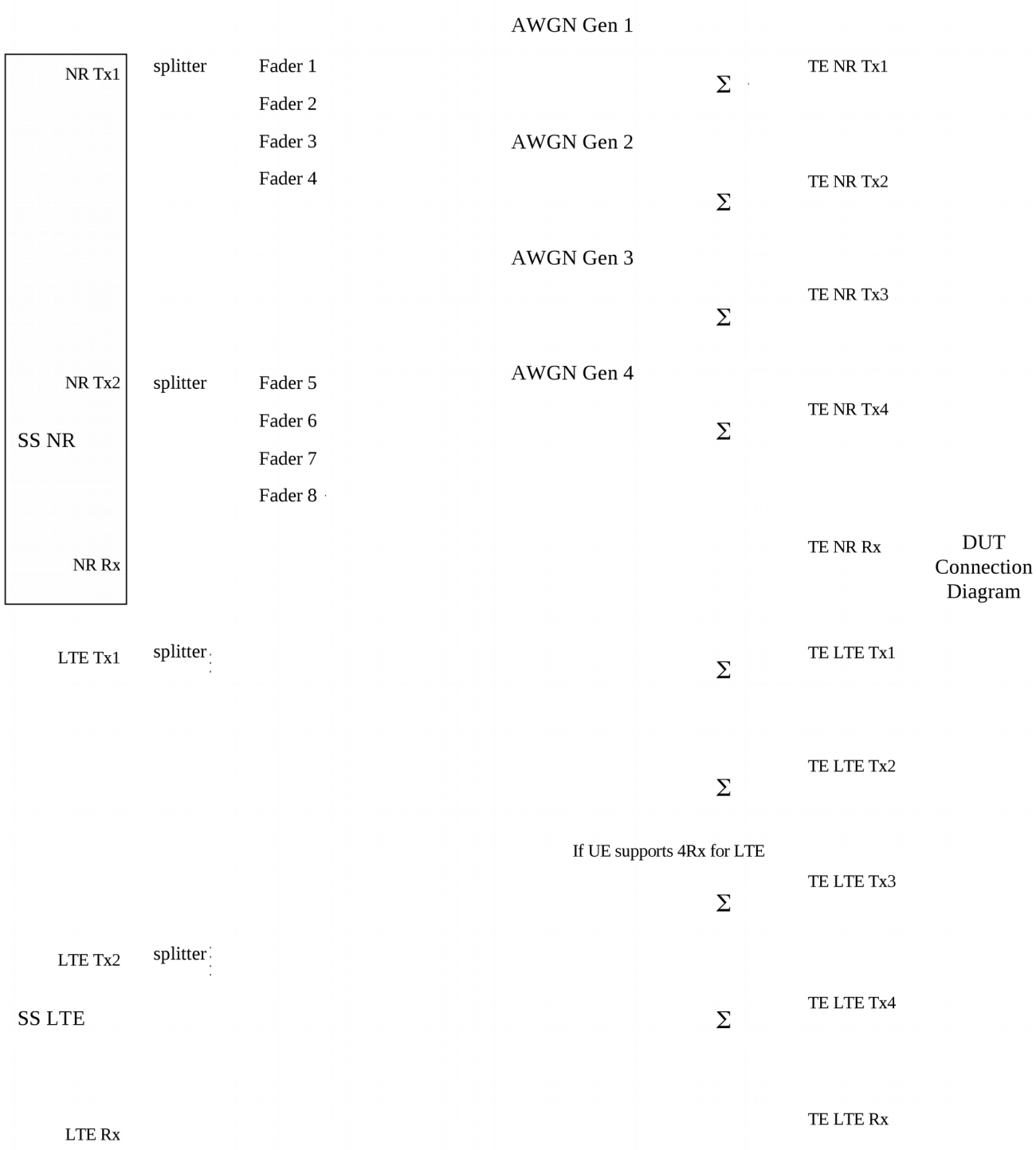


Figure A.3.1.7.4: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x4
(Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

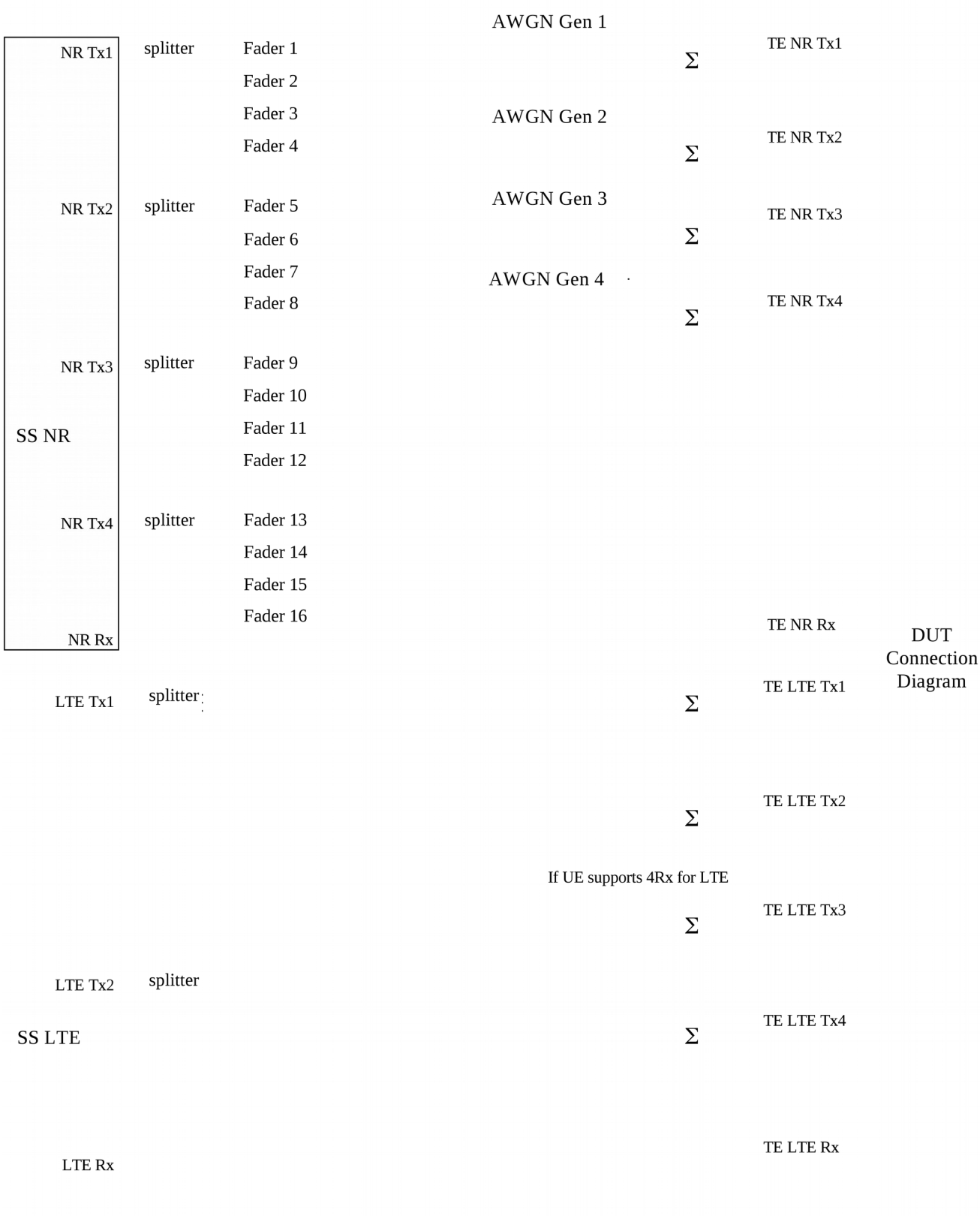


Figure A.3.1.7.5: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x4
(Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx)

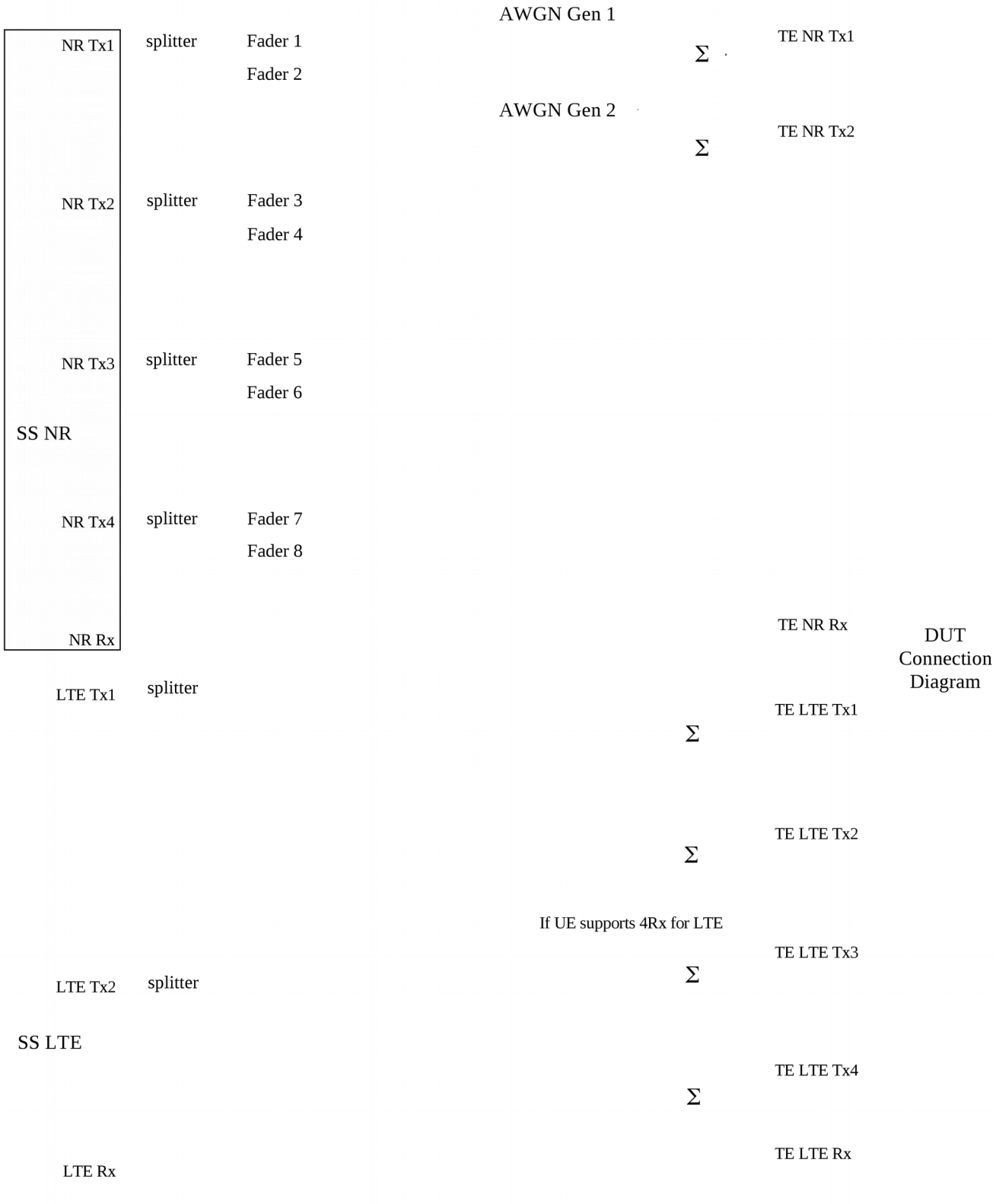


Figure A.3.1.7.6: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x2

Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx.

A.3.1.8 RRM tests with more than one NR cell

The figures in this section represent connection diagrams for test cases with more than one NR cell. The parameters in the connection diagram, e.g. the number of cells *n* or the value of the phase rotator φ_i shall be defined by the test cases.

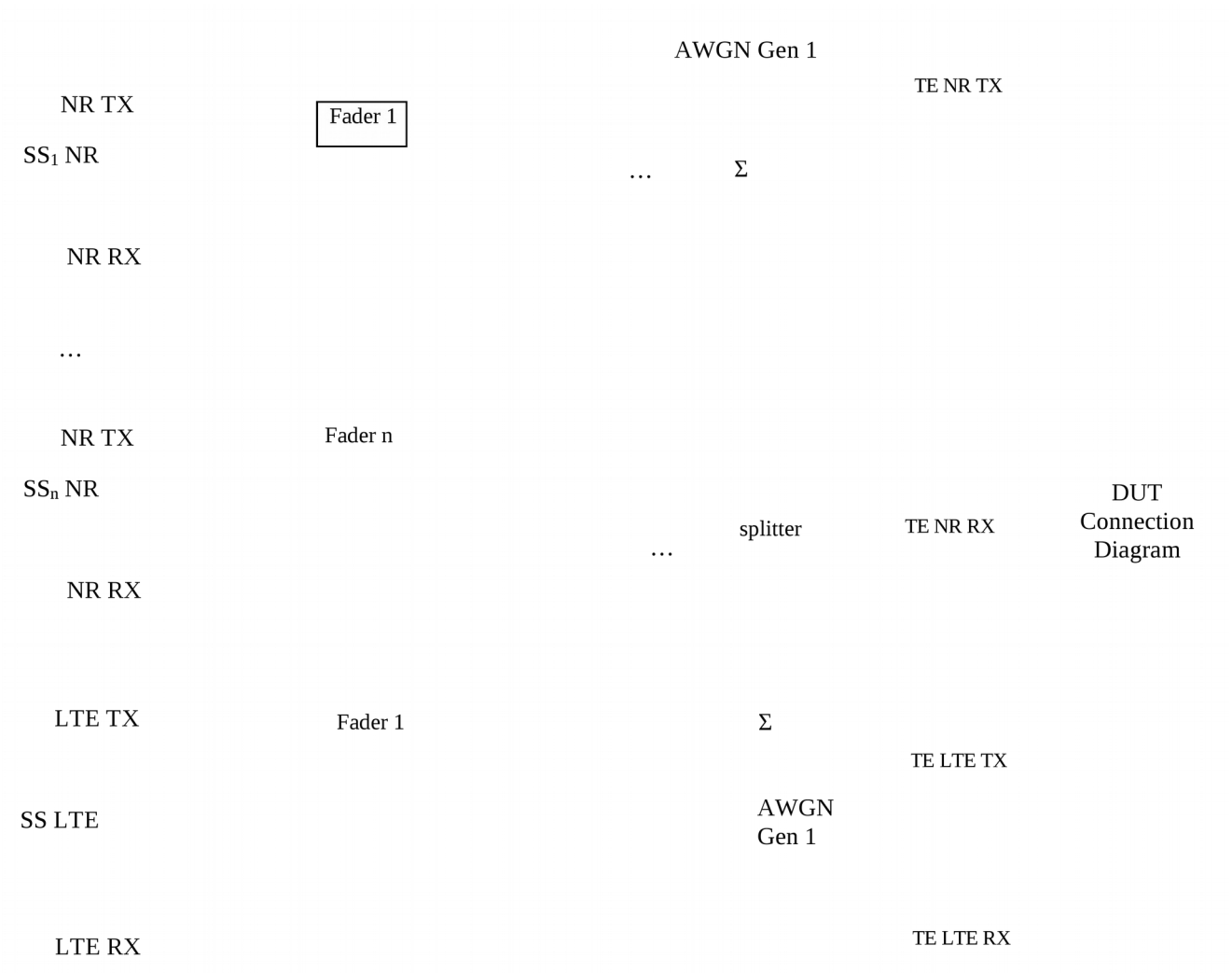


Figure A.3.1.8.1: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x1

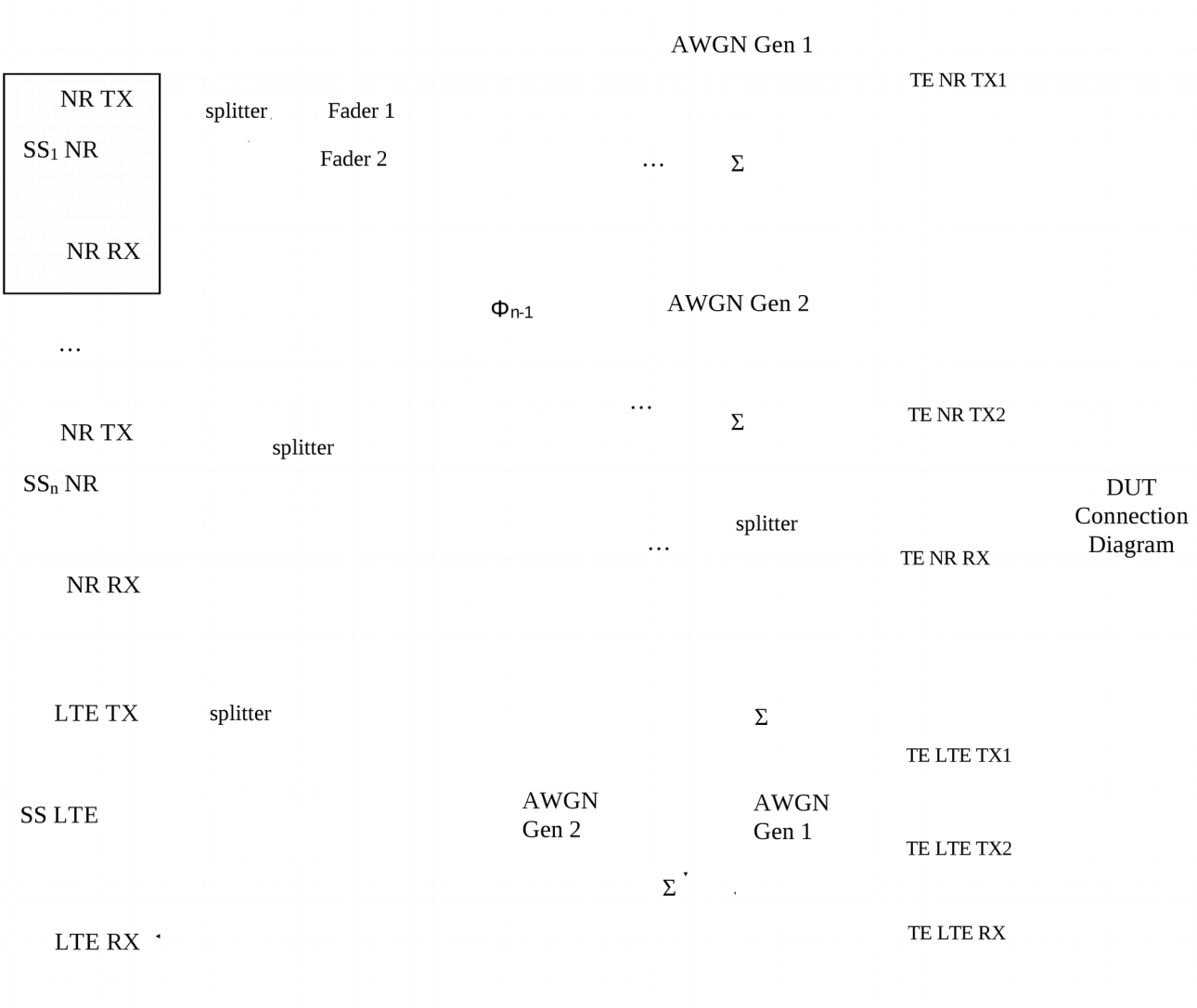


Figure A.3.1.8.2: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2

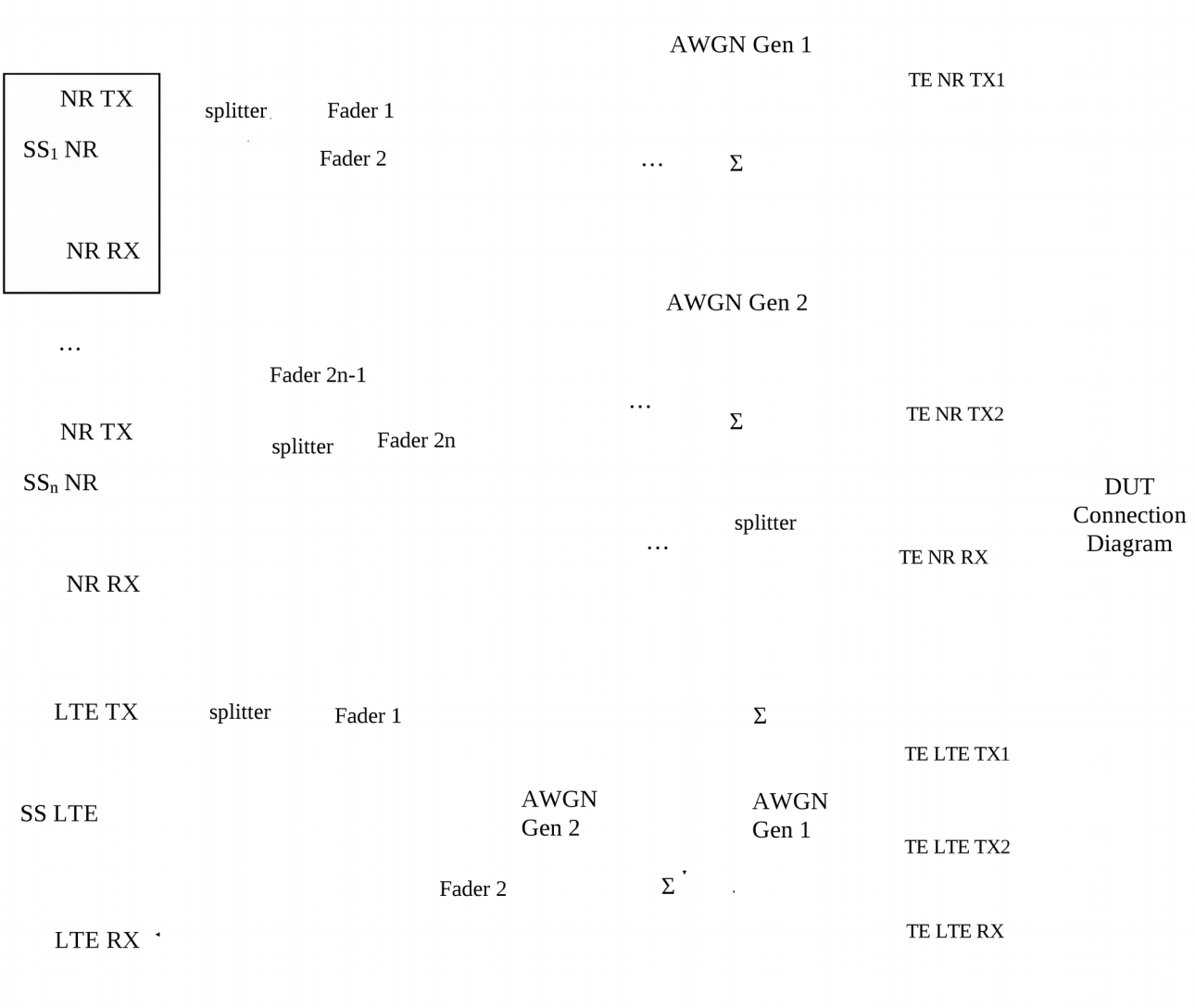


Figure A.3.1.8.3: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2 and fading

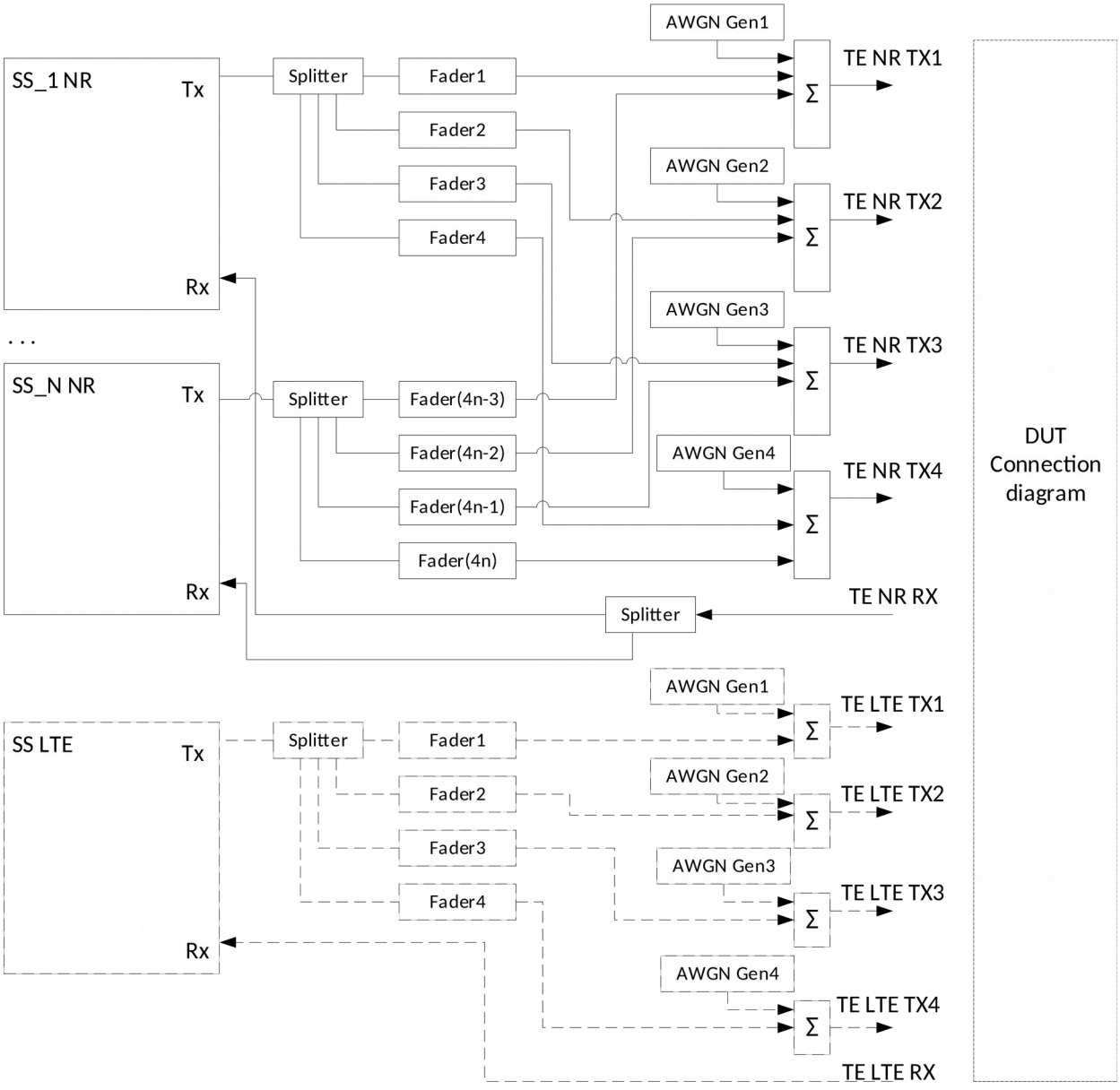


Figure A.3.1.8.4: Test Equipment connection for tests with more than one NR cell for 4Rx capable UEs with fading

