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.

GNSS System Simulator or GSS: A device or system, that is capable of generating simulated GNSS satellite transmissions in order to create the required test environment for the UE under test. It will also include the following capabilities:

1. Control of the output power of individual satellites and the simulation of atmospheric delays.
2. Ability to synchronize with NR timing in the SS.

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

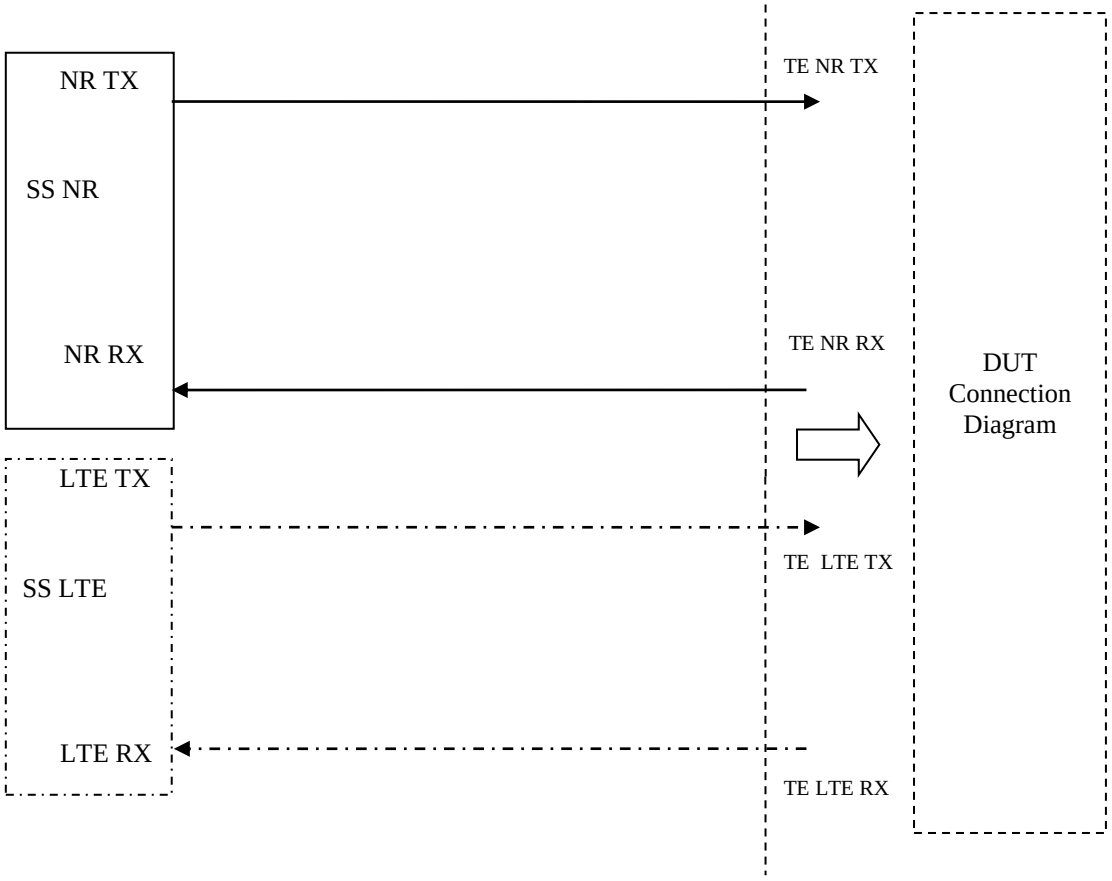

Figure A.3.1.1.1: Test Equipment connection for basic single cell, RX and TX tests

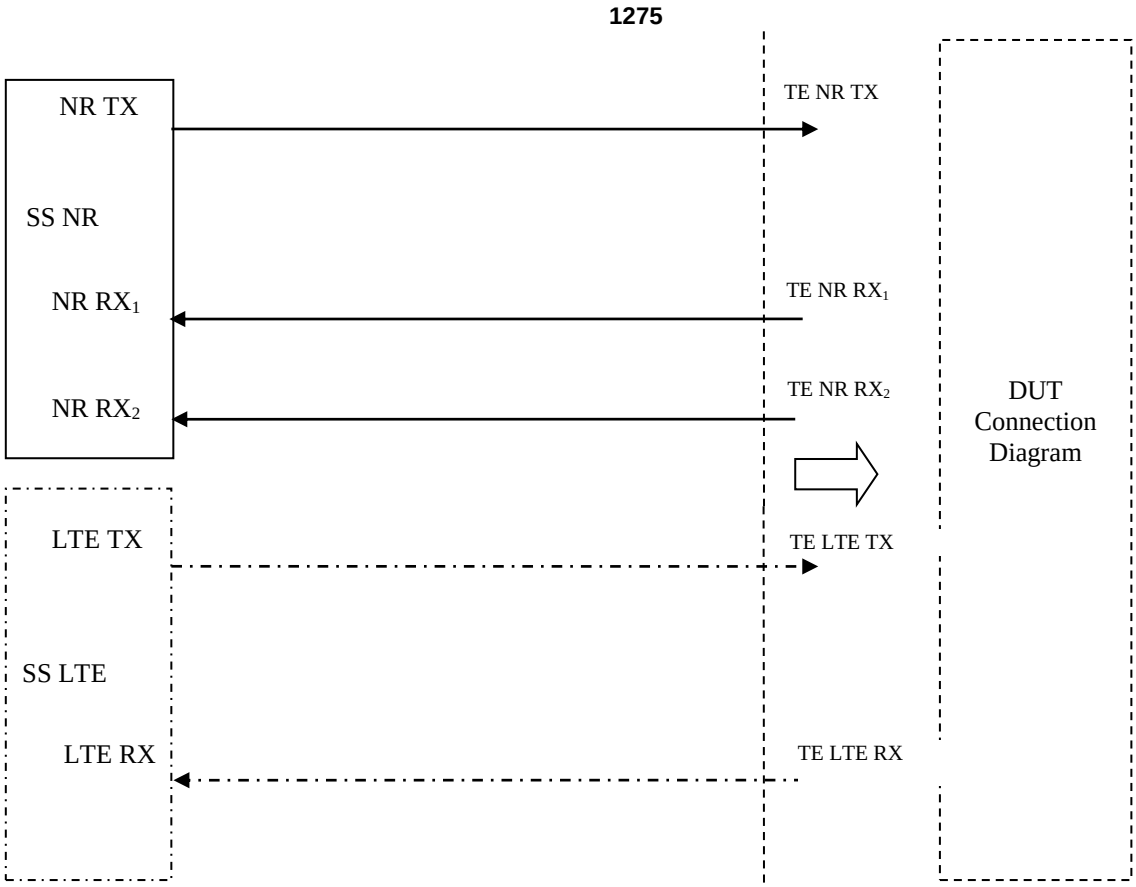

Figure A.3.1.1.2: Test Equipment connection for single cell, RX and TX tests for NR UL MIMO or NR Tx diversity

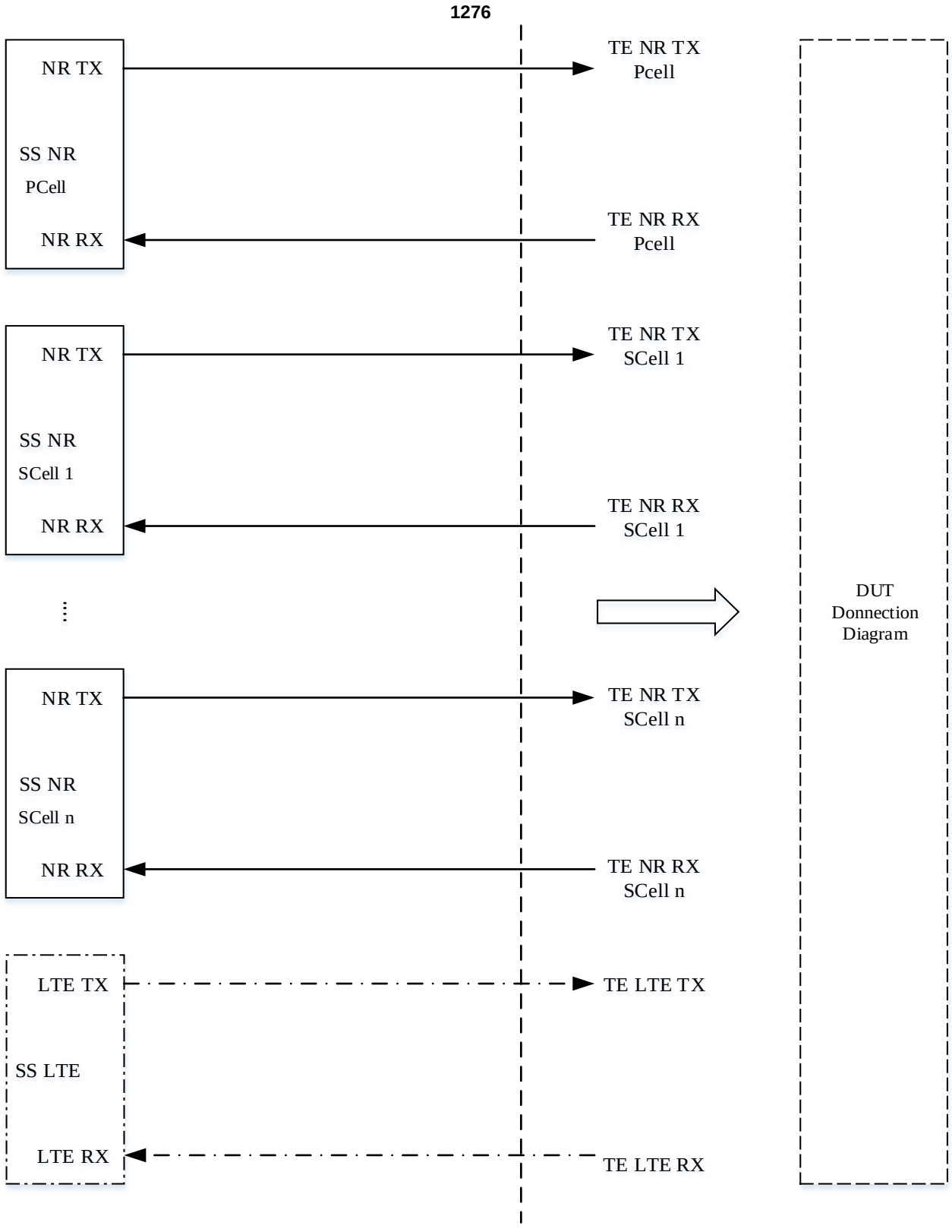

Figure A.3.1.1.3: Test Equipment connection for NR CA and NR-DC, basic RX and TX tests

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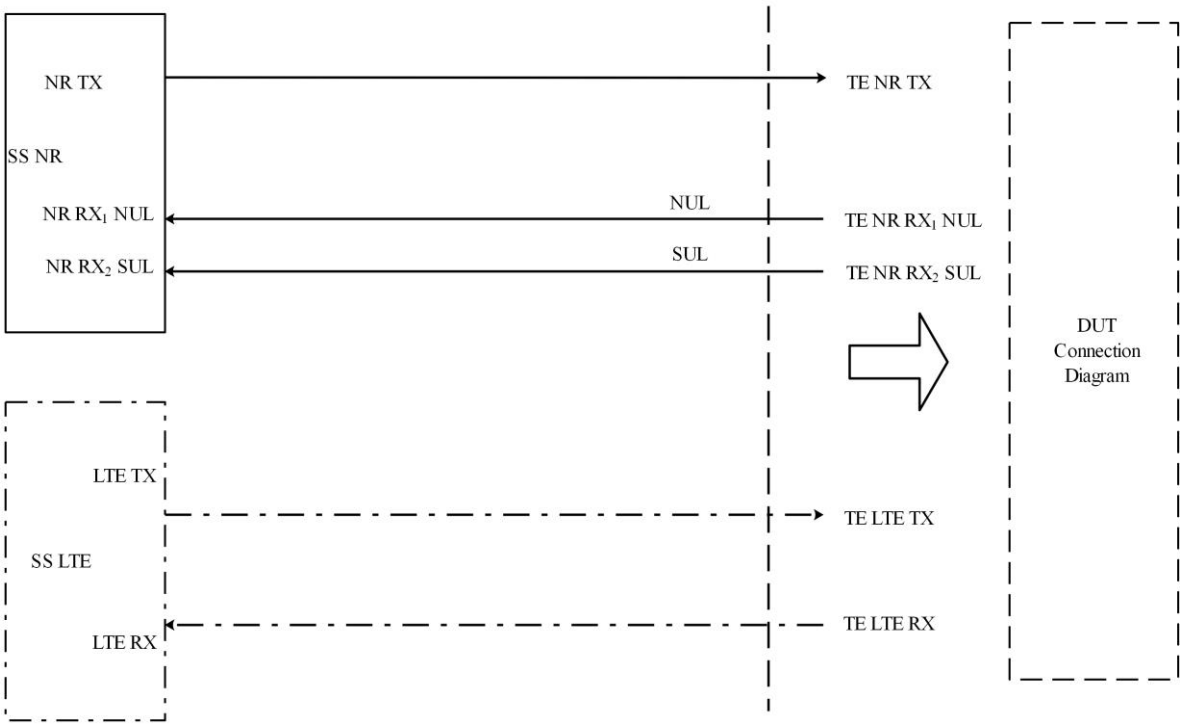


Figure A.3.1.1.4: Test Equipment connection for NR SUL, basic RX and TX tests

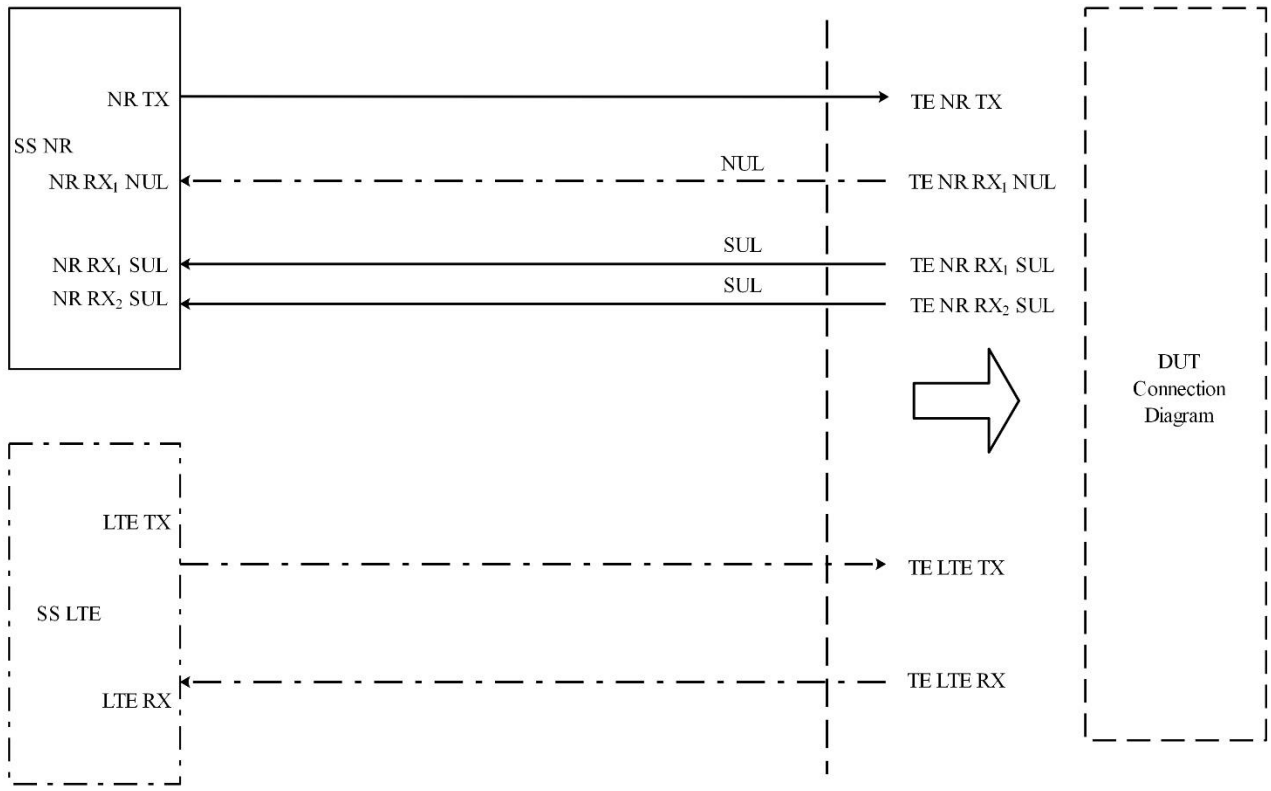


Figure A.3.1.1.5: Test Equipment connection for UL MIMO on SUL band, basic RX and TX tests

A.3.1.2 Transmitter tests using Spectrum Analyser

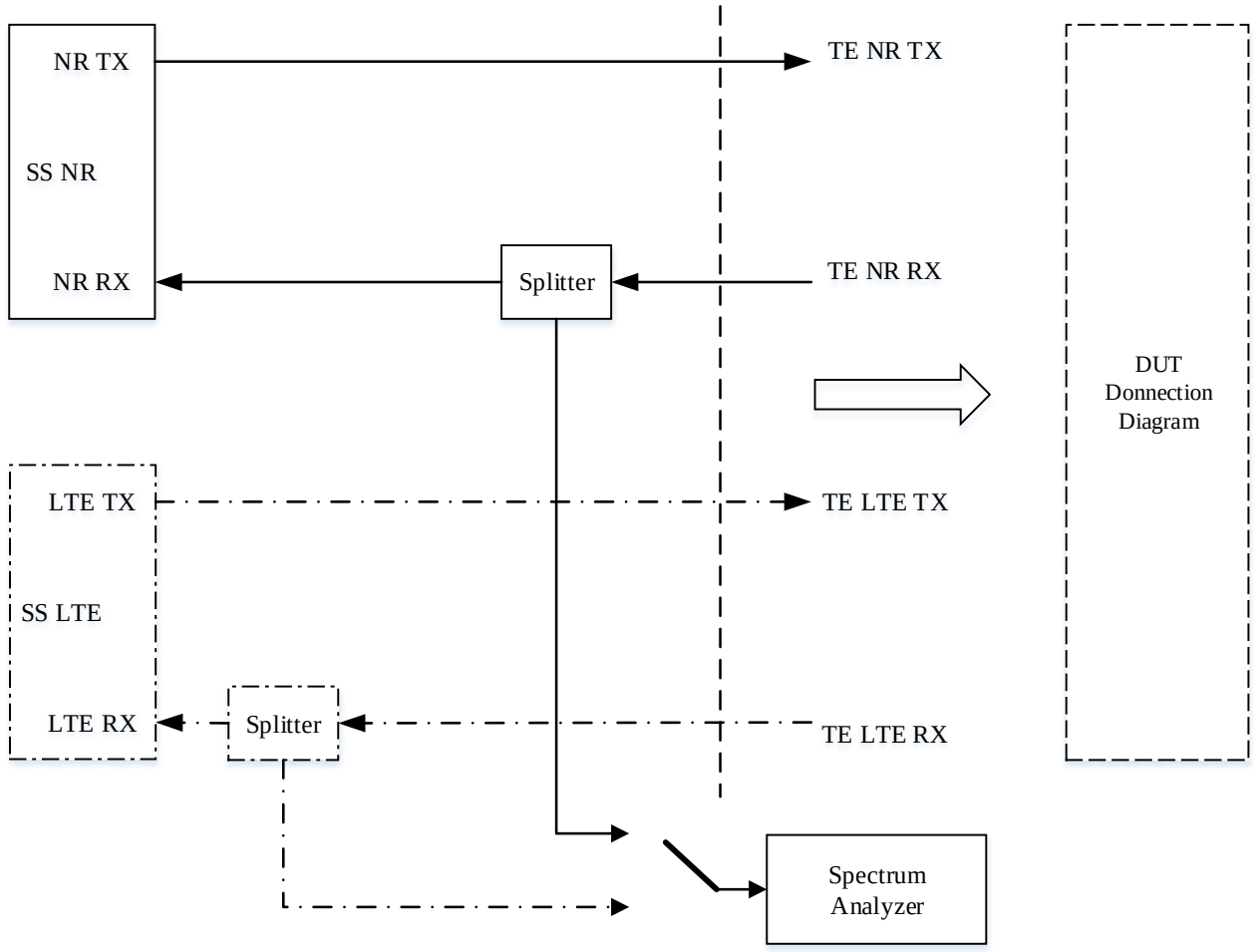


Figure A.3.1.2.1: Test Equipment connection for TX-tests with additional Spectrum Analyzer

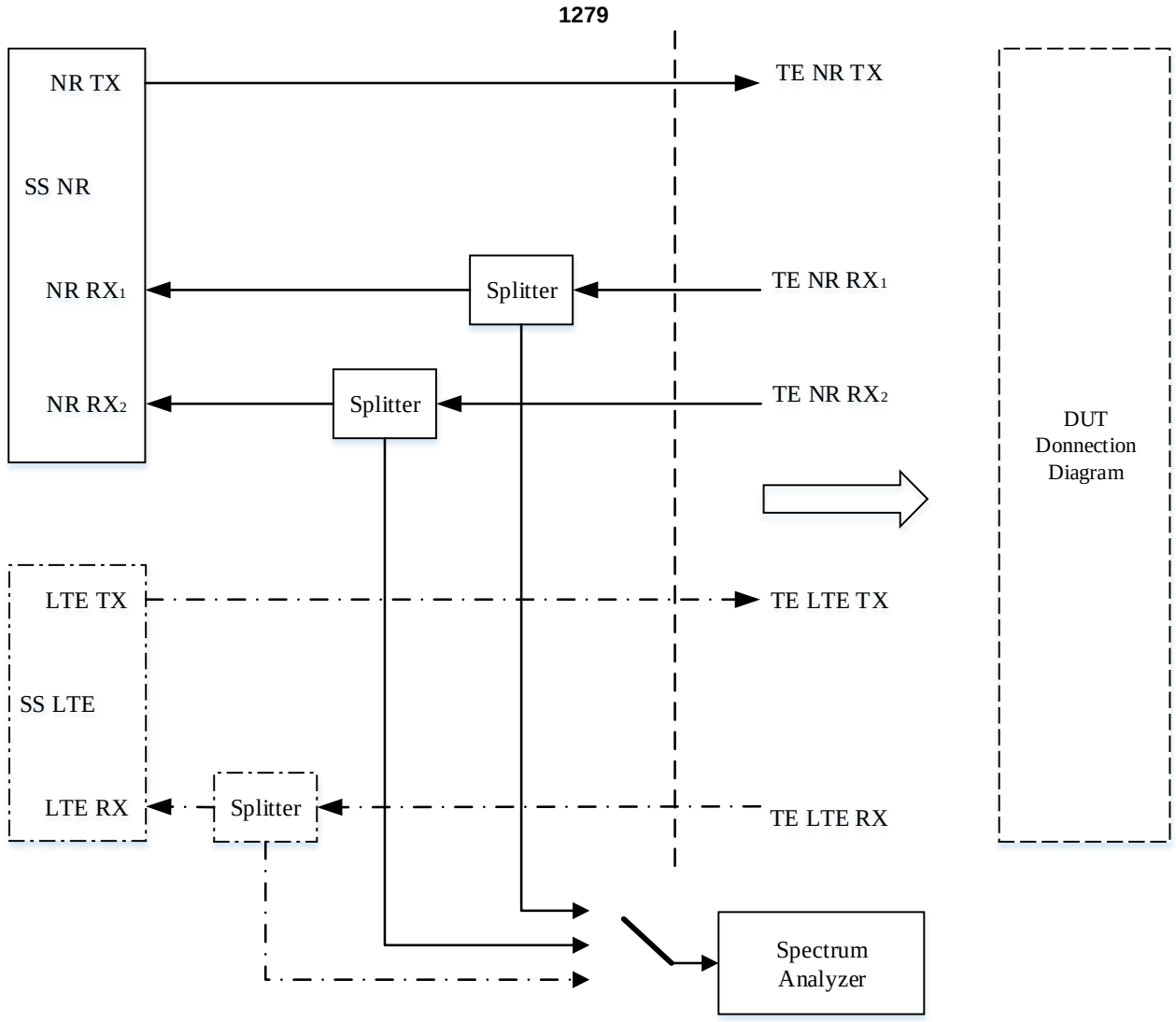


Figure A.3.1.2.2: Test Equipment connection for TX-tests for UL MIMO with additional Spectrum Analyser