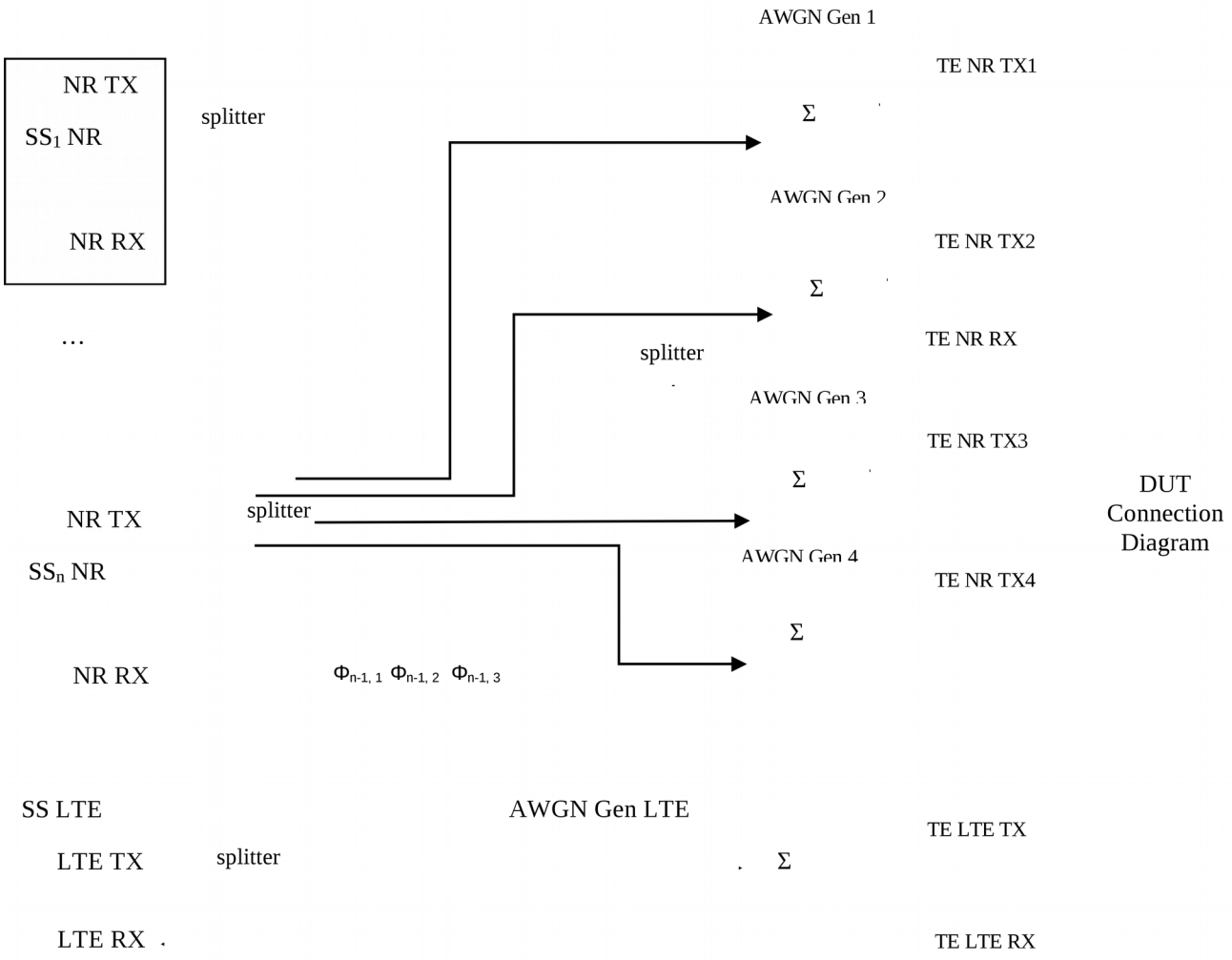


Figure A.3.1.8.5: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x4

A.3.2 User Equipment Parts for Conducted Measurements

A.3.2.1 General

The User Equipment part is focused on the number of physical antenna connectors and how to combine in the DUT. Depending on the DUT implementation only one of the following connection diagrams applies. These connection diagrams are examples of User equipment parts.

A.3.2.2 One Antenna Connector

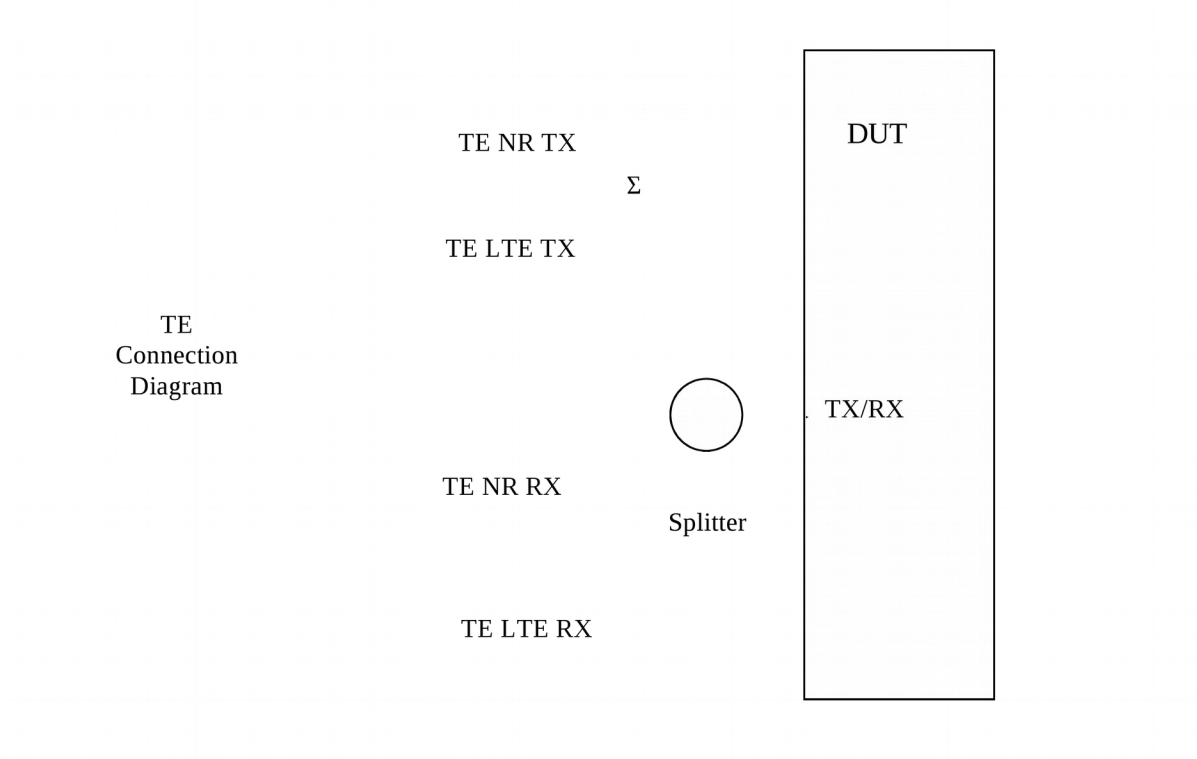


Figure A.3.2.2.1: User Equipment connection for single basic cell

A.3.2.3 Two Antenna Connectors

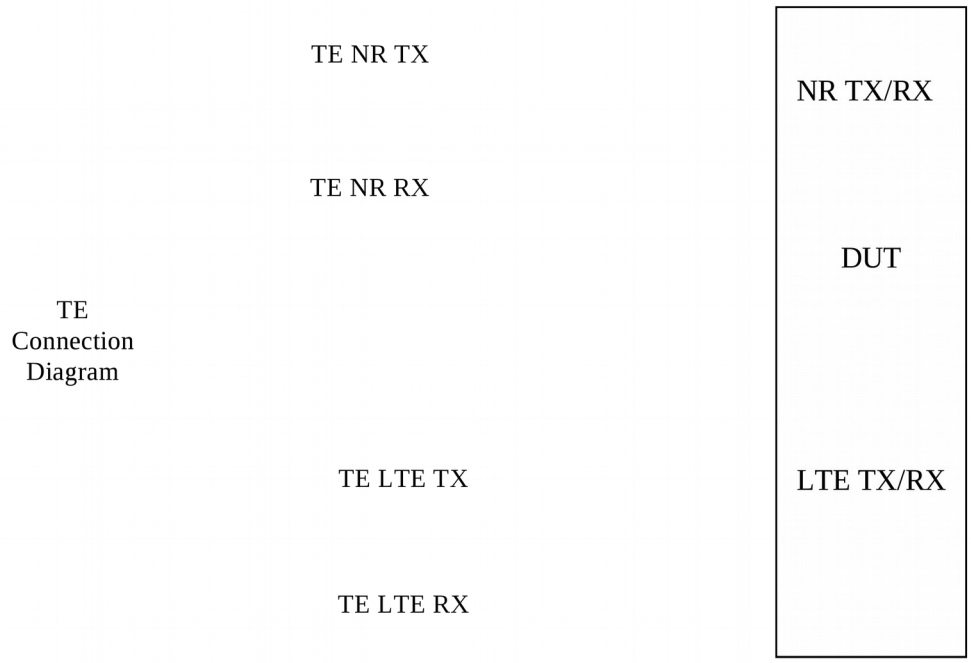


Figure A.3.2.3.1: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors

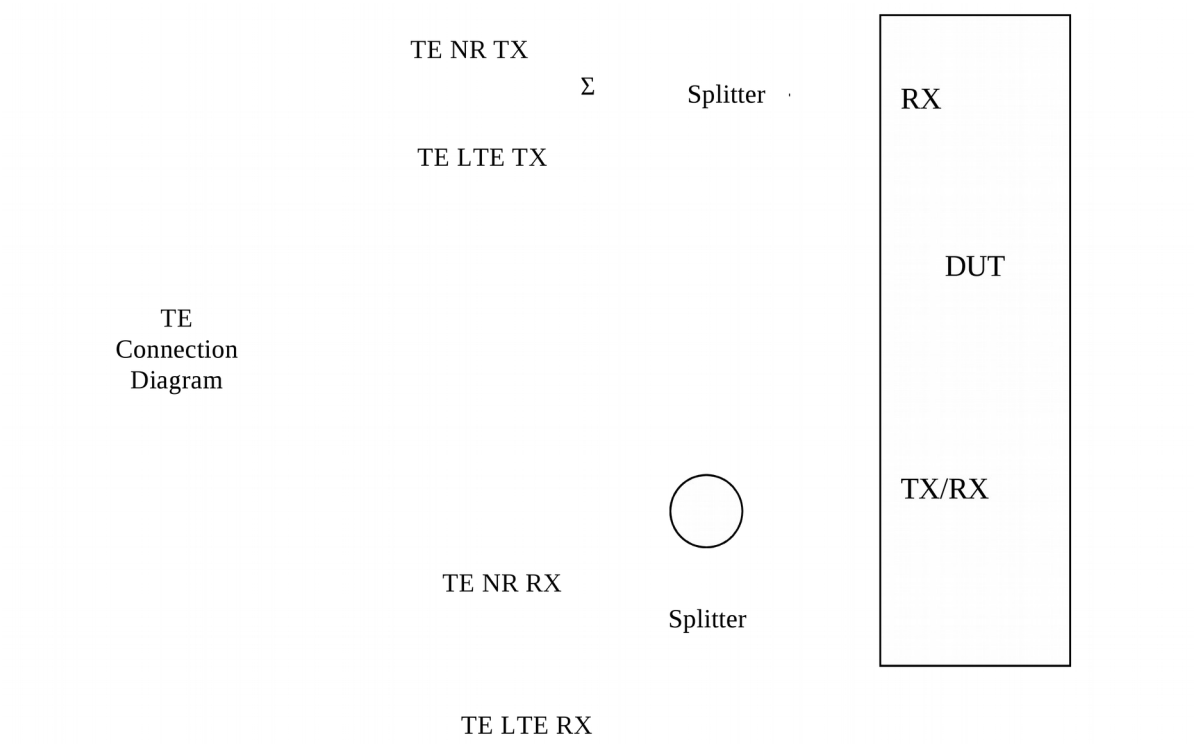


Figure A.3.2.3.2: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells

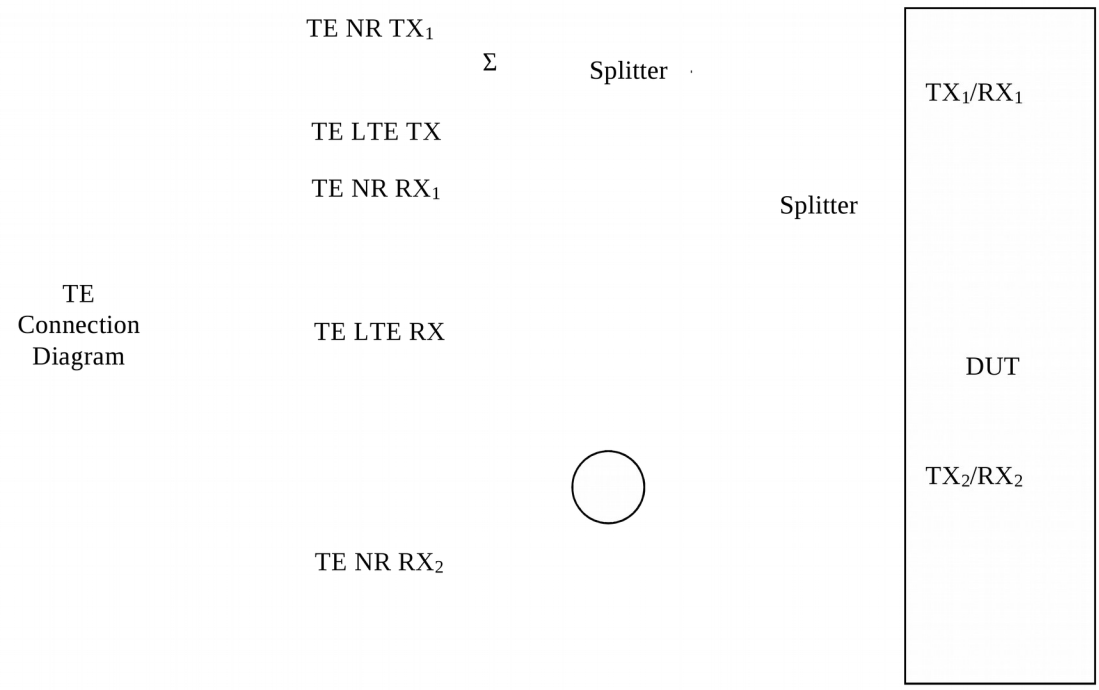


Figure A.3.2.3.3: 2 Tx User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells and 2TX UL MIMO supported

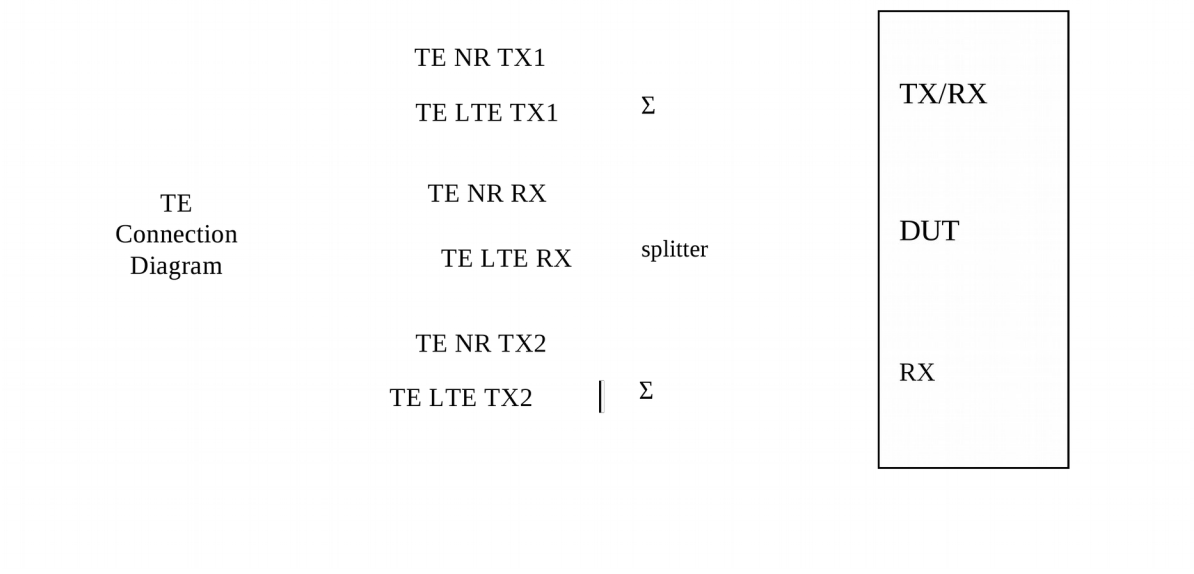


Figure A.3.2.3.4: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at same connectors

A.3.2.4 Three Antenna Connectors

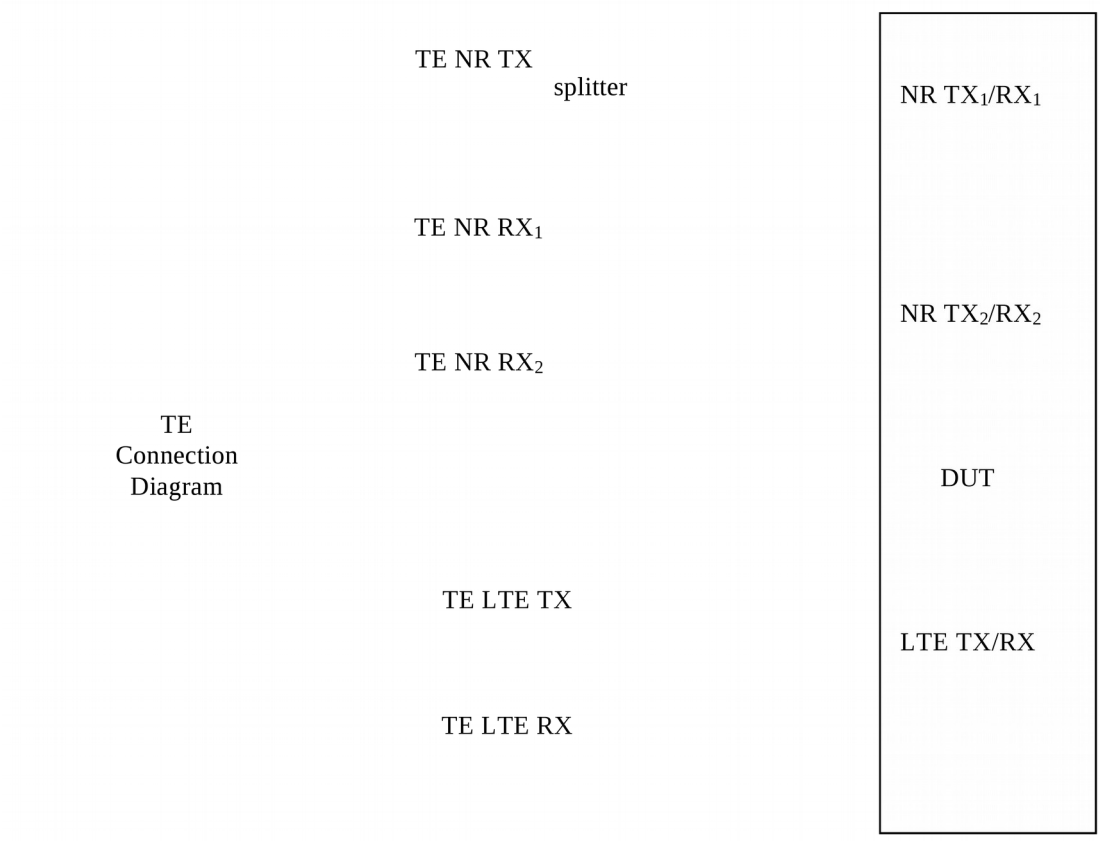


Figure A.3.2.4.1: 2Tx User Equipment connection for single basic cell with NR and LTE cells at different separated connectors and 2TX UL MIMO supported

A.3.2.5 Four Antenna Connectors

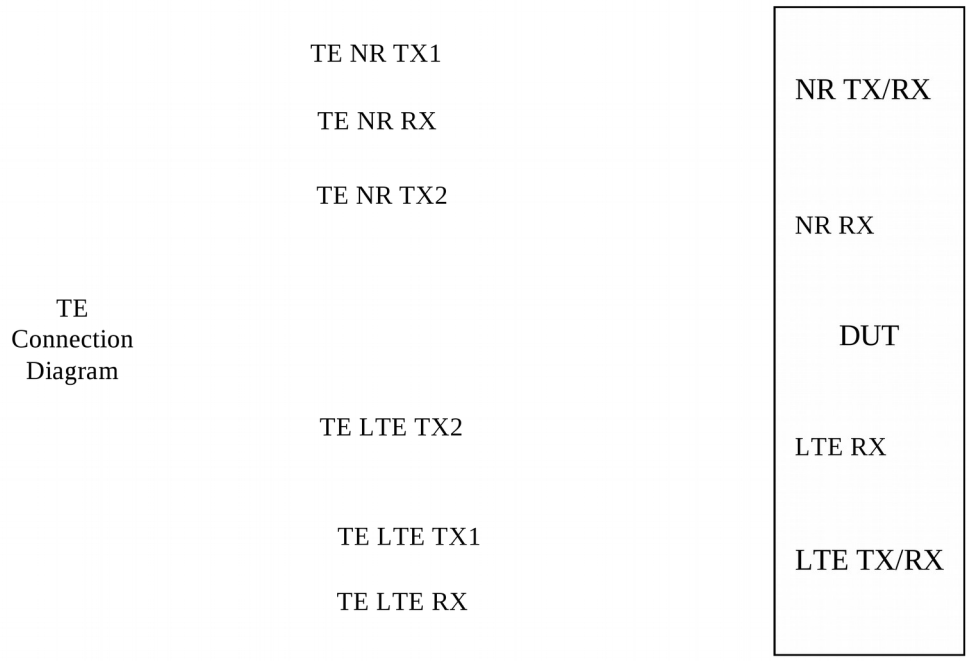


Figure A.3.2.5.1: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at different separated connectors

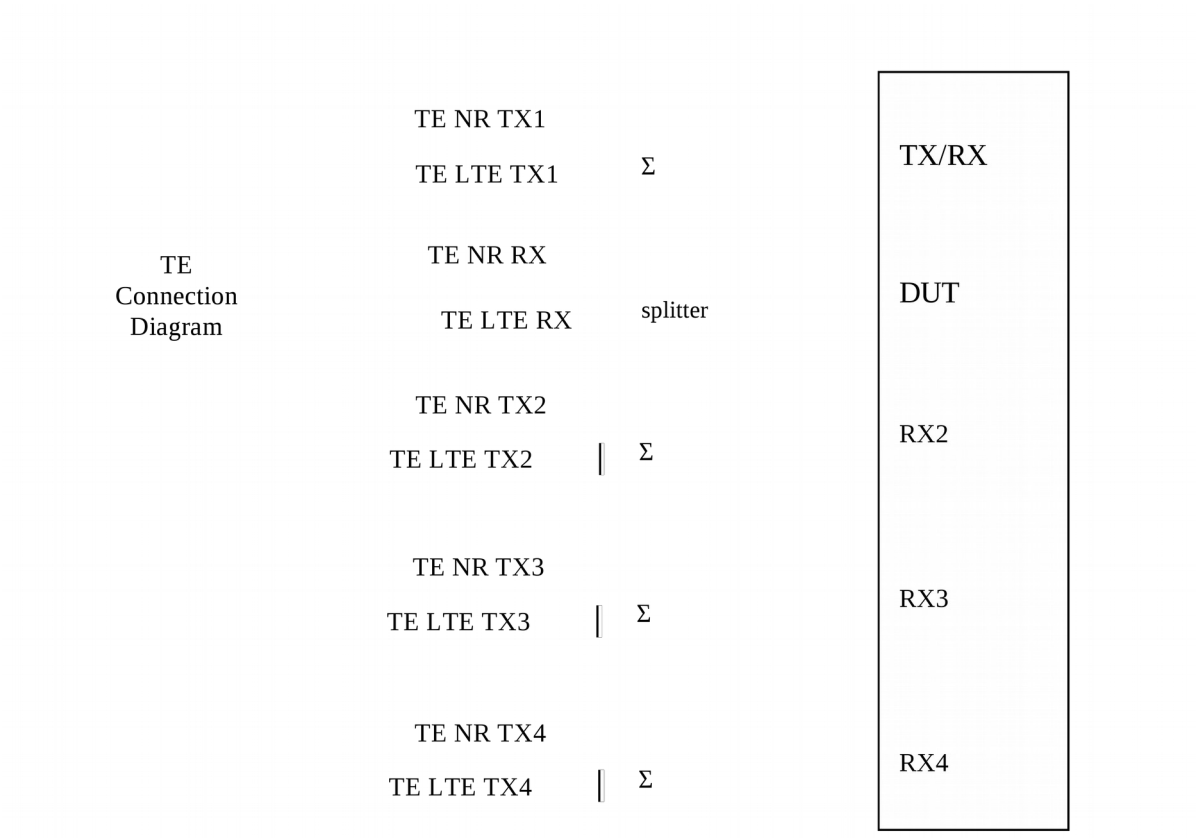


Figure A.3.2.5.2: User Equipment connection for 4Rx capable UEs without any 2Rx RF bands (NR and LTE at same connectors)