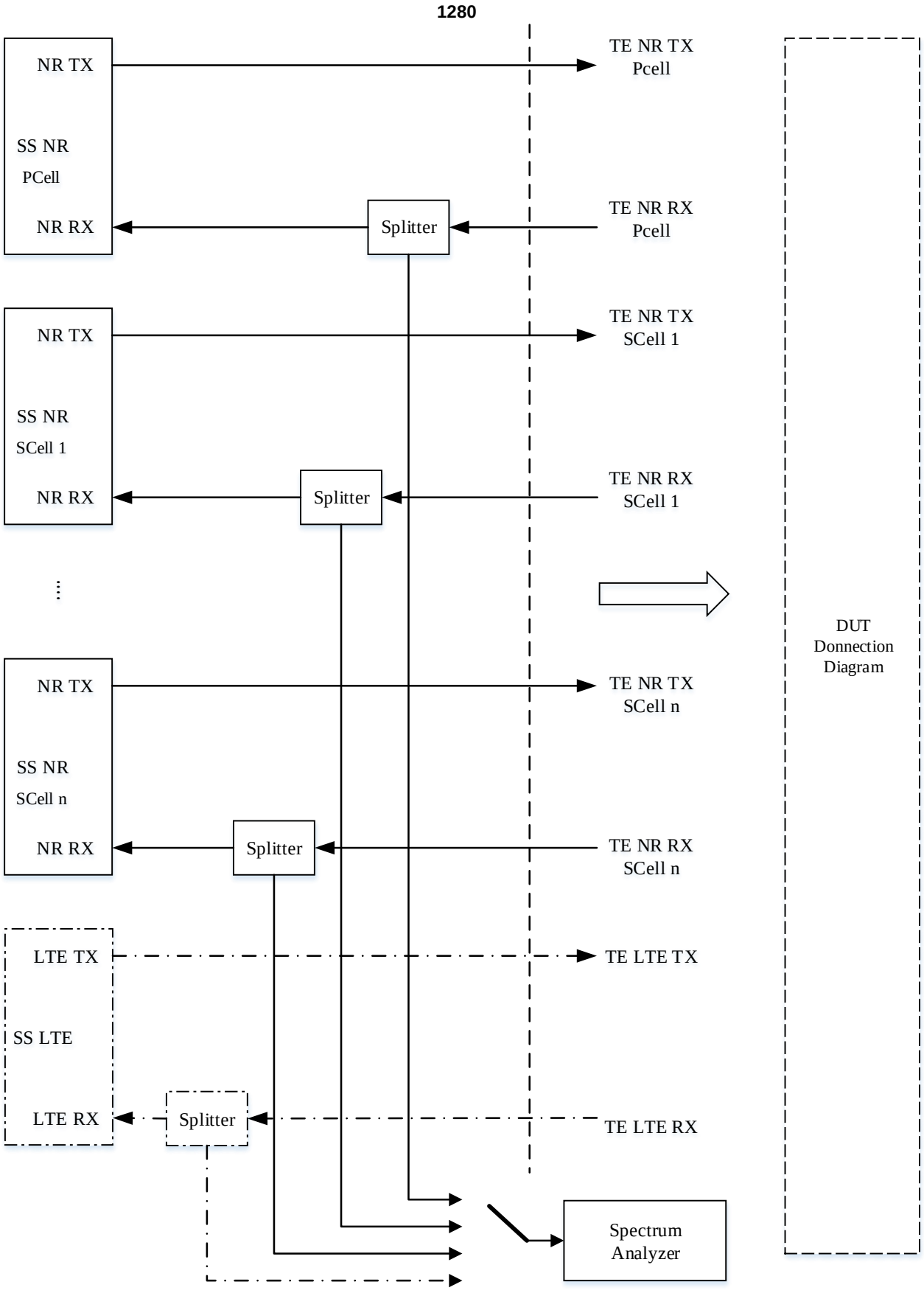


Figure A.3.1.2.3: Test Equipment connection for NR CA TX-tests with additional Spectrum Analyser

1281

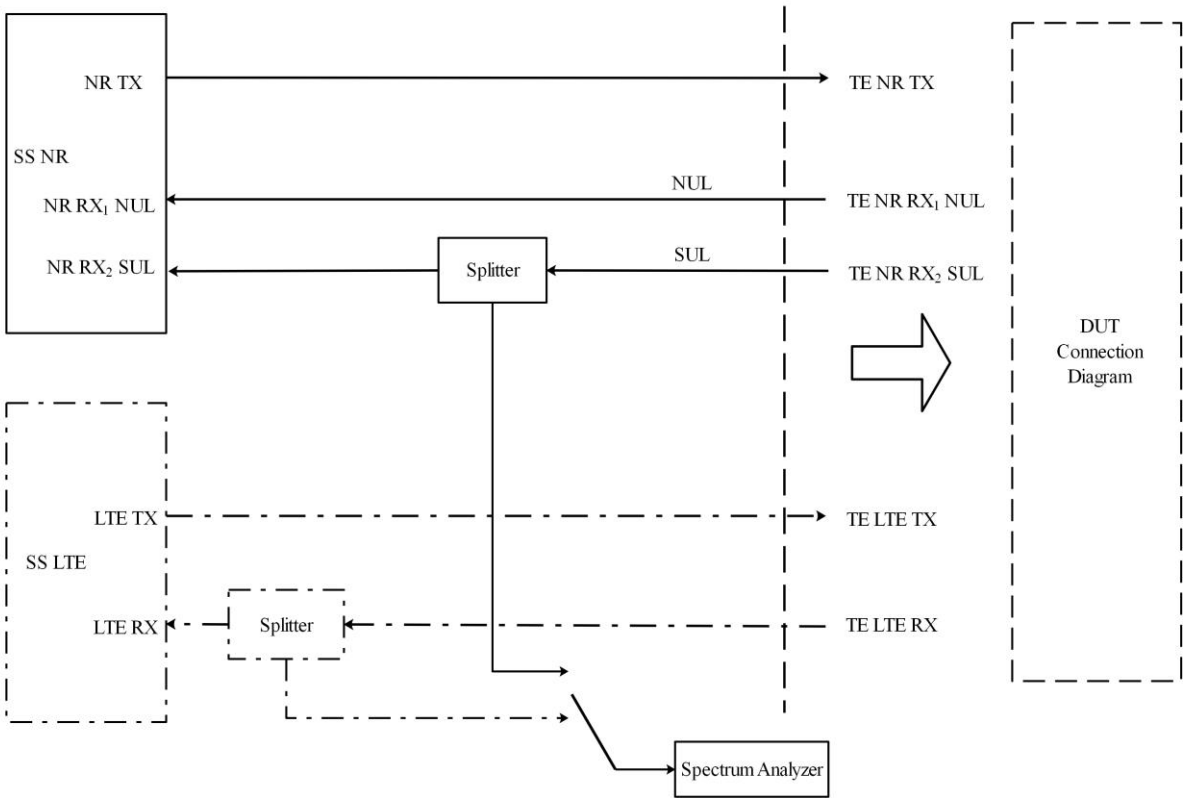


Figure A.3.1.2.4: Test Equipment connection for NR SUL TX-tests with additional Spectrum Analyzer

A.3.1.3 Transmitter tests using Spectrum Analyser and Signal Generator

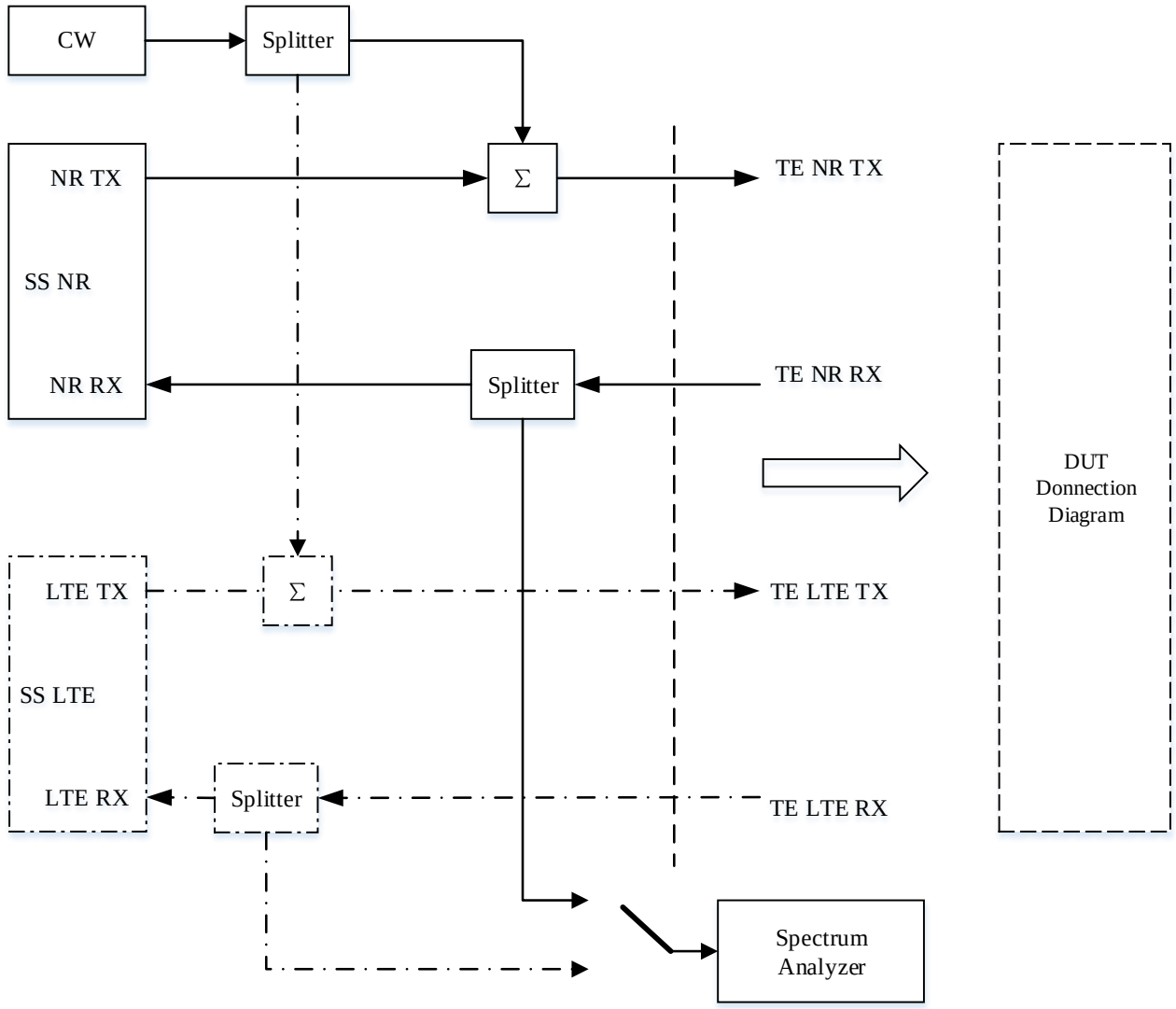


Figure A.3.1.3.1: Test Equipment connection for Transmitter tests with CW Interference and spectrum analyser

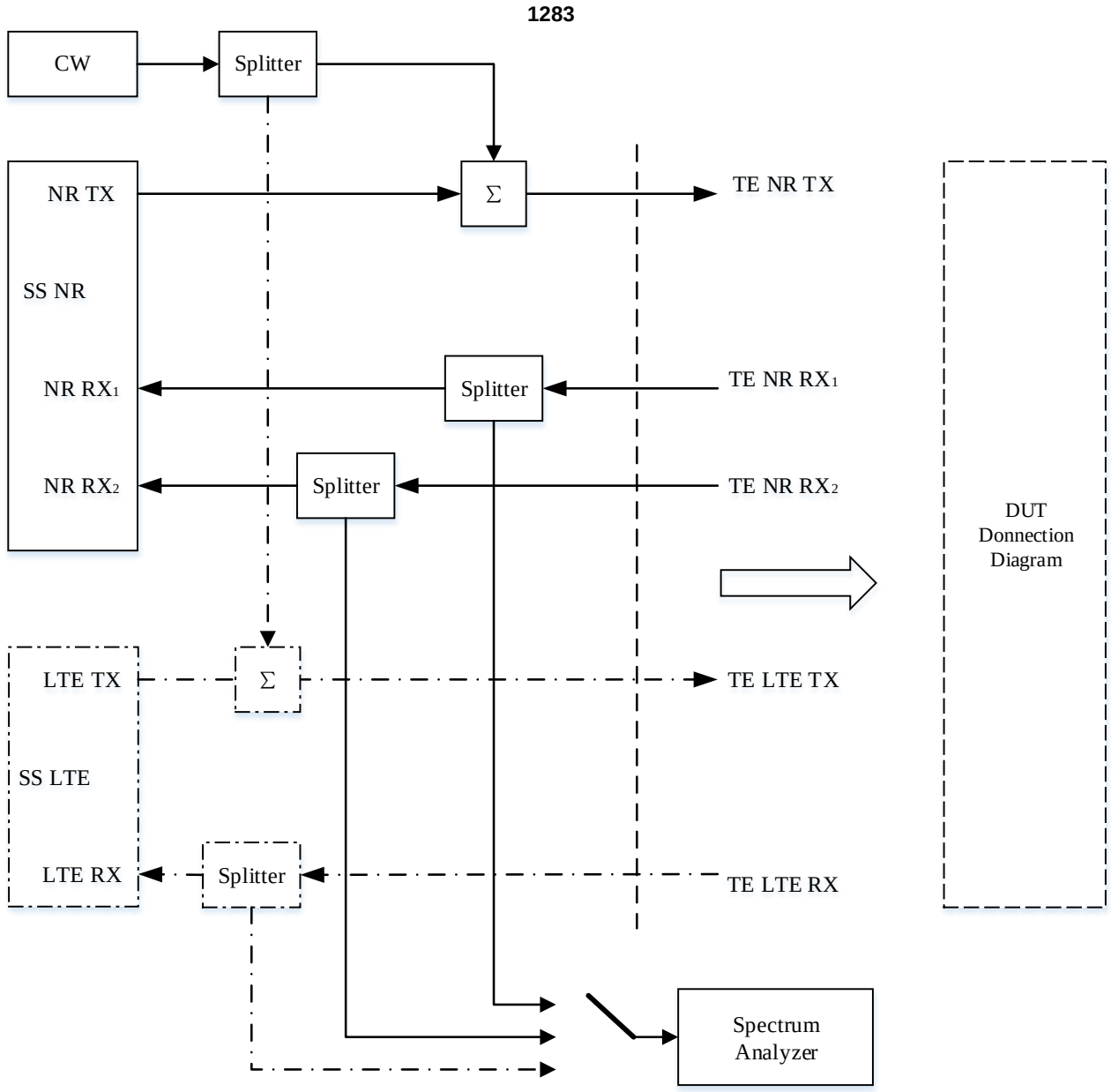


Figure A.3.1.3.2: Test Equipment connection for Transmitter tests for UL MIMO with CW Interference and spectrum analyser

1284

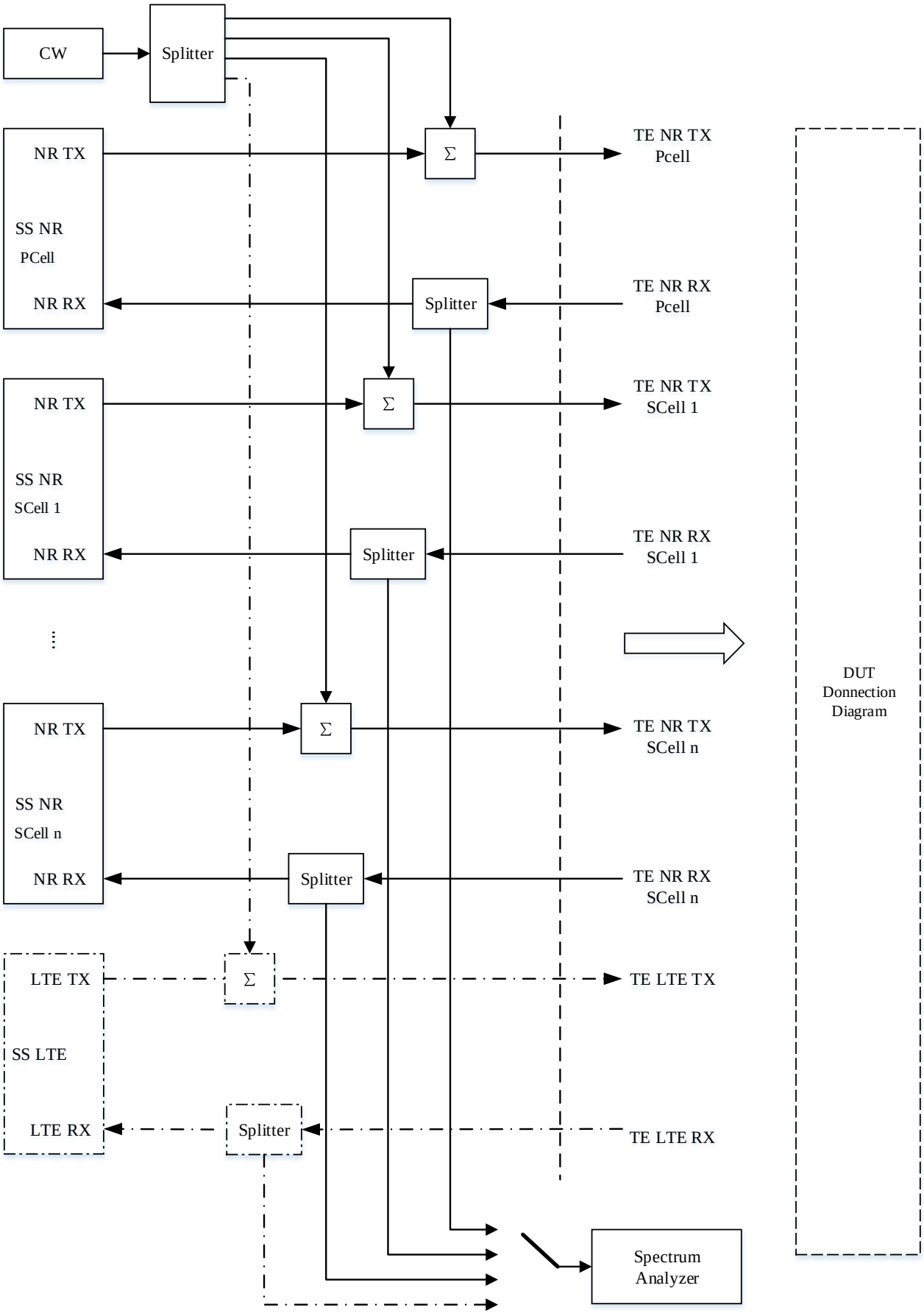

CW
Splitter
NR TX
SS NR
PCell
NR RX
Σ
TE NR TX
Pcell
Splitter
TE NR RX
Pcell
NR TX
SS NR
SCell 1
NR RX
Σ
TE NR TX
SCell 1
Splitter
TE NR RX
SCell 1
NR TX
SS NR
SCell n
NR RX
Σ
TE NR TX
SCell n
Splitter
TE NR RX
SCell n
LTE TX
SS LTE
LTE RX
Σ
TE LTE TX
Splitter
TE LTE RX
Spectrum
Analyzer
DUT
Donnection
Diagram

Figure A.3.1.3.3: Test Equipment connection for NR CA Transmitter tests with CW Interference and spectrum analyser

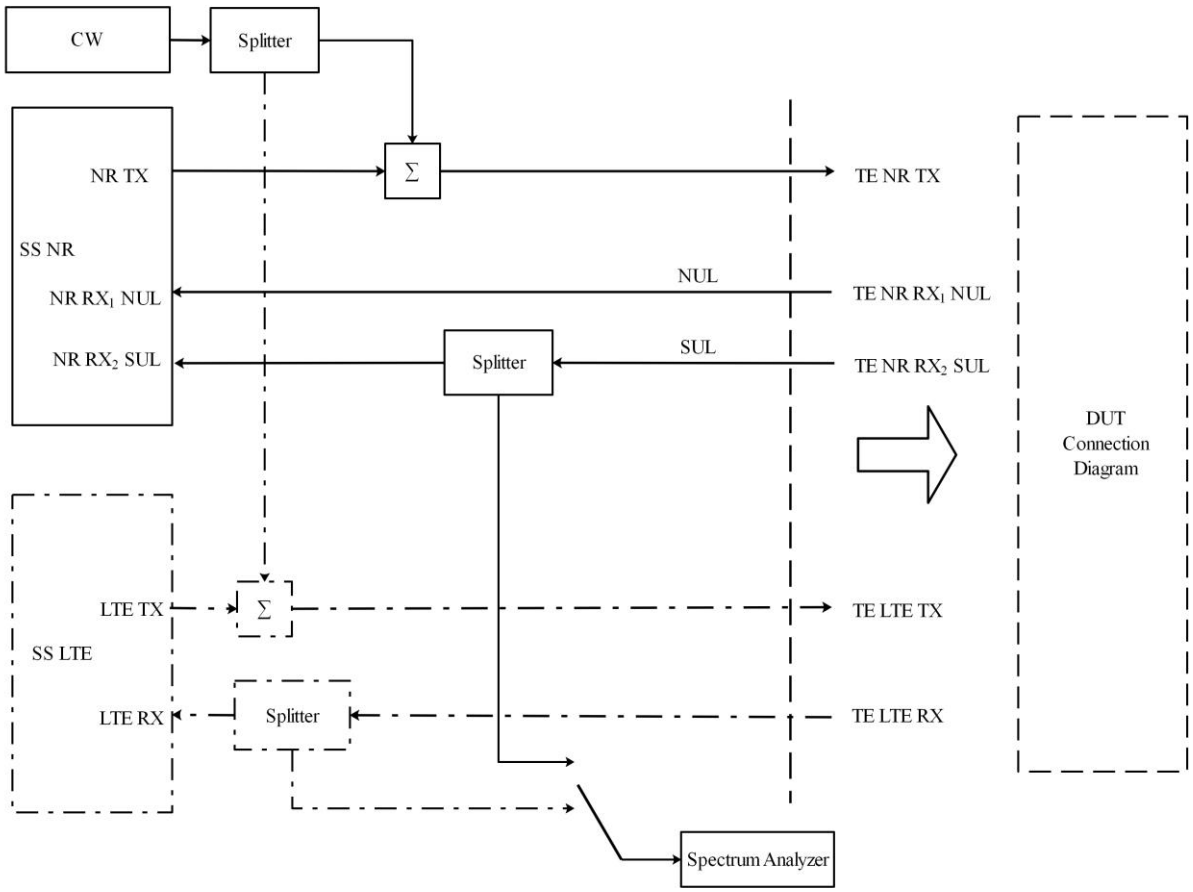


Figure A.3.1.3.4: Test Equipment connection for Transmitter tests for SUL with CW Interference and spectrum analyzer

1286

A.3.1.4 Receiver tests using Signal Generator

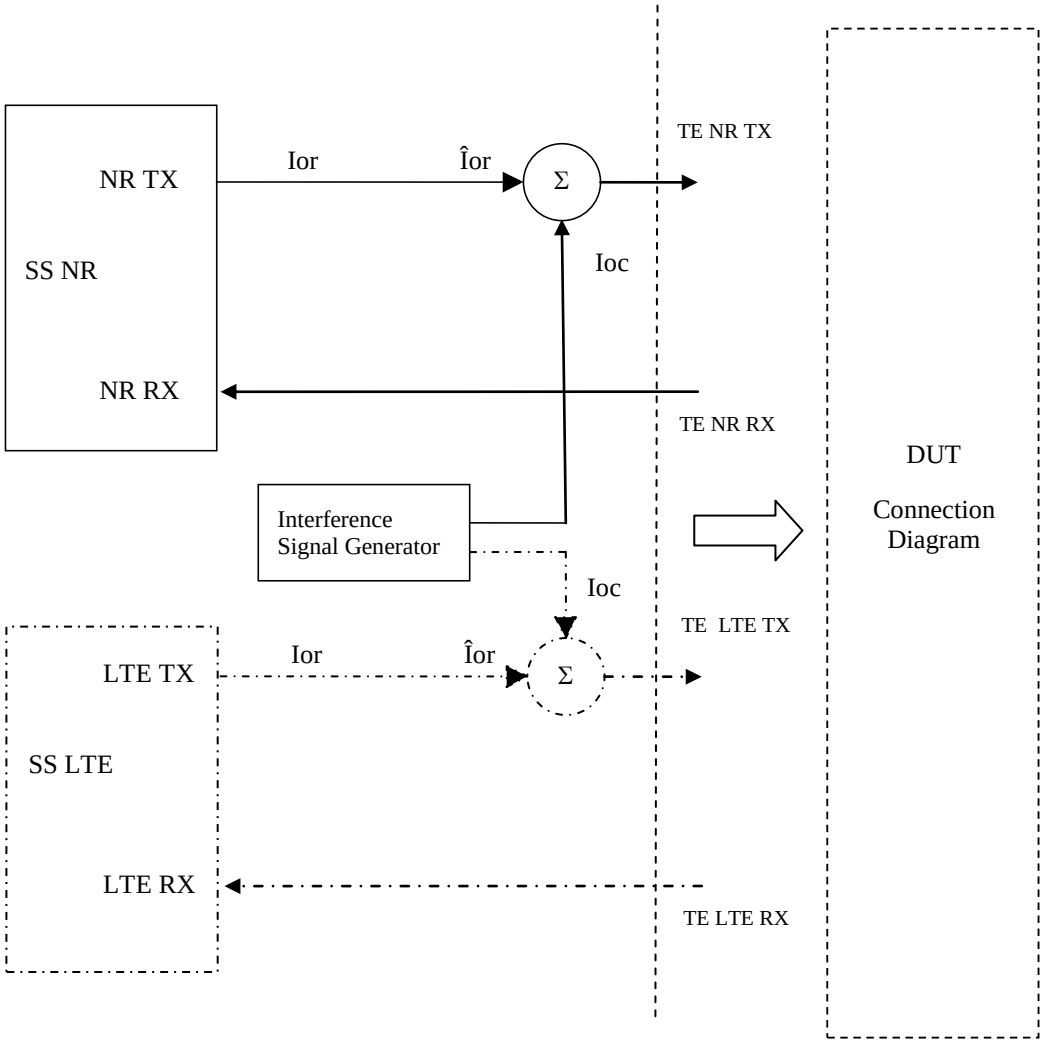


Figure A.3.1.4.1: Test Equipment connection for Receiver tests with Modulated Interference

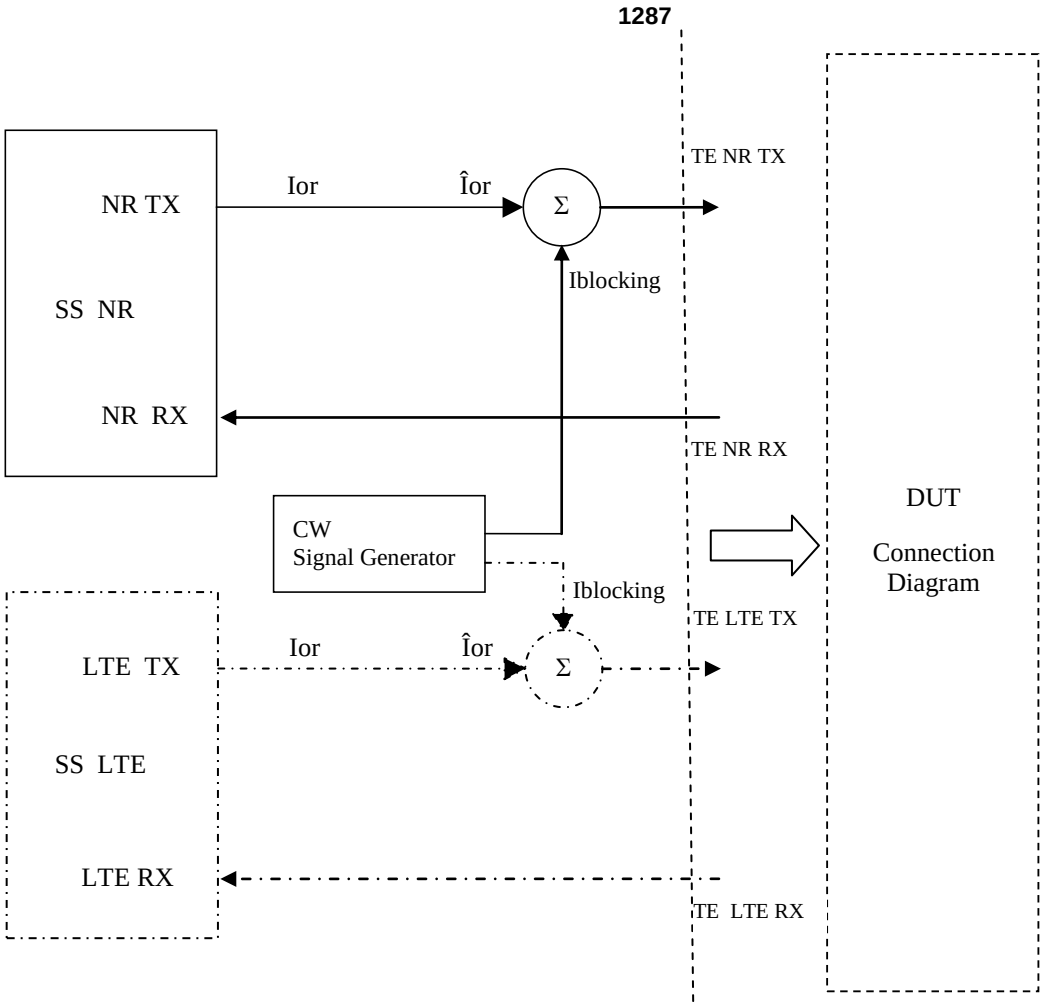


Figure A.3.1.4.2: Test Equipment connection for Receiver tests with CW Interference

1288

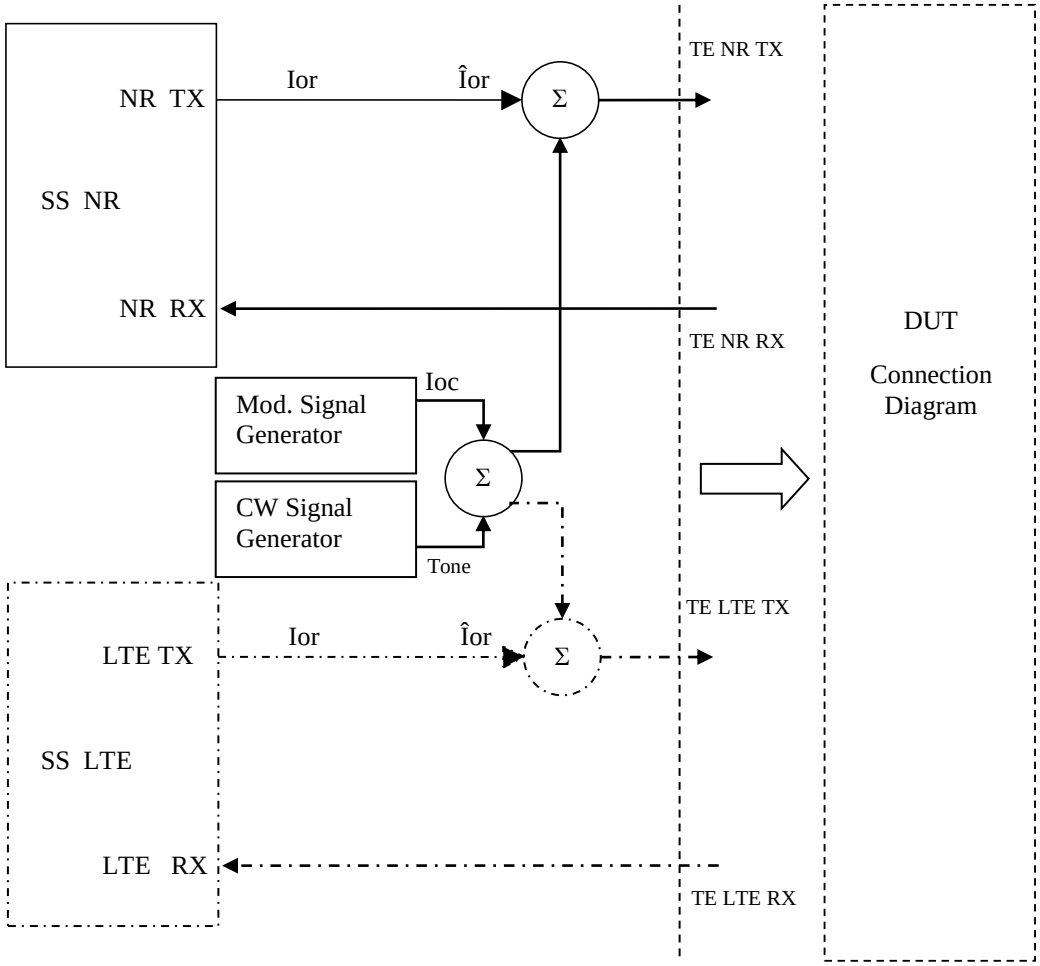


Figure A.3.1.4.3: Test Equipment connection for Receiver tests both Modulated and additional CW Interference signal

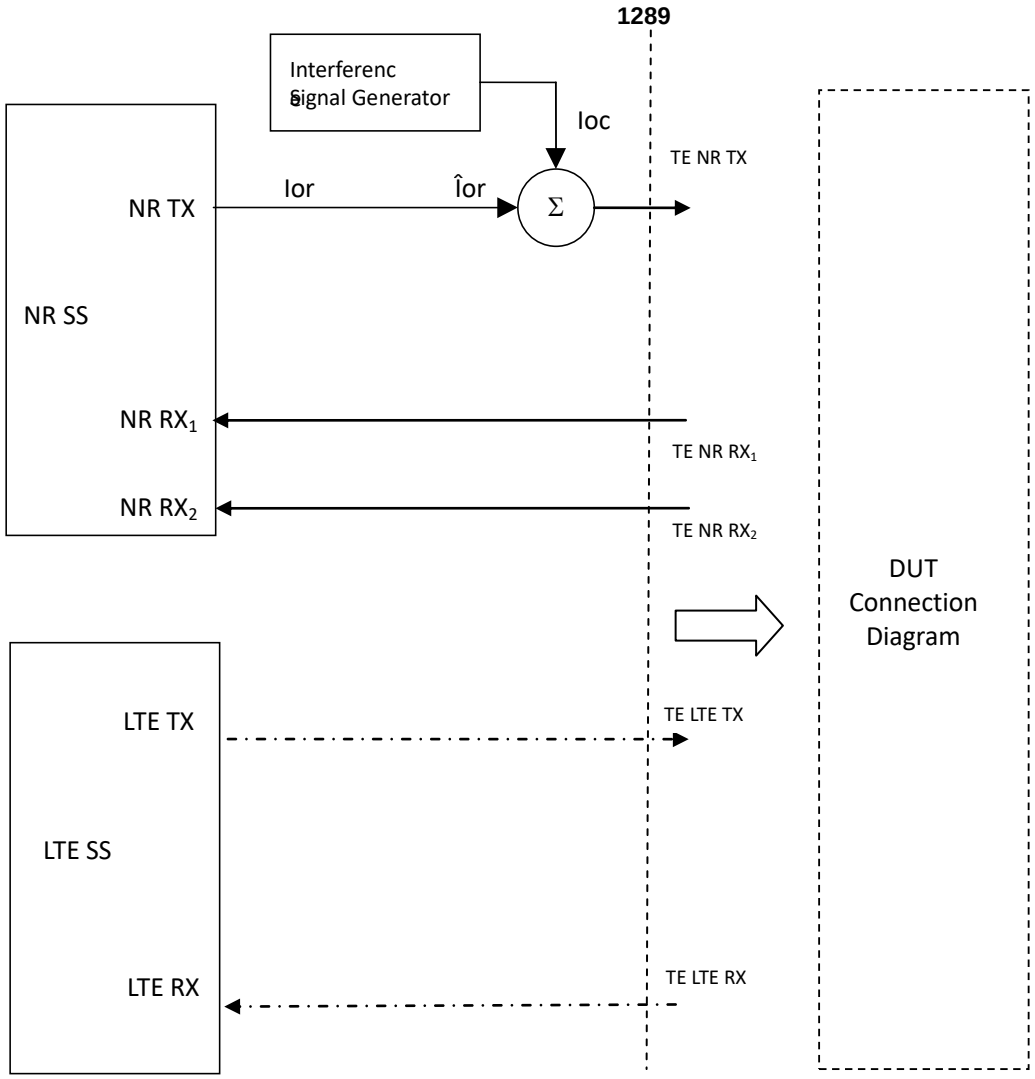


Figure A.3.1.4.4: Test Equipment connection for Receiver tests for UL MIMO with Modulated Interference

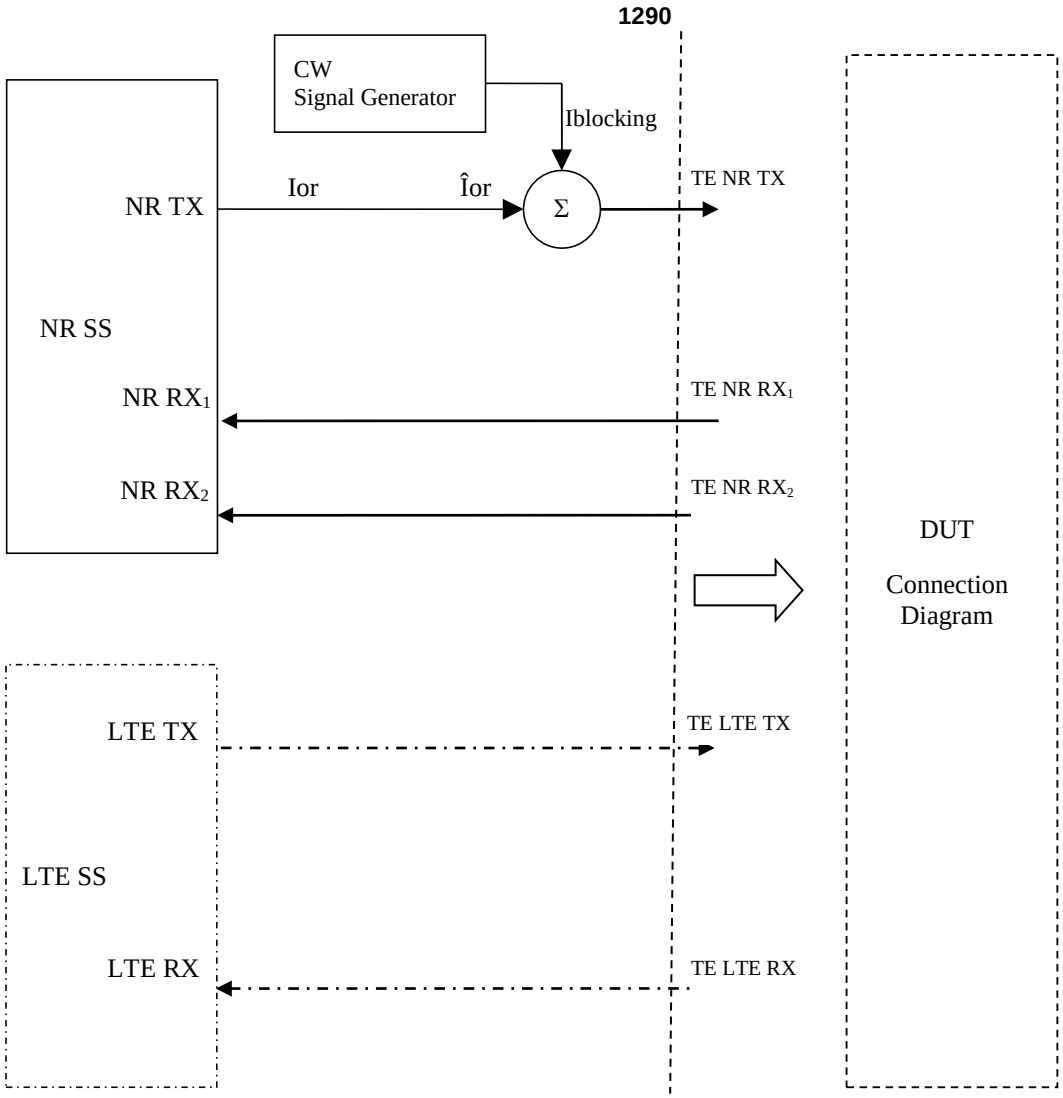


Figure A.3.1.4.5: Test Equipment connection for Receiver tests for UL MIMO with CW Interference

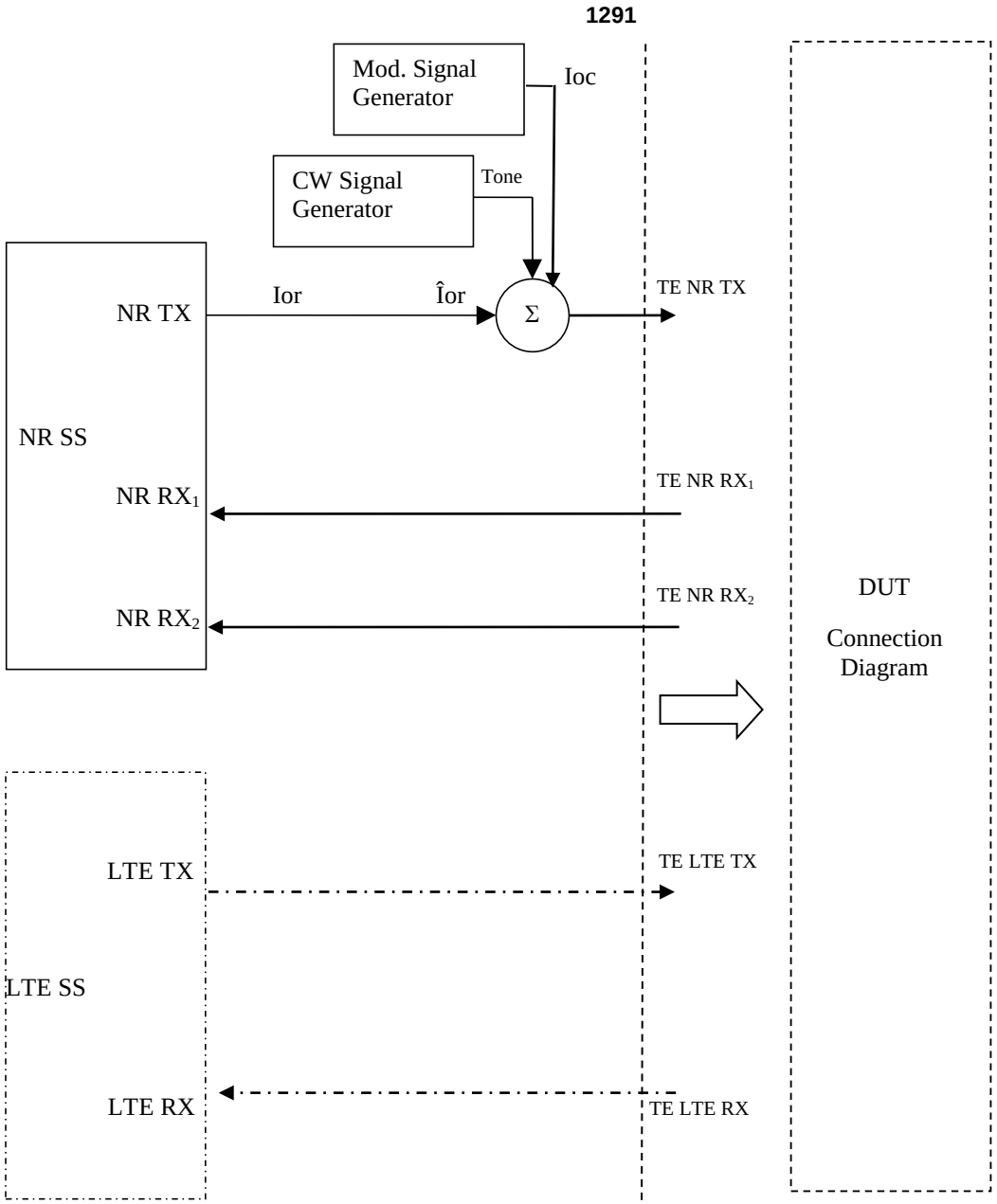
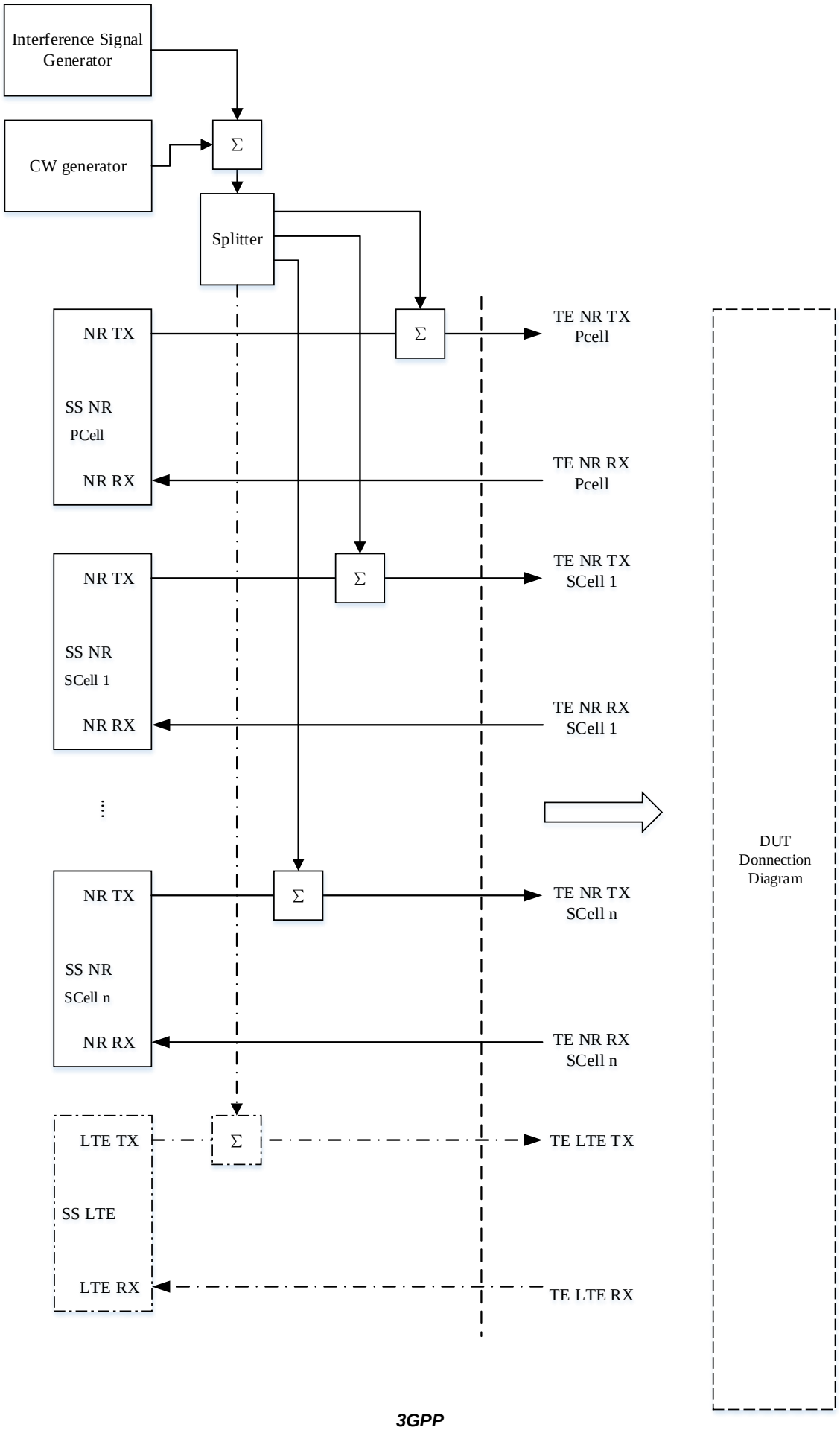


Figure A.3.1.4.6: Test Equipment connection for Receiver tests for UL MIMO with both Modulated and additional CW Interference signal

1292


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

1293

Figure A.3.1.4.7: Test Equipment connection for NR CA Receiver tests with additional Modulated Interference signal and/or CW Interference signal

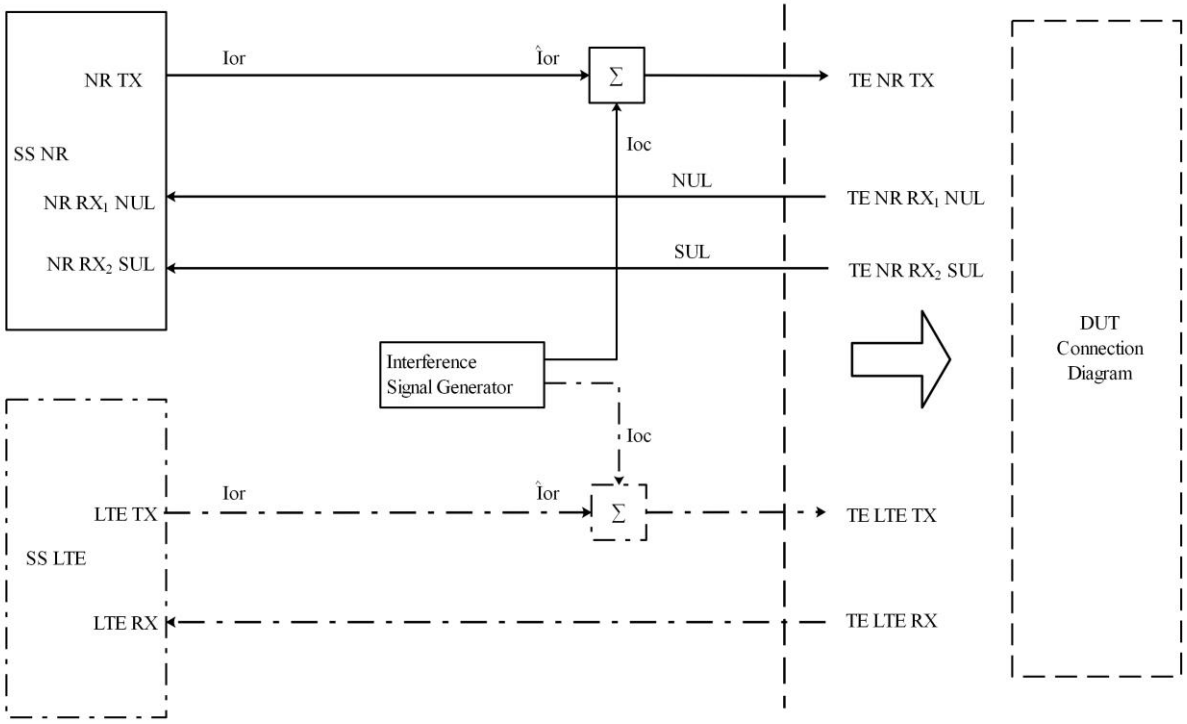


Figure A.3.1.4.8: Test Equipment connection for NR SUL Receiver tests with Modulated Interference

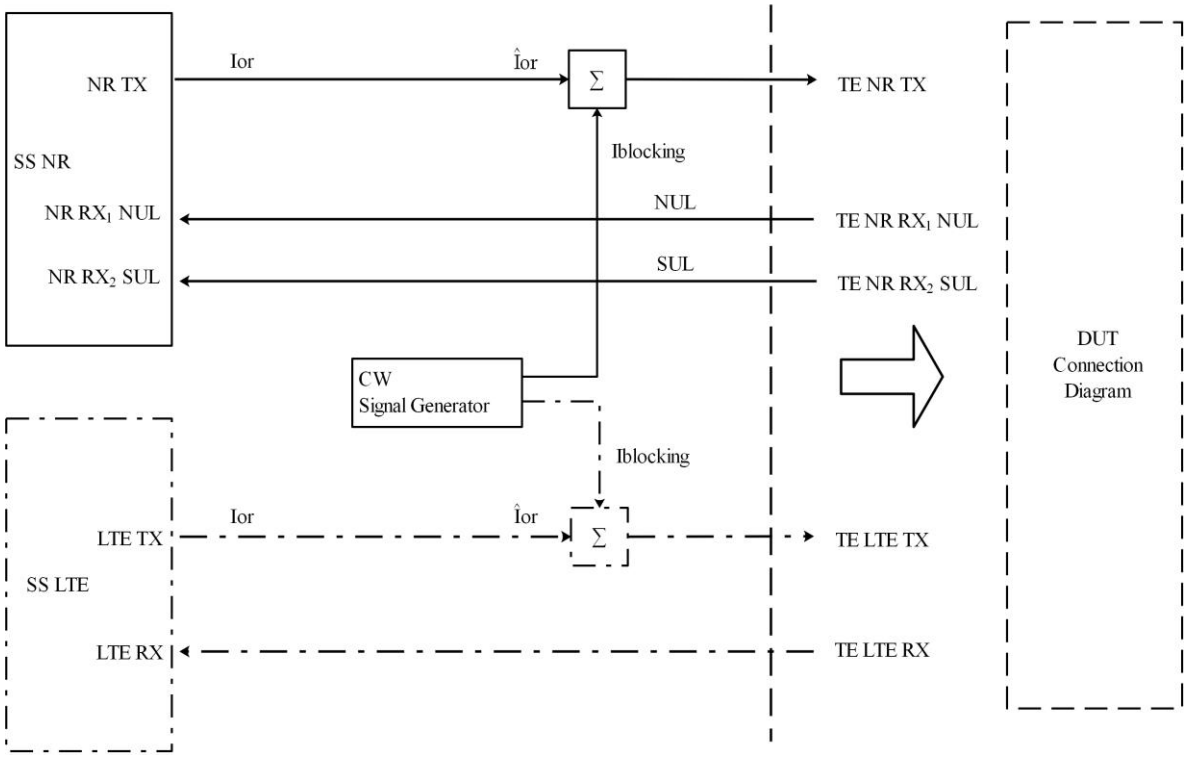


Figure A.3.1.4.9: Test Equipment connection for NR SUL Receiver tests with CW Interference