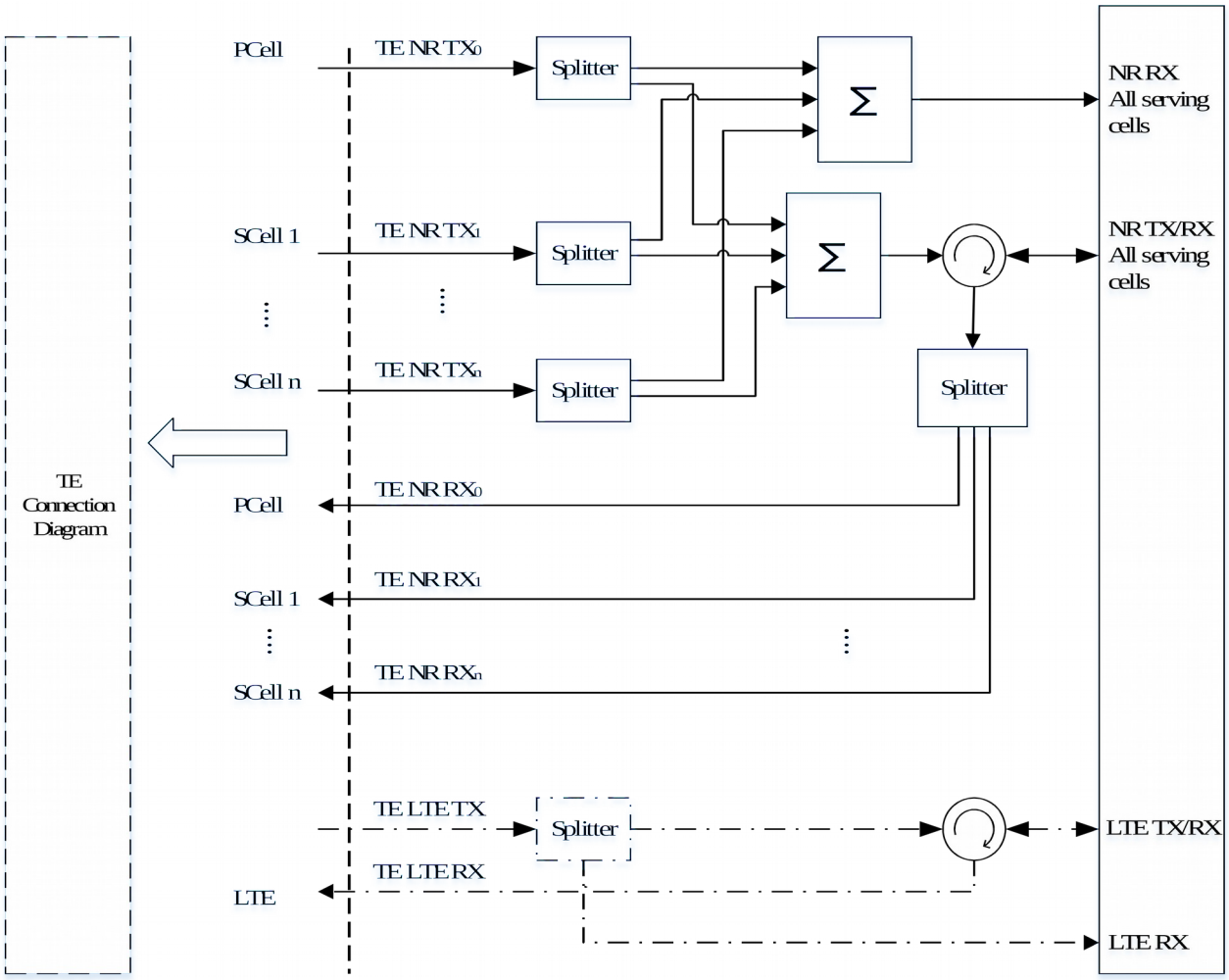


Figure A.3.2.5.3: User Equipment connection for UEs with NR CA (component carriers on common connector) and LTE

A.3.2.6 Over Four Antenna Connectors

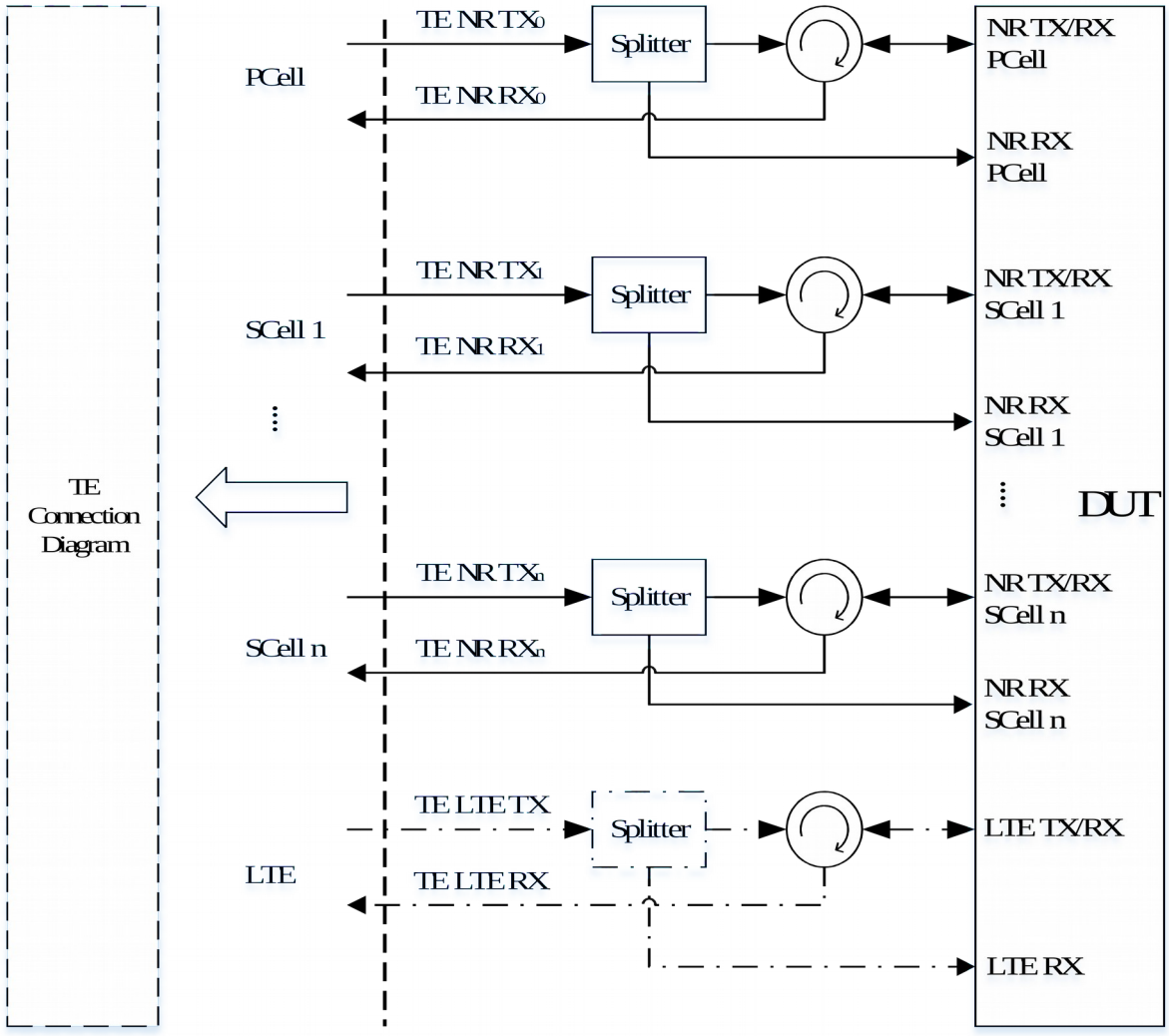


Figure A.3.2.6.1: User Equipment connection for UEs with NR CA (component carriers on separated connectors) and LTE

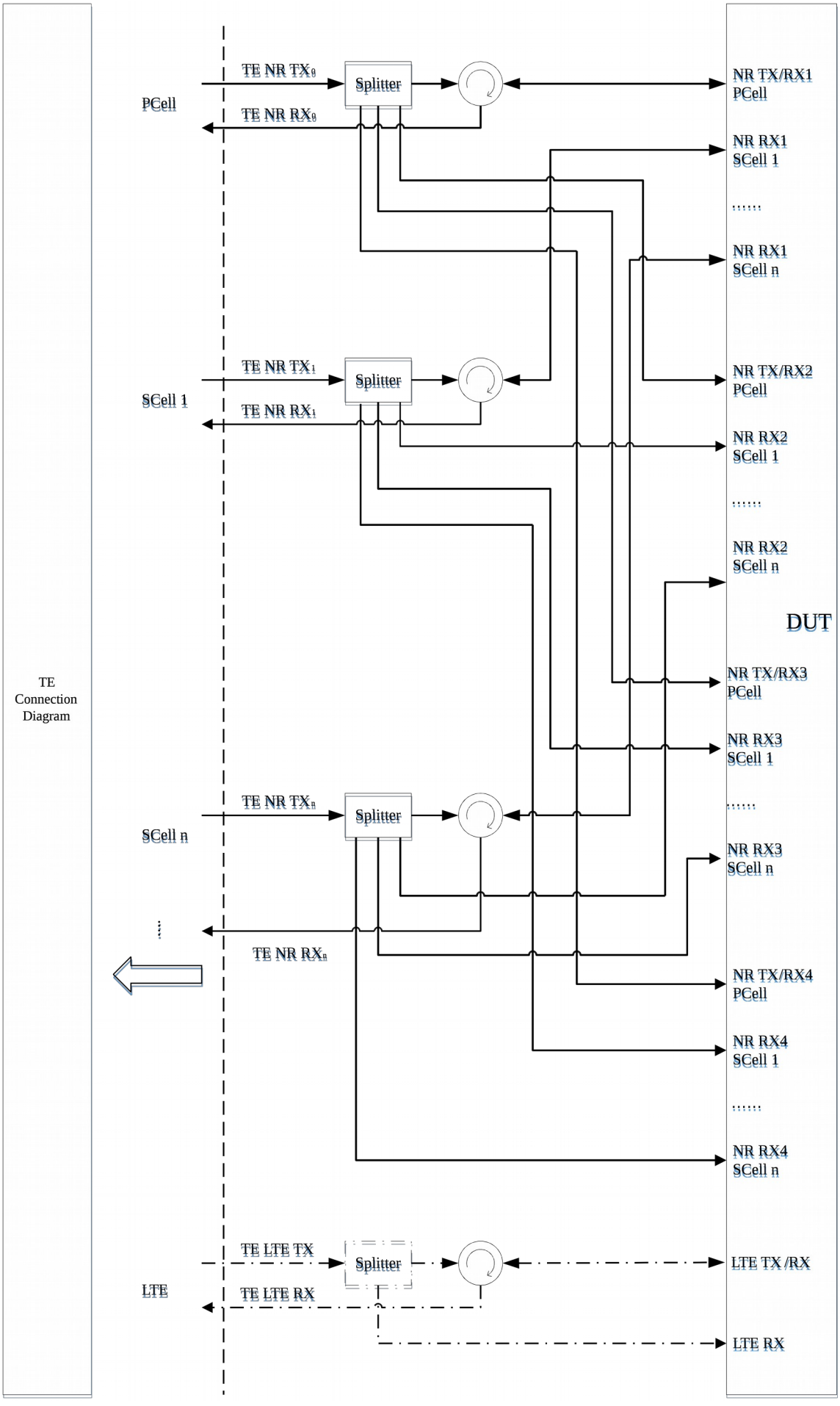

TE Connection Diagram
PCell
TE NR TX0
TE NR RX0
Splitter
NR TX/RX1 PCell
NR RX1 SCell 1
NR RX1 SCell n
SCell 1
TE NR TX1
TE NR RX1
NR TX/RX2 PCell
NR RX2 SCell 1
NR RX2 SCell n
DUT
NR TX/RX3 PCell
NR RX3 SCell 1
SCell n
TE NR TXn
TE NR RXn
NR RX3 SCell n
NR TX/RX4 PCell
NR RX4 SCell 1
NR RX4 SCell n
LTE
TE LTE TX
TE LTE RX
LTE TX /RX
LTE RX

Figure A.3.2.6.2: User Equipment connection for UEs with NR CA and NR 4Rx (component carriers on separated connectors) and LTE

(Note: NR may be 2Rx on some of the CCs, in that case RX3 and RX4 are not used).

A.3.3 Test Equipment Parts for Radiated Measurements

A.3.3.1 Basic Transmitter/Receiver tests

The Test Equipment part is focused on logical representation of TE measurement and link antenna(s) and positioner controller. The Test Equipment connection diagram below is applicable for NR radiated RX and TX tests, including CA and UL MIMO tests.

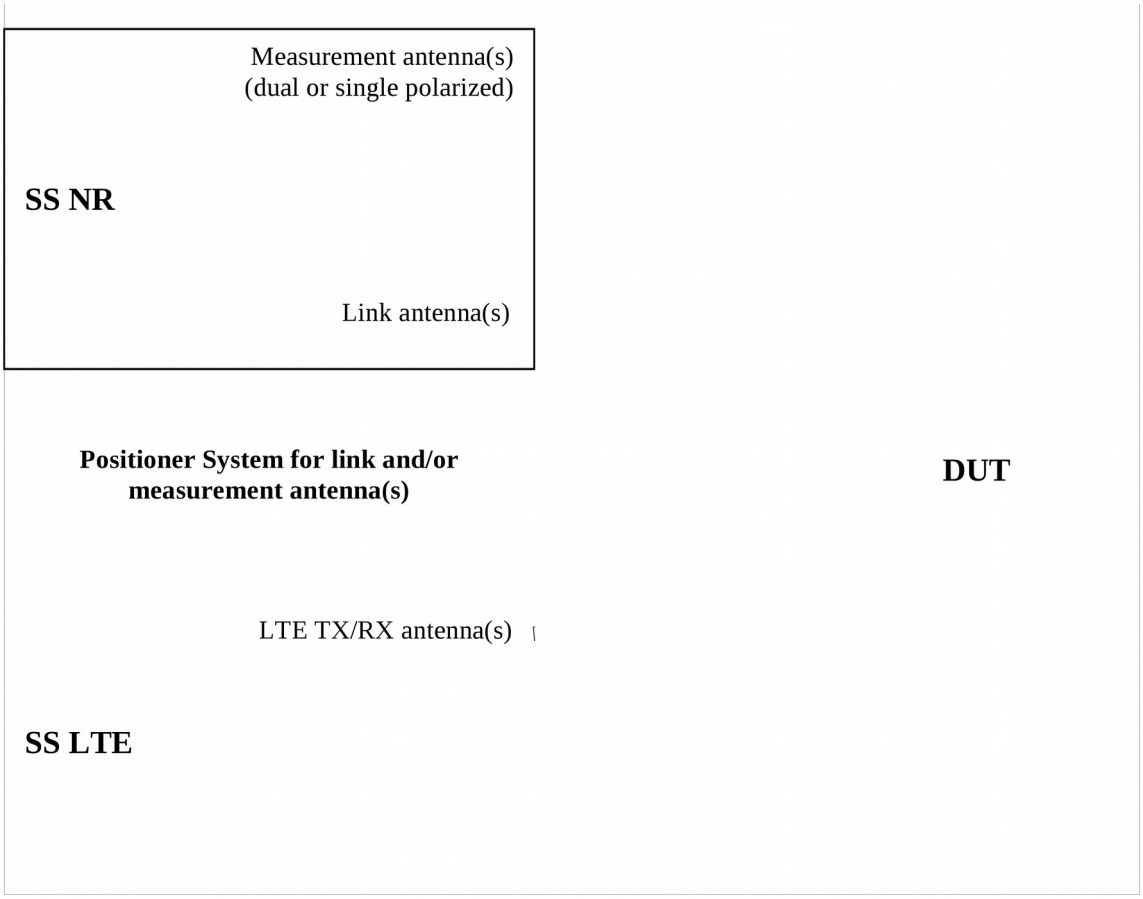


Figure A.3.3.1.1: TE diagram for radiated RX and TX tests

A.3.3.2 Demodulation and CSI tests

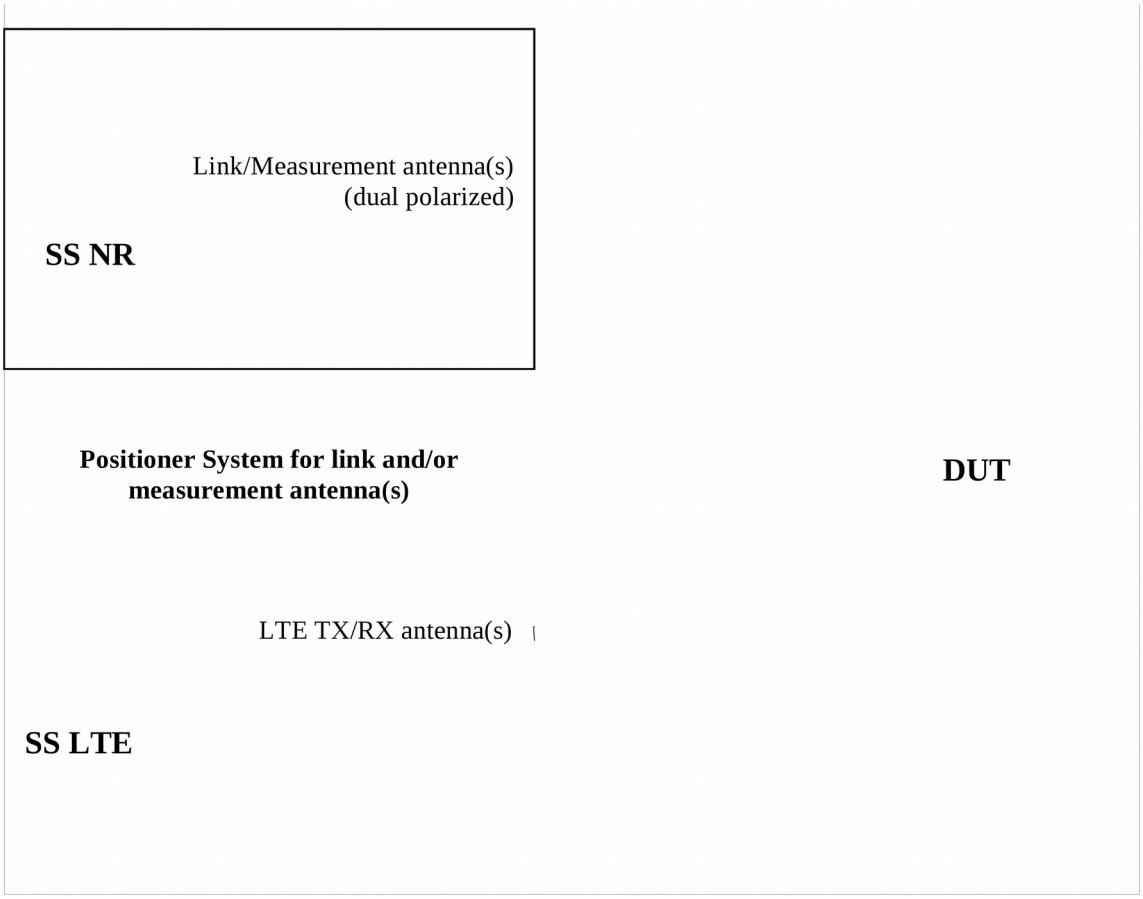


Figure A.3.3.2.1: Demodulation and CSI tests

A.3.4 User Equipment Parts for Radiated Measurements

A.3.4.1 Basic Transmitter/Receiver tests

The User Equipment part is focused on logical representation of UE antenna(s), DUT positioner and positioner controller. The UE connection diagram below is applicable for NR radiated RX and TX tests, including CA and UL MIMO tests.

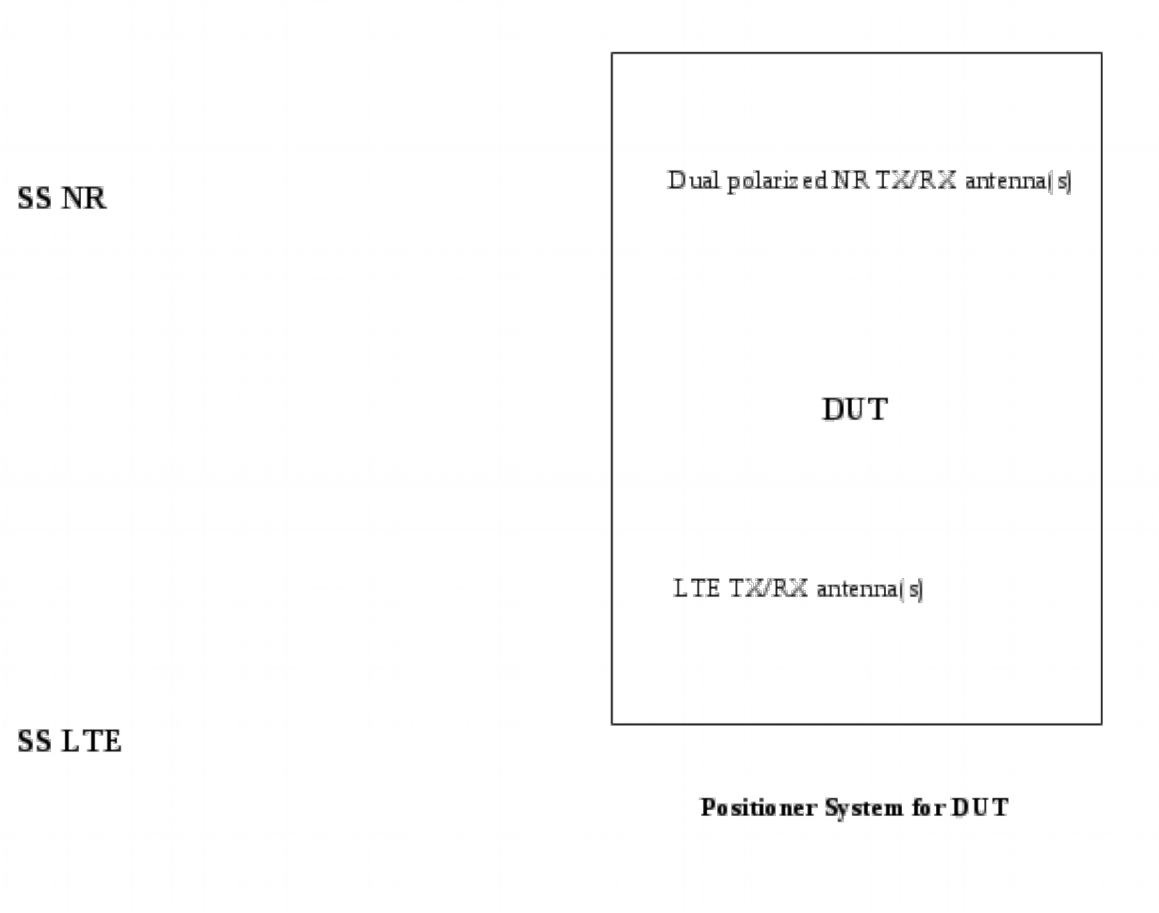


Figure A.3.4.1.1: UE diagram for radiated RX and TX tests

A.3.4.2 Demodulation and CSI tests

Same as Figure A.3.4.1.1

Annex B (normative): Permitted test methods For OTA Testing

B.1 General

Editor's Note: The working assumption is that the DFF or IFF: CATR based OTA test methodologies defined in Annexes B.2.2 and B.2.4 respectively should be used for Signalling test.

The applicability of the permitted test methods herein is defined by the appropriate references within clauses 5, 6, and 7. A summary of the applicability is shown in Table B.1-1.

Table B.1-1: Permitted Test Methods Applicability Summary

FFS

B.2 Permitted Test Methods

B.2.1 General

The main objective of this annex is to specify basic parameters of permitted OTA test methods suitable for RF Tx and Rx, Performance, and RRM measurements and Signalling Conformance tests performed at high frequency in the FR2 operating bands defined in clause 4.3.1.2. The applicability of each OTA test method is summarized in Table B.1-1.

B.2.2 Direct far field (DFF)

B.2.2.1 Description

The DFF measurement setup for FR2 is capable of centre and off-centre of beam measurements and is shown in Figure B.2.2.1-1 below.

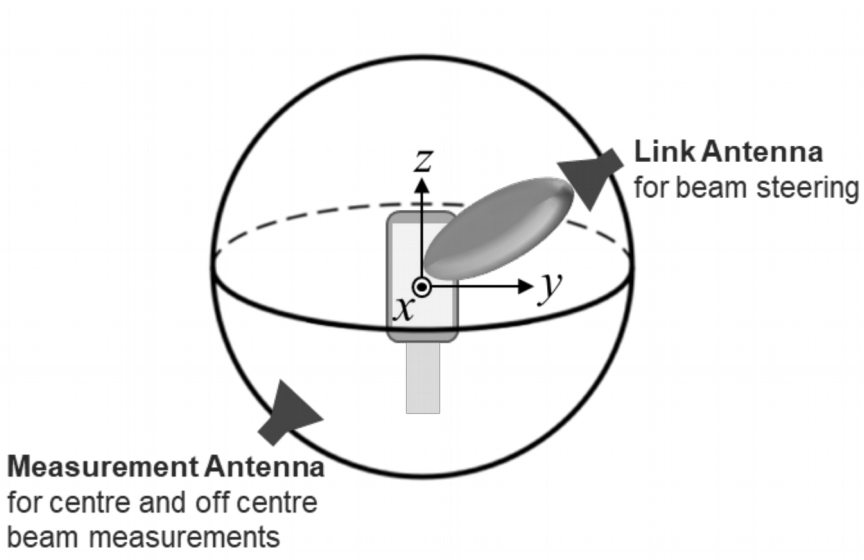


Figure B.2.2.1-1: DFF measurement setup

The key aspects of the DFF setup are:

- Far-field measurement system in an anechoic chamber
  - The criterion for determining the far-field distance is described in B.2.2.4.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- A positioning system such that the angle between the link antenna and the DUT has at least two axes of freedom and maintains a polarization reference; this positioning system for the link antenna is in addition to the positioning system for the measurement antenna and provides for an angular relationship independently controllable from the measurement antenna.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1 UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of the DFF setup are:

- The DUT radiating aperture is D ≤ 5 cm
  - Either a single radiating aperture, multiple non-coherent apertures, or multiple coherent apertures DUTs can be tested
  - If multiple antenna panels that are phase coherent are defined as a single array, the criterion on DUT radiating aperture applies to this single array
  - D is based on the MU assessment in Annex B.1.1.3 of TR 38.810 [24]
  - A measurement distance larger than the far-field criteria defined in B.2.2.4 is not precluded
  - If the uncertainties can be further optimized, the MU may be reduced or D may be increased
- A manufacturer declaration on the following elements is needed unless the entire DUT size is contained in a sphere of diameter of ≤ 5 cm:
- Manufacturer declares antenna array size

B.2.2.2 Quiet zone dimension

The quiet zone shall be large enough to fully contain the DUT. In order to allow testing of DUTs of various size and to allow for flexibility in test chamber implementations, there will be two defined quiet zone dimensions. The smaller quiet zone shall have a radius of 100mm to accommodate DUTs such as smartphones. The larger quiet zone shall have a radius of 150mm to accommodate larger DUTs such as tablets. The device types are listed as examples and other device types are not precluded. In either case, the DUT shall be fully contained in one of the quiet zone sizes defined herein.

B.2.2.3 Quality of the quiet zone

The quality of the quiet zone shall be measured for the frequencies defined in FFS. The measured quality of the quiet zone performance is used in uncertainty calculations for the appropriate quality of the quiet zone dimension utilized for the DUT.

B.2.2.4 Measurement Distance

For far-field measurements, the distance *R* between the DUT and the measurement antenna shall be calculated by the following equation.

$$R > \frac{2D^2}{\lambda}$$

where λ is the largest wavelength within the frequency band of interest and D is the diameter of the smallest sphere that encloses the radiating parts of the DUT.

For DFF, free space path loss is calculated by applying the Free Space Loss formula with R equal to the far field distance: $\left(\frac{4\pi R}{\lambda}\right)^2$.

A summary of the far-field measurement distance for different antenna sizes and frequencies can be found in clause 5.2.1.2 of TR 38.810 [24]. The influence of measurement distance on measurement uncertainty is discussed in Annex B.2.1 of TR 38.903 [XX].

B.2.3 Direct far field (DFF) setup simplification for centre of beam measurements

B.2.3.1 Description

The DFF setup in Annex B.2.2 can be simplified in the following way to perform centre of the beam measurements:

- The measurement and the link antenna can be combined so that the single antenna is used to steer the beam and to perform UE measurements.

The measurement setup for FR2 capable of centre of beam measurements is shown in Figure B.2.3.1-1 below.

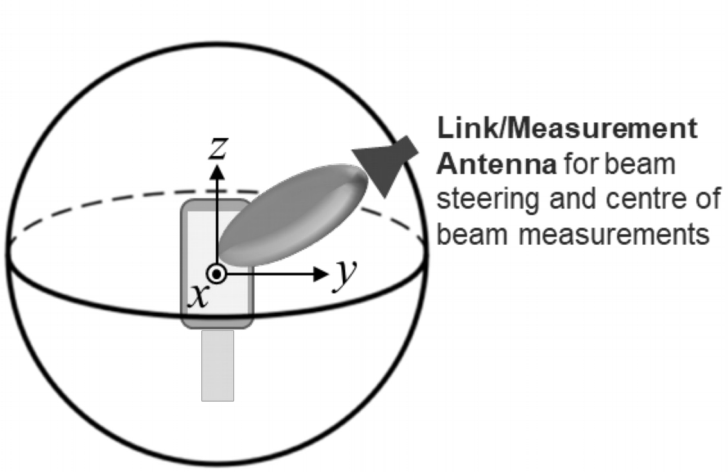


Figure B.2.3.1-1: DFF simplification for centre of beam measurement setup

The applicability criteria of the simplified DFF setup for centre of beam measurements are defined in B.2.2.1.

B.2.3.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.3.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.3.4 Measurement Distance

Same as Annex B.2.2.4.

B.2.4 Indirect far field (IFF): Compact Antenna Test Range (CATR)

B.2.4.1 Description

The IFF method utilizing a compact antenna test range (CATR) creates the far field environment using a transformation with a parabolic reflector.

The IFF CATR measurement setup for FR2 is capable of centre and off-centre of beam measurements and an example setup is shown in Figure B.2.4.1-1 below. The relative orientation of the coordinate system with respect to the reflector and the axes of rotation apply to any CATR measurement setup.

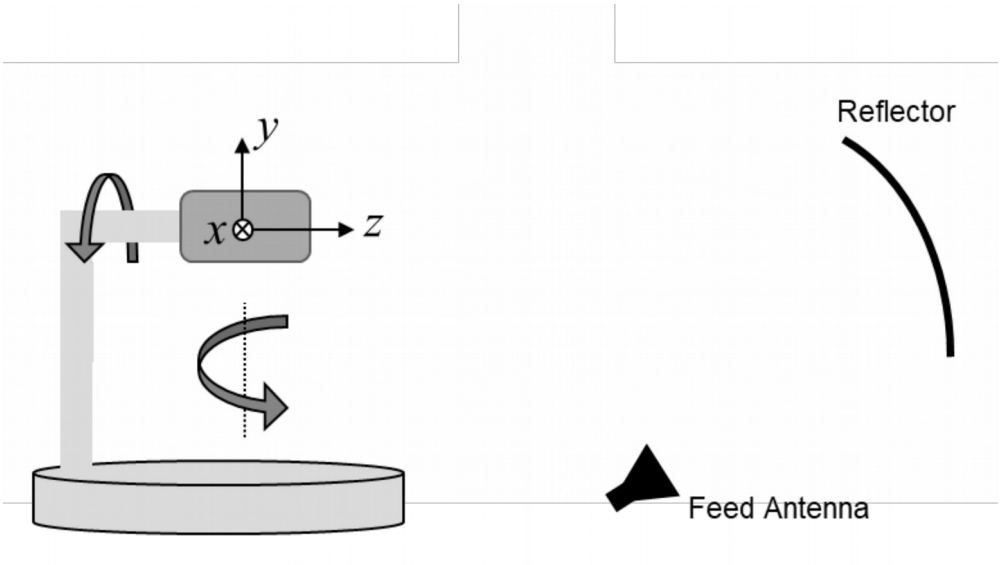


Figure B.2.4.1-1: Example of IFF: CATR measurement setup

The key aspects of this test method setup are:

- Indirect Far Field using Compact Antenna Test Range as described in TR 38.810 [24] with quiet zone diameter that meets the requirements of B.2.4.2.
- A positioning system such that the angle between the dual-polarized measurement antenna and the DUT has at least two axes of freedom and maintains a polarization reference.
- Before performing the UE Beamlock Test Function as defined in clause 4.9.2, the measurement probe acts as a link antenna maintaining polarization reference with respect to the DUT. Once the beam is locked then the link is to be passed to the link antenna which maintains reliable signal level with respect to the DUT.
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of this test method are:

- The total test volume is a cylinder with diameter d and height h.

- DUT must fit within the total test volume for the entire duration of the test.
- Either a single radiating aperture, multiple non-coherent apertures or multiple coherent apertures DUTs can be tested.
- No manufacturer declaration of the antenna array size is needed.

B.2.4.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.4.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.4.4 Measurement Distance

The CATR system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ to achieve a plane wave as in a standard far field range.

For the CATR system, the far-field distance is seen as the focal length. The focal length is the distance between the feed and the reflector of the CATR. Further information on the focal length of a CATR system can be found in clause 5.2.3.2 of TR 38.810 [24].

The measurement distance for any CATR system implementation shall be adequate to meet the quiet zone dimensions defined in B.2.4.2.

In a CATR, from the reflector to the quiet zone, there is a plane wave with no free space path loss.

For CATR, free space path loss is calculated by applying the Free Space Loss formula with *R* equal to the far field distance based on the focal length: $\left(\frac{4\pi R}{\lambda}\right)^2$.

A summary of the comparison of path losses which can be expected for the CATR compared to a Fraunhofer limit distance ($R > \frac{2D^2}{\lambda}$) for different antenna sizes and frequencies can be found in clause 5.2.3.2 of TR 38.810 [24].

The influence of measurement distance on measurement uncertainty can be considered as zero as defined in Annex B.2.2 of TR 38.903 [XX].

B.2.5 Near field to far field transform (NFTF)

B.2.5.1 Description

The NFTF method computes the metrics defined in Far Field by using the Near Field to Far Field transformation.

The NFTF measurement setup of UE RF characteristics for FR2 is capable of centre and off centre of beam measurements and an example setup is shown in Figure B.2.5.1-1:

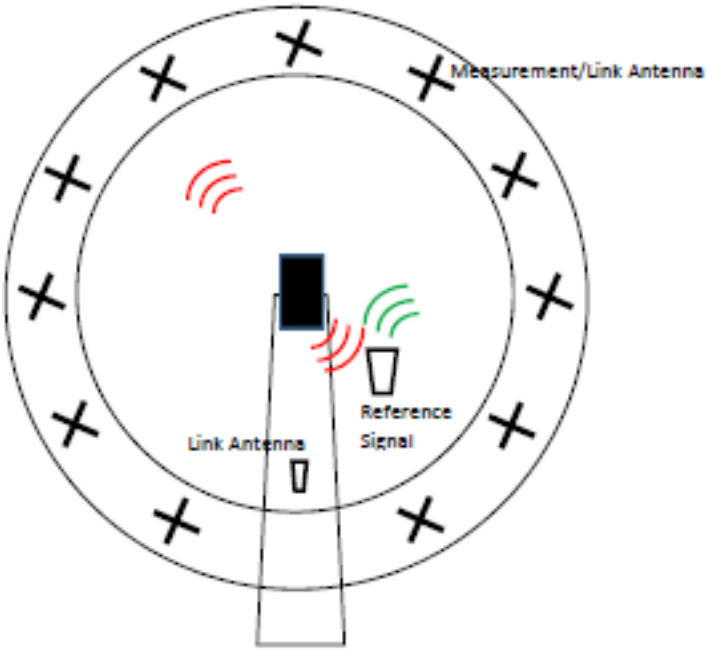


Figure B.2.5.1-1: Example of NFTF measurement setup

The key aspects of the Near Field test range are:

- Radiated Near Field UE beam pattern is measured and based on the NFTF mathematical transform, the final metric such as EIRP is the same as the metric for the baseline setup
- A positioning system such as the angle between the dual-polarized measurement/link antenna and the DUT has at least two axes of freedom and maintains a polarization reference
- For setups intended for measurements of UE RF characteristics in non-standalone (NSA) mode with 1UL configuration, an LTE link antenna is used to provide the LTE link to the DUT. The LTE link antenna provides a stable LTE signal without precise path loss or polarization control.
- For setups intended for measurements in NR CA mode with FR1 and FR2 inter-band NR CA, test setup provides NR FR1 link to the DUT. The NR FR1 link has a stable and noise-free signal without precise path loss or polarization control.

The applicability criteria of the NFTF setup are:

- The DUT radiating aperture is D ≤ 5 cm
  - Either a single radiating aperture, multiple non-coherent apertures or multiple coherent apertures DUTs can be tested
  - If multiple antenna panels that are phase coherent are defined as a single array, the criterion on DUT radiating aperture applies to this single array
  - D is based on the MU assessment in Annex B.1.4.3 of TR 38.810 [24]
  - If the uncertainties can be further optimized, the MU may be reduced or D may be increased
- A manufacturer declaration on the following elements is needed unless the entire DUT size is contained in a sphere of diameter of ≤ 5 cm:
  - Manufacturer declares antenna array size
- EIRP, TRP, and spurious emissions metrics can be tested.

B.2.5.2 Quiet zone dimension

Same as Annex B.2.2.2.

B.2.5.3 Quality of the quiet zone

Same as Annex B.2.2.3.

B.2.5.4 Measurement Distance

The NFTF system does not require a measurement distance of $R > \frac{2D^2}{\lambda}$ as in a standard far field range due to the use of the Near Field to Far Field transformation.

The measurement distance for any NFTF system implementation shall ensure that the DUT is not measured in the reactive near-field region and is adequate to meet the quiet zone dimensions defined in B.2.5.2.

Annex C (informative): Calculation of test frequencies

Editor's note: Description of frequency determination for CA and DC configuration need to be added.

Test frequencies are defined in clause 4.3.1 with extensions for signalling test cases in clause 6.2.3. This annex gives a guideline to determine these test frequencies and the associated signalling parameters for a given band, CA or DC band combination.

C.1 Definitions and Parameters

Figure C.1-1 shows SSB and CORESET#0 and related parameters.

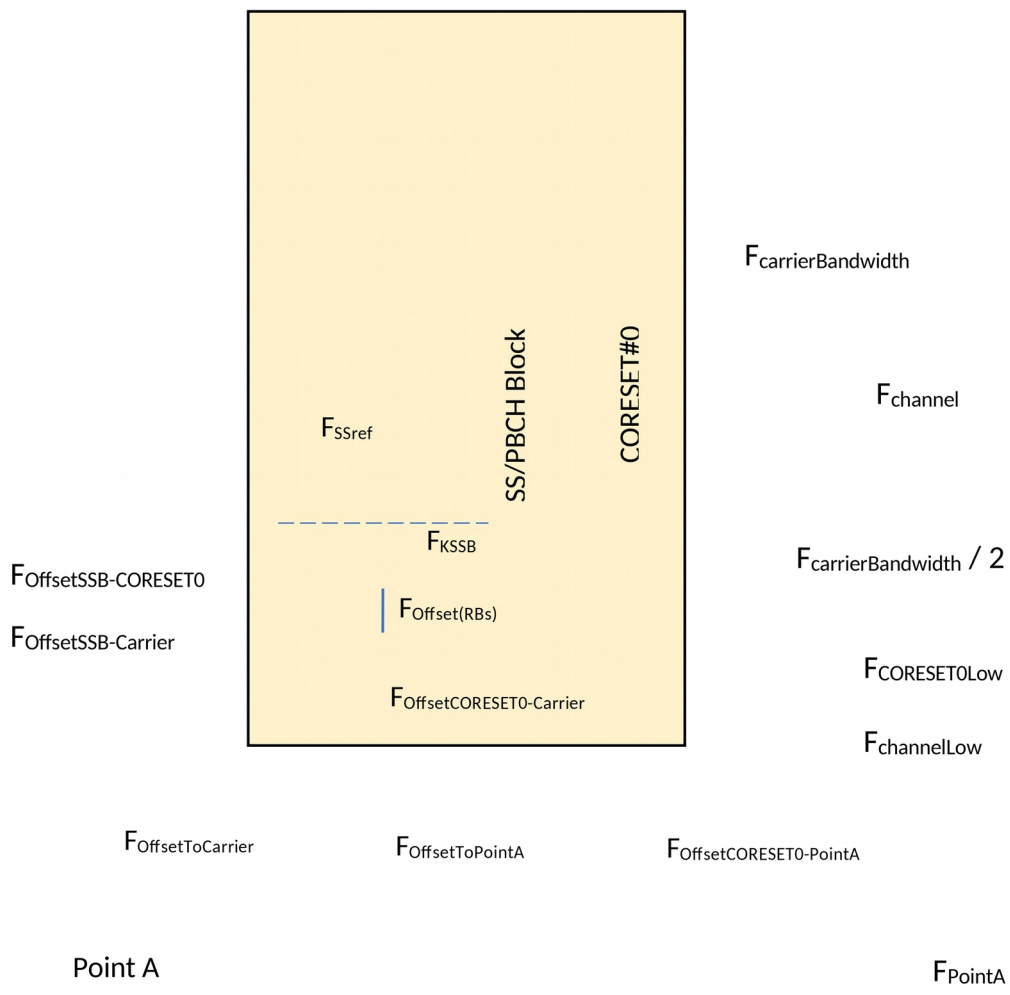


Figure C.1-1: location of SSB and CORESET#0 within a channel

The following definitions are used in figure C.1-1:

$ARFCN_{Channel}$	ARFCN of the centre frequency of the carrier ($F_{channel}$) according to the channel raster of the band (TS 38.101-1 [7] clause 5.4.2.3 for FR1 and TS 38.101-2 [8] clause 5.4.2.3 for FR2)
$ARFCN_{SSB}$	ARFCN of the SSB centre frequency (F_{SSref}) according to the synchronisation raster of the carrier. $ARFCN_{SSB}$ is in signalling provided as absoluteFrequencySSB to the UE (FrequencyInfoDL); corresponds to the GSCN of the SSB (i.e. the GSCN corresponds to the same frequency as *absoluteFrequencySSB*)
FPointA	Reference Point A frequency.
$ARFCN_{PointA}$	ARFCN of the reference Point A frequency (F_{PointA}) according to the global channel raster as provided as *absoluteFrequencyPointA* to the UE (*FrequencyInfoDL*)
$F_{carrierBandwidth}$	$F_{carrierBandwidth}$ is the carrier's channel bandwidth as provided in *carrierBandwidth* to the UE (*SCS-SpecificCarrier*)
$F_{offsetToCarrier}$	$F_{offsetToCarrier}$ is the frequency offset between Point A and the lower edge of the carrier. $F_{offsetToCarrier}$ = *offsetToCarrier* * PRB size, where PRB size according to the subcarrier spacing of the carrier. *offsetToCarrier* is signalled to the UE (*SCS-SpecificCarrier*)
$F_{OffsetSSB-CORESET0}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of CORESET#0; the offset consists of $F_{Offset(RBs)}$ + F_{KSSB} . $F_{Offset(RBs)}$ equals 12* Offset(RBs) * *subCarrierSpacingCommon*, where Offset(RBs) is given in tables 13-X of TS 38.213 [22], and F_{KSSB} is k_{SSB} * SCS_{SSB}.
$F_{OffsetCORESET0-Carrier}$	Frequency offset, $F_{OffsetCORESET\#0-Carrier}$, between the lowest subcarrier of CORESET#0 and the lowest subcarrier.
$F_{OffsetSSB-Carrier}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of the carrier
FOffsetSSB-CORESET0	Frequency offset between the subcarrier 0 of the SSB and subcarrier 0 of CORESET#0
FOffsetToPointA	Frequency offset between point A and the lowest subcarrier of the lowest resource block, which has the subcarrier spacing provided by the higher-layer parameter subCarrierSpacingCommon and overlaps with the SS/PBCH block used by the UE for initial cell selection, expressed in units of resource blocks assuming 15 kHz subcarrier spacing for FR1 and 60 kHz subcarrier spacing for FR2 (TS 38.211 [29] clause 4.4.4.2).
FOffsetCORESET0-PointA	Frequency offset between subcarrier 0 of the CORESET#0 and point A
FCORESET0Low	Center frequency of subcarrier 0 of CORESET#0
F_{SSref}	Centre frequency of SSB. For a cell selectable as PCell the F_{SSref} corresponds to a valid GSCN value according to clause 5.4.3.1 of TS 38.101-1 [7] and TS 38.101-2 [8].

Further definitions used in this annex:

k_{SSB}	as defined in TS 38.211 [29] clause 7.4.3.1
$SCS_{Carrier}$	subcarrier spacing for the carrier: FR1: 15kHz, 30kHz or 60kHz according to TS 38.101-1 [7] Table 5.3.5-1 FR2: 60kHz or 120kHz according to TS 38.101-2 [8] Table 5.3.5-1
SCS_{SSB}	SS/PBCH block subcarrier spacing FR1: 15kHz or 30kHz according to TS 38.101-1 [7] Table 5.4.3.3-1 FR2: 120kHz or 240kHz according to TS 38.101-2 [8] Table 5.4.3.3-1 NOTE: According to the tables in clause 13 of TS 38.213 [22] not all combinations of SCS_{SSB} and $SCS_{Carrier}$ are applicable
SCS_{kSSB}	Step size for k_{SSB} (see TS 38.211 [29] clause 7.4.3.1): 15kHz for $SCS_{SSB} \in$ {15kHz, 30kHz} $SCS_{Carrier}$ otherwise
subCarrierSpacingCommon	Subcarrier spacing for SIB1, Msg.2/4 for initial access, paging and broadcast SI-messages. Provided to the UE in the MIB.
F_{DL_Low}, F_{UL_Low}	Lowest frequency of the downlink and uplink frequency range of the band as defined in clause 5.2 of TS 38.101-1 [7] and TS 38.101-2 [8].
F_{DL_High}, F_{UL_High}	Highest frequency of the downlink and uplink frequency range of the band as defined in clause 5.2 of TS 38.101-1 [7] and TS 38.101-2 [8].
ΔF_{Raster}	Frequency raster of the band as defined in clause 5.4.2.3 of TS 38.101-1 [7] and TS 38.101-2 [8]
$F_{Channel}$	Centre frequency of a channel corresponding to its NR-ARFCN value
BW_{DL}	Bandwidth of downlink frequency range of the band.
BW_{UL}	Bandwidth of uplink frequency range of the band.
CBW_{DL}	Downlink channel bandwidth according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
CBW_{UL}	Uplink channel bandwidth according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
MaxTr CBW_{DL}	Maximum Trandsmission downlink channel bandwidth. $MaxTr_CBW_{DL} = 12 * SCS_{Carrier} * N_{RB_DL}$ with N_{RB} according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8]
$MaxTr_CBW_{UL}$	Maximum Trandsmission uplink channel bandwidth. $MaxTr_CBW_{UL} = 12 * SCS_{Carrier} * N_{RB_UL}$ with N_{RB} according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8]
$F_{Tx\text{-}Rx_separation}$	Tx – Rx carrier centre frequency separation of the band as defined in clause 5.4.4 of TS 38.101-1 [7] and TS 38.101-2 [8].
$\Delta F_{Tx\text{-}Rx_separation}$	$\Delta F_{Tx\text{-}Rx_separation} = \lvert (BW_{DL} - BW_{UL})/2 \rvert$ Tx – Rx carrier centre frequency separation of the band as defined in clause 5.4.4 of TS 38.101-1 [7] and TS 38.101-2 [8].
BW_{SSB}	$\mathbf{BW_{SSB}} = 12 * SCS_{SSB} * 20$
$\Delta GSCN$, $GSCN_{MIN}$, $GSCN_{MAX}$	GSCN step size, GSCN minimum and GSCN maximum values for the NR band according to table 5.4.3.3-1 of TS 38.101-1 [7] and TS 38.101-2 [8]
$Offset_{RBs}$	Offset (RBs) according to tables of clause 13 in TS 38.213 [22]
$Offset_{RBs,max}$	Maximum value for Offset (RBs) according to table 13.X in TS 38.213 [22] for a given band and {SCS_{SSB}, $SCS_{Carrier}$} combination
$Offset_{RBs,min}$	Minimum value for Offset (RBs) according to table 13.X in TS 38.213 [22] for a given band and {SCS_{SSB}, $SCS_{Carrier}$} combination

C.2 Frequency determination for symmetric bands

C.2.0 General

Calculation of test frequencies depends on if a cell is selectable as a PCell (i.e. has CORESET#0 scheduling) or not.

According to TS 38.213 [22], clause 13 configurations of CORESET for Type0-PDCCH search space (CORESET#0) are limited to certain combination of SSB subcarrier spacing and PDCCH subcarrier spacing {SCS_{SSB}, $SCS_{Carrier}$}. For FR1 bands the combinations of {SCS_{SSB}, $SCS_{Carrier}$} are limited to {15, 15}, {15, 30}, {30, 15} and {30, 30} kHz. For FR2 bands the combinations of {$SCS_{Carrier}$, SCS_{SSB}} are limited to {120, 60}, {120, 120}, {240, 60} and {240, 120} kHz. This means that cells that can be selected as a PCell is limited to $SCS_{Carrier}$ = 15 kHz or 30 kHz for FR1 bands and to carriers with $SCS_{Carrier}$ = 60 kHz or 120 kHz for FR2 bands.

Test frequencies are determined in two major steps:

1 Determination of test frequencies without any consideration of SSB and CORESET#0 alignment. This is described in clause C.2.1.

2 If the cell corresponds to a frequency channel that is selectable as PCell (FR1 carriers with $SCS_{Carrier}$ = 15 kHz or 30 kHz and FR2 carriers with $SCS_{Carrier}$ = 60 kHz or 120 kHz): The lowest GSCN value on the synchronisation raster is determined so that the SSB is fully within the carrier (see figure C.1-1); k_{SSB} and $Offset_{RBs}$ are determined depending on the subcarrier spacing ($SCS_{Carrier}$, SCS_{SSB}). If no valid values for k_{SSB} and $Offset_{RBs}$ can be found for a given channel, the channel frequency is shifted to the nearest frequency allowing valid values. This is described in clauses C.2.2 to C.2.4.

   Else if the cell corresponds to a frequency channel that is not selectable as PCell (FR1 carriers with $SCS_{Carrier}$ = 60 kHz and FR2 carriers with $SCS_{Carrier}$ = 240kHz): The SSB lower edge is located at the same frequency as the carrier's lower edge. This is described in C.2.5.

C.2.1 Frequency determination independent from GSCN raster

Channel frequencies are determined taking into account the channel raster according to clause 5.4.2.3 in TS 38.101-1 [7] for FR1 and in TS 38.101-2 [8] for FR2.

C.2.1.1 Determination of Low-, Mid- and High-Range

Downlink:

$\mathbf{F_{DL_LowRange}} = \mathbf{Ceil}((F_{DL_Low} + CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq1
$\mathbf{F_{DL_MidRange}} = \mathbf{Round}((F_{DL_Low} + BW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq2
$\mathbf{F_{DL_HighRange}} = \mathbf{Floor}(F_{DL_High} - CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.1-Eq3

$F_{DL_LowRange}$ is rounded up and $F_{DL_HighRange}$ is rounded down to obey to the minimum guard band according to clause 5.3.3 of TS 38.101-1 [7] and TS 38.101-2 [8].