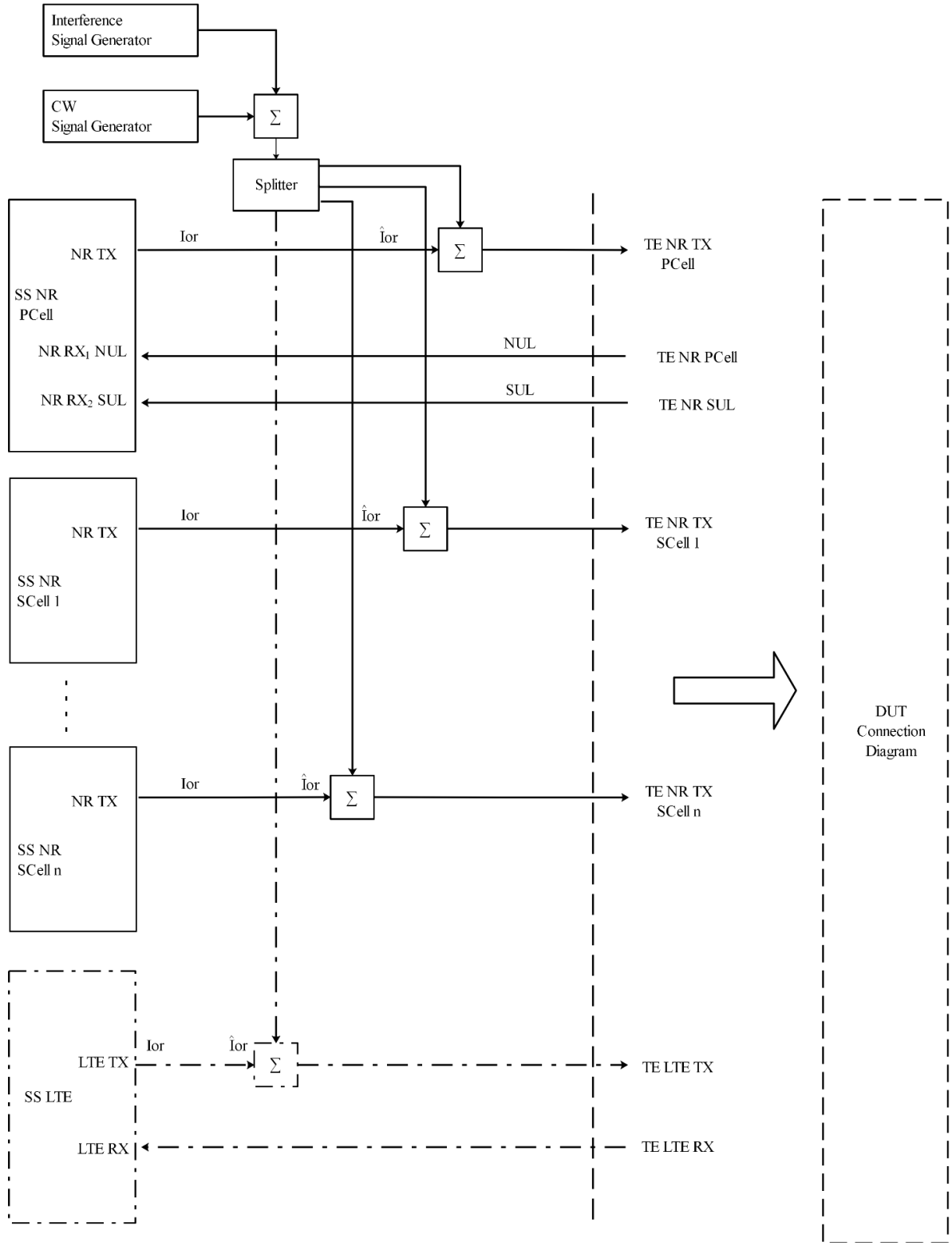


Figure A.3.1.4.10: Test Equipment connection for NR SUL with DL CA Receiver tests with additional Modulated Interference and/or CW Interference signal

A.3.1.5 Receiver tests using Spectrum Analyser

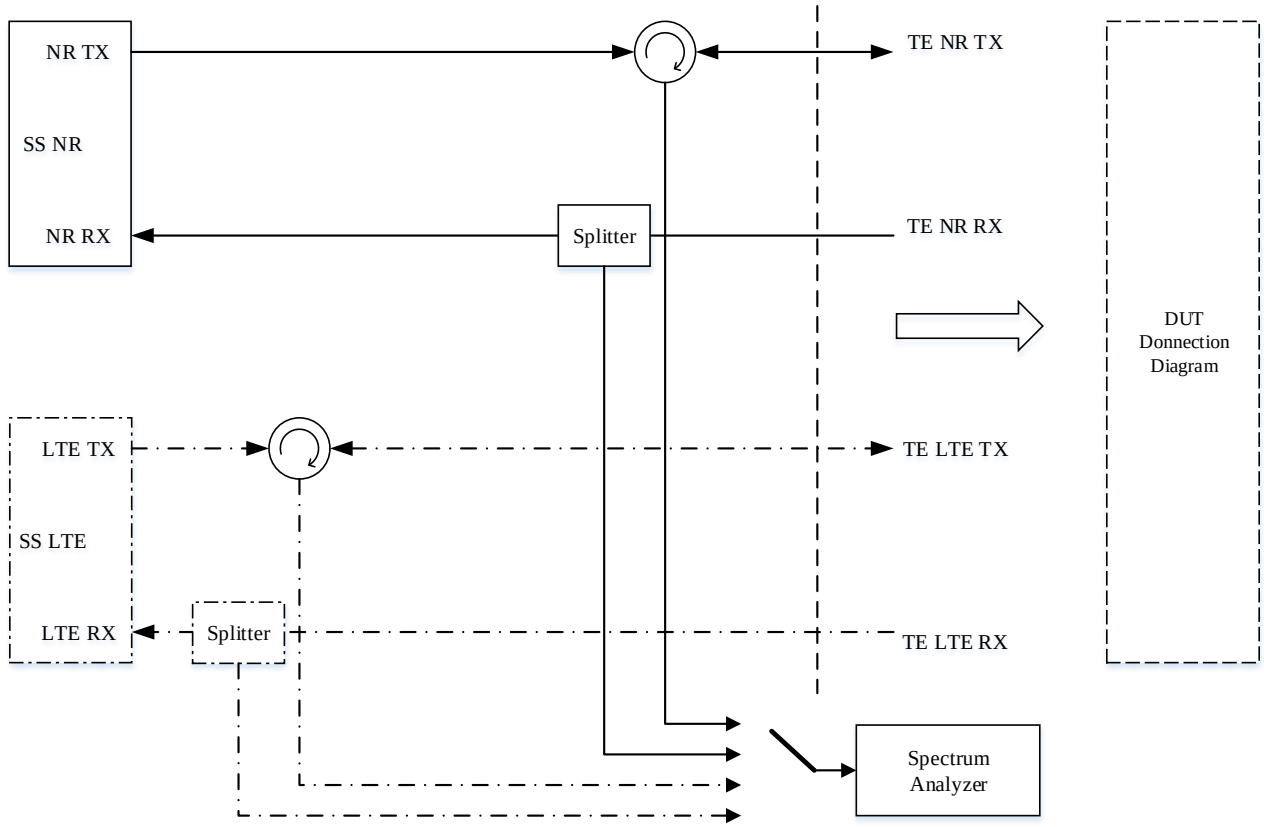


Figure A.3.1.5.1: Test Equipment connection for RX-tests with additional Spectrum Analyzer

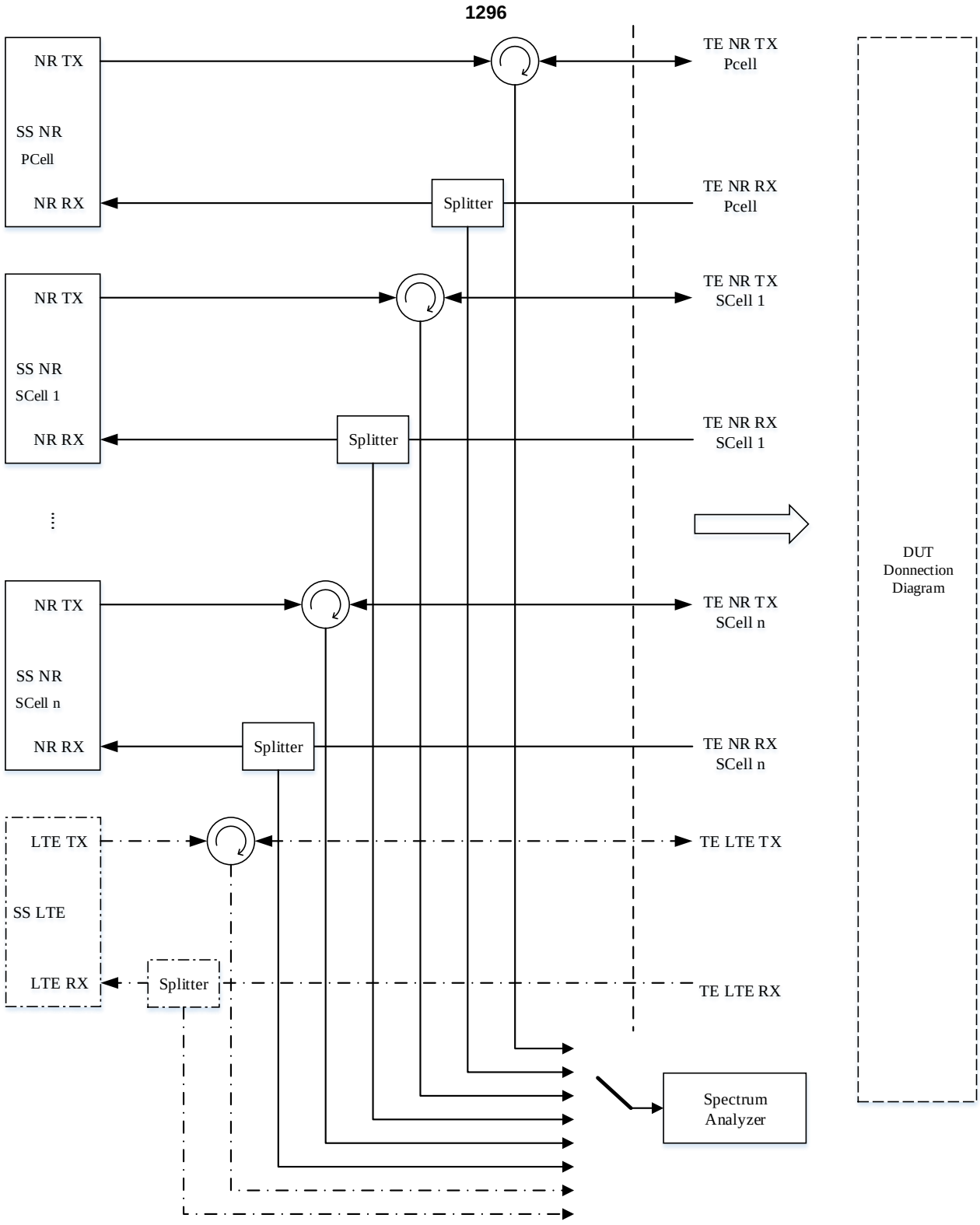


Figure A.3.1.5.2: Test Equipment connection for NR CA RX-tests with additional Spectrum Analyzer

A.3.1.6 Receiver Performance tests

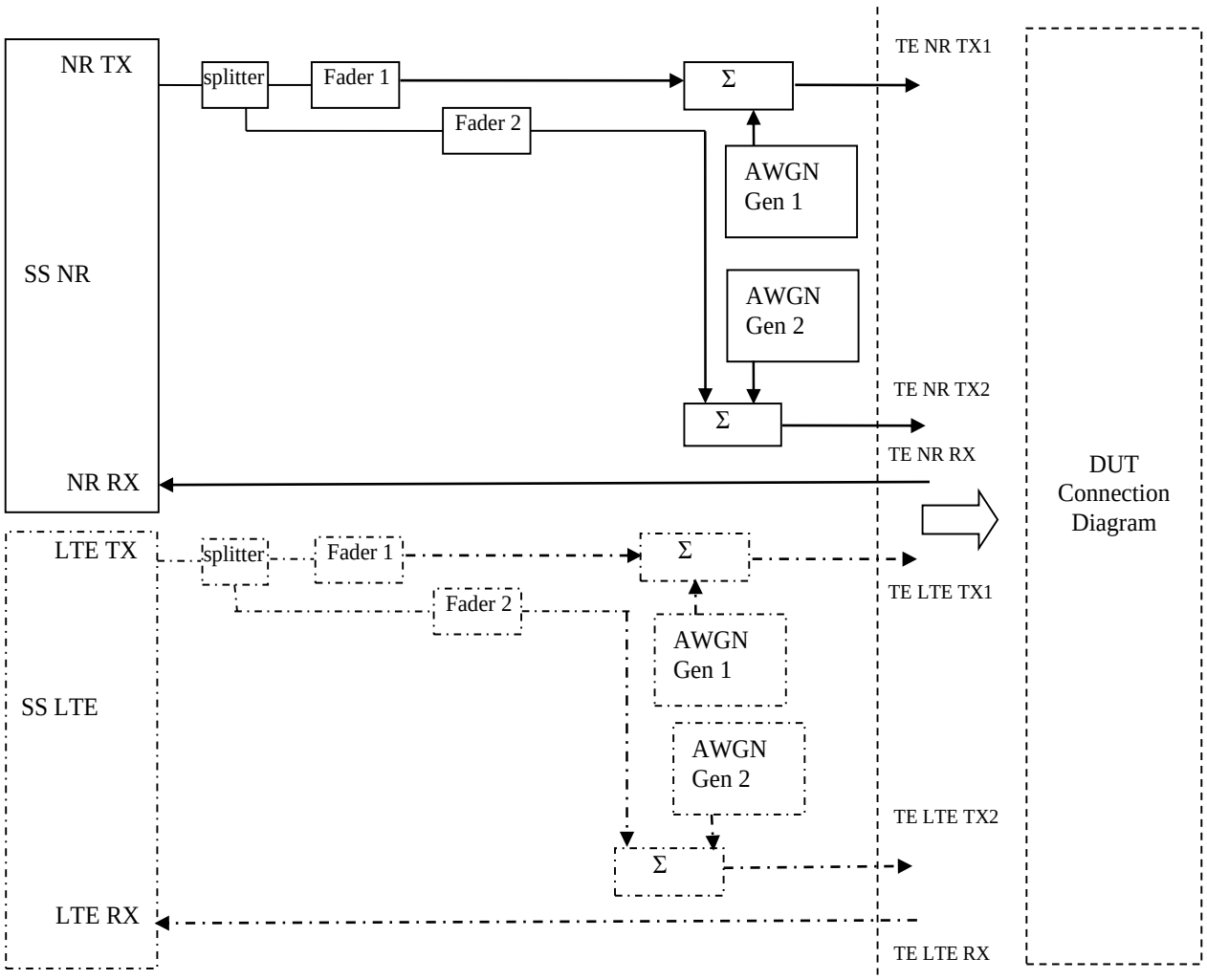


Figure A.3.1.6.1: Test Equipment connection for Receiver Performance tests with antenna configuration 1x2

A.3.1.7 Demodulation Performance and CSI reporting tests

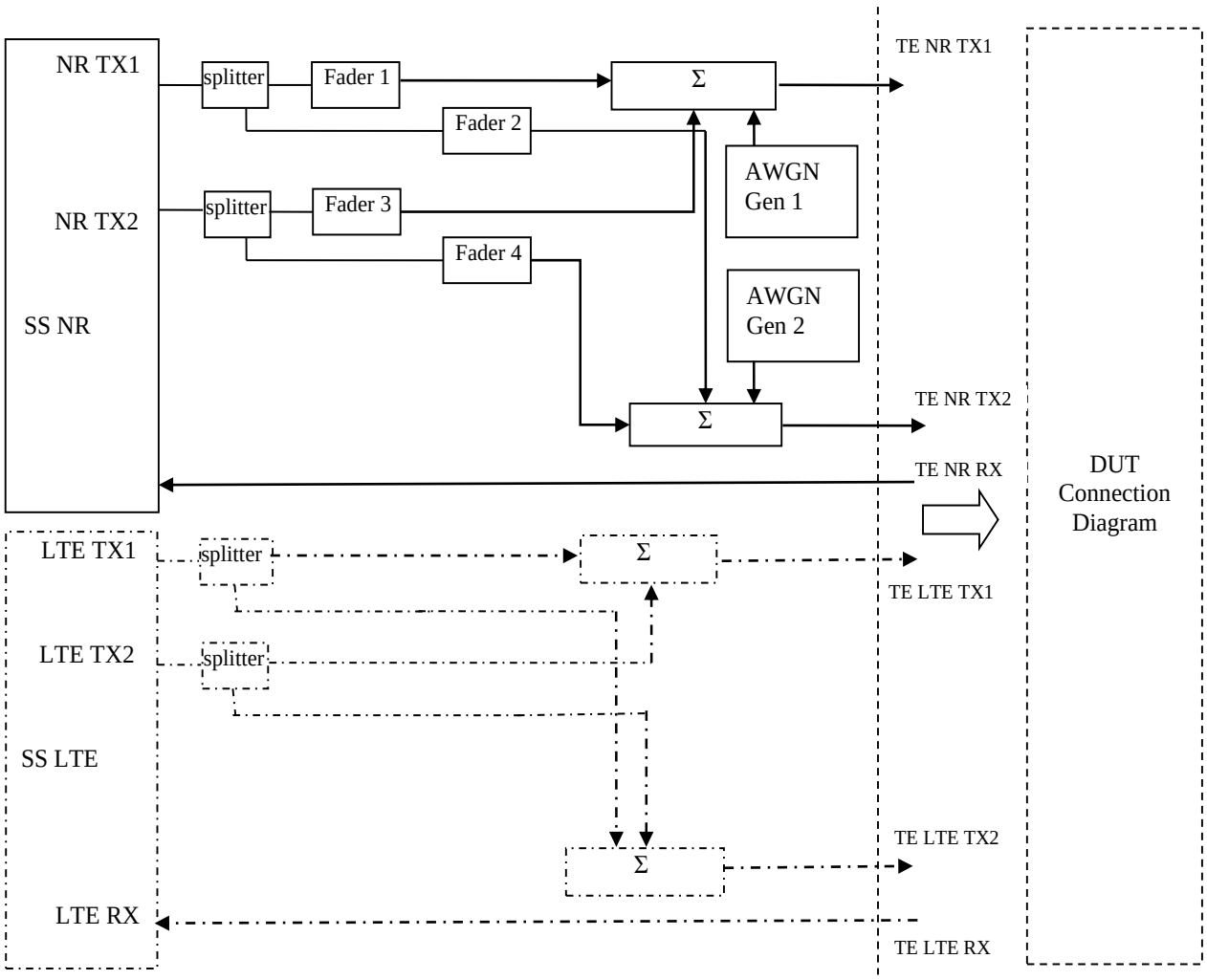


Figure A.3.1.7.1: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x2

1299

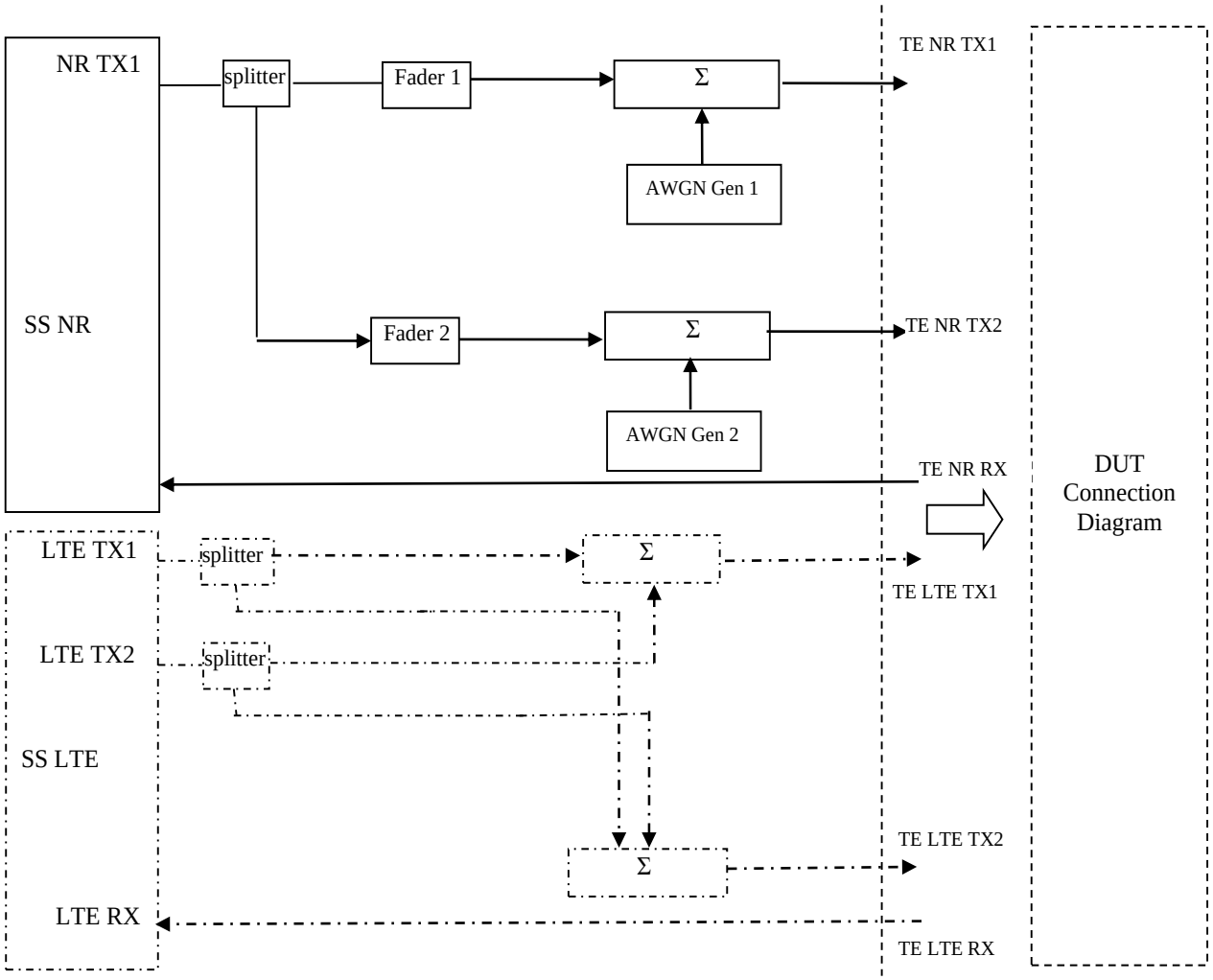


Figure A.3.1.7.2: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x2

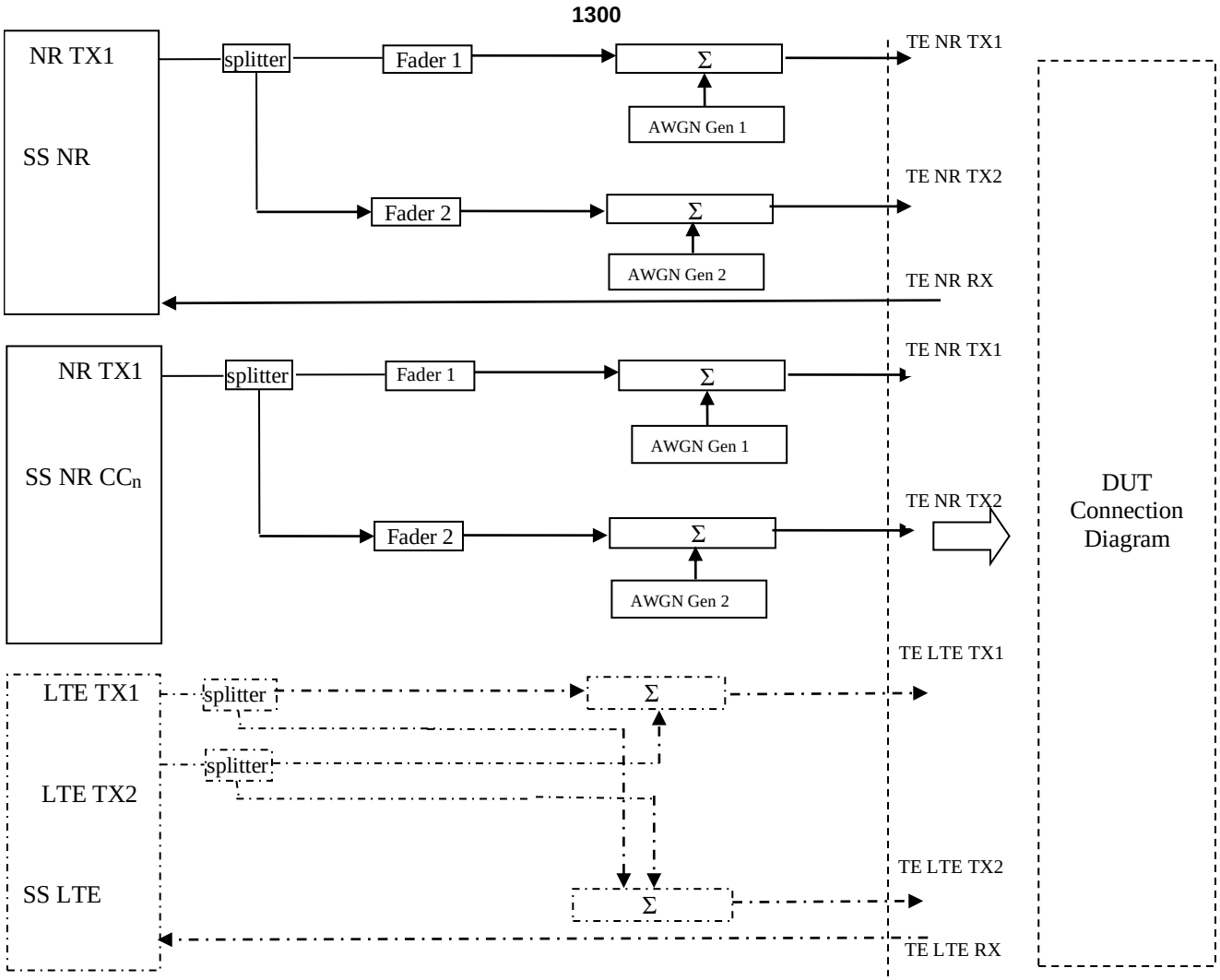


Figure A.3.1.7.2A: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x2 for nDLCA