Uplink:

$\mathbf{F_{UL_LowRange}} = F_{DL_LowRange} + F_{Tx\text{-}Rx_separation}$	C.2.1.1-Eq4
$\mathbf{F_{UL_MidRange}} = F_{DL_MidRange} + F_{Tx\text{-}Rx_separation}$	C.2.1.1-Eq5
$\mathbf{F_{UL_HighRange}} = F_{DL_HighRange} + F_{Tx\text{-}Rx_separation}$	C.2.1.1-Eq6

C.2.1.2 Determination of Mid-Low and Mid-High-Range for signalling tests

$\mathbf{F_{Mid\text{-}LowRange}} = \mathbf{Round}((F_{LowRange} + (F_{HighRange} - F_{LowRange})/3) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.2-Eq1
$\mathbf{F_{Mid\text{-}HighRange}} = \mathbf{Round}((F_{LowRange} + 2*(F_{HighRange} - F_{LowRange})/3) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.1.2-Eq2

C.2.2 GSCN determination

C.2.2.1 Calculation of lower bound for SS_{REF} and $Offset_{SSB\text{-}Carrier}$

$\mathbf{F_{OffsetSSB\text{-}Carrier}} = F_{SSREF} - BW_{SSB} / 2 - (F_{Channel} - MaxTr_CBW_{DL} / 2)$	C.2.2.1-Eq1
$\mathbf{F_{ssb,min}} = F_{Channel} - MaxTr_CBW_{DL} / 2 + BW_{SSB} /2 + Offset_{RBs,min} * 12 * SCS_{Carrier}$	C.2.2.1-Eq2

C.2.2.2 Calculation of GSCN

Calculation of GSCN according to clause 5.4.3.1 of TS 38.101-1 [7] and TS 38.101-2 [8] so that the GSCN has the minimum value for the corresponding SSB being fully above the lower edge of the channel. This means $F_{ssb,min}$ is rounded up to the next valid SS_{REF}

IF FR1 **AND** $F_{Channel}$ < 3GHz **THEN**	
N = **Ceil**(($F_{ssb,min}$ – M * 50kHz) / 1.2MHz) with M ∈ {1, 3, 5} for ΔF_{Raster} = 100kHz M = 3 otherwise	C.2.2.2-Eq1a
GSCN' = 3 * N + (M - 3) / 2 for ΔF_{Raster} = 100kHz M is selected out of {1, 3, 5} so that $F_{OffsetSSB-Carrier}$ (according to equation C.2.2.1-Eq1) is a multiple of 15kHz (SCS_{kSSB} for bands with 100kHz raster)	C.2.2.2-Eq2a
ELSE IF FR1 **AND** $F_{Channel}$ >= 3GHz **THEN**	
N = **Ceil**(($F_{ssb,min}$ – 3000MHz) / 1.44MHz)	C.2.2.2-Eq1b
GSCN' = 7499 + N	C.2.2.2-Eq2b
ELSE IF FR2 **THEN**	
N = **Ceil**(($F_{ssb,min}$ – 24250.08MHz) / 17.28MHz)	C.2.2.2-Eq1c
GSCN' = 22256 + N	C.2.2.2-Eq2c
END	
GSCN = **Ceil**(GSCN' / ΔGSCN) * ΔGSCN	C.2.2.2-Eq3

C.2.2.3 Calculation of $Offset_{RBs}$ and k_{SSB}

Calculation of $Offset_{RBs}$ and k_{SSB} needs to take the following requirements into account:

- $Offset_{RBs}$ value shall be valid in accordance with TS 38.213 [22] clause 13 depending on combination of {SS/PBCH block, PDCCH} subcarrier spacing and carrier's minimum channel bandwidth.

- (k_{SSB} + 1) * SCS_{kSSB} <= size of a common resource block (=12**subCarrierSpacingCommon*) in accordance with TS 38.211 [29] clause 7.4.3.1.

$F_{OffsetRBs}$ and k_{SSB} are calculated based on the assumption that CORESET#0 is at the lower edge of the channel i.e. $F_{OffsetCORESET0-Carrier}$ = 0 and therefore $F_{OffsetSSB-Carrier}$ = $F_{OffsetSSB-CORESET0}$ as according to equation C.2.2.1-Eq1.

For the case SCS_{kSSB} and *subCarrierSpacingCommon* both equals 15kHz and the calculated value of k_{SSB} is bigger than 11 there is a need to reduce k_{SSB} correspondent to one common resource block, i.e to reduce k_{SSB} by 12. This will cause a shift of $F_{OffsetCORESET0-Carrier}$ by one common resource block.

$Offset_{RBs}$' = Floor($F_{OffsetSSB-Carrier}$ / (12 * $SCS_{Carrier}$))	C.2.2.3-Eq1
k_{SSB}' = **Floor**(($F_{OffsetSSB-Carrier}$ - 12 * $SCS_{Carrier}$ * $Offset_{RBs}$') / SCS_{kSSB})	C.2.2.3-Eq2
IF *subCarrierSpacingCommon* = 15kHz **AND** ($Offset_{RBs}$ **MODULO** 2) > 0 **THEN**	
$Offset_{RBs}$ = $Offset_{RBs}$' – 1	C.2.2.3-Eq3a
k_{SSB} = k_{SSB}' + 12	C.2.2.3-Eq4a
ELSE	
$Offset_{RBs}$ = $Offset_{RBs}$'	C.2.2.3-Eq3b
k_{SSB} = k_{SSB}'	C.2.2.3-Eq4b
END	
IF *subCarrierSpacingCommon* = 15kHz AND SCS_{kSSB} = 15kHz AND k_{SSB} > 11 THEN	
k_{SSB} = k_{SSB}' - 12	C.2.2.3-Eq5
$F_{OffsetCORESET0-Carrier}$ = 12 * subCarrierSpacingCommon = 180kHz (one CRB = one PRB of the initial DL BWP)	C.2.2.3-Eq6
END	

If the calculated value of $Offset_{RBs}$ is valid according to TS 38.213 [22] clause 13 then no channel shifting is required. Otherwise to achieve a valid $Offset_{RBs}$ the channel frequency can be aligned as per C.2.3.

C.2.3 Channel alignment to GSCN raster

If the value of $Offset_{RBs}$ is not valid according to TS 38.213 [22] clause 13, $F_{Channel}$ may be shifted up or down to $F_{Channel,shifted}$:
The shifting is done so that the following requirements are fulfilled:

$Offset_{RBs,shifted}$ and $k_{SSB,shifted}$ are valid according TS 38.213 [22] clause 13 and TS 38.211 [29] clause 7.4.3.1	(C.2.3-R1)
$F_{OffsetCORESET0-Carrier,shifted}$ = target is 0, i.e. CORESET#0 is at the bottom of the channel. For the case SCS_{kSSB} and *subCarrierSpacingCommon* both equals 15kHz and $k_{SSB,shifted}$ >11 $k_{SSB,shifted}$ needs to be reduced by 12 and $F_{OffsetCORESET0-Carrier,shifted}$ needs to be increased by one common resource block as described in clause C.2.2.3.	(C.2.3-R2)
$\Delta F_{Shift} = Abs(F_{Channel} - F_{Channel,shifted})$ has a minimum value	(C.2.3-R3)

C.2.3.1 Further definitions

ΔF_{Shift}	Absolute value of the difference between the channel frequency as calculated according to C.2.1.1 or C.2.1.2 and the shifted value as according to this clause.
$\Delta F_{Shift,down}$	Distance between $F_{Channel}$ and the next frequency below $F_{Channel}$ fulfilling the requirements
$\Delta F_{Shift,up}$	Distance between $F_{Channel}$ and the next frequency above $F_{Channel}$ fulfilling the requirements
$Offset_{RBs,below}$	Maximum value for offset (RBs) in the applicable table of TS 38.213 [22] clause 13 below $Offset_{RBs}$ as calculated in C.2.2.3
$Offset_{RBs,above}$	Minimum value for offset (RBs) in the applicable table of TS 38.213 [22] clause 13 above $Offset_{RBs}$ as calculated in C.2.2.3; NOTE: for $Offset_{RBs} > Offset_{RBs,max}$ there is no $Offset_{RBs,above}$
$k_{SSB,max}$	Maximum value for k_{SSB} depending on $SCS_{Carrier}$: $k_{SSB,max}$ = 23 for $SCS_{Carrier}$ = 15kHz $k_{SSB,max}$ = 22 for $SCS_{Carrier}$ = 30kHz (NOTE) $k_{SSB,max}$ = 11 otherwise
$GSCN_{prev}$	$GSCN_{prev} = GSCN - \Delta GSCN$
$SS_{REF,prev}$	SSB centre frequency corresponding to $GSCN_{prev}$
NOTE: In accordance to C.2.2.1-Eq1 $Offset_{SSB-Carrier}$ needs to be a multiple of 30kHz for SCS spaced channel raster with SCS=30kHz and therefore k_{SSB} needs to be even. The case of 100kHz channel raster does not need to be considered as there is no band which requires channel shifting.	

C.2.3.2 Calculation of shifted channel frequency

The following calculation is done with $F_{OffsetCORESET0-Carrier,shifted} = 0$

$\mathbf{\Delta F_{Shift,up}} = F_{OffsetSSB-Carrier} - (Offset_{RBs,below} * SCS_{Carrier} * 12 + k_{SSB,max} * SCS_{kSSB})$	C.2.3.2-Eq1
IF $Offset_{RBs} < Offset_{RBs,max}$ **THEN**	
$\mathbf{\Delta F_{Shift,down}} = Offset_{RBs,above} * SCS_{Carrier} * 12 - F_{OffsetSSB-Carrier}$	C.2.3.2-Eq2a
ELSE	
$\mathbf{\Delta F_{Shift,down}} = SS_{REF} - SS_{REF,prev} - F_{OffsetSSB-Carrier} + Offset_{RBs,min} * SCS_{Carrier} * 12$	C.2.3.2-Eq2b NOTE 1
END	
IF $F_{Channel} == F_{LowRange}$ **OR** ($\Delta F_{Shift,up} < \Delta F_{Shift,down}$ **AND** $F_{Channel} \neq F_{HighRange}$) **THEN**	
$\mathbf{F_{Channel,shifted}} = F_{Channel} + \Delta F_{Shift,up}$	C.2.3.2-Eq3a
ELSE	
$\mathbf{F_{Channel,shifted}} = F_{Channel} - \Delta F_{Shift,down}$	C.2.3.2-Eq3b
IF $Offset_{RBs} > Offset_{RBs,max}$ **THEN**	
$\mathbf{GSCN_{shifted}} = GSCN - \Delta GSCN$	C.2.3.2-Eq4
END	

END
NOTE 1: when $Offset_{RBs}$ > $Offset_{RBs,max}$ then $\Delta F_{Shift,down}$ is calculated using $GSCN_{prev}$

C.2.3.3 Calculation of k_{SSB} and $Offset_{RBs}$ for shifted channel frequency

$Offset_{RBs} = Offset_{RBs,shifted}$	
IF *subCarrierSpacingCommon* = 15kHz AND SCS_{kSSB} = 15kHz AND $k_{SSB,shifted}$ > 11 THEN (Note 1)	
$\mathbf{k_{SSB}} = k_{SSB,shifted} - 12$	C.2.3.3-Eq1
$F_{OffsetCORESET0\text{-}Carrier}$ = 12 * subCarrierSpacingCommon = 180kHz (one CRB = one PRB of the initial DL BWP)	C.2.3.3-Eq2
ELSE	
$\mathbf{k_{SSB}} = k_{SSB,shifted}$	C.2.3.3-Eq3
END	
NOTE 1: See clause C.2.2.3 for rationale of the exception when *subCarrierSpacingCommon* = 15kHz, SCS_{kSSB} = 15kHz and $k_{SSB,shifted}$ > 11.	

C.2.4 Calculation of values for offsetToCarrier, Point A and offsetToPointA

The values for $ARFCN_{PointA}$, *offsetToCarrier* and *offsetToPointA* signalling parameters for a PCell need to be calculated dependent on the specific carrier.

To achieve enhanced test coverage of *offsetToCarrier* range of values different values have been selected for Low, Mid-Low, Mid, Mid-High and High range test frequencies. To enable configuration of an additional coreset in SIB1 the bandwidth of the additional coreset shall be within the bandwidth of CORESET#0 as specified in IE field description for *commonControlResourceSet* in *PDCCH-ConfigCommon* in TS 38.331 [6], clause 6.3.2. As the default bandwidth for both CORESET#0 and CORESET#1 (specified in *frequencyDomainResources* set to '111100…' in *commonControlResourceSet*) is 24 RBs there is a need to align the lower edge of CORESET#0 with the lower edge of the additional coreset. As the lower edge of an additional coreset is specified as multiple of 6 RBs (TS 38.213 [22], clause 10.1) there is a need to specify the value of downlink *offsetToCarrier* such that $F_{OffsetCORESET0\text{-}PointA}$ is a multiple of 6 RBs. For the case $F_{OffsetCORESET0\text{-}Carrier}$ = 0, i.e. $F_{OffsetToCarrier}$= $F_{OffsetCORESET0\text{-}PointA}$, this is achieved by selecting downlink *offsetToCarrier* values being a a multiple of 6 RBs. For the case $F_{OffsetCORESET0\text{-}Carrier}$ = 180kHz correspondent to one common RB, which equals on PRB for the initial DL BWP, the 6 RB alignment is achieved by increasing the downlink *offsetToCarrier'*$_{DL}$ value in Table C.2.4-1 by 5 PRBs (C.2.4-Eq2).

The value range for the IEs *offsetToCarrier* and *offsetToPointA* is the same {0..2199}. The target values of *offsetToCarrier'*$_{DL}$ in Table C.2.4-1 have been selected such that both *offsetToPointA* will be equal or less than 2199.

Table C.2.4-1: Downlink and uplink target *offsetToCarrier'* default values for different frequency ranges.

Frequency range	*offsetToCarrier'*$_{DL}$	*offsetToCarrier'*$_{UL}$
Low range	0	0
Mid range	102	504
High range	504	6
Mid-Low range	12	36
Mid-High range	24	114

$offsetToCarrier_{UL} = offsetToCarrier'_{UL}$	C.2.4-Eq1
IF $F_{OffsetCORESET0\text{-}Carrier}$ = 180kHz	
$offsetToCarrier_{DL} = offsetToCarrier'_{DL} + 5$	C.2.4-Eq2
ELSE ($F_{OffsetCORESET0\text{-}Carrier}$ = 0)	
$offsetToCarrier_{DL} = offsetToCarrier'_{DL}$	C.2.4-Eq2
END	
$F_{PointA} = F_{channelLow} - offsetToCarrier_{DL} * 12 * SCS_{Carrier}$	C.2.4-Eq3
$offsetToPointA = (F_{SSref} - BW_{SSB} / 2 - \mathbf{k_{SSB}} * SCS_{kSSB} - F_{PointA}) / (12*\{15kHz \text{ for FR1; } 60kHz \text{ for FR2}\})$	C.2.4-Eq4

C.2.5 SSB determination for carriers not selectable as PCell

For cells without CORESET#0 the SSB location is chosen with $\mathbf{F_{OffsetSSB\text{-}Carrier}}$ =0, see Figure C.1-1.

$F_{SSref} = BW_{SSB} / 2 + (F_{Channel} - MaxTr_CBW_{DL} / 2)$ (according to equation C.2.2.1-Eq1)	C.2.5-Eq1

C.3 Frequency determination for asymmetric bands

C.3.0 General

The following principle and formulas are used to calculate test frequencies for NR bands with different UL and DL bandwidths as described below, where CBW_{UL} and CBW_{DL} refer to the carrier's UL and DL channel bandwidths; and BW_{UL} and BW_{DL} refer to the band's total UL and DL bandwidths.

To meet the Tx-Rx frequency separation requirement it may not be possible to cover the full DL frequency range for all uplink and downlink channel bandwidth combinations. For CA when the band is only used for downlink CC the full range can be used for all downlink channel bandwidths.

To maximize the tested frequency range for the non-CA case the uplink frequency range, as being smaller than the downlink frequency range, need to be used as the starting point to calculate the uplink and downlink test frequencies.

Clause C.3.1 describe the determination of the Low-, Mid- and High-Range for asymmetric bands for the symmetric uplink and downlink bandwidth combination case, while clause C.3.2 describes it for the asymmetric uplink and downlink bandwidth combination case.

The steps for GSCN determination are only applicable for cells selectable as PCell. The SSB location for cells not selectable as PCell is calculated as described in C.2.5.

C.3.1 Determination of Low-, Mid- and High-Range for asymmetric bands for symmetric uplink and downlink bandwidth combinations

Step 1: Calculate uplink carrier frequencies:

$\mathbf{F_{UL_LowRange}} = \mathbf{Ceil}((F_{UL_Low} + CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.3.1-Eq1
$\mathbf{F_{UL_MidRange}} = \mathbf{Round}((F_{UL_Low} + BW_{UL_Band}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.3.1-Eq2
$\mathbf{F_{UL_HighRange}} = \mathbf{Floor}(F_{DL_Low} + BW_{UL_Band} - CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.3.1-Eq3

Step 2: Calculate the downlink frequencies:

Calculate the downlink carrier centre frequencies from the uplink frequencies in step 1 and the Tx-Rx centre frequency separation for the band.

$\mathbf{F_{DL_LowRange}} = F_{UL_LowRange} + F_{Tx\text{-}Rx_separation}$	C.3.1-Eq4
$\mathbf{F_{DL_MidRange}} = F_{UL_MidRange} + F_{Tx\text{-}Rx_separation}$	C.3.1-Eq5
$\mathbf{F_{DL_HighRange}} = F_{UL_HighRange} + F_{Tx\text{-}Rx_separation}$	C.3.1-Eq6

Step 3: GSCN determination for the Low, Mid and High downlink carriers.

Based on the calculated $F_{DL_LowRange}$, $F_{DL_MidRange}$ and $F_{DL_HighRange}$ values perform the GSCN determination for each range as described in clause C.2.2. The GSCN determination may cause shifting of the downlink test frequencies to get the carrier aligned to the synchronisation raster. The shifted downlink carrier's centre frequencies are referred to as $F_{DL_LowRangeModified}$, $F_{DL_MidRangeModified}$ and $F_{DL_HighRangeModified}$.

Step 4: If Low, Mid and High downlink carrier's frequencies have been shifted then recalculate downlink and uplink.

If the DL test frequencies have been shifted, then modify the downlink and uplink test frequencies.

Downlink:

$\mathbf{F_{DL_LowRange}} = F_{DL_LowRangeModified}$	C.3.1-Eq7
$\mathbf{F_{DL_MidRange}} = F_{DL_MidRangeModified}$	C.3.1-Eq8
$\mathbf{F_{DL_HighRange}} = F_{DL_HighRangeModified}$	C.3.1-Eq9

Uplink:

$\mathbf{F_{UL_LowRange}} = F_{DL_LowRangeModified} - F_{Tx\text{-}Rx_separation}$	C.3.1-Eq10
$\mathbf{F_{UL_MidRange}} = F_{DL_MidRangeModified} - F_{Tx\text{-}Rx_separation}$	C.3.1-Eq11
$\mathbf{F_{UL_HighRange}} = F_{DL_HighRangeModified} - F_{Tx\text{-}Rx_separation}$	C.3.1-Eq12

Step 5: The *offsetToCarrier* and *offsetToPointA* values are selected as described in C.2.4.

C.3.2 Determination of Low-, Mid- and High-Range for asymmetric bands for asymmetric uplink and downlink bandwidth combinations

Step 1:Calculate the uplink Low, Mid and High range test frequencies.

$F_{UL_LowRange}$, $F_{UL_MidRange}$ and $F_{UL_HighRange}$ calculated as by equations C.3.1-Eq1, C.3.1-Eq2 and C.3.1-Eq3 in sub-clause C.3.1.

Step 2:Calculate the downlink Low, Mid and High range test frequencies.

$F_{DL_LowRange}$, $F_{DL_MidRange}$ and $F_{DL_HighRange}$ calculated as by equations C.3.1-Eq3, C.3.1-Eq4 and C.3.1-Eq5 in sub-clause C.3.1.

Step 3: Check that the calculated centre test frequencies in step 2 for the BW_{DL} fits in the bands DL frequency range. If not recalculate the $F_{DL_LowRange}$ and/or $F_{DL_HighRange}$ as:

$F_{DL_LowRange} = Ceil((F_{DL_Low} + CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.3.2-Eq1
$F_{DL_HighRange} = Floor((F_{DL_Low} + BW_{UL} - CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.3.2-Eq2

Step 4: GSCN determination for the Low, Mid and High downlink carriers.

Based on the calculated $F_{DL_LowRange}$, $F_{DL_MidRange}$ and $F_{DL_HighRange}$ values perform the GSCN determination for each range as described in clause C.2.2. The GSCN determination may cause shifting of the downlink test frequencies to get the carrier aligned to the synchronisation raster. The shifted downlink carrier's centre frequencies are referred to as $F_{DL_LowRangeModified}$, $F_{DL_MidRangeModified}$ and $F_{DL_HighRangeModified}$.

Step 5: If Low, Mid and High downlink carrier's frequencies have been shifted then recalculate downlink and uplink as described in step 4 in sub-clause C.3.1.

Step 6: The *offsetToCarrier* and *offsetToPointA* values are selected as described in C.2.4.

Annex D (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-12	RAN5#77	R5-176995	-	-	-	TP on clauses of test equipment requirement in 38.508-1	0.1.0
2017-12	RAN5#77	R5-176779	-	-	-	Add references	0.1.0
2017-12	RAN5#77	R5-176917	-	-	-	Introduce general chapter for generic procedures	0.1.0
2017-12	RAN5#77	R5-176918	-	-	-	Add generic procedures RRC_IDLE and RRC_CONNECTED	0.1.0
2017-12	RAN5#77	R5-176920	-	-	-	Introduce RRC chapters	0.1.0
2018-01	RAN5#1-5G-NR Adhoc	R5-180066	-	-	-	Definition of downlink physical layer parameters for NR	0.2.0
2018-03	RAN5#78	R5-181697	-	-	-	Addition of the environmental information into TS 38.508-1	0.3.0
2018-03	RAN5#78	R5-180265	-	-	-	Introduce chapter for reference configurations	0.3.0
2018-03	RAN5#78	R5-181311	-	-	-	Update the general chapter	0.3.0
2018-03	RAN5#78	R5-180382	-	-	-	Update RRCReconfiguration	0.3.0
2018-03	RAN5#78	R5-180383	-	-	-	Add draft RRC messages	0.3.0
2018-03	RAN5#78	R5-180577	-	-	-	Update chapter for test frequencies	0.3.0
2018-03	RAN5#78	R5-180709	-	-	-	Add CellGroupConfig	0.3.0
2018-03	RAN5#78	R5-180773	-	-	-	Add radioBearerConfig	0.3.0
2018-03	RAN5#78	R5-180775	-	-	-	Add draft Radio resource control information elements	0.3.0
2018-03	RAN5#78	R5-180966	-	-	-	Update RRC Connected state	0.3.0
2018-03	RAN5#78	R5-181035	-	-	-	Update RRC IDLE state	0.3.0
2018-03	RAN5#78	R5-180253	-	-	-	Revised WID on: UE Conformance Test Aspects - 5G system with NR and LTE	0.3.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181812	-	-	-	Update Radio resource control information elements	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182109	-	-	-	Update CellGroupConfig	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182064	-	-	-	Update radioBearerConfig	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182062	-	-	-	Update MIB	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182063	-	-	-	Introduce radio conditions	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181786	-	-	-	Update RRCReconfiguration	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181971	-	-	-	Add Other information elements	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182065	-	-	-	Update chapter 4.5.1 General	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181813	-	-	-	Update RRC IDLE state	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182066	-	-	-	Update RRC CONNECTED state	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182110	-	-	-	Text proposal to add clause 4.4 reference system configurations to TS 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182067	-	-	-	TP for definition of physical channel allocations in 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182091	-	-	-	TP for clauses of signal level	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181972	-	-	-	TP for updating of Downlink physical layer parameters	0.4.0

2018-04	RAN5#1-5G-NR Adhoc	R5-181893	-	-	-	Addition of UE capability information elements	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181973	-	-	-	TP for adding Mid channel BW definition in TS 38.508-1	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-181974	-	-	-	Addition of SRB3	0.4.0
2018-04	RAN5#1-5G-NR Adhoc	R5-182068	-	-	-	Update MeasConfig information elements	0.4.0
2018-05	RAN5#79	R5-183082	-	-	-	Update radio resource control information elements	1.0.0
2018-05	RAN5#79	R5-182288	-	-	-	TP for updating of downlink physical layer parameters in 38.508-1	1.0.0
2018-05	RAN5#79	R5-182349	-	-	-	Corrections to clause 4.4 reference system configurations	1.0.0
2018-05	RAN5#79	R5-182792	-	-	-	TP for clauses of Supported Channels for a NR cell	1.0.0
2018-05	RAN5#79	R5-183218	-	-	-	pCR update chapter for test frequencies - EN-DC	1.0.0
2018-05	RAN5#79	R5-183234	-	-	-	TP for updating of physical channel allocation part in 38.508-1	1.0.0
2018-05	RAN5#79	R5-183256	-	-	-	pCR update chapter for test frequencies - FR1	1.0.0
2018-05	RAN5#79	R5-183916	-	-	-	TP for Annex A in TS 38.508-1 and adding a set of Connection Diagrams	1.0.0
2018-05	RAN5#79	R5-183920	-	-	-	Introduction of Environmental conditions for FR1	1.0.0
2018-05	RAN5#79	R5-182249	-	-	-	Add reference to NR cell table	1.0.0
2018-05	RAN5#79	R5-183210	-	-	-	Update PDCCH	1.0.0
2018-05	RAN5#79	R5-182312	-	-	-	Update chapter 4.5.1 General	1.0.0
2018-05	RAN5#79	R5-182313	-	-	-	Update RRC CONNECTED state	1.0.0
2018-05	RAN5#79	R5-183087	-	-	-	Addition of new RRCReconfiguration definition for AM/UM bearers	1.0.0
2018-05	RAN5#79	R5-183088	-	-	-	Updates to UE capability information elements	1.0.0
2018-05	RAN5#79	R5-183250	-	-	-	Updates to UE capability information elements	1.0.0
2018-05	RAN5#79	R5-183083	-	-	-	Update RACH	1.0.0
2018-05	RAN5#79	R5-183084	-	-	-	Update ARFCN	1.0.0
2018-05	RAN5#79	R5-183211	-	-	-	Update BWP-UplinkDedicated	1.0.0
2018-05	RAN5#79	R5-183212	-	-	-	Update serving cell	1.0.0
2018-05	RAN5#79	R5-183214	-	-	-	Update RadioBearerConfig	1.0.0
2018-05	RAN5#79	R5-183215	-	-	-	Update RRCReconfiguration	1.0.0
2018-05	RAN5#79	R5-182381	-	-	-	Update MIB	1.0.0
2018-05	RAN5#79	R5-183090	-	-	-	Update RRCReconfiguration for measurements	1.0.0
2018-05	RAN5#79	R5-183264	-	-	-	Corrections to clause 4.5	1.0.0
2018-05	RAN5#79	R5-183249	-	-	-	Correction to the Table CellGroupConfig	1.0.0
2018-05	RAN5#79	R5-183255	-	-	-	Update of FR1 signal levels	1.0.0
2018-05	RAN5#79	R5-183216	-	-	-	Update CellGroupConfig and some related information elements	1.0.0
2018-05	RAN5#79	R5-183086	-	-	-	Update CSI-MeasConfig	1.0.0
2018-05	RAN5#79	R5-183260	-	-	-	Update some information elements related to MeasConfig	1.0.0
2018-06	RAN#80	RP-181207	-	-	-	put under revision control as v15.0.0 with small editorial changes	15.0.0
2018-09	RAN#81	R5-184087	0004	-	F	Update chapter 3	15.1.0
2018-09	RAN#81	R5-184297	0012	-	F	Addition of Mid channel bandwidth definition for several missing bands	15.1.0
2018-09	RAN#81	R5-184327	0014	-	F	Adding condition for CP-OFDM waveform	15.1.0
2018-09	RAN#81	R5-184347	0019	-	F	Modified RRC_IDLE procedure to allow multi PDN configuration throughout the test case	15.1.0
2018-09	RAN#81	R5-184471	0044	-	F	Introduction of test frequencies for NR band n77	15.1.0
2018-09	RAN#81	R5-184472	0045	-	F	Introduction of test frequencies for NR band n78	15.1.0
2018-09	RAN#81	R5-184473	0046	-	F	Introduction of test frequencies for NR band n79	15.1.0
2018-09	RAN#81	R5-184474	0047	-	F	Introduction of test frequencies for NR band n257	15.1.0
2018-09	RAN#81	R5-184475	0048	-	F	Introduction of test frequencies for NR band n258	15.1.0
2018-09	RAN#81	R5-184476	0049	-	F	Introduction of test frequencies for NR band n260	15.1.0
2018-09	RAN#81	R5-184477	0050	-	F	Introduction of test frequencies for NR band n261	15.1.0
2018-09	RAN#81	R5-184599	0056	-	F	Add IE SS-RSSI-Measurement	15.1.0
2018-09	RAN#81	R5-184617	0059	-	F	Update MIB	15.1.0
2018-09	RAN#81	R5-184630	0072	-	F	Editorial Update in clause 4.6.3	15.1.0
2018-09	RAN#81	R5-184783	0079	-	F	Introduce 5GMM messages	15.1.0
2018-09	RAN#81	R5-184785	0080	-	F	Introduce 5GSM messages	15.1.0
2018-09	RAN#81	R5-184806	0081	-	F	Mid test CH BW for n71	15.1.0
2018-09	RAN#81	R5-185028	0002	1	F	Add SRB1 and SRB2 with NR PDCP	15.1.0
2018-09	RAN#81	R5-185029	0003	1	F	Update serving cell	15.1.0
2018-09	RAN#81	R5-185030	0005	1	F	Introduce SA RRC messages	15.1.0
2018-09	RAN#81	R5-185031	0006	1	F	Correct IE FrequencyInfoDL	15.1.0
2018-09	RAN#81	R5-185032	0007	1	F	Introduce SA system information blocks	15.1.0
2018-09	RAN#81	R5-185033	0008	1	F	Introduce SA other information elements	15.1.0
2018-09	RAN#81	R5-185035	0013	1	F	Correct IE GSCN-ValueNR	15.1.0
2018-09	RAN#81	R5-185036	0017	1	F	Update of FR1 signal levels	15.1.0
2018-09	RAN#81	R5-185037	0022	1	F	Addition of IP Connectivity check procedure	15.1.0