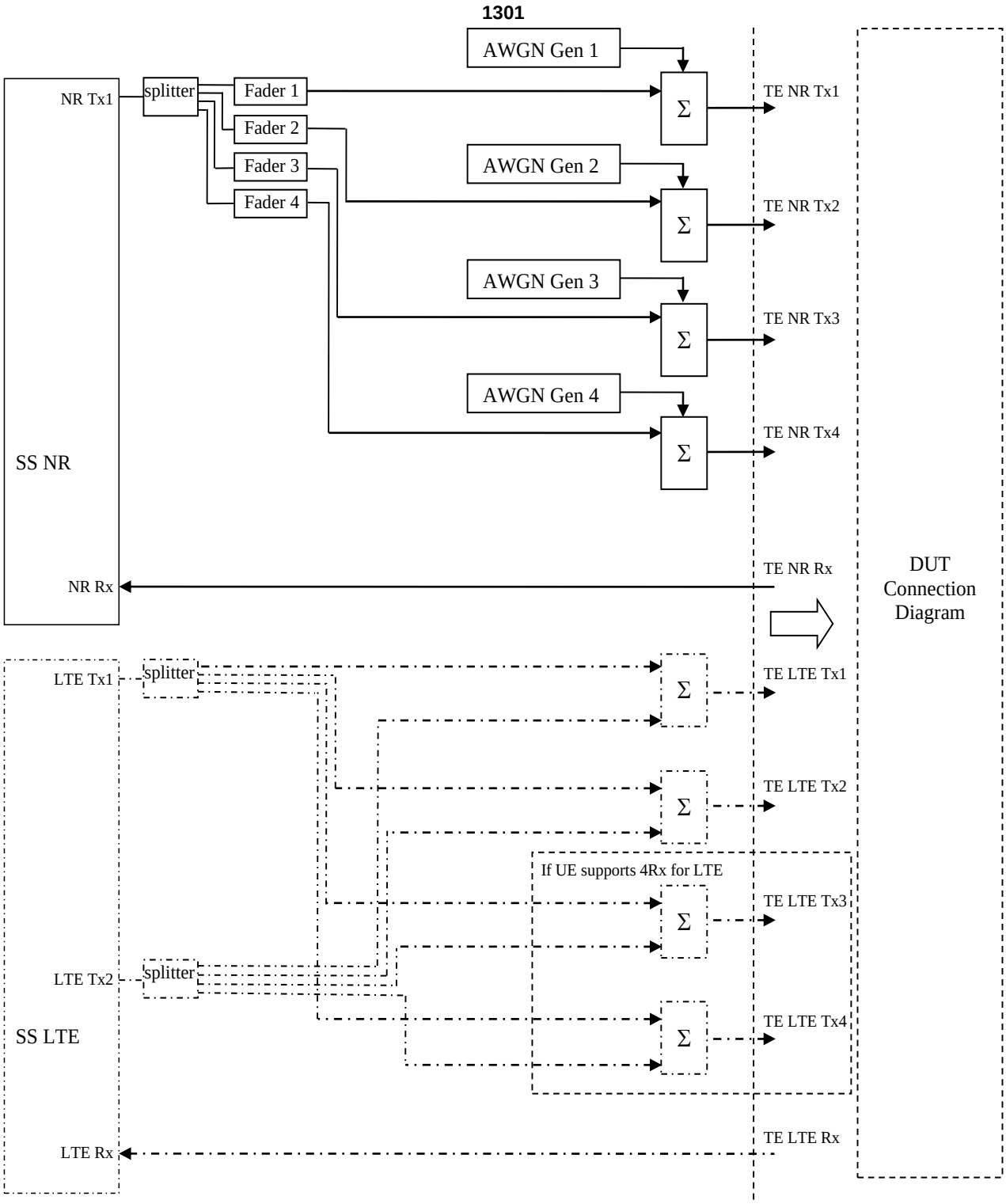


Figure A.3.1.7.3: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 1x4

Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

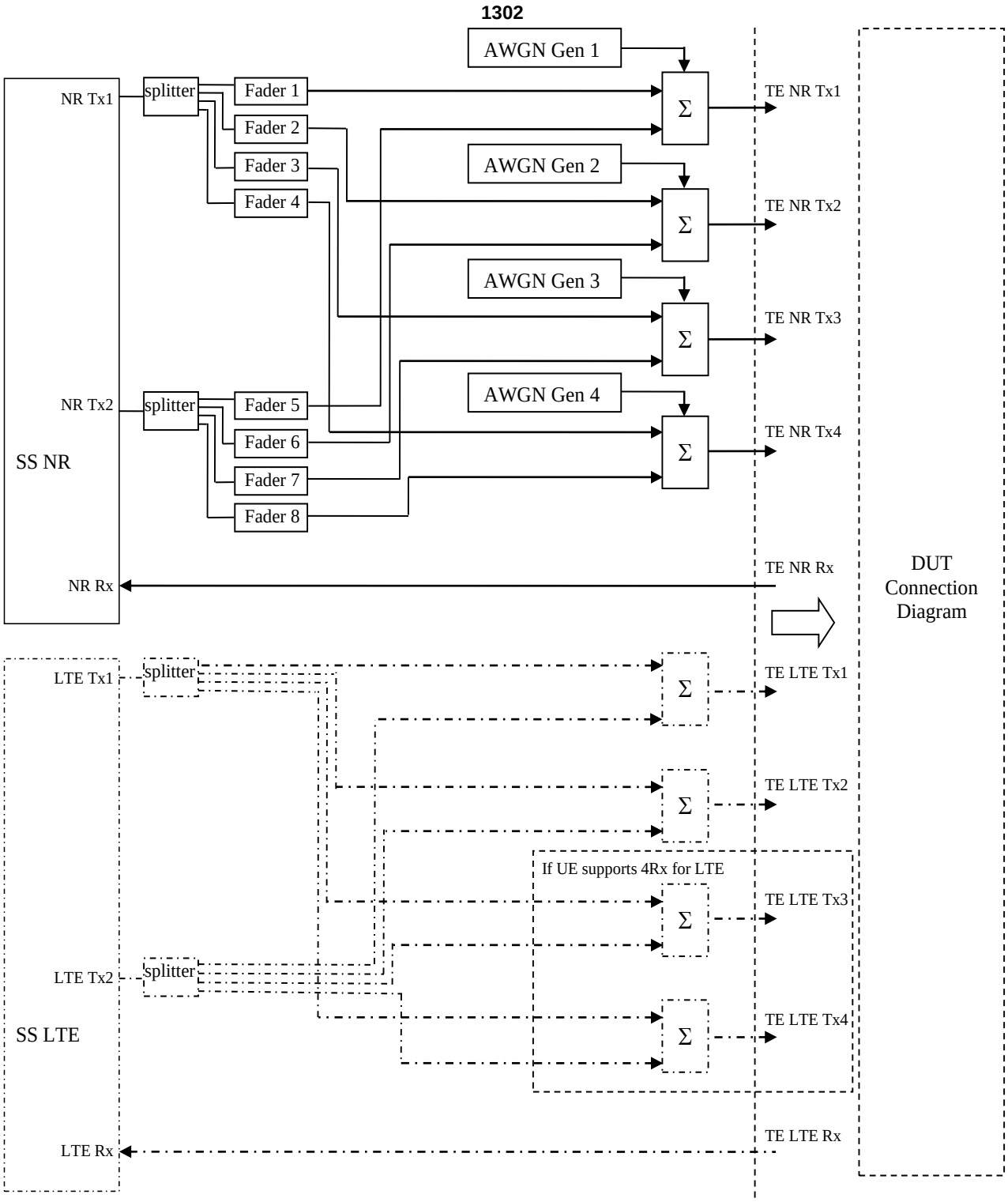


Figure A.3.1.7.4: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x4

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note 2: NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TRX4 are not used

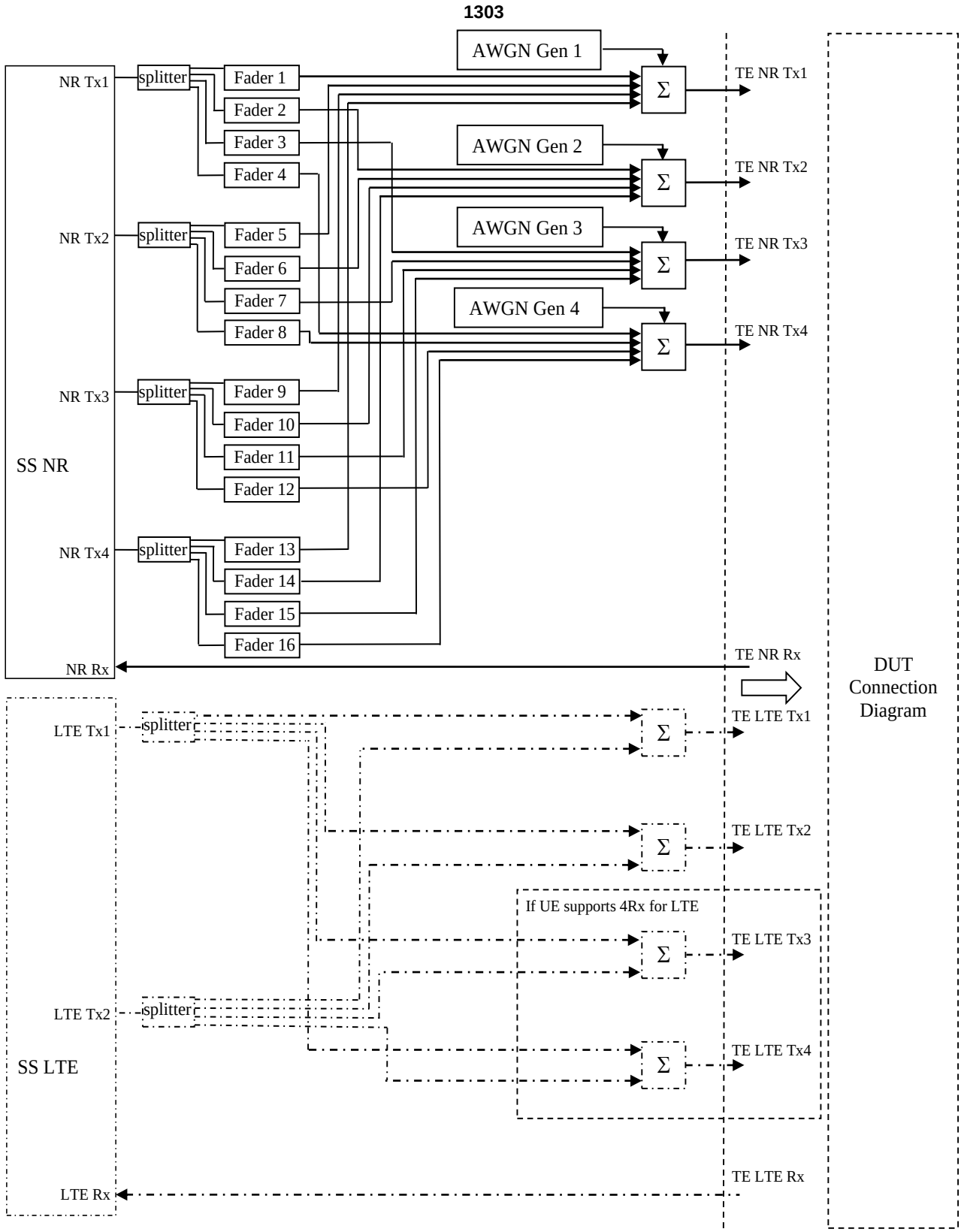
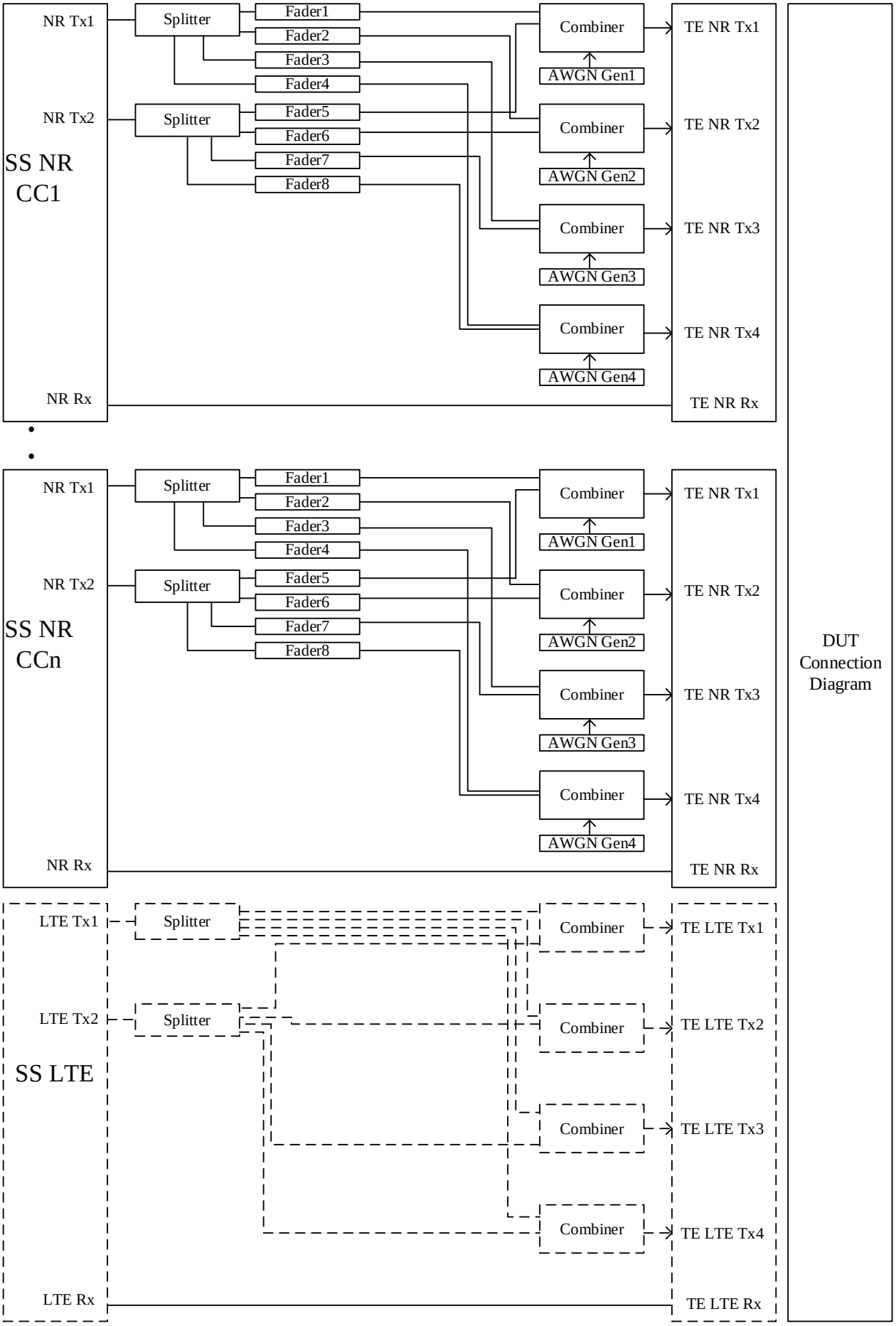


Figure A.3.1.7.5: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x4

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note: 2 NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TX4 are not used

1305


NR Tx1
NR Tx2
SS NR CC1
NR Rx
Splitter
Splitter
Fader1
Fader2
Fader3
Fader4
Fader5
Fader6
Fader7
Fader8
Combiner
Combiner
Combiner
Combiner
AWGN Gen1
AWGN Gen2
AWGN Gen3
AWGN Gen4
TE NR Tx1
TE NR Tx2
TE NR Tx3
TE NR Tx4
TE NR Rx
NR Tx1
NR Tx2
SS NR CCn
NR Rx
DUT Connection Diagram
LTE Tx1
LTE Tx2
SS LTE
LTE Rx
TE LTE Tx1
TE LTE Tx2
TE LTE Tx3
TE LTE Tx4
TE LTE Rx

3GPP

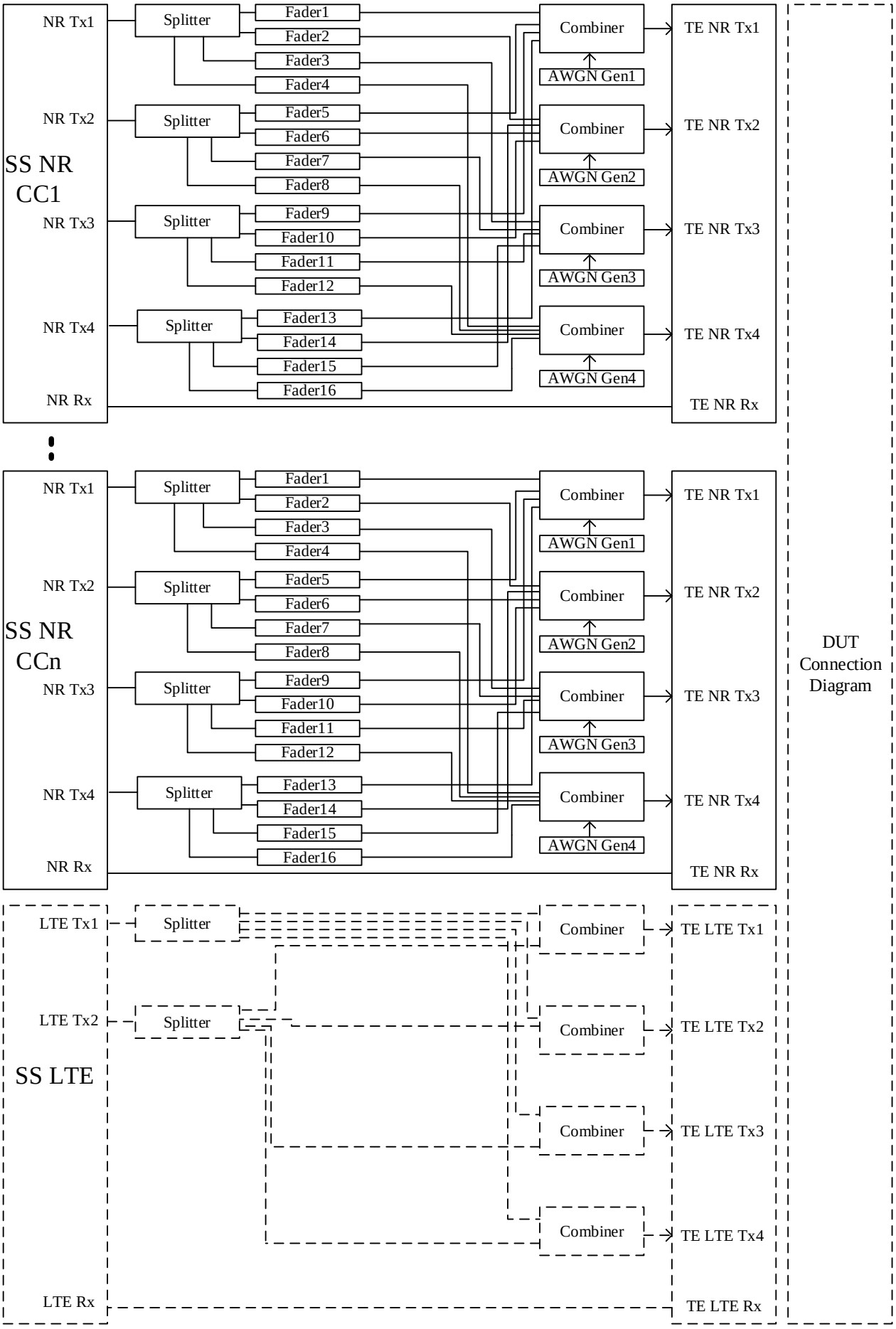
1306

Figure A.3.1.7.6: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 2x4 for nDL CA

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note 2: NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TX4 are not used

1307


NR Tx1
NR Tx2
SS NR CC1
NR Tx3
NR Tx4
NR Rx
Splitter
Fader1
Fader2
Fader3
Fader4
Fader5
Fader6
Fader7
Fader8
Fader9
Fader10
Fader11
Fader12
Fader13
Fader14
Fader15
Fader16
Combiner
AWGN Gen1
AWGN Gen2
AWGN Gen3
AWGN Gen4
TE NR Tx1
TE NR Tx2
TE NR Tx3
TE NR Tx4
TE NR Rx
SS NR CCn
DUT Connection Diagram
LTE Tx1
LTE Tx2
SS LTE
LTE Rx
TE LTE Tx1
TE LTE Tx2
TE LTE Tx3
TE LTE Tx4
TE LTE Rx

3GPP

1308

Figure A.3.1.7.7: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x4 for nDL CA

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note 2: NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TX4 are not used

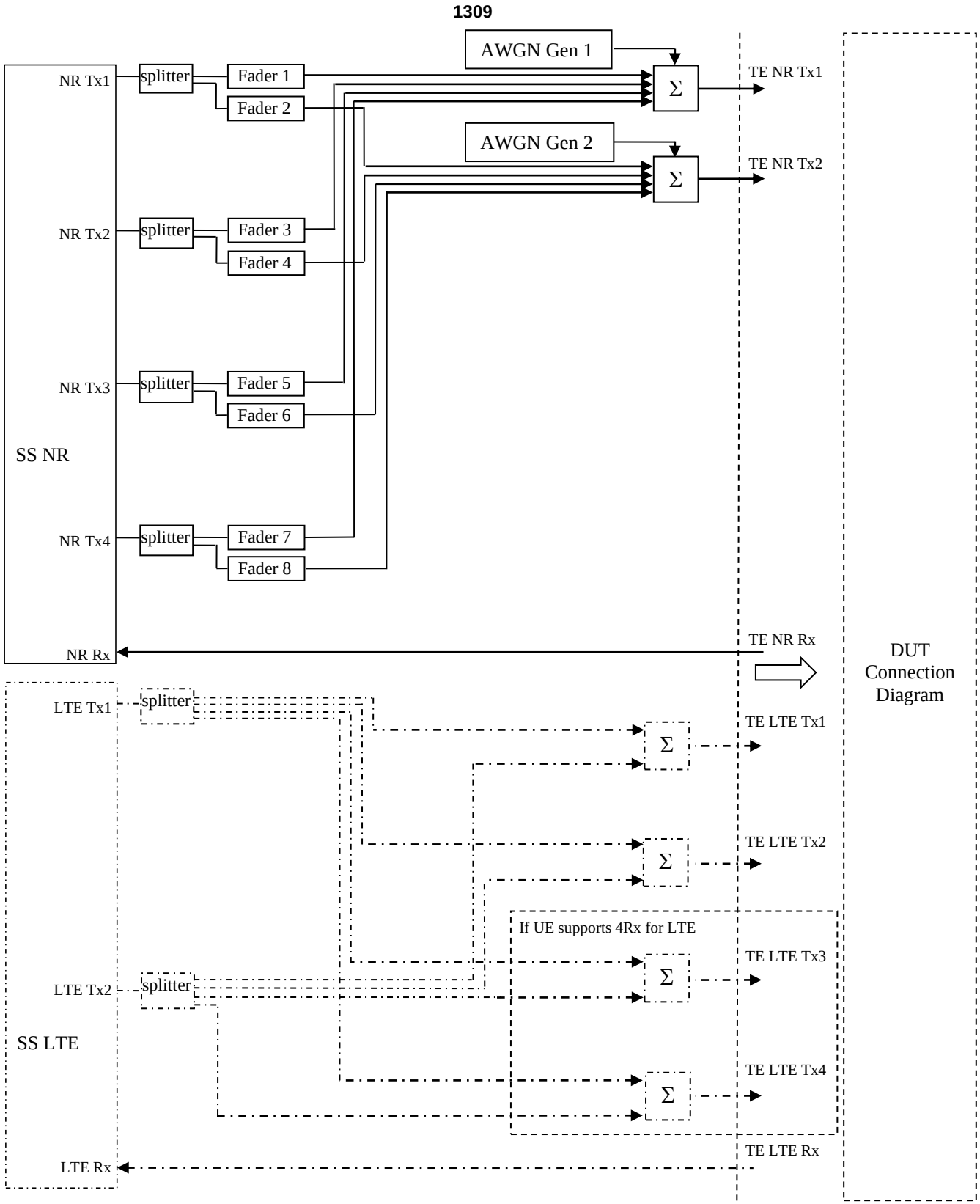


Figure A.3.1.7.8: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration 4x2

Note: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

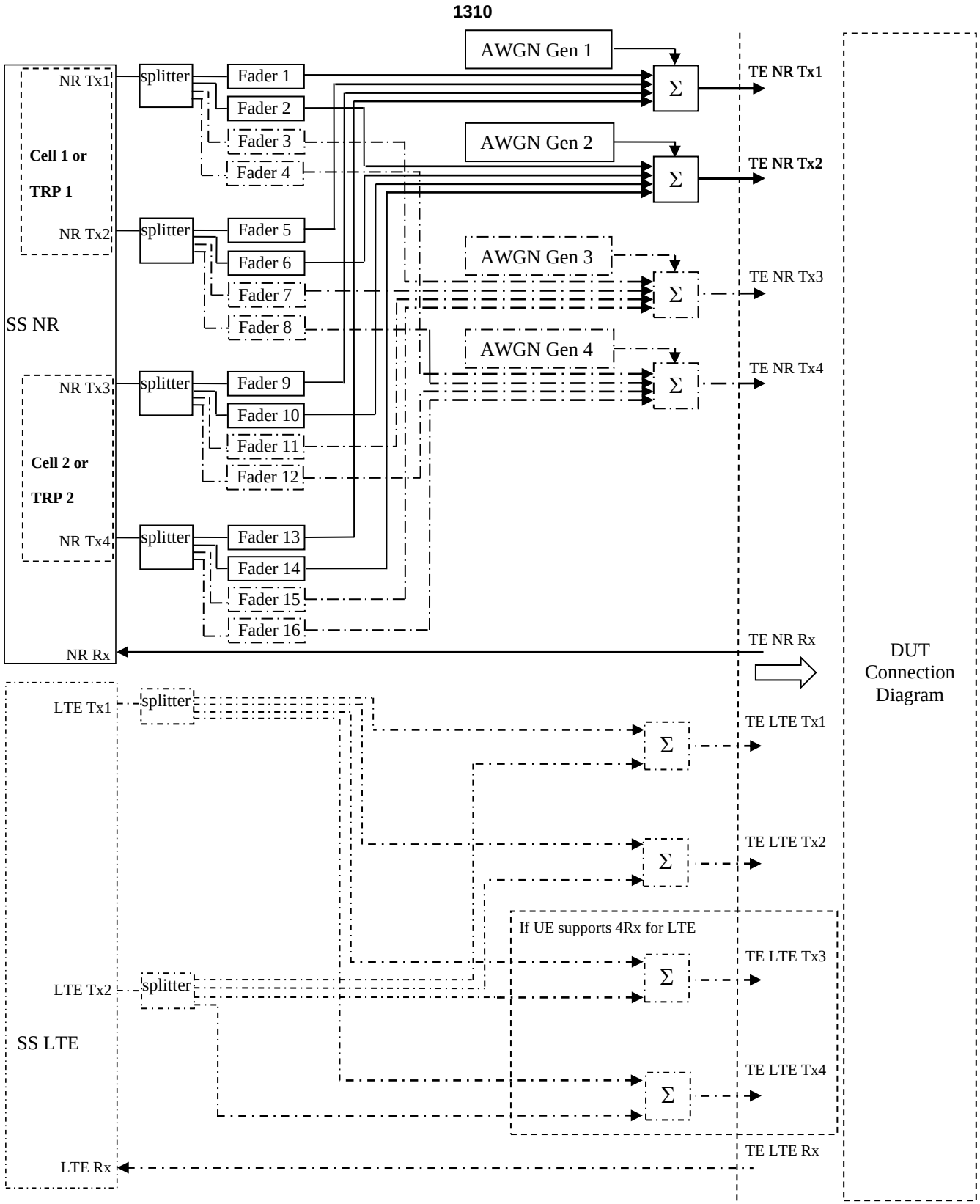


Figure A.3.1.7.9: Test Equipment connection for Demodulation Performance and CSI reporting tests with 2 carriers or 2 TRPs (2x2 or 2x4)

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note 2: NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TX4 are not used

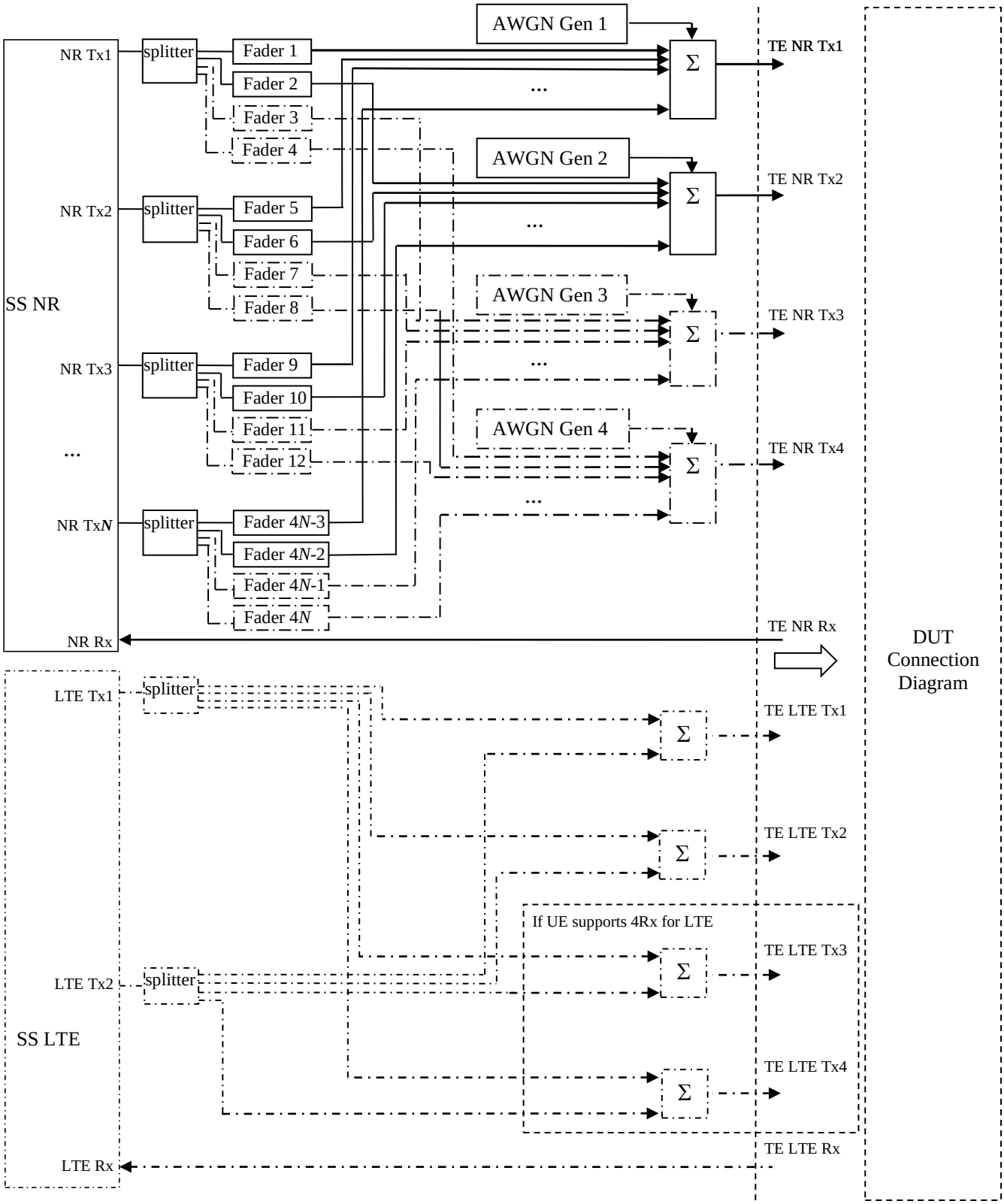


Figure A.3.1.7.10: Test Equipment connection for Demodulation Performance and CSI reporting tests with antenna configuration Nx2 and Nx4, N=16 or N=32

Note 1: LTE can be 2Rx or 4Rx and not dependent on NR #Rx

Note 2: NR may be 2Rx on some of the CCs, in that case TE NR TX3 and TE NR TX4 are not used

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.

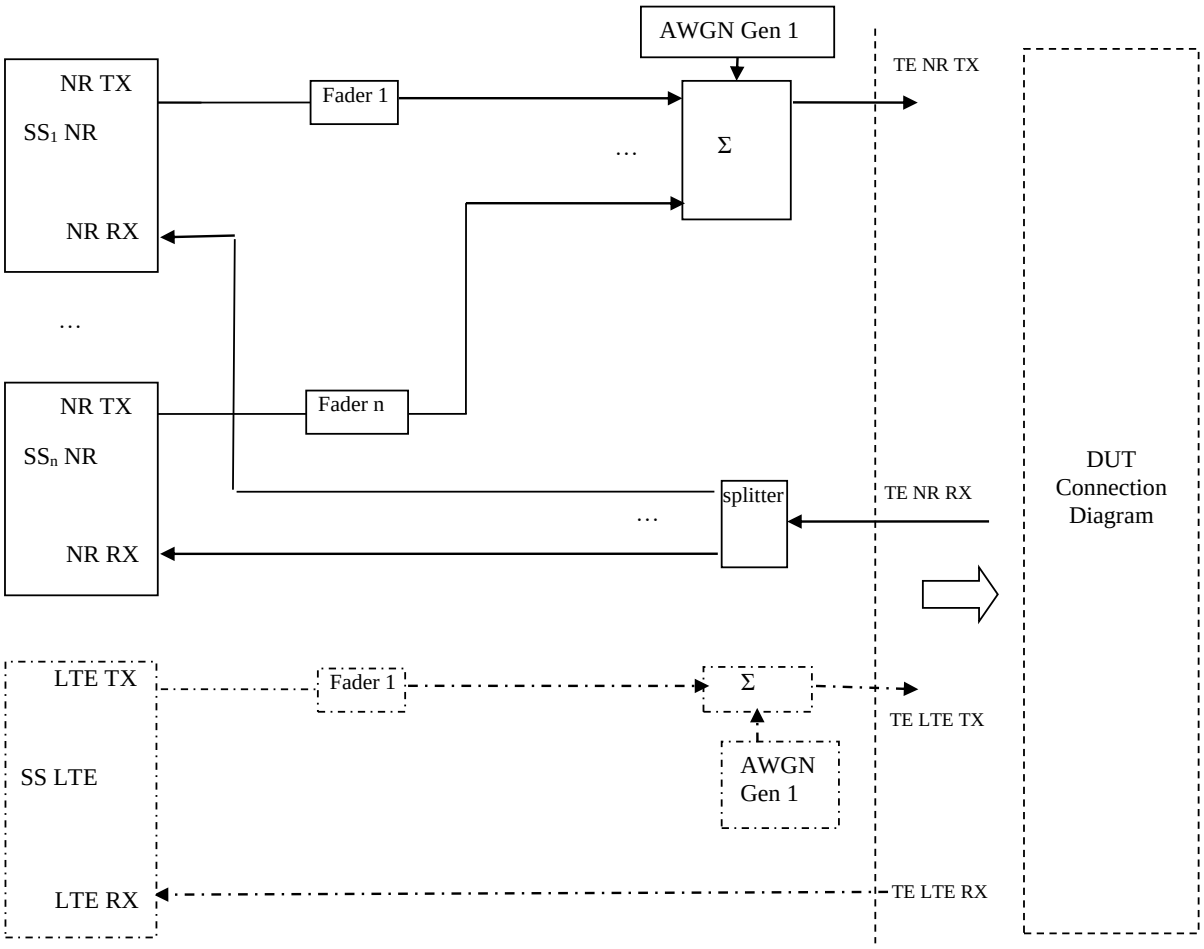


Figure A.3.1.8.1: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x1

1313

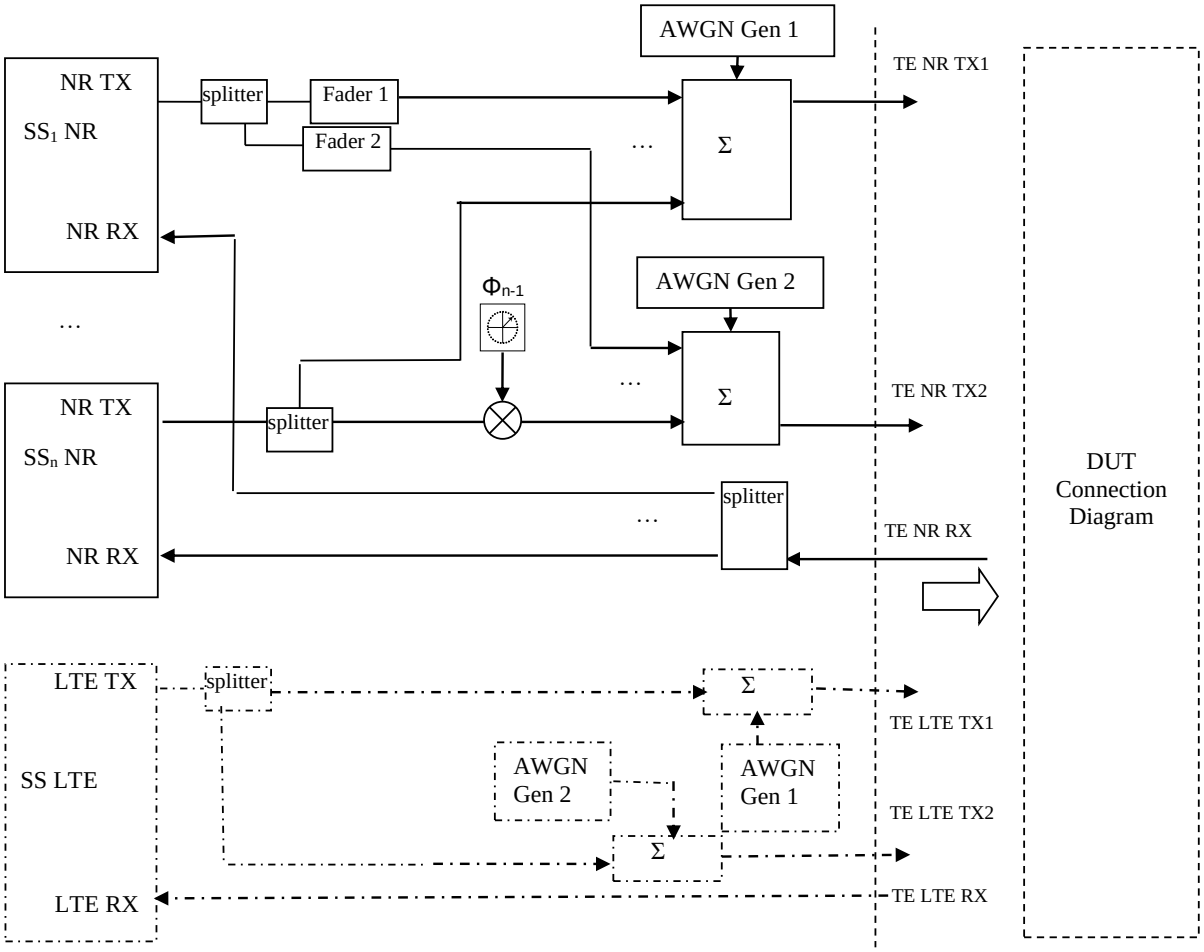


Figure A.3.1.8.2: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2

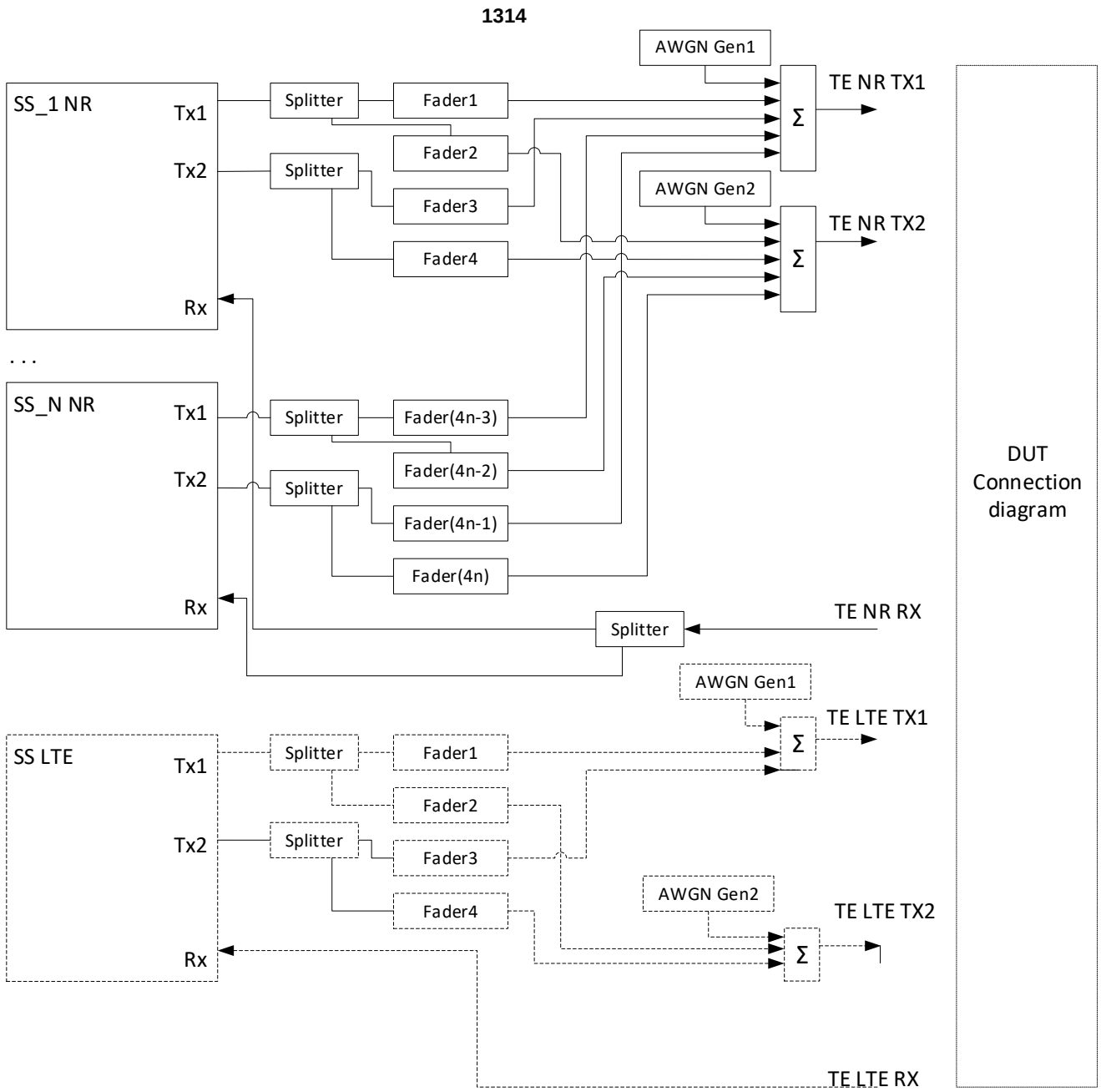


Figure A.3.1.8.2a: Test Equipment connection for tests with more than one NR cell and antenna configuration 2x2

1315

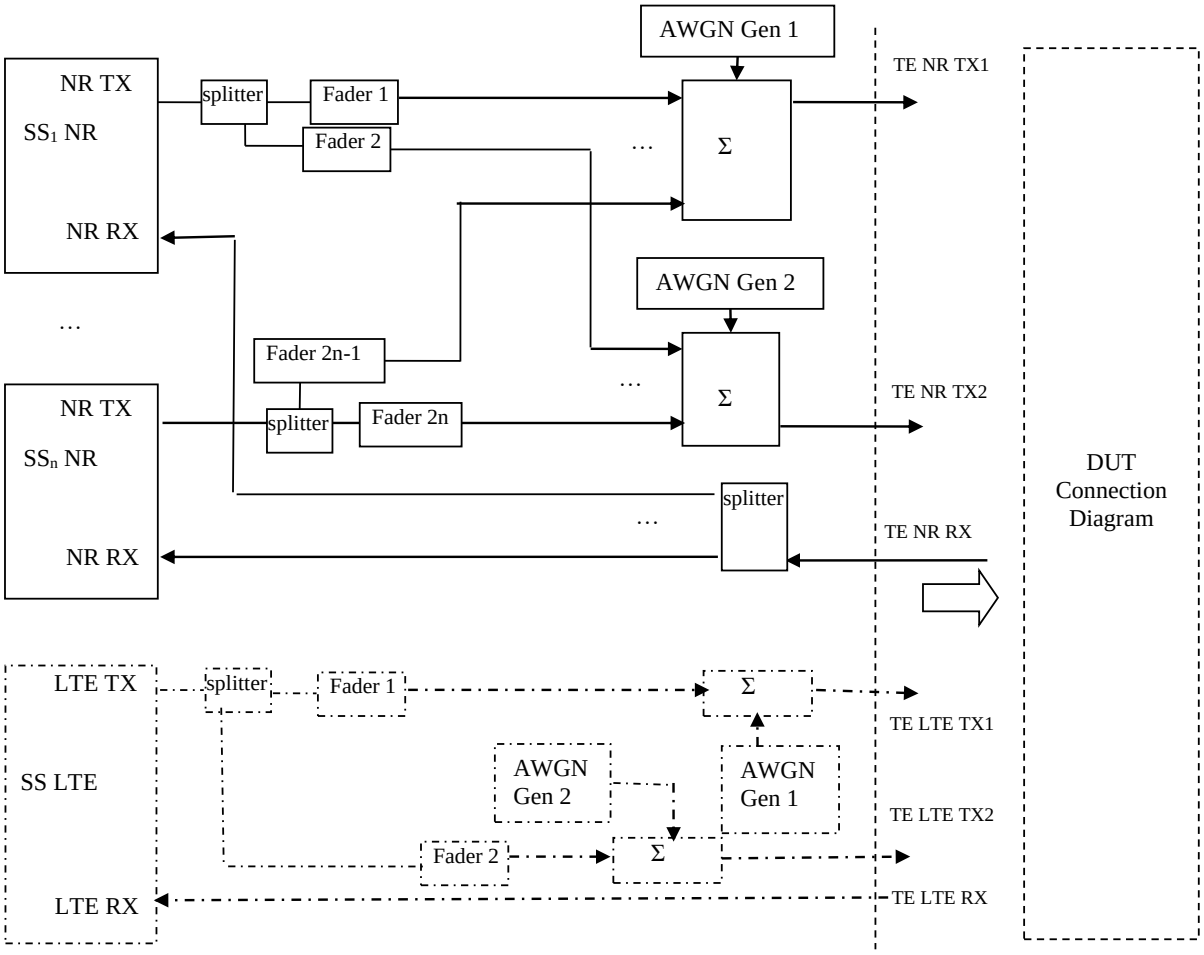


Figure A.3.1.8.3: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x2 and fading

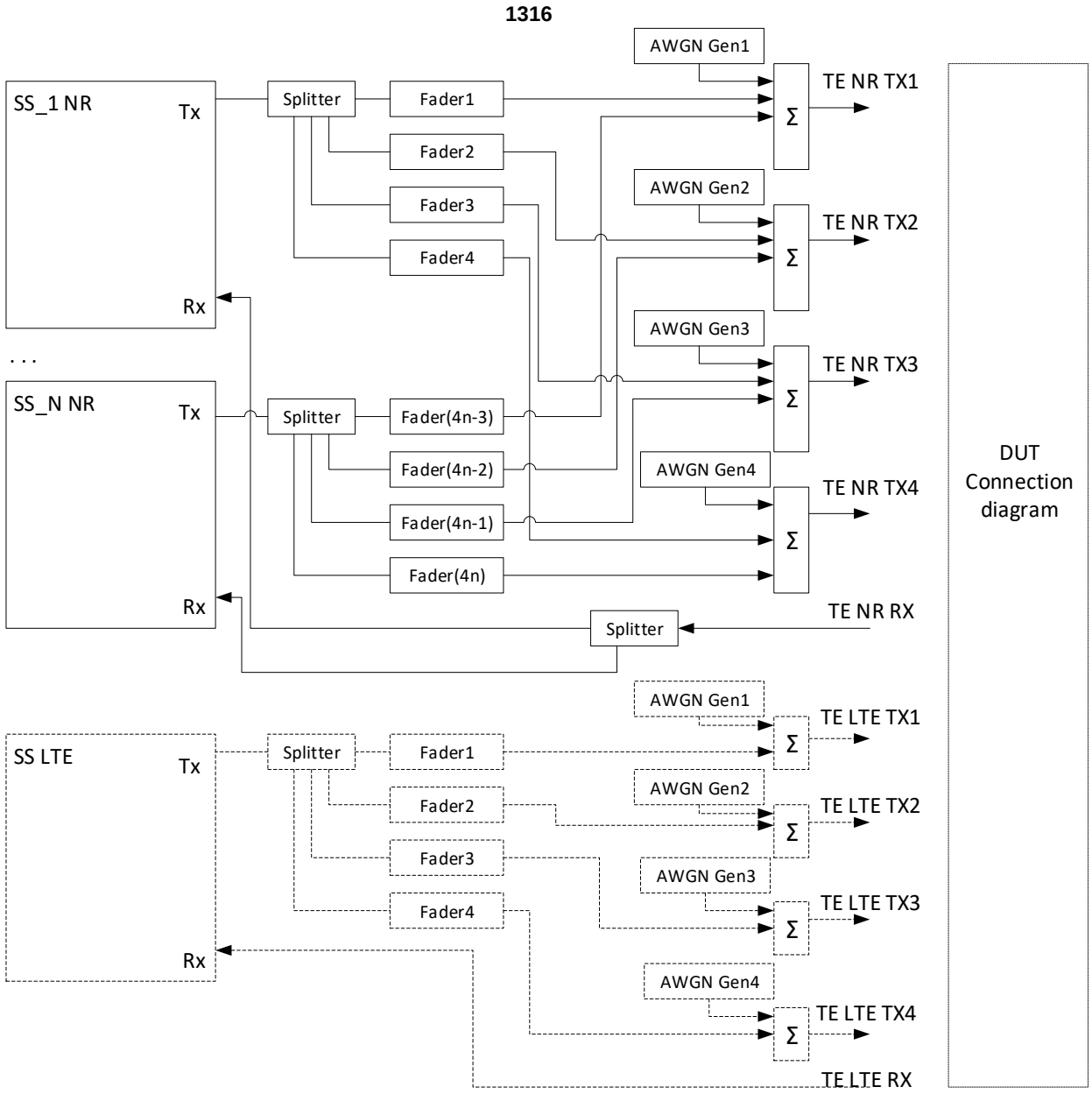


Figure A.3.1.8.4: Test Equipment connection for tests with more than one NR cell for 4Rx capable UEs with fading