2018-09	RAN#81	R5-185038	0053	1	F	Introduce SA radio resource control information elements	15.1.0
2018-09	RAN#81	R5-185039	0054	1	F	Update IE PhysicalCellGroupConfig	15.1.0
2018-09	RAN#81	R5-185040	0055	1	F	Introduce cell configurations and timer tolerances chapter headers	15.1.0
2018-09	RAN#81	R5-185041	0057	1	F	Add IE SSB-MTC	15.1.0
2018-09	RAN#81	R5-185042	0058	1	F	Update BWP	15.1.0
2018-09	RAN#81	R5-185043	0060	1	F	Update PDSCH-Config	15.1.0
2018-09	RAN#81	R5-185044	0062	1	F	Update PUCCH and PUSCH configuration	15.1.0
2018-09	RAN#81	R5-185045	0063	1	F	Update RACH configuration	15.1.0
2018-09	RAN#81	R5-185046	0065	1	F	Update CellGroupConfig	15.1.0
2018-09	RAN#81	R5-185047	0066	1	F	Update CSI-MeasConfig	15.1.0
2018-09	RAN#81	R5-185048	0067	1	F	Update MeasConfig	15.1.0
2018-09	RAN#81	R5-185049	0068	1	F	Update other information elements	15.1.0
2018-09	RAN#81	R5-185050	0070	1	F	Update RadioBearerConfig	15.1.0
2018-09	RAN#81	R5-185051	0073	1	F	Specifying content for MeasResultSCG-Failure	15.1.0
2018-09	RAN#81	R5-185052	0075	1	F	Editorial correction to band representation of non-contiguous EN-DC band combination	15.1.0
2018-09	RAN#81	R5-185053	0076	1	F	Correction to RLC-Config IE	15.1.0
2018-09	RAN#81	R5-185054	0077	1	F	Correction to RadioBearerConfig-DRB	15.1.0
2018-09	RAN#81	R5-185055	0078	1	F	Corrections and updates to BandCombinationList and Feature Set IEs	15.1.0
2018-09	RAN#81	R5-185056	0084	1	F	Corrections and updates to UE Capability IEs	15.1.0
2018-09	RAN#81	R5-185085	0087	-	F	Addition of UM condition to RLC-Bearer-Config IE	15.1.0
2018-09	RAN#81	R5-185133	0086	1	F	Correction of clause 4.3.3.2.3	15.1.0
2018-09	RAN#81	R5-185163	0018	1	F	Modified RRC_Connected procedure for Multi PDN throughout the test case.	15.1.0
2018-09	RAN#81	R5-185165	0020	1	F	Update EN-DC Generic Procedure Parameter for Multi-PDN addition throughout Test Case	15.1.0
2018-09	RAN#81	R5-185168	0082	1	F	Introduction of OTA signalling test environment	15.1.0
2018-09	RAN#81	R5-185171	0009	2	F	Updates to PDCCH and SearchSpace configurations	15.1.0
2018-09	RAN#81	R5-185173	0016	1	F	Test Frequencies	15.1.0
2018-09	RAN#81	R5-185177	0051	1	F	Introduction of test frequencies for signalling testing in clause 6	15.1.0
2018-09	RAN#81	R5-185250	0023	1	F	Introduction of test frequencies for NR band n1	15.1.0
2018-09	RAN#81	R5-185251	0024	1	F	Introduction of test frequencies for NR band n2	15.1.0
2018-09	RAN#81	R5-185252	0025	1	F	Introduction of test frequencies for NR band n3	15.1.0
2018-09	RAN#81	R5-185253	0026	1	F	Introduction of test frequencies for NR band n5	15.1.0
2018-09	RAN#81	R5-185254	0027	1	F	Introduction of test frequencies for NR band n7	15.1.0
2018-09	RAN#81	R5-185255	0028	1	F	Introduction of test frequencies for NR band n8	15.1.0
2018-09	RAN#81	R5-185256	0029	1	F	Introduction of test frequencies for NR band n12	15.1.0
2018-09	RAN#81	R5-185257	0030	1	F	Introduction of test frequencies for NR band n20	15.1.0
2018-09	RAN#81	R5-185258	0031	1	F	Introduction of test frequencies for NR band n25	15.1.0
2018-09	RAN#81	R5-185259	0032	1	F	Introduction of test frequencies for NR band n28	15.1.0
2018-09	RAN#81	R5-185260	0033	1	F	Introduction of test frequencies for NR band n34	15.1.0
2018-09	RAN#81	R5-185261	0034	1	F	Introduction of test frequencies for NR band n38	15.1.0
2018-09	RAN#81	R5-185262	0035	1	F	Introduction of test frequencies for NR band n39	15.1.0
2018-09	RAN#81	R5-185263	0036	1	F	Introduction of test frequencies for NR band n40	15.1.0
2018-09	RAN#81	R5-185264	0037	1	F	Update of test frequencies for NR band n41	15.1.0
2018-09	RAN#81	R5-185265	0038	1	F	Introduction of test frequencies for NR band n51	15.1.0
2018-09	RAN#81	R5-185266	0039	1	F	Introduction of test frequencies for NR band n66	15.1.0
2018-09	RAN#81	R5-185267	0040	1	F	Introduction of test frequencies for NR band n70	15.1.0
2018-09	RAN#81	R5-185268	0041	1	F	Update of test frequencies for NR band n71	15.1.0
2018-09	RAN#81	R5-185269	0042	1	F	Introduction of test frequencies for NR band n75	15.1.0
2018-09	RAN#81	R5-185270	0043	1	F	Introduction of test frequencies for NR band n76	15.1.0
2018-09	RAN#81	R5-185443	0052	1	F	Correction to power level for FR1 RF tests	15.1.0
2018-09	RAN#81	R5-185557	0085	1	F	FR2_UE_BeamlockProcedure_38.508-1	15.1.0
2018-12	RAN#82	R5-186453	0239	-	F	Updates to clause 4.3.3, physical channel allocations	15.2.0
2018-12	RAN#82	R5-186457	0240	-	F	Correction to E-UTRA test frequency for intra-band contiguous configuration for band 41	15.2.0
2018-12	RAN#82	R5-186468	0241	-	F	E-UTRA test frequencies for EN-DC intra-band contiguous configurations for band 71	15.2.0
2018-12	RAN#82	R5-186491	0245	-	F	Update chapter 4.5 for RF connected procedure	15.2.0
2018-12	RAN#82	R5-186508	0249	-	F	FR2 UE and TE radiated connection diagram	15.2.0
2018-12	RAN#82	R5-186575	0251	-	F	Update IE ServingCellConfig	15.2.0
2018-12	RAN#82	R5-186612	0252	-	F	Add CounterCheck	15.2.0
2018-12	RAN#82	R5-186613	0253	-	F	Update DLInformationTransfer	15.2.0
2018-12	RAN#82	R5-186641	0255	-	F	Update IE SchedulingRequestResourceConfig	15.2.0
2018-12	RAN#82	R5-186665	0258	-	F	Update LocationMeasurementIndication	15.2.0
2018-12	RAN#82	R5-186666	0259	-	F	Update MeasurementReport	15.2.0
2018-12	RAN#82	R5-186677	0261	-	F	Resubmission of update to 38.508 for mid channel bandwidth	15.2.0
2018-12	RAN#82	R5-186682	0262	-	F	Update MobilityFromNRCommand	15.2.0
2018-12	RAN#82	R5-186691	0264	-	F	Update Paging	15.2.0
2018-12	RAN#82	R5-186692	0265	-	F	Update RRCReestablishment	15.2.0
2018-12	RAN#82	R5-186714	0267	-	F	Update RRCReject	15.2.0

2018-12	RAN#82	R5-186719	0268	-	F	Updates related to introduction of test frequencies	15.2.0
2018-12	RAN#82	R5-186722	0271	-	F	Update SecurityAlgorithmConfig	15.2.0
2018-12	RAN#82	R5-186723	0272	-	F	Updates to MeasResults	15.2.0
2018-12	RAN#82	R5-186734	0273	-	F	Update RRCRelease	15.2.0
2018-12	RAN#82	R5-186744	0274	-	F	Update RRCResume	15.2.0
2018-12	RAN#82	R5-186825	0279	-	F	Correction of test frequencies for NR band n1	15.2.0
2018-12	RAN#82	R5-186826	0280	-	F	Correction of test frequencies for NR band n2	15.2.0
2018-12	RAN#82	R5-186827	0281	-	F	Correction of test frequencies for NR band n3	15.2.0
2018-12	RAN#82	R5-186828	0282	-	F	Correction of test frequencies for NR band n5	15.2.0
2018-12	RAN#82	R5-186829	0283	-	F	Correction of test frequencies for NR band n7	15.2.0
2018-12	RAN#82	R5-186830	0284	-	F	Correction of test frequencies for NR band n8	15.2.0
2018-12	RAN#82	R5-186831	0285	-	F	Correction of test frequencies for NR band n12	15.2.0
2018-12	RAN#82	R5-186832	0286	-	F	Correction of test frequencies for NR band n20	15.2.0
2018-12	RAN#82	R5-186833	0287	-	F	Correction of test frequencies for NR band n25	15.2.0
2018-12	RAN#82	R5-186834	0288	-	F	Correction of test frequencies for NR band n28	15.2.0
2018-12	RAN#82	R5-186835	0289	-	F	Correction of test frequencies for NR band n34	15.2.0
2018-12	RAN#82	R5-186836	0290	-	F	Correction of test frequencies for NR band n38	15.2.0
2018-12	RAN#82	R5-186837	0291	-	F	Correction of test frequencies for NR band n39	15.2.0
2018-12	RAN#82	R5-186838	0292	-	F	Correction of test frequencies for NR band n40	15.2.0
2018-12	RAN#82	R5-186839	0293	-	F	Correction of test frequencies for NR band n41	15.2.0
2018-12	RAN#82	R5-186840	0294	-	F	Correction of test frequencies for NR band n51	15.2.0
2018-12	RAN#82	R5-186841	0295	-	F	Introduction of test frequencies for NR band n66	15.2.0
2018-12	RAN#82	R5-186842	0296	-	F	Introduction of test frequencies for NR band n70	15.2.0
2018-12	RAN#82	R5-186844	0298	-	F	Correction of test frequencies for NR band n75	15.2.0
2018-12	RAN#82	R5-186845	0299	-	F	Correction of test frequencies for NR band n76	15.2.0
2018-12	RAN#82	R5-186846	0300	-	F	Correction of test frequencies for NR band n77	15.2.0
2018-12	RAN#82	R5-186847	0301	-	F	Correction of test frequencies for NR band n78	15.2.0
2018-12	RAN#82	R5-186848	0302	-	F	Correction of test frequencies for NR band n79	15.2.0
2018-12	RAN#82	R5-186850	0304	-	F	Correction of test frequencies for NR band n258	15.2.0
2018-12	RAN#82	R5-186851	0305	-	F	Correction of test frequencies for NR band n260	15.2.0
2018-12	RAN#82	R5-186852	0306	-	F	Correction of test frequencies for NR band n261	15.2.0
2018-12	RAN#82	R5-186855	0309	-	F	Introduction of preamble test states	15.2.0
2018-12	RAN#82	R5-186857	0311	-	F	Introduction DCI format 1_0 for paging, SI and random access	15.2.0
2018-12	RAN#82	R5-186858	0312	-	F	Correction to DCI format 1_1	15.2.0
2018-12	RAN#82	R5-186859	0313	-	F	Update IE RateMatchPattern	15.2.0
2018-12	RAN#82	R5-186861	0315	-	F	Correction of generic procedure parameter naming for test loop function	15.2.0
2018-12	RAN#82	R5-186862	0316	-	F	Correction of test procedures to activate and deactivate UE Beamlock Function	15.2.0
2018-12	RAN#82	R5-186893	0318	-	F	Corrections to the notes in the OTA signal level tables	15.2.0
2018-12	RAN#82	R5-186911	0320	-	F	Add RRCSetupComplete	15.2.0
2018-12	RAN#82	R5-186912	0321	-	F	Add RRCSetupRequest	15.2.0
2018-12	RAN#82	R5-186913	0322	-	F	Add RRCSystemInfoRequest	15.2.0
2018-12	RAN#82	R5-186916	0323	-	F	Add SecurityModeCommand	15.2.0
2018-12	RAN#82	R5-186918	0324	-	F	Update SystemInformation	15.2.0
2018-12	RAN#82	R5-186920	0325	-	F	Add UEAssistanceInformation	15.2.0
2018-12	RAN#82	R5-186921	0326	-	F	Update UECapabilityEnquiry	15.2.0
2018-12	RAN#82	R5-186922	0327	-	F	Update ULInformationTransfer	15.2.0
2018-12	RAN#82	R5-186923	0328	-	F	Update IE PTRS-UplinkConfig	15.2.0
2018-12	RAN#82	R5-186925	0330	-	F	Update RRCResumeRequest	15.2.0
2018-12	RAN#82	R5-186929	0331	-	F	Update PTRS-DownlinkConfig	15.2.0
2018-12	RAN#82	R5-186936	0335	-	F	Update PUCCH-SpatialRelationInfo	15.2.0
2018-12	RAN#82	R5-186987	0342	-	F	Addition of SIB3 message_Resubmission of 185792	15.2.0
2018-12	RAN#82	R5-186988	0343	-	F	Addition of SIB5 message_Resubmission of 186054	15.2.0
2018-12	RAN#82	R5-186989	0344	-	F	Addition of SIB6 - SIB8 message_Resubmission of 186055	15.2.0
2018-12	RAN#82	R5-186990	0345	-	F	Addition of SIB9 message_Resubmission of 186056	15.2.0
2018-12	RAN#82	R5-187026	0348	-	F	Addition of P-Max in Test environment for RF test	15.2.0
2018-12	RAN#82	R5-187028	0350	-	F	Addition of test frequencies for SUL band n80	15.2.0
2018-12	RAN#82	R5-187030	0352	-	F	Addition of test frequencies for SUL band n82	15.2.0
2018-12	RAN#82	R5-187031	0353	-	F	Addition of test frequencies for SUL band n83	15.2.0
2018-12	RAN#82	R5-187032	0354	-	F	Addition of test frequencies for SUL band n84	15.2.0
2018-12	RAN#82	R5-187033	0355	-	F	Addition of test frequencies for SUL band n86	15.2.0
2018-12	RAN#82	R5-187110	0358	-	F	Correction to default message contents for SRB3 configuration	15.2.0
2018-12	RAN#82	R5-187159	0361	-	F	Updates to Configuration Update 5GMM messages	15.2.0
2018-12	RAN#82	R5-187160	0362	-	F	Updates to De-registration 5GMM messages	15.2.0
2018-12	RAN#82	R5-187161	0363	-	F	Updates to Identity 5GMM messages	15.2.0
2018-12	RAN#82	R5-187162	0364	-	F	Updates to NAS Transport 5GMM messages	15.2.0
2018-12	RAN#82	R5-187163	0365	-	F	Updates to Notification 5GMM messages	15.2.0
2018-12	RAN#82	R5-187164	0366	-	F	Updates to PDU session authentication 5GSM messages	15.2.0
2018-12	RAN#82	R5-187166	0368	-	F	Updates to PDU session modification 5GSM messages	15.2.0
2018-12	RAN#82	R5-187172	0374	-	F	Removal of Editor's Notes in section 4.6.3	15.2.0

2018-12	RAN#82	R5-187175	0377	-	F	Addition and updates to Information Elements in section 4.6.5	15.2.0
2018-12	RAN#82	R5-187270	0381	-	F	Updating 4.2.1 General functional requirements	15.2.0
2018-12	RAN#82	R5-187271	0382	-	F	Update the section for test equipment requirements for TRx	15.2.0
2018-12	RAN#82	R5-187272	0383	-	F	FR2 downlink signal level(38.508-1)	15.2.0
2018-12	RAN#82	R5-187413	0389	-	F	Uplink RNTI to valid value in TS 38.508-1	15.2.0
2018-12	RAN#82	R5-187415	0390	-	F	Update maxPayloadMinus1 in PUCCH config in TS 38.508-1	15.2.0
2018-12	RAN#82	R5-187420	0393	-	F	Addition of connection diagram for 2 TX UL MIMO	15.2.0
2018-12	RAN#82	R5-187557	0396	-	F	Addition of low and high test channel bandwidth in 38.508	15.2.0
2018-12	RAN#82	R5-188205	0397	1	F	Updates to Annex B to add Permitted OTA Test Methods	15.2.0
2018-12	RAN#82	R5-187610	0398	-	F	Corrections to IEs part of PDSCH-ServingCellConfig, ServingCellConfig and ServingCellConfigCommon	15.2.0
2018-12	RAN#82	R5-187659	0243	1	F	Wordings for Uplink NAS messages	15.2.0
2018-12	RAN#82	R5-187660	0247	1	F	Default cell configurations for NAS	15.2.0
2018-12	RAN#82	R5-187661	0248	1	F	Update IE SI-SchedulingInfo	15.2.0
2018-12	RAN#82	R5-187662	0349	1	F	Addition of Combinations of system information blocks in 4.4.3.1.2	15.2.0
2018-12	RAN#82	R5-187664	0263	1	F	Correction to various Radio resource control IEs	15.2.0
2018-12	RAN#82	R5-187665	0308	1	F	Correction to DCI formats 0_0 and 0_1	15.2.0
2018-12	RAN#82	R5-187666	0310	1	F	Introduction of SDL and SUL cells in simulated cells in clause 4.4.2	15.2.0
2018-12	RAN#82	R5-187667	0314	1	F	Correction to RRC_IDLE procedure	15.2.0
2018-12	RAN#82	R5-187668	0332	1	F	Update CSI related information elements	15.2.0
2018-12	RAN#82	R5-187669	0333	1	F	Update ServingCellConfigCommon and TDD-UL-DL-Config	15.2.0
2018-12	RAN#82	R5-187670	0334	1	F	Update SRS-Config	15.2.0
2018-12	RAN#82	R5-187671	0336	1	F	Update some information elements for measurements	15.2.0
2018-12	RAN#82	R5-187672	0337	1	F	Update CellGroupConfig and related information elements	15.2.0
2018-12	RAN#82	R5-187673	0338	1	F	CR of NR 508-1 clause 4.6.2_SIB2, SIB4	15.2.0
2018-12	RAN#82	R5-187674	0339	1	F	CR of NR 508-1 Table 4.4.2-2_Default NR Cells parameters	15.2.0
2018-12	RAN#82	R5-187675	0341	1	F	Update RLC-Config	15.2.0
2018-12	RAN#82	R5-187676	0357	1	F	Specifying Test procedure to check that UE is camped on a new NR cell belonging to a new TA	15.2.0
2018-12	RAN#82	R5-187677	0360	1	F	Updates to Authentication 5GMM messages	15.2.0
2018-12	RAN#82	R5-187678	0369	1	F	Updates to PDU session release 5GSM messages	15.2.0
2018-12	RAN#82	R5-187679	0371	1	F	Updates to Security mode 5GMM messages	15.2.0
2018-12	RAN#82	R5-187680	0375	1	F	Addition of new Information Elements in section 4.6.3	15.2.0
2018-12	RAN#82	R5-187681	0379	1	F	Updates to SIG OTA Calibration for FR2	15.2.0
2018-12	RAN#82	R5-187682	0394	1	F	Addition of default QoS configurations	15.2.0
2018-12	RAN#82	R5-187720	0319	2	F	Uplink PTRS disable for RF testing	15.2.0
2018-12	RAN#82	R5-188238	0242	2	F	Addition to E-UTRA test frequencies for intra-band contiguous configuration for band 41	15.2.0
2018-12	RAN#82	R5-187723	0303	1	F	Correction of test frequencies for NR band n257	15.2.0
2018-12	RAN#82	R5-187724	0269	1	F	New annex for NR test frequency calculations	15.2.0
2018-12	RAN#82	R5-187725	0297	1	F	Correction of test frequencies for NR band n71	15.2.0
2018-12	RAN#82	R5-187745	0238	1	F	Update SIB1	15.2.0
2018-12	RAN#82	R5-187747	0257	1	F	Correction to Signal levels for conducted testing	15.2.0
2018-12	RAN#82	R5-187748	0270	1	F	Updates to E-UTRA RRC_CONNECTED generic procedure	15.2.0
2018-12	RAN#82	R5-187750	0275	1	F	Add RRCResumeComplete	15.2.0
2018-12	RAN#82	R5-187751	0278	1	F	Update chapter 4.5.3 RRC_INACTIVE	15.2.0
2018-12	RAN#82	R5-187752	0307	1	F	Correction of test frequencies for signalling testing in clause 6	15.2.0
2018-12	RAN#82	R5-187753	0317	1	F	Specifying Test procedure to check that UE is in RRC_IDLE state on a certain NR cell	15.2.0
2018-12	RAN#82	R5-187754	0329	1	F	Update IE RLF-TimersAndConstants	15.2.0
2018-12	RAN#82	R5-187755	0346	1	F	Add RRCSetup	15.2.0
2018-12	RAN#82	R5-187756	0347	1	F	Update RRCReconfiguration	15.2.0
2018-12	RAN#82	R5-187757	0356	1	F	Update IE RadioBearerConfig	15.2.0
2018-12	RAN#82	R5-187759	0370	1	F	Updates to Registration 5GMM messages	15.2.0
2018-12	RAN#82	R5-187760	0372	1	F	Updates to Security protected 5GS NAS and 5GMM status messages	15.2.0
2018-12	RAN#82	R5-187761	0373	1	F	Updates to Service Request 5GMM messages	15.2.0
2018-12	RAN#82	R5-187762	0376	1	F	Addition and updates to Information Elements in section 4.6.4	15.2.0
2018-12	RAN#82	R5-187763	0388	1	F	Addition of 5GS related new EFs to Test UICC definition	15.2.0
2018-12	RAN#82	R5-187764	0395	1	F	Update IE CellGroupConfig	15.2.0
2018-12	RAN#82	R5-187802	0384	1	F	Updating power levels for LTE Anchor Link	15.2.0
2018-12	RAN#82	R5-187887	0351	1	F	Addition of test frequencies for SUL band n81	15.2.0
2018-12	RAN#82	R5-188031	0391	1	F	Addition of 2TX_UL_MIMO condition	15.2.0
2018-12	RAN#82	R5-188107	0367	2	F	Updates to PDU session establishment 5GSM messages	15.2.0
2018-12	RAN#82	R5-188122	0260	2	F	Update chapter 4.5.2 RRC_IDLE	15.2.0
2018-12	RAN#82	R5-188123	0250	1	F	Update chapter 4.5.4 RRC_CONNECTED	15.2.0
2019-03	RAN#83	R5-191047	0526	-	F	Update IE PDCCH-ConfigCommon	15.3.0
2019-03	RAN#83	R5-191048	0527	-	F	Update IE RadioBearerConfig	15.3.0
2019-03	RAN#83	R5-191094	0529	-	F	Updates of test channel bandwidth in TS 38.508-1	15.3.0
2019-03	RAN#83	R5-191129	0530	-	F	Update IE SDAP-Config	15.3.0
2019-03	RAN#83	R5-191145	0531	-	F	Update IE CellGroupId	15.3.0
2019-03	RAN#83	R5-191155	0532	-	F	Correction to temperature and voltage of Common test environments	15.3.0