1317

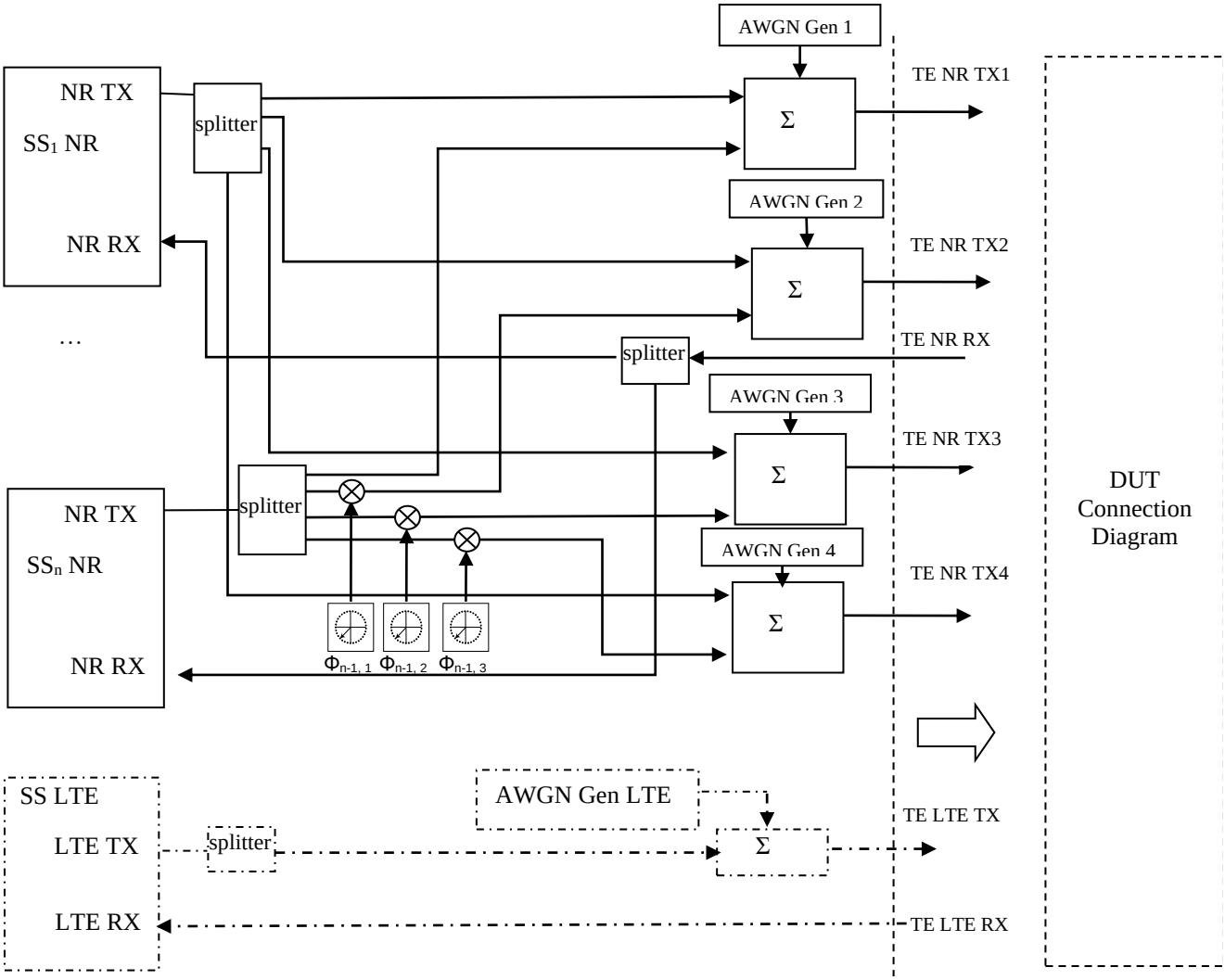


Figure A.3.1.8.5: Test Equipment connection for tests with more than one NR cell and antenna configuration 1x4

A.3.1.9 Test Equipment supporting NR Sidelink

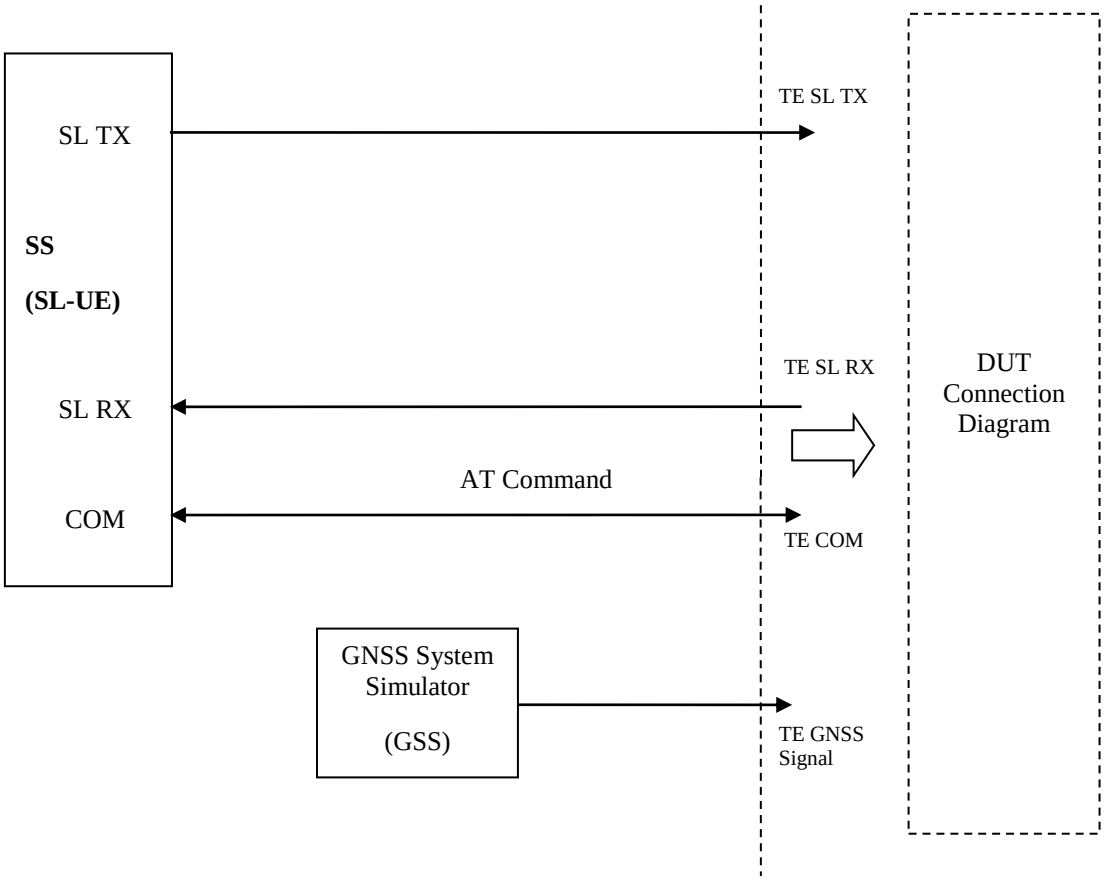


Figure A.3.1.9.1: Test Equipment connection for NR sidelink operation non-concurrent with NR UL/DL transmission

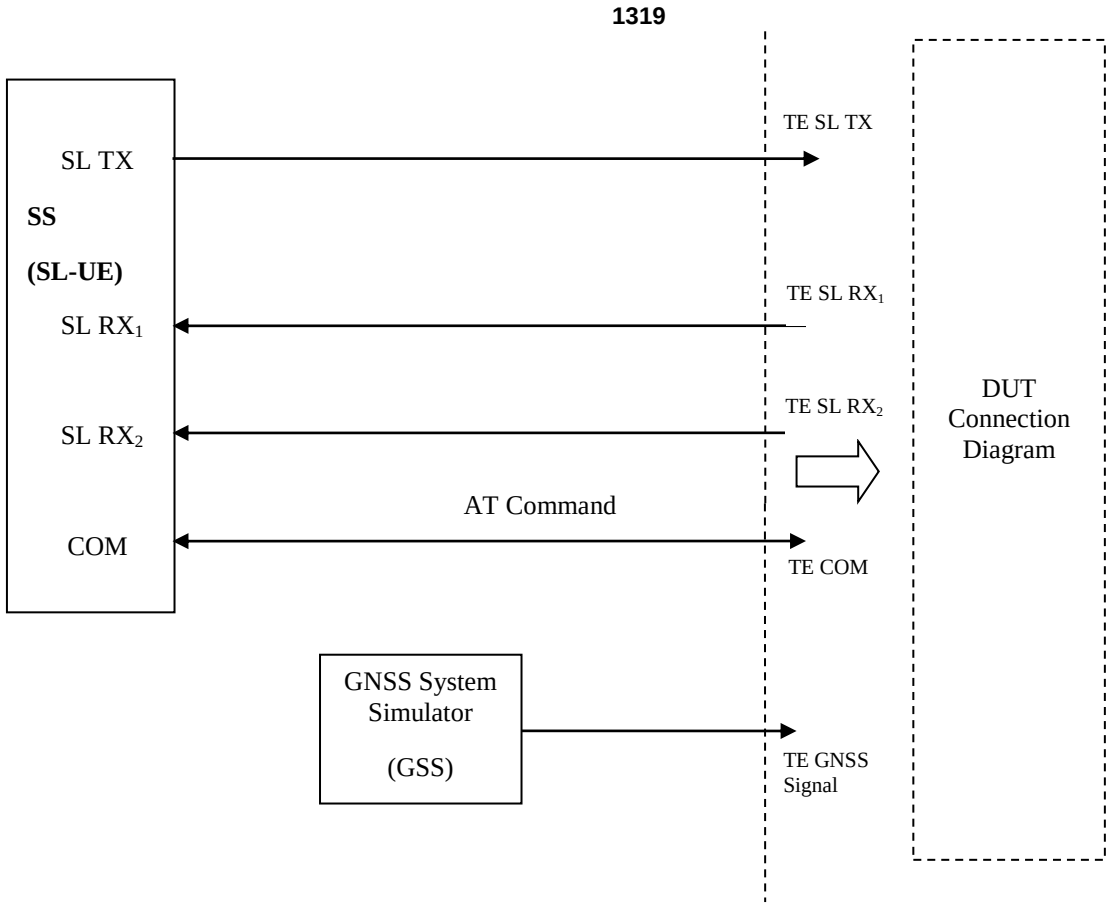


Figure A.3.1.9.2: Test Equipment connection for NR sidelink operation non-concurrent with NR UL/DL transmission SL-MIMO

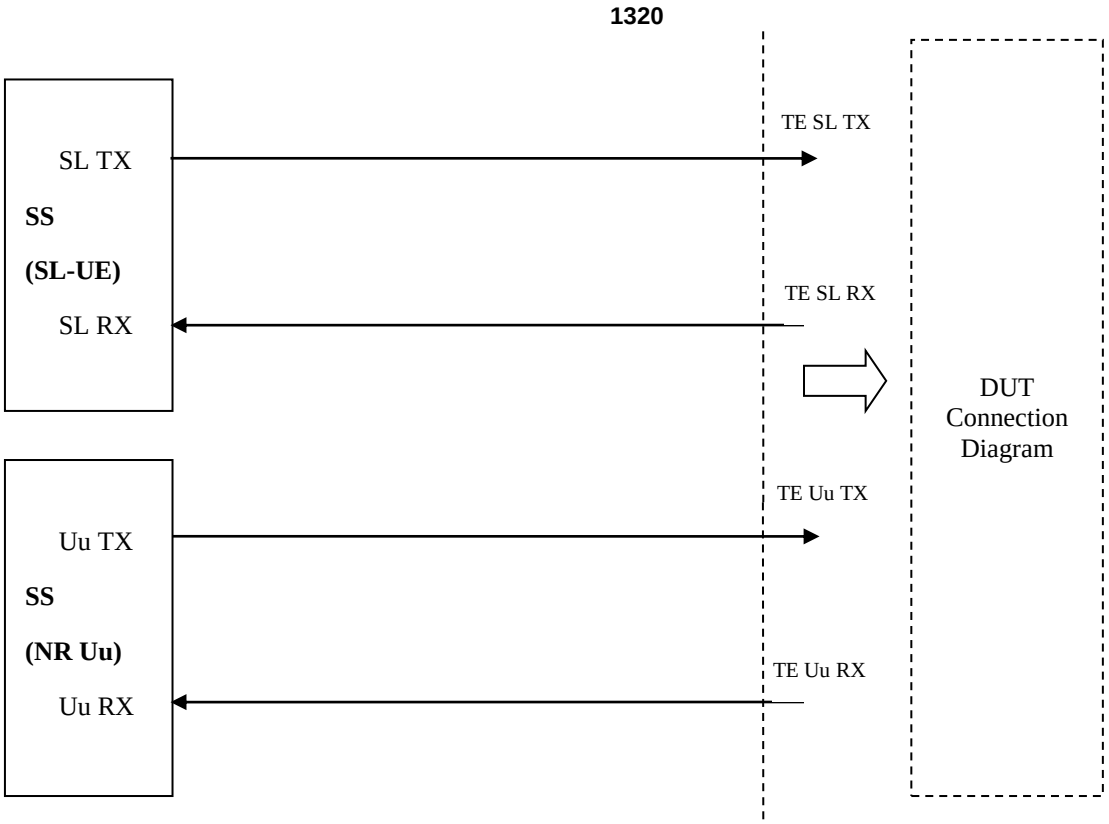


Figure A.3.1.9.3: Test Equipment connection for inter-band con-current NR V2X operation

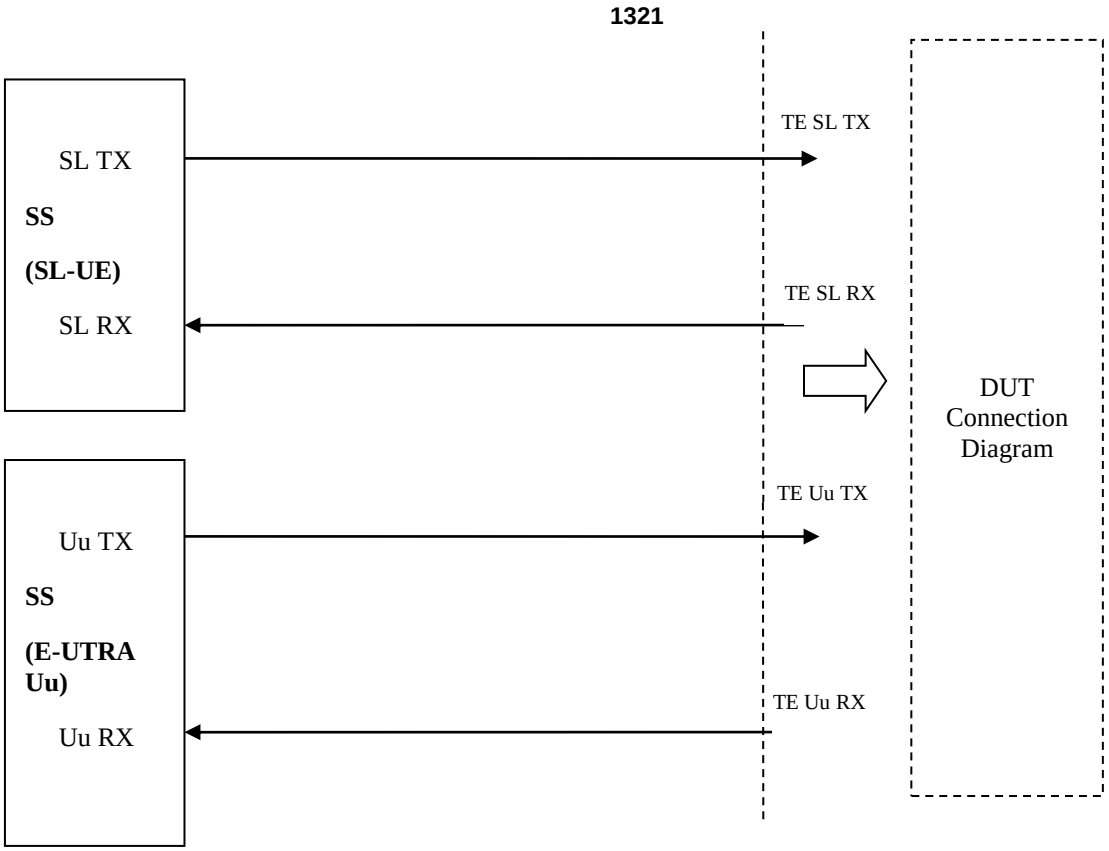


Figure A.3.1.9.4: Test Equipment connection for con-current E-UTRA Uu and NR Sidelink operation

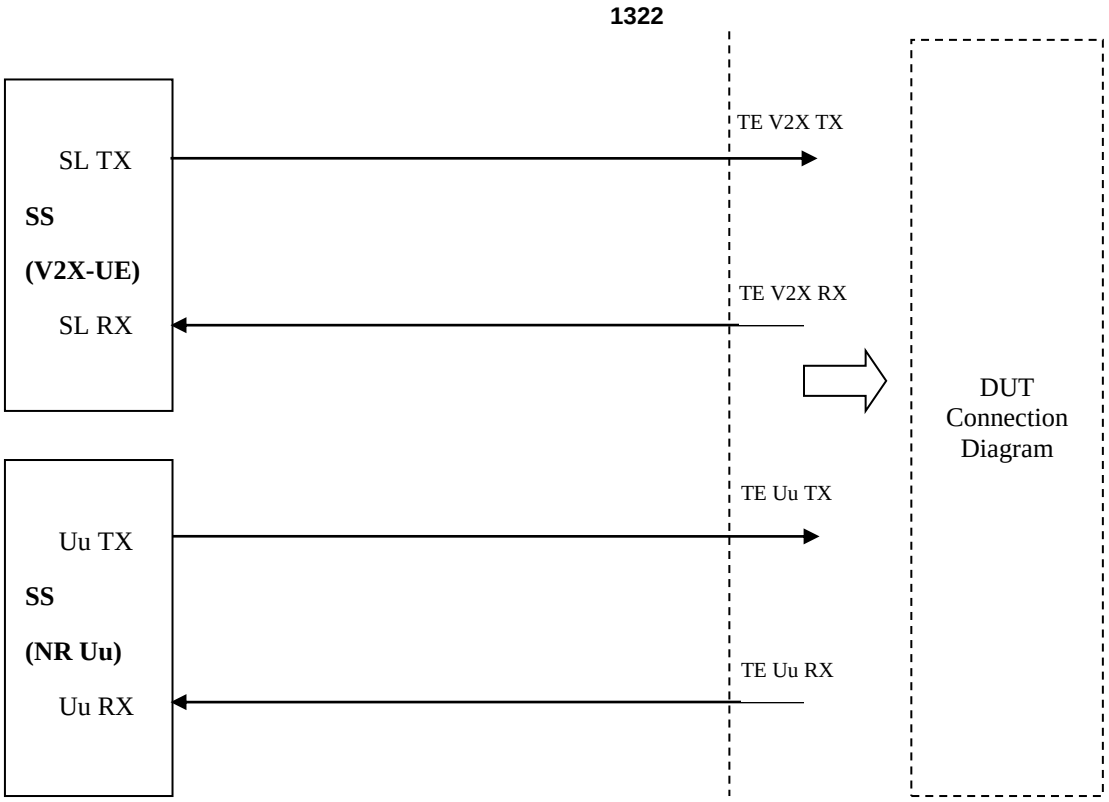


Figure A.3.1.9.5: Test Equipment connection for con-current E-UTRA V2X sidelink and NR Uu operation