2019-03	RAN#83	R5-191187	0534	-	F	Updates for Other SI support	15.3.0
2019-03	RAN#83	R5-191189	0536	-	F	Correction to RadioBearerConfig	15.3.0
2019-03	RAN#83	R5-191191	0538	-	F	Correction to SystemInformation	15.3.0
2019-03	RAN#83	R5-191192	0539	-	F	Correction to PUCCH-Config	15.3.0
2019-03	RAN#83	R5-191193	0540	-	F	Correction to SIB3 and SIB4	15.3.0
2019-03	RAN#83	R5-191194	0541	-	F	Correction of PUSCH-TimeDomainResourceAllocationList	15.3.0
2019-03	RAN#83	R5-191195	0542	-	F	Corrections and clarifications regarding DCI formats 0_1 and 1_1	15.3.0
2019-03	RAN#83	R5-191219	0545	-	F	Updates to Authentication 5GMM messages	15.3.0
2019-03	RAN#83	R5-191220	0546	-	F	Updates to Configuration Update 5GMM messages	15.3.0
2019-03	RAN#83	R5-191221	0547	-	F	Updates to De-registration 5GMM messages	15.3.0
2019-03	RAN#83	R5-191222	0548	-	F	Updates to NAS transport 5GMM messages	15.3.0
2019-03	RAN#83	R5-191223	0549	-	F	Updates to PDU session establishment 5GSM messages	15.3.0
2019-03	RAN#83	R5-191224	0550	-	F	Updates to PDU session modification 5GSM messages	15.3.0
2019-03	RAN#83	R5-191225	0551	-	F	Updates to PDU session release 5GSM messages	15.3.0
2019-03	RAN#83	R5-191226	0552	-	F	Updates to Registration 5GMM messages	15.3.0
2019-03	RAN#83	R5-191227	0553	-	F	Updates to Security Mode 5GMM messages	15.3.0
2019-03	RAN#83	R5-191228	0554	-	F	Updates to Security Protected 5GS NAS message	15.3.0
2019-03	RAN#83	R5-191229	0555	-	F	Updates to Service Request 5GMM messages	15.3.0
2019-03	RAN#83	R5-191233	0556	-	F	Update IE BWP-Id	15.3.0
2019-03	RAN#83	R5-191234	0557	-	F	Add IE RejectWaitTime	15.3.0
2019-03	RAN#83	R5-191235	0558	-	F	Update IE ShortMAC-I	15.3.0
2019-03	RAN#83	R5-191236	0559	-	F	Update IE UE-TimersAndConstants	15.3.0
2019-03	RAN#83	R5-191237	0560	-	F	Update IE PUCCH-ConfigCommon	15.3.0
2019-03	RAN#83	R5-191242	0561	-	F	Addition of Positioning specifications	15.3.0
2019-03	RAN#83	R5-191243	0562	-	F	Update AS security Algorithm for RF testing	15.3.0
2019-03	RAN#83	R5-191274	0563	-	F	Update of structure of test frequency clauses	15.3.0
2019-03	RAN#83	R5-191280	0564	-	F	Correction to UL configuration	15.3.0
2019-03	RAN#83	R5-191281	0565	-	F	Correction to default value of IE's in PDSCH-Config in Table 4.6.3-75	15.3.0
2019-03	RAN#83	R5-191301	0568	-	F	Correction of test frequencies for signalling testing in clause 6	15.3.0
2019-03	RAN#83	R5-191302	0569	-	F	Correction of test frequencies for EN-DC configuration DC_(n)41	15.3.0
2019-03	RAN#83	R5-191304	0571	-	F	Correction of test frequencies for NR band n1	15.3.0
2019-03	RAN#83	R5-191305	0572	-	F	Correction of test frequencies for NR band n2	15.3.0
2019-03	RAN#83	R5-191306	0573	-	F	Correction of test frequencies for NR band n3	15.3.0
2019-03	RAN#83	R5-191307	0574	-	F	Correction of test frequencies for NR band n5	15.3.0
2019-03	RAN#83	R5-191308	0575	-	F	Correction of test frequencies for NR band n7	15.3.0
2019-03	RAN#83	R5-191309	0576	-	F	Correction of test frequencies for NR band n8	15.3.0
2019-03	RAN#83	R5-191310	0577	-	F	Correction of test frequencies for NR band n12	15.3.0
2019-03	RAN#83	R5-191311	0578	-	F	Correction of test frequencies for NR band n20	15.3.0
2019-03	RAN#83	R5-191312	0579	-	F	Correction of test frequencies for NR band n25	15.3.0
2019-03	RAN#83	R5-191313	0580	-	F	Correction of test frequencies for NR band n28	15.3.0
2019-03	RAN#83	R5-191314	0581	-	F	Correction of test frequencies for NR band n34	15.3.0
2019-03	RAN#83	R5-191315	0582	-	F	Correction of test frequencies for NR band n38	15.3.0
2019-03	RAN#83	R5-191316	0583	-	F	Correction of test frequencies for NR band n39	15.3.0
2019-03	RAN#83	R5-191317	0584	-	F	Correction of test frequencies for NR band n40	15.3.0
2019-03	RAN#83	R5-191318	0585	-	F	Correction of test frequencies for NR band n41	15.3.0
2019-03	RAN#83	R5-191319	0586	-	F	Introduction of test frequencies for NR band n50	15.3.0
2019-03	RAN#83	R5-191320	0587	-	F	Correction of test frequencies for NR band n51	15.3.0
2019-03	RAN#83	R5-191321	0588	-	F	Correction of test frequencies for NR band n66	15.3.0
2019-03	RAN#83	R5-191322	0589	-	F	Correction of test frequencies for NR band n70	15.3.0
2019-03	RAN#83	R5-191323	0590	-	F	Correction of test frequencies for NR band n71	15.3.0
2019-03	RAN#83	R5-191324	0591	-	F	Introduction of test frequencies for NR band n74	15.3.0
2019-03	RAN#83	R5-191325	0592	-	F	Correction of test frequencies for NR band n75	15.3.0
2019-03	RAN#83	R5-191326	0593	-	F	Correction of test frequencies for NR band n76	15.3.0
2019-03	RAN#83	R5-191327	0594	-	F	Correction of test frequencies for NR band n77	15.3.0
2019-03	RAN#83	R5-191328	0595	-	F	Correction of test frequencies for NR band n78	15.3.0
2019-03	RAN#83	R5-191329	0596	-	F	Correction of test frequencies for NR band n79	15.3.0
2019-03	RAN#83	R5-191330	0597	-	F	Correction of test frequencies for NR band n257	15.3.0
2019-03	RAN#83	R5-191331	0598	-	F	Correction of test frequencies for NR band n258	15.3.0
2019-03	RAN#83	R5-191332	0599	-	F	Correction of test frequencies for NR band n260	15.3.0
2019-03	RAN#83	R5-191333	0600	-	F	Correction of test frequencies for NR band n261	15.3.0
2019-03	RAN#83	R5-191334	0601	-	F	Correction of DCI format 1_0	15.3.0
2019-03	RAN#83	R5-191352	0603	-	F	Update CounterCheckResponse	15.3.0
2019-03	RAN#83	R5-191354	0604	-	F	Add FailureInformation	15.3.0
2019-03	RAN#83	R5-191355	0605	-	F	Update LocationMeasurementIndication	15.3.0
2019-03	RAN#83	R5-191356	0606	-	F	Updates to section 4.8.3 (test USIM parameters)	15.3.0
2019-03	RAN#83	R5-191360	0607	-	F	Update MeasurementReport	15.3.0
2019-03	RAN#83	R5-191361	0608	-	F	Update MobilityFromNRCommand	15.3.0
2019-03	RAN#83	R5-191364	0609	-	F	Update Paging	15.3.0
2019-03	RAN#83	R5-191366	0610	-	F	Update RRCSetupComplete	15.3.0
2019-03	RAN#83	R5-191368	0611	-	F	Update SecurityModeComplete	15.3.0
2019-03	RAN#83	R5-191370	0612	-	F	Update SecurityModeFailure	15.3.0

2019-03	RAN#83	R5-191371	0613	-	F	Update UEAssistanceInformation	15.3.0
2019-03	RAN#83	R5-191372	0614	-	F	Update UECapabilityInformation	15.3.0
2019-03	RAN#83	R5-191384	0616	-	F	Correction to SecurityConfig of RadioBearerConfig	15.3.0
2019-03	RAN#83	R5-191385	0617	-	F	Correction to SIB9	15.3.0
2019-03	RAN#83	R5-191386	0618	-	F	Correction to SRS-Config of BWP-UplinkDedicated	15.3.0
2019-03	RAN#83	R5-191446	0620	-	F	Correction of default configuration of RRC IEs in 38.508-1	15.3.0
2019-03	RAN#83	R5-191450	0621	-	F	Addition of NR system information combination SIB6, SIB7	15.3.0
2019-03	RAN#83	R5-191538	0624	-	F	Update ULInformationTransfer	15.3.0
2019-03	RAN#83	R5-191539	0625	-	F	Update IE QuantityConfig and CSI-ReportConfig	15.3.0
2019-03	RAN#83	R5-191620	0629	-	F	Clarification for NR inter-band measurement test case configuration	15.3.0
2019-03	RAN#83	R5-191762	0637	-	F	Editorial update in MeasObjectNR and ReportConfigNR	15.3.0
2019-03	RAN#83	R5-191763	0638	-	F	Update ReportConfigNR and TimeToTrigger	15.3.0
2019-03	RAN#83	R5-192271	0570	1	F	Correction of test frequencies for EN-DC configuration DC_(n)71	15.3.0
2019-03	RAN#83	R5-192272	0602	1	F	Update chapter 4.5 RRC Connected initiation	15.3.0
2019-03	RAN#83	R5-192273	0626	1	F	Update RRCRelease	15.3.0
2019-03	RAN#83	R5-192274	0615	1	F	Correction to NR SchedulingRequestResourceConfig	15.3.0
2019-03	RAN#83	R5-192275	0627	1	F	Update IE I-RNTI-Value	15.3.0
2019-03	RAN#83	R5-192276	0628	1	F	Update IE ShortI-RNTI-Value	15.3.0
2019-03	RAN#83	R5-192277	0630	1	F	Updates to test environments for Signalling test	15.3.0
2019-03	RAN#83	R5-192278	0633	1	F	Addition of USIM Profiles for Signaling TC	15.3.0
2019-03	RAN#83	R5-192279	0636	1	F	Update QoS Configuration	15.3.0
2019-03	RAN#83	R5-192280	0643	1	F	Update to of Generic procedure E-UTRA RRC_IDLE	15.3.0
2019-03	RAN#83	R5-192281	0644	1	F	Introduction of EAP AKA	15.3.0
2019-03	RAN#83	R5-192290	0655	-	F	Update chapter 4.5 RRC_INACTIVE	15.3.0
2019-03	RAN#83	R5-192363	0631	1	F	Updating P-Max IE	15.3.0
2019-03	RAN#83	R5-192364	0632	2	F	Updating IEs part of SearchSpace	15.3.0
2019-03	RAN#83	R5-192400	0528	1	F	Setup diagram for receiver test using spectrum analyzer	15.3.0
2019-03	RAN#83	R5-192541	0622	1	F	Connection diagrams for RRM tests	15.3.0
2019-03	RAN#83	R5-192542	0646	1	F	Antenna Connection diagram for UE part for RRM	15.3.0
2019-03	RAN#83	R5-192543	0649	1	F	Connection diagram for FR1 demod test cases	15.3.0
2019-03	RAN#83	R5-192705	0645	1	F	Introduction of Non 3GPP Access over WLAN	15.3.0
2019-03	RAN#83	R5-192735	0533	1	F	Correction to PUSCH-Config	15.3.0
2019-03	RAN#83	R5-192736	0535	1	F	Addition of details on Test State 0	15.3.0
2019-03	RAN#83	R5-192737	0537	1	F	Correction of CellGroupConfig tables and logical channel identities	15.3.0
2019-03	RAN#83	R5-192738	0543	1	F	Additions and updates to UE capability Information Elements	15.3.0
2019-03	RAN#83	R5-192739	0544	1	F	Updates and additions of default QoS configurations	15.3.0
2019-03	RAN#83	R5-192740	0566	1	F	Update chapter 4.5 General for PDUs	15.3.0
2019-03	RAN#83	R5-192741	0567	1	F	Update of Annex C on calculation of test frequencies	15.3.0
2019-03	RAN#83	R5-192742	0619	1	F	Correction to schedulingRequestID Configuration	15.3.0
2019-03	RAN#83	R5-192743	0639	1	F	Addition of Switch/Power UE procedures	15.3.0
2019-03	RAN#83	R5-192744	0640	1	F	Update to Test procedure to check that UE is camped on a new cell belonging to a new TA	15.3.0
2019-03	RAN#83	R5-192745	0641	1	F	Update to Test procedure to check that UE is in state 5GC RRC_IDLE on a certain cell	15.3.0
2019-03	RAN#83	R5-192846	0648	1	F	Updates to Annex B to add Permitted OTA Test Methods	15.3.0
2019-03	RAN#83	-	-	-	-	Editorial updates of table numbering	15.3.0
2019-06	RAN#84	R5-193537	0680	-	F	Remove unused DCI formats from 38.508-1	15.4.0
2019-06	RAN#84	R5-193540	0681	-	F	Adding setup diagram for Receiver performance tests 2x2	15.4.0
2019-06	RAN#84	R5-193542	0682	-	F	Remove brackets from parameters for DCI formats for scheduling	15.4.0
2019-06	RAN#84	R5-193613	0691	-	F	Update default configuration of QuantityConfig	15.4.0
2019-06	RAN#84	R5-193681	0693	-	F	Update chapter 4.5.3 RRC_INACTIVE procedures	15.4.0
2019-06	RAN#84	R5-193682	0694	-	F	Update chapter 4.5.4 RRC_CONNECTED procedures	15.4.0
2019-06	RAN#84	R5-193683	0695	-	F	Update chapter 4.5.5 SWITCHED_OFF procedures	15.4.0
2019-06	RAN#84	R5-193690	0696	-	F	Resubmission: Connection diagram for 1x2 Demod test cases	15.4.0
2019-06	RAN#84	R5-193734	0701	-	F	Update IE I-RNTI-Value	15.4.0
2019-06	RAN#84	R5-193735	0702	-	F	Update IE ShortI-RNTI-Value	15.4.0
2019-06	RAN#84	R5-193746	0710	-	F	Update IE SubcarrierSpacing	15.4.0
2019-06	RAN#84	R5-193813	0711	-	F	Update of USIM EF5GS3GPPLOCI & EF5GSN3GPPLOCI	15.4.0
2019-06	RAN#84	R5-193828	0713	-	F	Add IE MultiFrequencyBandListNR-SIB	15.4.0
2019-06	RAN#84	R5-193829	0714	-	F	Add IE NR-NS-PmaxList	15.4.0
2019-06	RAN#84	R5-193843	0716	-	F	Update IE ServingCellConfig	15.4.0
2019-06	RAN#84	R5-193862	0717	-	F	Corrections to References	15.4.0
2019-06	RAN#84	R5-193980	0725	-	F	New test procedure for Registration Reject	15.4.0
2019-06	RAN#84	R5-193981	0726	-	F	Updates to test procedure 4.9.1	15.4.0
2019-06	RAN#84	R5-194038	0728	-	F	Editorial Correction - USIM Profiles for Signaling TC	15.4.0
2019-06	RAN#84	R5-194040	0729	-	F	Correction to QoS Configuration	15.4.0
2019-06	RAN#84	R5-194086	0733	-	F	Update K2 value to align with RF DL RMC	15.4.0
2019-06	RAN#84	R5-194087	0734	-	F	Update aggregationlevel2 in SearchSpace IE	15.4.0
2019-06	RAN#84	R5-194303	0740	-	F	TDD-UL-DL-Config for FR1 SCS 60kHz	15.4.0
2019-06	RAN#84	R5-194359	0742	-	F	Removal of column for Number of PDU sessions established from tables for Test States	15.4.0

2019-06	RAN#84	R5-194362	0743	-	F	Editorial correction to test frequency clauses	15.4.0
2019-06	RAN#84	R5-194364	0744	-	F	Update of test frequencies for EN-DC combination DC_41A_n41A	15.4.0
2019-06	RAN#84	R5-194367	0745	-	F	Common procedure to configure SCC for CA RF testing	15.4.0
2019-06	RAN#84	R5-194369	0746	-	F	Introduction of test frequencies for inter-band Rel-15 EN-DC two bands configurations	15.4.0
2019-06	RAN#84	R5-194420	0751	-	F	Update IE BWP-Downlink	15.4.0
2019-06	RAN#84	R5-194435	0752	-	F	Update IE BWP-Id	15.4.0
2019-06	RAN#84	R5-194438	0755	-	F	Updates to UE 4.6.5 Other Information Elements	15.4.0
2019-06	RAN#84	R5-194441	0757	-	F	Update IE BWP-Uplink	15.4.0
2019-06	RAN#84	R5-194479	0758	-	F	Editorial updates to 4.7.1 Contents of 5GMM messages	15.4.0
2019-06	RAN#84	R5-194480	0759	-	F	Editorial updates to 4.7.2 Contents of 5GSM messages	15.4.0
2019-06	RAN#84	R5-194510	0762	-	F	Update of Switch off - Power off procedure in RRC_CONNECTED	15.4.0
2019-06	RAN#84	R5-194539	0767	-	F	Introduction of test frequencies for EN-DC CA configuration DC_30A_n260(A-I)	15.4.0
2019-06	RAN#84	R5-194541	0768	-	F	Antenna Connection diagram for TE part for RRM	15.4.0
2019-06	RAN#84	R5-194709	0785	-	F	Update 38.508 RF and RRM clauses with agreed recommendation to configure UE as non-IMS	15.4.0
2019-06	RAN#84	R5-194783	0774	-	F	Introduction of test frequencies for NR band n50 and signalling testing	15.4.0
2019-06	RAN#84	R5-194784	0775	-	F	Introduction of test frequencies for NR band n74 and signalling testing	15.4.0
2019-06	RAN#84	R5-194790	0778	-	F	Updates to power allocations	15.4.0
2019-06	RAN#84	R5-194791	0779	-	F	Update of DownlinkConfigCommonSIB	15.4.0
2019-06	RAN#84	R5-194794	0684	1	F	Update IE PDSCH-Config	15.4.0
2019-06	RAN#84	R5-194795	0687	1	F	Update NR MeasObjectNR	15.4.0
2019-06	RAN#84	R5-194796	0690	1	F	Update default configuration of ReportConfigNR	15.4.0
2019-06	RAN#84	R5-194797	0692	1	F	Update chapter 4.5.2 RRC_IDLE procedures	15.4.0
2019-06	RAN#84	R5-194798	0704	1	F	Correction to the note associated to the Table 4.7.1-2	15.4.0
2019-06	RAN#84	R5-194800	0708	1	F	Update IE MIB	15.4.0
2019-06	RAN#84	R5-194801	0709	1	F	Update IE SchedulingRequestResourceConfig	15.4.0
2019-06	RAN#84	R5-194802	0712	1	F	Correct clause numbers in 4.5A	15.4.0
2019-06	RAN#84	R5-194803	0718	1	F	Update IE ServingCellConfigCommon	15.4.0
2019-06	RAN#84	R5-194804	0721	1	F	Update IE FrequencyInfoUL	15.4.0
2019-06	RAN#84	R5-194805	0722	1	F	Update IE FrequencyInfoUL-SIB	15.4.0
2019-06	RAN#84	R5-194806	0723	1	F	Update generic procedures chapter general	15.4.0
2019-06	RAN#84	R5-194807	0724	1	F	Update chapter 4.5.2 RRC_IDLE Initiation	15.4.0
2019-06	RAN#84	R5-194808	0730	1	F	Updates to RadioBearerConfig	15.4.0
2019-06	RAN#84	R5-194809	0732	1	F	Updates to PhysicalCellGroupConfig	15.4.0
2019-06	RAN#84	R5-194810	0739	1	F	New test procedure for RRC_CONNECTED	15.4.0
2019-06	RAN#84	R5-194811	0741	1	F	Updated IE MeasObjectEUTRA and ReportConfigInterRAT	15.4.0
2019-06	RAN#84	R5-194812	0753	1	F	Updates to Registration 5GMM messages	15.4.0
2019-06	RAN#84	R5-194813	0754	1	F	Updates to UE 4.6.4 UE Capability Information Elements	15.4.0
2019-06	RAN#84	R5-194814	0760	1	F	New Test procedure for UE for Tracking area updating / inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	15.4.0
2019-06	RAN#84	R5-194817	0777	1	F	New Test procedure for UE for Tracking area updating / inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	15.4.0
2019-06	RAN#84	R5-194821	0780	-	F	Introducing conditions for Handover in RRCReconfiguration and RadioBearerConfig	15.4.0
2019-06	RAN#84	R5-194824	0781	-	F	Updates to Service Request 5GMM message	15.4.0
2019-06	RAN#84	R5-194879	0735	1	F	Updates to Multi-Cell SIG OTA testing for FR2	15.4.0
2019-06	RAN#84	R5-194881	0763	1	F	Introduction of test frequencies for NR CA configuration CA_n257B	15.4.0
2019-06	RAN#84	R5-194882	0764	1	F	Introduction of test frequencies for NR CA configuration CA_n260B	15.4.0
2019-06	RAN#84	R5-194883	0765	1	F	Introduction of test frequencies for NR CA configuration CA_n260I	15.4.0
2019-06	RAN#84	R5-194884	0766	1	F	Introduction of test frequencies for NR CA configuration CA_n261B	15.4.0
2019-06	RAN#84	R5-194885	0782	1	F	Introduction of test frequencies for NR CA configuration CA_n260(A-I)	15.4.0
2019-06	RAN#84	R5-194889	0737	1	F	corrections to Non 3GPP Access over WLAN procedures	15.4.0
2019-06	RAN#84	R5-194894	0783	-	F	Update FFS in ResumeCause	15.4.0
2019-06	RAN#84	R5-194896	0784	-	F	Updates to reference QoS configurations for EPS interworking	15.4.0
2019-06	RAN#84	R5-194902	0685	1	F	Correction of Setup Diagrams for Receiver tests using Signal Generator in 38.508-1	15.4.0
2019-06	RAN#84	R5-195095	0750	1	F	Introduction of Connection diagram for 2x4 and 4x4 Demod test cases	15.4.0
2019-06	RAN#84	R5-195322	0686	1	F	Update NR SIB1	15.4.0
2019-06	RAN#84	R5-195323	0703	1	F	Update IE CommonCellGroupConfig	15.4.0
2019-06	RAN#84	R5-195324	0715	1	F	Update default configuration of MeasGapConfig	15.4.0
2019-06	RAN#84	R5-195325	0719	1	F	Addition of Switch off / Power off procedure in RRC_INACTIVE	15.4.0
2019-06	RAN#84	R5-195326	0720	1	F	Update of SIB5	15.4.0
2019-06	RAN#84	R5-195327	0731	1	F	Updates to RLC-BearerConfig	15.4.0

2019-06	RAN#84	R5-195328	0756	1	F	Updates to PDU session establishment 5GSM messages	15.4.0
2019-06	RAN#84	R5-195329	0773	1	F	Introduction of test frequencies for inter-RAT signalling testing	15.4.0
2019-06	RAN#84	R5-195330	0776	1	F	Correction to PUSCH-Config	15.4.0
2019-06	RAN#84	R5-195426	0727	2	F	38.508-1 implementation of FR2 UL demod OTA tests using single pol Rx TE	15.4.0
2019-06	RAN#84	R5-195427	0772	2	F	Addition of message contents needed for DEMOD test cases	15.4.0
2019-06	RAN#84	R5-194370	0747	-	F	Introduction of test frequencies for inter-band Rel-16 EN-DC two bands configurations	16.0.0
2019-06	RAN#84	R5-194371	0748	-	F	Introduction of test frequencies for inter-band Rel-16 EN-DC five bands configurations	16.0.0
2019-06	RAN#84	R5-194373	0749	-	F	Introduction of test frequencies for NR CA configuration CA_n41C	16.0.0
2019-09	RAN#85	R5-195696	0795	-	F	Update IE PDCP-Config	16.1.0
2019-09	RAN#85	R5-195711	0797	-	F	Add IE CGI-InfoEUTRA	16.1.0
2019-09	RAN#85	R5-195729	0798	-	F	Update IE CGI-Info	16.1.0
2019-09	RAN#85	R5-195730	0799	-	F	Update IE MeasResults	16.1.0
2019-09	RAN#85	R5-195731	0800	-	F	Update of 4.3.1.0A mid test CBW in 38.508-1	16.1.0
2019-09	RAN#85	R5-195747	0803	-	F	Update IE MeasResultCellListSFTD	16.1.0
2019-09	RAN#85	R5-195748	0804	-	F	Add IE MeasResultCellListSFTD-EUTRA	16.1.0
2019-09	RAN#85	R5-195749	0805	-	F	Add IE MeasResult2EUTRA	16.1.0
2019-09	RAN#85	R5-195750	0806	-	F	Add IE MeasResult2NR	16.1.0
2019-09	RAN#85	R5-195751	0807	-	F	Add IE SK-Counter	16.1.0
2019-09	RAN#85	R5-195752	0808	-	F	Update IE SS-RSSI-Measurement	16.1.0
2019-09	RAN#85	R5-195792	0811	-	F	Update MeasurementReport	16.1.0
2019-09	RAN#85	R5-195885	0814	-	F	Update RRCResume	16.1.0
2019-09	RAN#85	R5-195886	0815	-	F	Editorial update RRCReconfigurationComplete	16.1.0
2019-09	RAN#85	R5-195887	0816	-	F	Editorial update RRCReject	16.1.0
2019-09	RAN#85	R5-195888	0817	-	F	Editorial update RRCRelease	16.1.0
2019-09	RAN#85	R5-195889	0818	-	F	Add SCGFailureInformation	16.1.0
2019-09	RAN#85	R5-195890	0819	-	F	Add SCGFailureInformationEUTRA	16.1.0
2019-09	RAN#85	R5-195895	0820	-	F	Update UECapabilityEnquiry	16.1.0
2019-09	RAN#85	R5-195909	0821	-	F	Editorial update UECapabilityInformation	16.1.0
2019-09	RAN#85	R5-195910	0822	-	F	Add ULInformationTransferMRDC	16.1.0
2019-09	RAN#85	R5-195926	0823	-	F	Editorial update RRC IEs	16.1.0
2019-09	RAN#85	R5-195927	0824	-	F	Editorial update S-NSSAI	16.1.0
2019-09	RAN#85	R5-195944	0826	-	F	Correction to ReportConfigNR	16.1.0
2019-09	RAN#85	R5-195945	0827	-	F	Updates to default configurations for 5GC NAS test cases	16.1.0
2019-09	RAN#85	R5-196030	0829	-	F	Handling of thresholds in FR2 when Events A3 and A6 are inter-frequency	16.1.0
2019-09	RAN#85	R5-196031	0830	-	F	Adding references to TS 38.508-1	16.1.0
2019-09	RAN#85	R5-196136	0836	-	F	Addition new NR cell for SS-RSRP RRM tests	16.1.0
2019-09	RAN#85	R5-196148	0837	-	F	Update of Annex C for selecting SSB location for cells not selectable as PCell	16.1.0
2019-09	RAN#85	R5-196158	0838	-	F	Correction of references to test frequency tables	16.1.0
2019-09	RAN#85	R5-196159	0839	-	F	Correction of clause numbers for test frequencies for Non-3GPP	16.1.0

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2019-09	RAN#85	R5-196168	0840	-	F	Correction of test frequency parameters for SSB location for NR band n1 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196169	0841	-	F	Correction of test frequency parameters for SSB location for NR band n2 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196170	0842	-	F	Correction of test frequency parameters for SSB location for NR band n3 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196171	0843	-	F	Correction of test frequency parameters for SSB location for NR band n7 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196172	0844	-	F	Correction of test frequency parameters for SSB location for NR band n25 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196174	0846	-	F	Correction of test frequency parameters for SSB location for NR band n38 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196175	0847	-	F	Correction of test frequency parameters for SSB location for NR band n39 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196176	0848	-	F	Correction of test frequency parameters for SSB location for NR band n40 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196177	0849	-	F	Correction of test frequency parameters for SSB location for NR band n41 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196178	0850	-	F	Correction of test frequency parameters for SSB location for NR band n50 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196179	0851	-	F	Correction of test frequency parameters for SSB location for NR band n66 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196180	0852	-	F	Correction of test frequency parameters for SSB location for NR band n70 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196181	0853	-	F	Correction of test frequency parameters for SSB location for NR band n74 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196182	0854	-	F	Correction of test frequency parameters for SSB location for NR band n75 and SCS 15kHz and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196183	0855	-	F	Correction of test frequency parameters for SSB location for NR band n77 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196184	0856	-	F	Correction of test frequency parameters for SSB location for NR band n78 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196185	0857	-	F	Correction of test frequency parameters for SSB location for NR band n79 and SCS 60kHz	16.1.0
2019-09	RAN#85	R5-196197	0860	-	F	Update IE ServingCellConfigCommon	16.1.0
2019-09	RAN#85	R5-196198	0861	-	F	Update IE SubcarrierSpacing	16.1.0
2019-09	RAN#85	R5-196262	0863	-	F	Editorial update IE RLC-BearerConfig	16.1.0
2019-09	RAN#85	R5-196289	0864	-	F	Update chapter 4.5A.2 UE-requested PDU session establishment procedure	16.1.0
2019-09	RAN#85	R5-196310	0867	-	F	Addition of SUL bands for protocol testing in clause 6.2.3.1	16.1.0
2019-09	RAN#85	R5-196311	0868	-	F	Update of test frequency parameters for NR CA configuration CA_n41C	16.1.0
2019-09	RAN#85	R5-196315	0872	-	F	Update of test frequency parameters for NR CA configuration CA_n260(A-I)	16.1.0
2019-09	RAN#85	R5-196316	0873	-	F	Introduction of test frequencies for NR CA configuration CA_n261B and CA_n261C	16.1.0
2019-09	RAN#85	R5-196317	0874	-	F	Update of test frequency table for EN-DC configuration DC_41A_n41A for BCS1	16.1.0
2019-09	RAN#85	R5-196318	0875	-	F	Correction of test frequency parameters for EN-DC configuration	16.1.0

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2019-09	RAN#85	R5-196319	0876	-	F	Correction of test frequency parameters for EN-DC configuration DC_(n)71AA	16.1.0
2019-09	RAN#85	R5-196468	0885	-	F	Introduction of test frequencies for NR CA configuration CA_n258B and CA_n258C	16.1.0
2019-09	RAN#85	R5-196469	0886	-	F	Introduction of test frequencies for NR CA configuration CA_n258G to CA_n258M	16.1.0
2019-09	RAN#85	R5-196470	0887	-	F	Introduction of test frequencies for NR CA configuration CA_n260G to CA_n260I	16.1.0
2019-09	RAN#85	R5-196472	0889	-	F	Introduction of test frequencies for NR CA configuration CA_n261G to CA_n261I	16.1.0
2019-09	RAN#85	R5-196473	0890	-	F	Introduction of test frequencies for NR CA configuration CA_n261O to CA_n261Q	16.1.0
2019-09	RAN#85	R5-196490	0894	-	F	Introduction of test frequencies for NR CA configuration CA_n78C	16.1.0
2019-09	RAN#85	R5-196539	0895	-	F	Update to 38.508-1 for Demod specific message contents	16.1.0
2019-09	RAN#85	R5-196581	0897	-	F	Removing brackets from values for DCI formats	16.1.0
2019-09	RAN#85	R5-196597	0899	-	F	Cleanup of editor note of EFOPL5G	16.1.0
2019-09	RAN#85	R5-196637	0900	-	F	Update of default messages for EMERGENCY services test scenarios	16.1.0
2019-09	RAN#85	R5-196641	0904	-	F	Update of Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.1.0
2019-09	RAN#85	R5-196654	0905	-	F	Editorial correction of reference test conditions	16.1.0
2019-09	RAN#85	R5-196751	0911	-	F	AP#82.01: Update default DCI format to 0_1 / 1_1 in TS 38.508-1 for SIG test cases	16.1.0
2019-09	RAN#85	R5-196824	0917	-	F	Updates to UE 4.6.4 UE Capability Information Elements	16.1.0
2019-09	RAN#85	R5-196825	0918	-	F	Addition of default test control messages	16.1.0
2019-09	RAN#85	R5-196873	0922	-	F	Introduction of test frequencies for NR CA configuration CA_n258D to CA_n258F	16.1.0
2019-09	RAN#85	R5-196874	0923	-	F	Introduction of test frequencies for NR CA configuration CA_n260D to CA_n260F	16.1.0
2019-09	RAN#85	R5-196875	0924	-	F	Introduction of test frequencies for NR CA configuration CA_n260O to CA_n260Q	16.1.0
2019-09	RAN#85	R5-196942	0927	-	F	Correction of clause 2 and 4.3 in 38.508-1	16.1.0
2019-09	RAN#85	R5-196980	0786	1	F	Using generic procedure for IMS registration to 5GS	16.1.0
2019-09	RAN#85	R5-196981	0788	1	F	Update of SIB2	16.1.0
2019-09	RAN#85	R5-196982	0790	1	F	Update of SIB5	16.1.0
2019-09	RAN#85	R5-196984	0792	1	F	Update of frequency definition for Inter-RAT test cases	16.1.0
2019-09	RAN#85	R5-196985	0793	1	F	Update IE CellGroupConfig	16.1.0
2019-09	RAN#85	R5-196986	0858	1	F	Update MIB	16.1.0
2019-09	RAN#85	R5-196987	0865	1	F	Update chapter 4.5.4 RRC_CONNECTED procedures	16.1.0
2019-09	RAN#85	R5-196988	0831	1	F	Addition of IE MasterKeyUpdate	16.1.0
2019-09	RAN#85	R5-196990	0833	1	F	USIM Configuration for Signalling Test Cases	16.1.0
2019-09	RAN#85	R5-196991	0835	1	F	Correction to SIG OTA UE Orientation procedure	16.1.0
2019-09	RAN#85	R5-196992	0878	1	F	Addition of New Test Procedure - Response\No response to Paging	16.1.0

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2019-09	RAN#85	R5-196994	0913	1	F	Update IE ServingCellConfig	16.1.0
2019-09	RAN#85	R5-196995	0910	1	F	Corrections to DCI_1_0 configuration	16.1.0
2019-09	RAN#85	R5-196996	0919	1	F	Updates to generic procedure using SERVICE REQUEST procedure	16.1.0
2019-09	RAN#85	R5-196997	0901	1	F	Introduction of Test Procedure for IMS Emergency call establishment in 5GC NORMAL-SERVICE	16.1.0
2019-09	RAN#85	R5-196998	0903	1	F	Update of Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	16.1.0
2019-09	RAN#85	R5-197014	0928	-	F	Addition of NR CA test frequencies for protocol testing in clause 6.2.3	16.1.0
2019-09	RAN#85	R5-197099	0929	-	F	Correction to Switch off-Power off procedure in RRC_CONNECTED	16.1.0
2019-09	RAN#85	R5-197104	0884	1	F	Introduction of test frequencies for NR CA configuration CA_n257G to CA_n257M	16.1.0
2019-09	RAN#85	R5-197106	0892	1	F	Update of EN-DC inter-band configurations in clause 4.3.1	16.1.0
2019-09	RAN#85	R5-197139	0891	2	F	Update of NR CA inter-band configurations in clause 4.3.1	16.1.0
2019-09	RAN#85	R5-197226	0915	1	F	changes for Non 3GPP Access over WLAN	16.1.0
2019-09	RAN#85	R5-197230	0883	1	F	Introduction of test frequencies for NR CA configuration CA_n257D to CA_n257F	16.1.0
2019-09	RAN#85	R5-197231	0869	1	F	Update of test frequency parameters for NR CA configuration CA_n257B and CA_n257C	16.1.0
2019-09	RAN#85	R5-197232	0870	1	F	Introduction of test frequencies for NR CA configuration CA_n260B and CA_n260C	16.1.0
2019-09	RAN#85	R5-197233	0888	1	F	Introduction of test frequencies for NR CA configuration CA_n260J to CA_n260M	16.1.0
2019-09	RAN#85	R5-197234	0813	1	F	Update RRCReconfiguration	16.1.0
2019-09	RAN#85	R5-197235	0796	1	F	Update RadioBearerConfig-DRB	16.1.0
2019-09	RAN#85	R5-197236	0825	1	F	Update RRCReconfiguration-HO	16.1.0
2019-09	RAN#85	R5-197241	0791	1	F	Update of EUTRA-AllowedMeasBandwidth	16.1.0
2019-09	RAN#85	R5-197243	0809	1	F	Addition of Delta to signalling threshold in System Information in FR2	16.1.0
2019-09	RAN#85	R5-197244	0866	1	F	Correction to REGISTRATION REJECT message	16.1.0
2019-09	RAN#85	R5-197246	0902	1	F	Introduction of Test Procedure for IMS Emergency call establishment in 5GC LIMITED-SERVICE or NO-SUPI	16.1.0
2019-09	RAN#85	R5-197296	0898	2	F	Update of PHR-Config	16.1.0
2019-09	RAN#85	R5-197300	0787	1	F	4x2 Connection Diagram for demodulation tests	16.1.0
2019-09	RAN#85	R5-197301	0862	1	F	Correction to Section 5.4.2 Message definition for Performance Test	16.1.0
2019-09	RAN#85	R5-197302	0882	1	F	Addition of FR2 CA connection diagram	16.1.0
2019-09	RAN#85	R5-197303	0920	1	F	Corrections to test frequencies and formulas	16.1.0
2019-09	RAN#85	R5-197304	0896	1	F	Removing IOT bit information from test channel bandwidth tables	16.1.0
2019-09	RAN#85	R5-197305	0908	1	F	Addition of SMTC Configuration for RRM test cases	16.1.0
2019-09	RAN#85	R5-197507	0906	1	F	Addition of TDD UL DL Config for RRM test cases	16.1.0
2019-09	RAN#85	R5-197508	0907	1	F	Addition of FilterCoefficient configuration for RRM test cases	16.1.0
2019-09	RAN#85	R5-197638	0881	2	F	Addition of FR1 CA connection diagram	16.1.0
2019-10	RAN#85	-	-	-	-	Implementation fixes	16.1.1

2019-12	RAN#86	R5-197727	0932	-	F	Editorial update IE BWP-Id	16.2.0
2019-12	RAN#86	R5-197751	0933	-	F	Editorial update IE PDSCH-TimeDomainResourceAllocationList	16.2.0
2019-12	RAN#86	R5-197835	0937	-	F	Correction to IE ReportConfigNR	16.2.0
2019-12	RAN#86	R5-197897	0940	-	F	Editorial update IE CodebookConfig	16.2.0
2019-12	RAN#86	R5-197932	0946	-	F	Editorial update IE PDSCH-Config	16.2.0
2019-12	RAN#86	R5-197967	0948	-	F	Update of Annex C on calculation of test frequencies and parameters	16.2.0
2019-12	RAN#86	R5-197968	0949	-	F	Correction of test frequency parameters for NR band n1	16.2.0
2019-12	RAN#86	R5-197969	0950	-	F	Correction of test frequency parameters for NR band n2	16.2.0
2019-12	RAN#86	R5-197970	0951	-	F	Correction of test frequency parameters for NR band n3	16.2.0
2019-12	RAN#86	R5-197971	0952	-	F	Correction of test frequency parameters for NR band n5	16.2.0
2019-12	RAN#86	R5-197972	0953	-	F	Correction of test frequency parameters for NR band n7	16.2.0
2019-12	RAN#86	R5-197973	0954	-	F	Correction of test frequency parameters for NR band n8	16.2.0
2019-12	RAN#86	R5-197974	0955	-	F	Correction of test frequency parameters for NR band n12	16.2.0
2019-12	RAN#86	R5-197975	0956	-	F	Correction of test frequency parameters for NR band n20	16.2.0
2019-12	RAN#86	R5-197976	0957	-	F	Correction of test frequency parameters for NR band n25	16.2.0
2019-12	RAN#86	R5-197977	0958	-	F	Correction of test frequency parameters for NR band n28	16.2.0
2019-12	RAN#86	R5-197978	0959	-	F	Correction of test frequency parameters for NR band n34	16.2.0
2019-12	RAN#86	R5-197979	0960	-	F	Correction of test frequency parameters for NR band n38	16.2.0
2019-12	RAN#86	R5-197980	0961	-	F	Correction of test frequency parameters for NR band n39	16.2.0
2019-12	RAN#86	R5-197981	0962	-	F	Correction of test frequency parameters for NR band n40	16.2.0
2019-12	RAN#86	R5-197982	0963	-	F	Correction of test frequency parameters for NR band n41	16.2.0
2019-12	RAN#86	R5-197983	0964	-	F	Correction of test frequency parameters for NR band n50	16.2.0
2019-12	RAN#86	R5-197984	0965	-	F	Correction of test frequency parameters for NR band n51	16.2.0
2019-12	RAN#86	R5-197985	0966	-	F	Correction of test frequency parameters for NR band n66	16.2.0
2019-12	RAN#86	R5-197986	0967	-	F	Correction of test frequency parameters for NR band n70	16.2.0
2019-12	RAN#86	R5-197987	0968	-	F	Correction of test frequency parameters for NR band n71	16.2.0
2019-12	RAN#86	R5-197988	0969	-	F	Correction of test frequency parameters for NR band n74	16.2.0
2019-12	RAN#86	R5-197989	0970	-	F	Correction of test frequency parameters for NR band n75 (SDL)	16.2.0
2019-12	RAN#86	R5-197990	0971	-	F	Correction of test frequency parameters for NR band n76 (SDL)	16.2.0
2019-12	RAN#86	R5-197991	0972	-	F	Correction of test frequency parameters for NR band n77	16.2.0
2019-12	RAN#86	R5-197992	0973	-	F	Correction of test frequency parameters for NR band n78	16.2.0
2019-12	RAN#86	R5-197993	0974	-	F	Correction of test frequency parameters for NR band n79	16.2.0
2019-12	RAN#86	R5-197994	0975	-	F	Editorial correction to note 1 in frequency tables for NR bands n257, n258, n260 and n261	16.2.0
2019-12	RAN#86	R5-197997	0978	-	F	Introduction of test frequencies for NR CA configuration CA_n261D to CA_n261F	16.2.0
2019-12	RAN#86	R5-197998	0979	-	F	Introduction of test frequencies for NR CA configuration CA_n261J to CA_n261M	16.2.0
2019-12	RAN#86	R5-198016	0983	-	F	Introduction of test frequencies parameters for Rel-16 NR CA	16.2.0

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2019-12	RAN#86	R5-198017	0984	-	F	Introduction of test frequencies parameters for Rel-16 NR CA configuration CA_n66(2A)	16.2.0
2019-12	RAN#86	R5-198018	0985	-	F	Introduction of test frequencies and parameters for NR band n29	16.2.0
2019-12	RAN#86	R5-198019	0986	-	F	Introduction of test frequencies and parameters for NR band n65	16.2.0
2019-12	RAN#86	R5-198028	0988	-	F	Add 4Rx connection diagram for RRM measurement tests	16.2.0
2019-12	RAN#86	R5-198057	0993	-	F	Editorial update IE RateMatchPattern	16.2.0
2019-12	RAN#86	R5-198058	0994	-	F	Editorial update IE SchedulingRequestResourceConfig	16.2.0
2019-12	RAN#86	R5-198082	0999	-	F	Introduce general chapter in 4.6	16.2.0
2019-12	RAN#86	R5-198120	1004	-	F	Correction of test frequencies parameters for Rel-15 EN-DC configuration DC_(n)41AA	16.2.0
2019-12	RAN#86	R5-198121	1005	-	F	Correction of test frequencies parameters for Rel-15 EN-DC configuration DC_(n)71AA	16.2.0
2019-12	RAN#86	R5-198125	1009	-	F	Introduction of test frequencies and parameters for NR band n48	16.2.0
2019-12	RAN#86	R5-198126	1010	-	F	Introduction of test frequencies for NR band b41 and CBW 30MHz	16.2.0
2019-12	RAN#86	R5-198131	1012	-	F	Update of USIM Configuration 15 for forbidden PLMN	16.2.0
2019-12	RAN#86	R5-198133	1014	-	F	Update IE ServingCellConfigCommonSIB	16.2.0
2019-12	RAN#86	R5-198141	1015	-	F	Clarification on default radio configuration of NAS cells	16.2.0
2019-12	RAN#86	R5-198217	1019	-	F	Correction of test frequency parameters for protocol testing and NR bands with scs=15kHz	16.2.0
2019-12	RAN#86	R5-198223	1021	-	F	Add IE BetaOffsets	16.2.0
2019-12	RAN#86	R5-198224	1022	-	F	Update IE PUSCH-Config	16.2.0
2019-12	RAN#86	R5-198250	1023	-	F	Update IE CSI-FrequencyOccupation	16.2.0
2019-12	RAN#86	R5-198251	1024	-	F	Update IE PHR-Config	16.2.0
2019-12	RAN#86	R5-198258	1026	-	F	Editorial update IE DRX-Config	16.2.0
2019-12	RAN#86	R5-198282	1027	-	F	Update to Connection diagram for 2x4 and 4x4 Demod test cases	16.2.0
2019-12	RAN#86	R5-198286	1028	-	F	Correction of mapping of frequency ranges to NR test frequencies for NR SA	16.2.0
2019-12	RAN#86	R5-198304	1029	-	F	Editorial update IE LogicalChannelConfig	16.2.0
2019-12	RAN#86	R5-198370	1035	-	F	Connection diagram for FR2 Demod and CSI test cases	16.2.0
2019-12	RAN#86	R5-198480	1039	-	F	Editorial update IE PDCCH-ConfigCommon	16.2.0
2019-12	RAN#86	R5-198485	1041	-	F	Editorial update IE PDCP-Config	16.2.0
2019-12	RAN#86	R5-198506	1044	-	F	Addition of RRCReconfiguration for Speech call setup	16.2.0
2019-12	RAN#86	R5-198507	1045	-	F	Editorial updates to section 4.7.0	16.2.0
2019-12	RAN#86	R5-198508	1046	-	F	New reference QoS configurations for IMS voice and video	16.2.0
2019-12	RAN#86	R5-198509	1047	-	F	Updates to REGISTRATION ACCEPT 5GMM message	16.2.0
2019-12	RAN#86	R5-198510	1048	-	F	Updates to test control messages	16.2.0
2019-12	RAN#86	R5-198540	1051	-	F	Update of REGISTRATION ACCEPT for IMS emergency support	16.2.0
2019-12	RAN#86	R5-198544	1053	-	F	Update of Table 4.6.3-162 SearchSpace in 38.508-1	16.2.0
2019-12	RAN#86	R5-198638	1058	-	F	Corrections on test frequencies for NR CA band n260 in 38.508-1	16.2.0
2019-12	RAN#86	R5-198649	1059	-	F	Corrections on test frequencies for NR CA band n261 in 38.508-1	16.2.0

2019-12	RAN#86	R5-198659	1062	-	F	Update TCI State Cell parameter in Demod section	16.2.0
2019-12	RAN#86	R5-198718	1067	-	F	Updates to RSRP-Range, RSRQ-Range and SINR-Range	16.2.0
2019-12	RAN#86	R5-198847	0941	1	F	Corrections to DCI_1_1 configuration	16.2.0
2019-12	RAN#86	R5-198848	0931	1	F	Update IE PUSCH-TimeDomainResourceAllocationList	16.2.0
2019-12	RAN#86	R5-198850	0934	1	F	Correction to IE MasterKeyUpdate	16.2.0
2019-12	RAN#86	R5-198851	0935	1	F	Update of NR SIBs	16.2.0
2019-12	RAN#86	R5-198852	0936	1	F	Correction to USIM configuration	16.2.0
2019-12	RAN#86	R5-198853	0938	1	F	Correction to IE ReportConfigInterRAT	16.2.0
2019-12	RAN#86	R5-198854	0942	1	F	Correction to Table 4.9.9.2.3-1 for Inter-system change from S1 mode to N1 mode in 5GMM-IDLE mode	16.2.0
2019-12	RAN#86	R5-198856	0982	1	F	Addition of frequency configurations for NR MFBI testing	16.2.0
2019-12	RAN#86	R5-198857	0992	1	F	Editorial update IE CSI-AperiodicTriggerStateList	16.2.0
2019-12	RAN#86	R5-198858	0998	1	F	Editorial update IE ServingCellConfig	16.2.0
2019-12	RAN#86	R5-198859	1000	1	F	Editorial update IE SecurityAlgorithmConfig	16.2.0
2019-12	RAN#86	R5-198860	1002	1	F	Update IE SRS-Config	16.2.0
2019-12	RAN#86	R5-198861	1001	1	F	Update of Generic Test Procedures for IMS Emergency call establishment 4.9.11 and 4.9.12 to reflect the fact that they can be used in multiple states and scenarios	16.2.0
2019-12	RAN#86	R5-198862	1013	1	F	Update IE ServingCellConfigCommon	16.2.0
2019-12	RAN#86	R5-198863	1016	1	F	Update IE CSI-RS-ResourceMapping	16.2.0
2019-12	RAN#86	R5-198865	1032	1	F	Update RRCReconfiguration	16.2.0
2019-12	RAN#86	R5-198866	1033	1	F	Update chapter 4.5.1 General	16.2.0
2019-12	RAN#86	R5-198867	1034	1	F	Update to PDU SESSION ESTABLISHMENT ACCEPT and Reference QoS flow descriptions to align EPS bearer id format	16.2.0
2019-12	RAN#86	R5-198869	1061	1	F	New Test Procedures for IMS Emergency call release	16.2.0
2019-12	RAN#86	R5-198870	1063	1	F	Update chapter 4.5.2 RRC_IDLE	16.2.0
2019-12	RAN#86	R5-198871	1072	1	F	Update of RRCReconfiguration for measurement configuration	16.2.0
2019-12	RAN#86	R5-198955	0995	1	F	Update procedure for NR RF CA testing	16.2.0
2019-12	RAN#86	R5-198956	0996	1	F	Update procedure for EN-DC RF CA testing	16.2.0
2019-12	RAN#86	R5-198957	1036	1	F	Update to 38.508-1 for DEMOD message contents	16.2.0
2019-12	RAN#86	R5-198958	0991	1	F	Update IE PUCCH-Config	16.2.0
2019-12	RAN#86	R5-198959	0976	1	F	Introduction of test frequencies for Rel-15 EN-DC inter-band configurations	16.2.0
2019-12	RAN#86	R5-198960	0980	1	F	Introduction of test frequencies for Rel-16 NR inter-band CA configurations	16.2.0
2019-12	RAN#86	R5-198961	0987	1	F	Introduction of test frequencies for NR configuration CA_n29A-n66A	16.2.0
2019-12	RAN#86	R5-198962	1003	1	F	Introduction of test frequencies for Rel-15 NR DC configurations	16.2.0
2019-12	RAN#86	R5-198997	1068	1	F	Introduction of test frequencies and parameters for NR bands n29, n48 and n65 for protocol testing	16.2.0
2019-12	RAN#86	R5-199008	0997	1	F	Editorial update WLAN table 4.5.2.2-3	16.2.0
2019-12	RAN#86	R5-199013	0943	1	F	Correction to SMTC and GAP for inter frequency cell	16.2.0

2019-12	RAN#86	R5-199015	0981	1	F	Correction of test frequencies for NR CA and EN-DC protocol testing	16.2.0
2019-12	RAN#86	R5-199016	1049	1	F	Updates to Test Procedure 4.9.11	16.2.0
2019-12	RAN#86	R5-199017	1050	1	F	Updates to Test Procedure 4.9.12	16.2.0
2019-12	RAN#86	R5-199020	1079	-	F	Update default setting of deriveSSB-IndexFromCell	16.2.0
2019-12	RAN#86	R5-199021	1011	1	F	Update IE TDD-UL-DL-Config	16.2.0
2019-12	RAN#86	R5-199022	1070	1	F	Updates to Signalling Reference test conditions	16.2.0
2019-12	RAN#86	R5-199026	1025	2	F	Update IE CellGroupConfig	16.2.0
2019-12	RAN#86	R5-199071	0944	2	F	Update of SUL related messages	16.2.0
2019-12	RAN#86	R5-199075	1080	1	F	Correction to NR RRC_IDLE mode procedure	16.2.0
2019-12	RAN#86	R5-199093	1065	2	F	Update chapter 4.5.4 RRC_CONNECTED	16.2.0
2019-12	RAN#86	R5-199094	1069	1	F	Updates for handling of Multiple PDU sessions / Multiple DRBs	16.2.0
2019-12	RAN#86	R5-199103	1076	2	F	Adding new generic procedure for UE-requested PDU session modification after the first S1 to N1 mode change	16.2.0
2019-12	RAN#86	R5-199300	1042	1	F	Corrections on category of EN-DC configurations for test frequencies in 38.508-1	16.2.0
2019-12	RAN#86	R5-199301	1054	1	F	Addition of ServingCellConfigCommon for RRM tests	16.2.0
2019-12	RAN#86	R5-199302	1057	1	F	Corrections on test frequencies for NR CA band n257 in 38.508-1	16.2.0
2019-12	RAN#86	R5-199303	1060	1	F	Corrections on test frequencies for NR CA band n258 in 38.508-1	16.2.0
2019-12	RAN#86	R5-199304	1066	1	F	Update Radio resource control information elements for RRM to add CSI-RS for Tracking	16.2.0
2019-12	RAN#86	R5-199423	1077	-	F	Update ra-responseWindow in TS 38.508-1	16.2.0
2019-12	RAN#86	R5-199481	0989	1	F	Addition of FR1 NR CA and NR 4Rx connection diagrams	16.2.0
2019-12	RAN#86	R5-199511	1078	-	F	Update of quiet zone size	16.2.0
2019-12	RAN#86	R5-199545	1020	1	F	Addition of multi-AoA capabilities for IFF	16.2.0