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

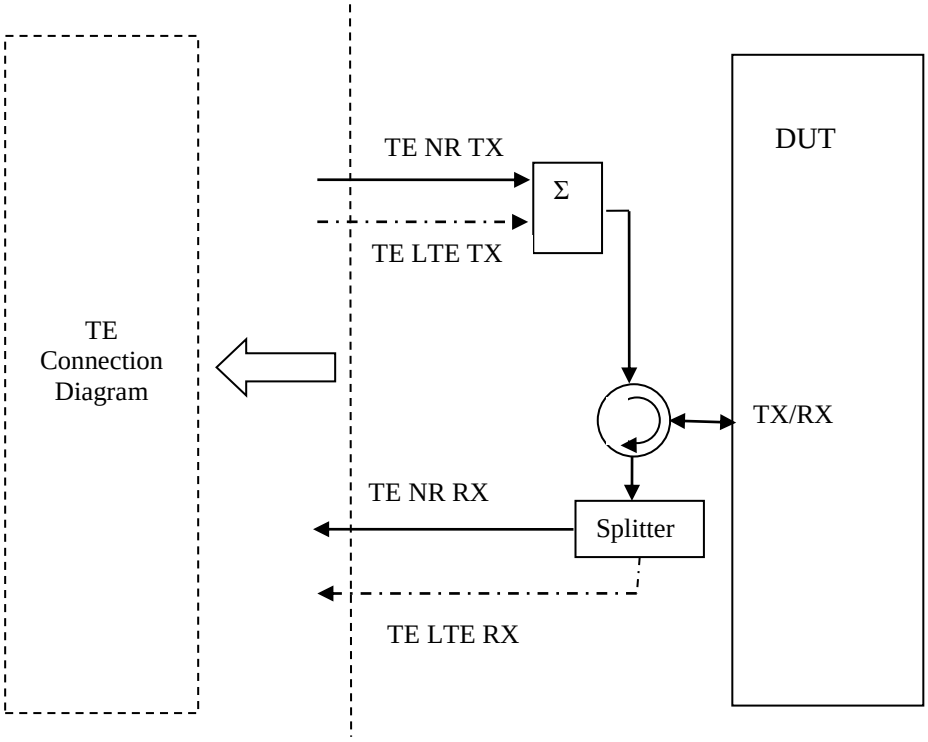


Figure A.3.2.2.1: User Equipment connection for single basic cell

A.3.2.3 Two Antenna Connectors

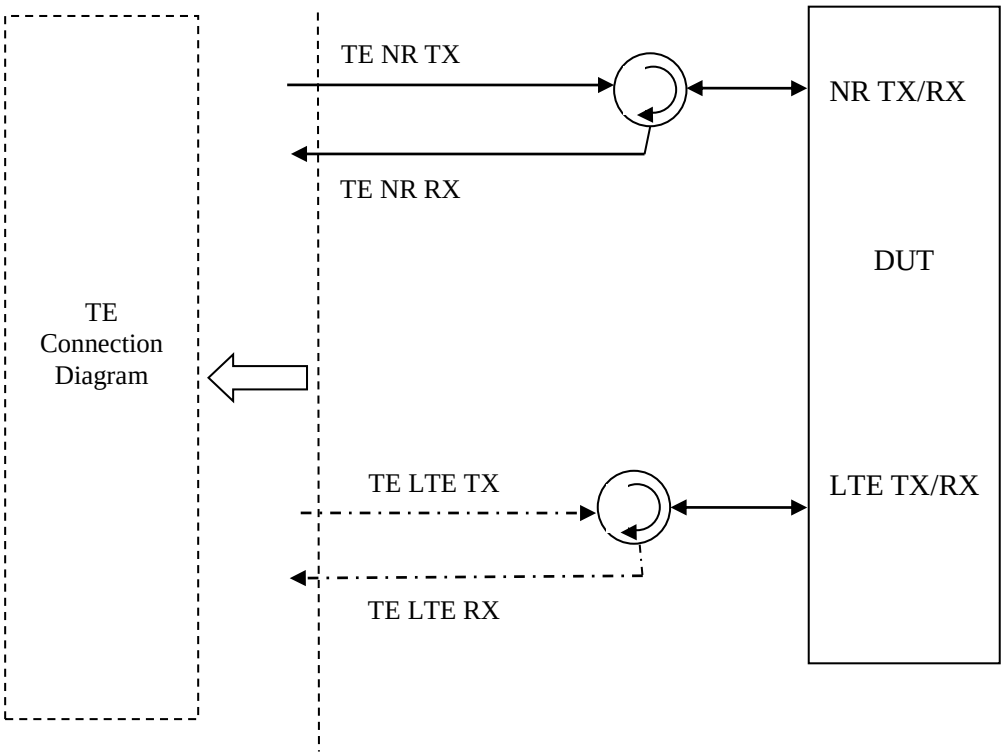


Figure A.3.2.3.1: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors

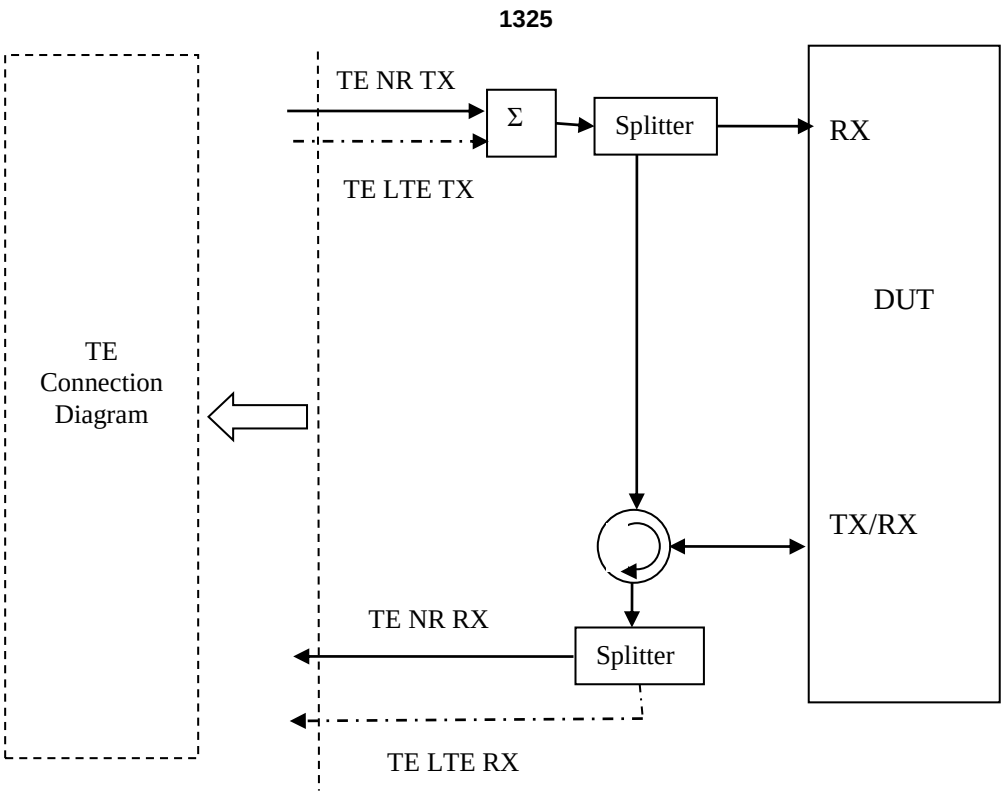


Figure A.3.2.3.2: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells

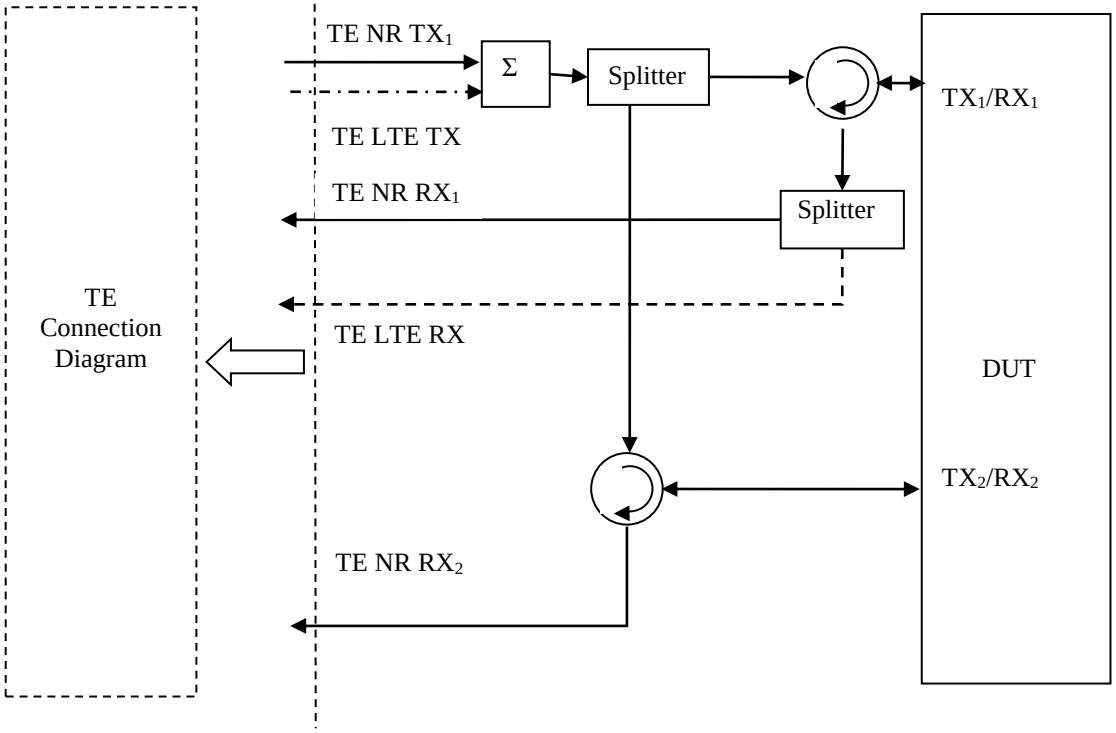


Figure A.3.2.3.3: 2 Tx User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells and 2TX UL MIMO or Tx diversity supported

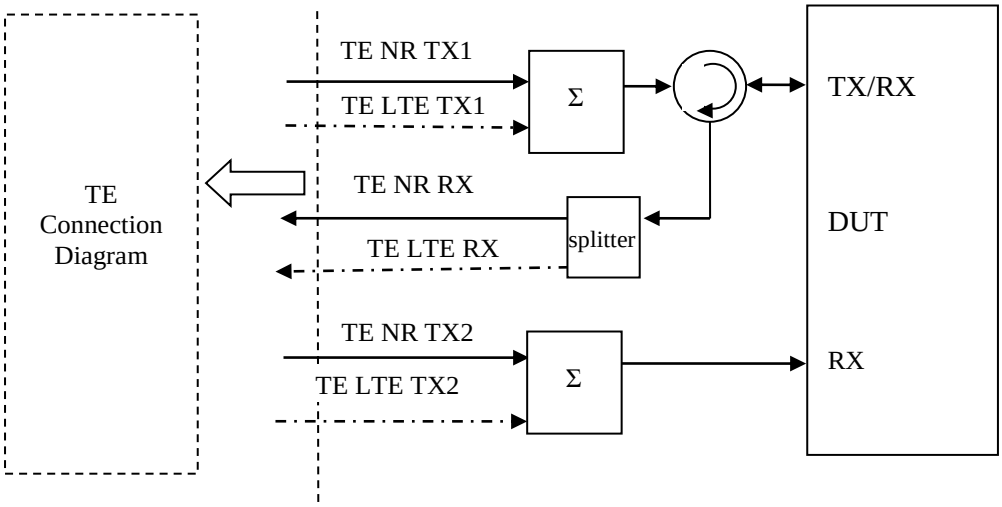


Figure A.3.2.3.4: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at same connectors

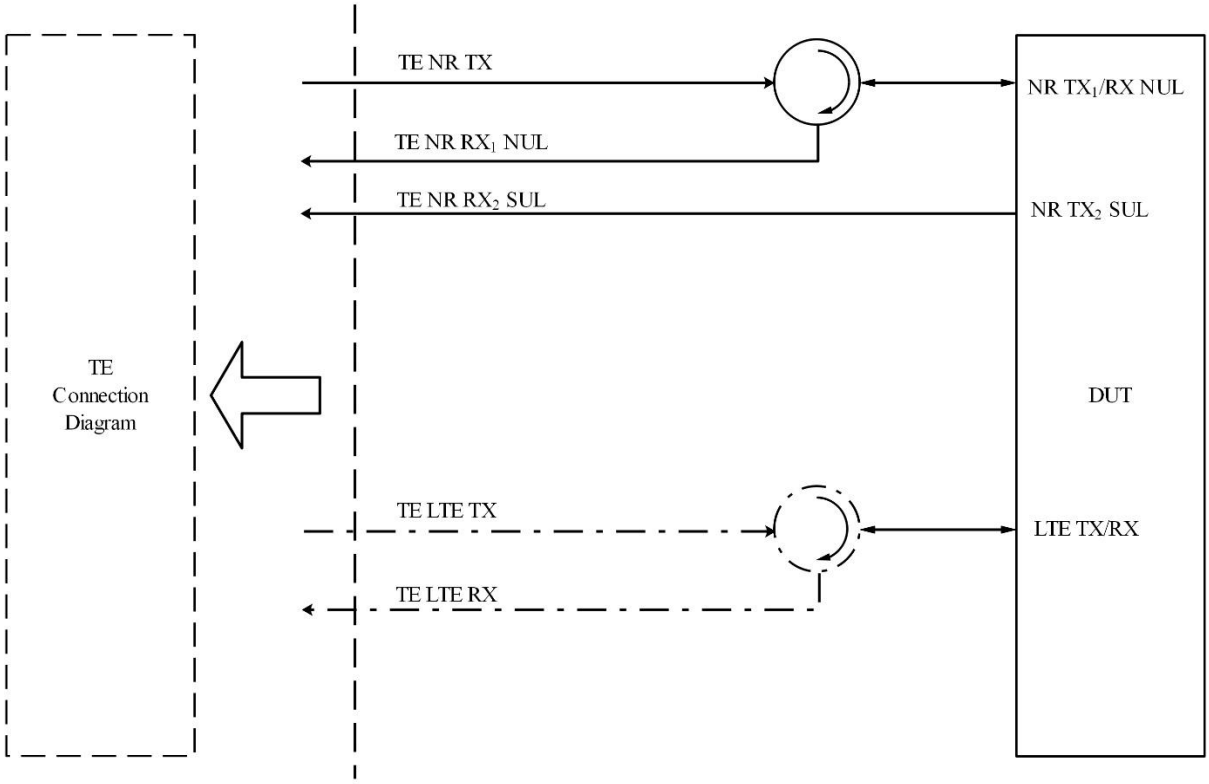


Figure A.3.2.3.5: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors with NR SUL and NR NUL transmitted on separate antenna connectors

1327

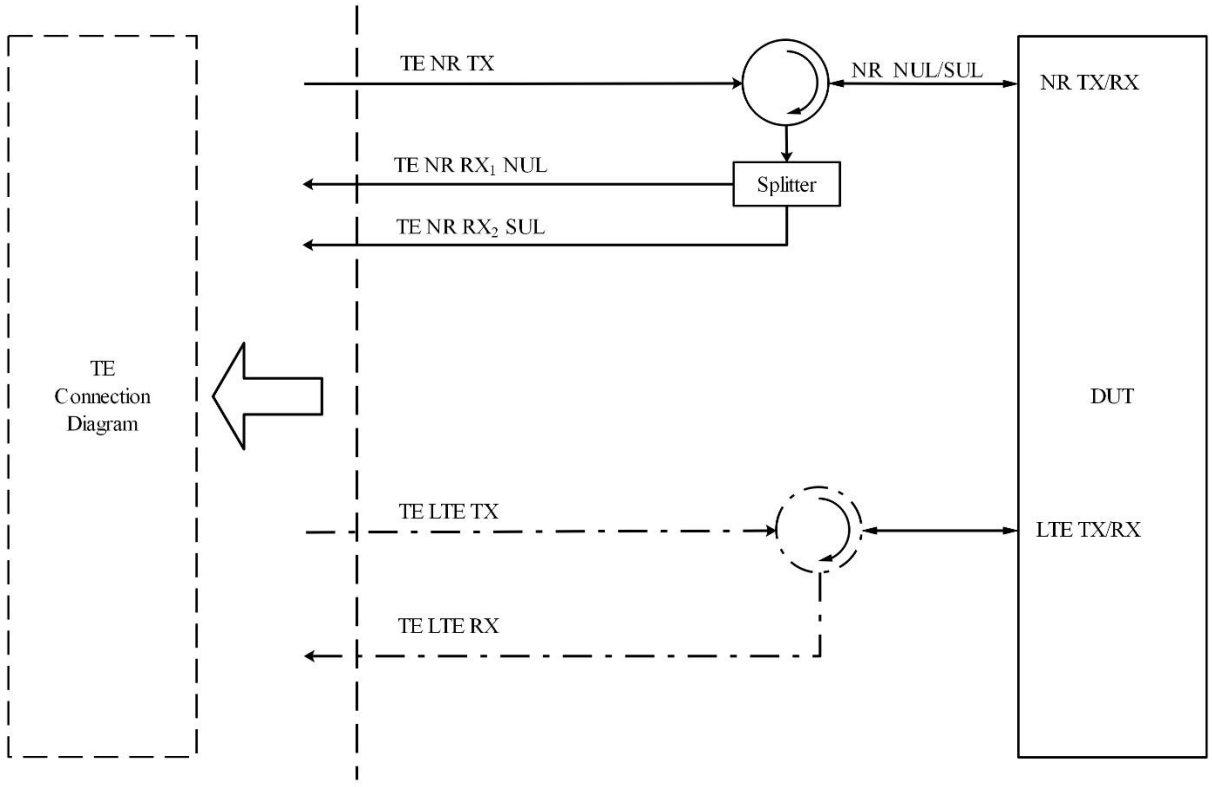


Figure A.3.2.3.6: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors with NR SUL and NR NUL transmitted on the same antenna connector

1328

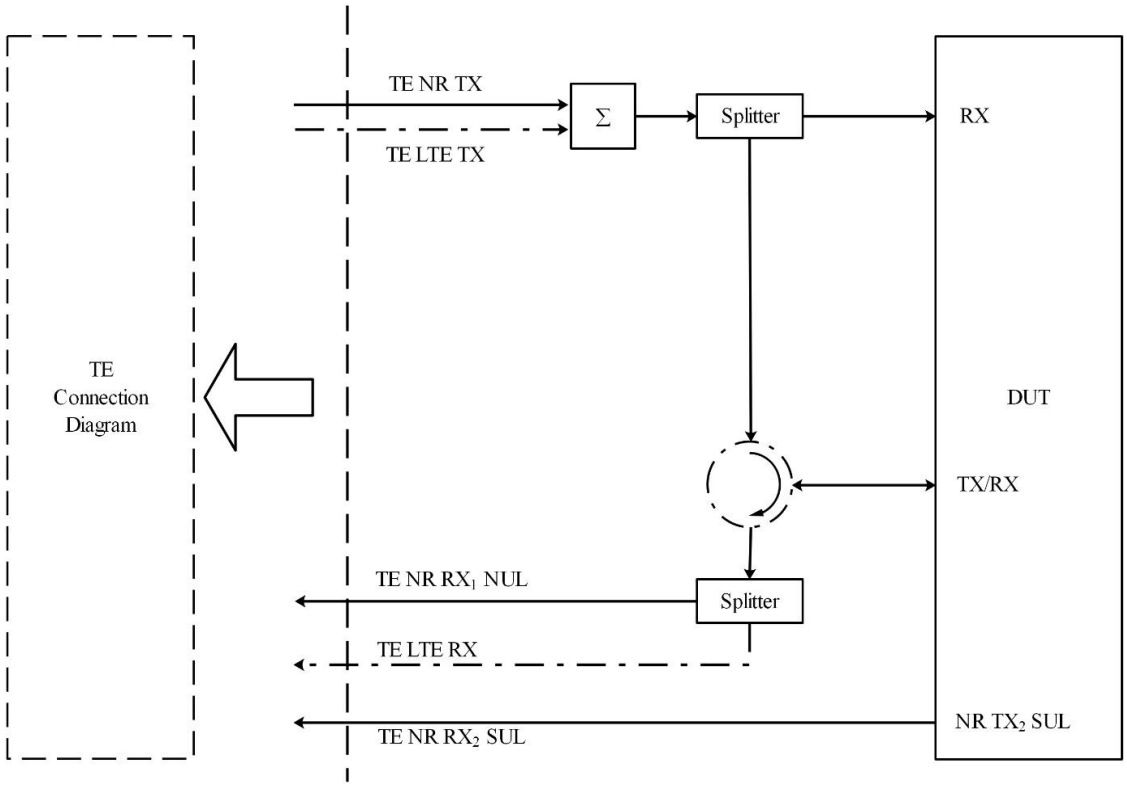


Figure A.3.2.3.7: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells with NR SUL and NR NUL transmitted on separate antenna connectors

1329

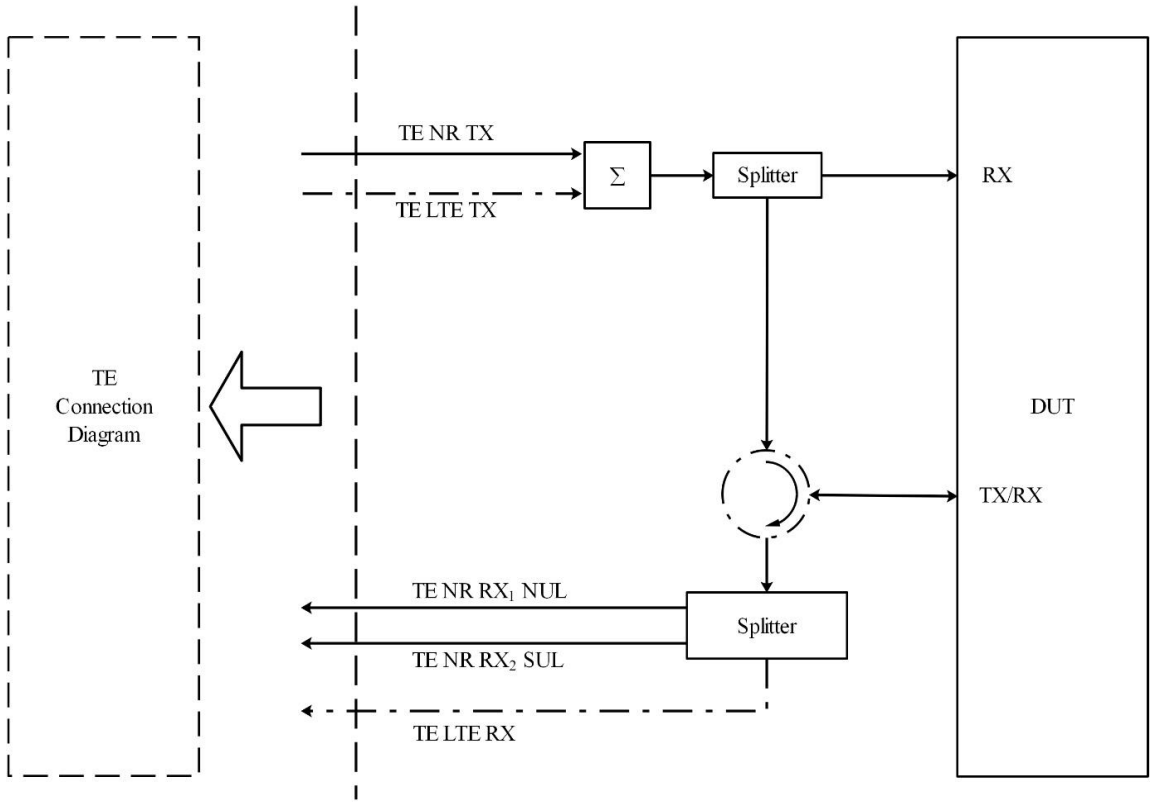


Figure A.3.2.3.8: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells with NR SUL and NR NUL transmitted on the same antenna connector

1330

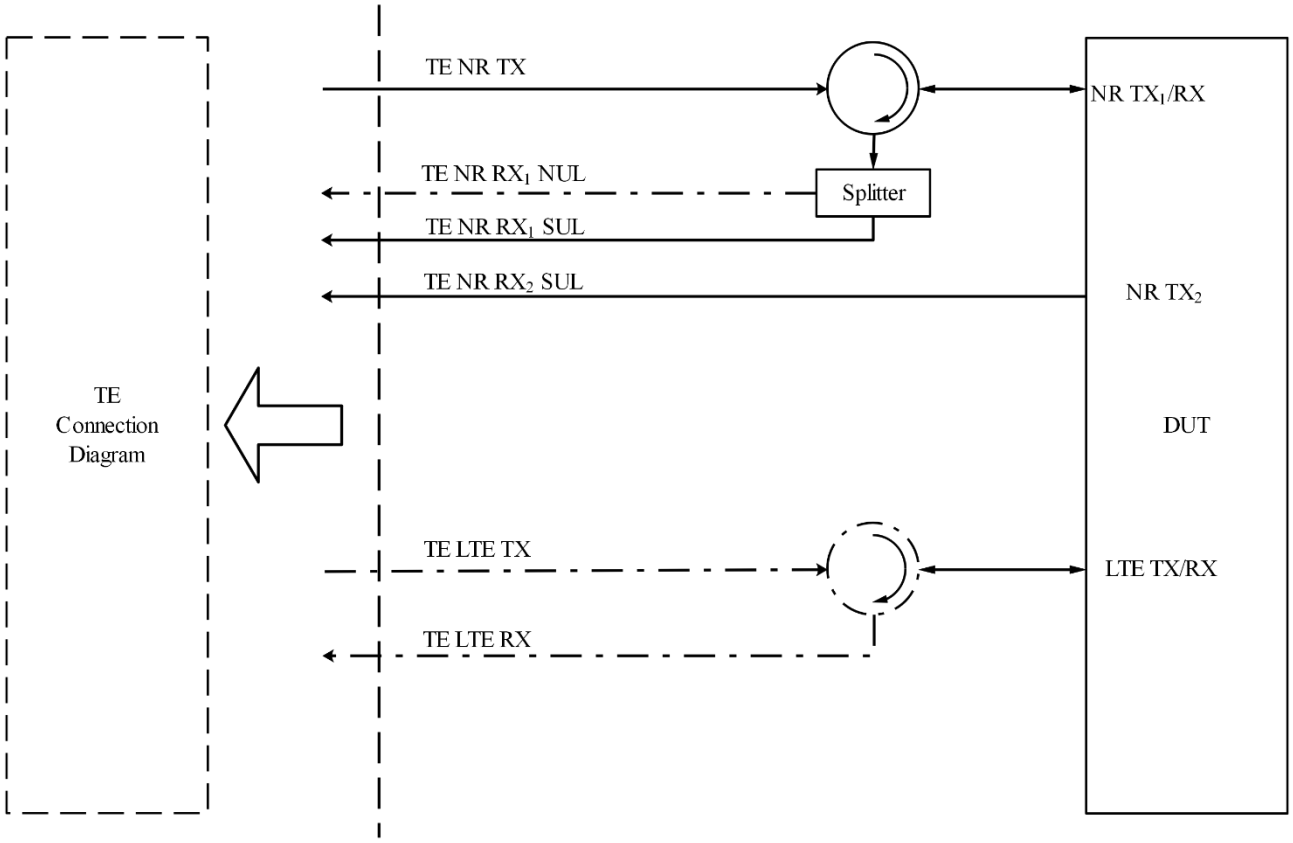


Figure A.3.2.3.9: User Equipment connection for single basic cell with NR and LTE cells at different separated connectors with UE supporting UL MIMO on SUL band

1331

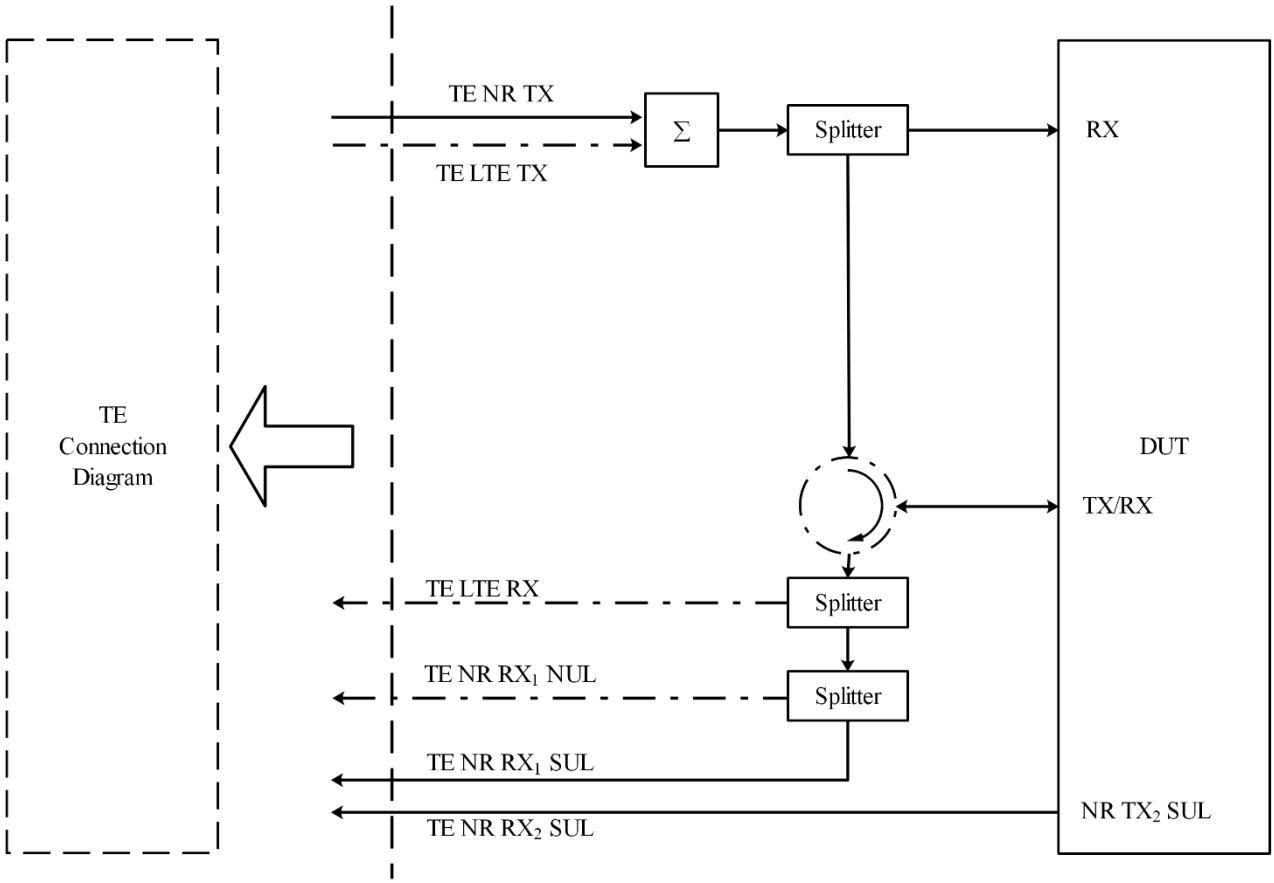


Figure A.3.2.3.10: User Equipment connection for single basic cell with NR and LTE cells at the same connectors for both cells with UE supporting UL MIMO on SUL band

A.3.2.4 Three Antenna Connectors

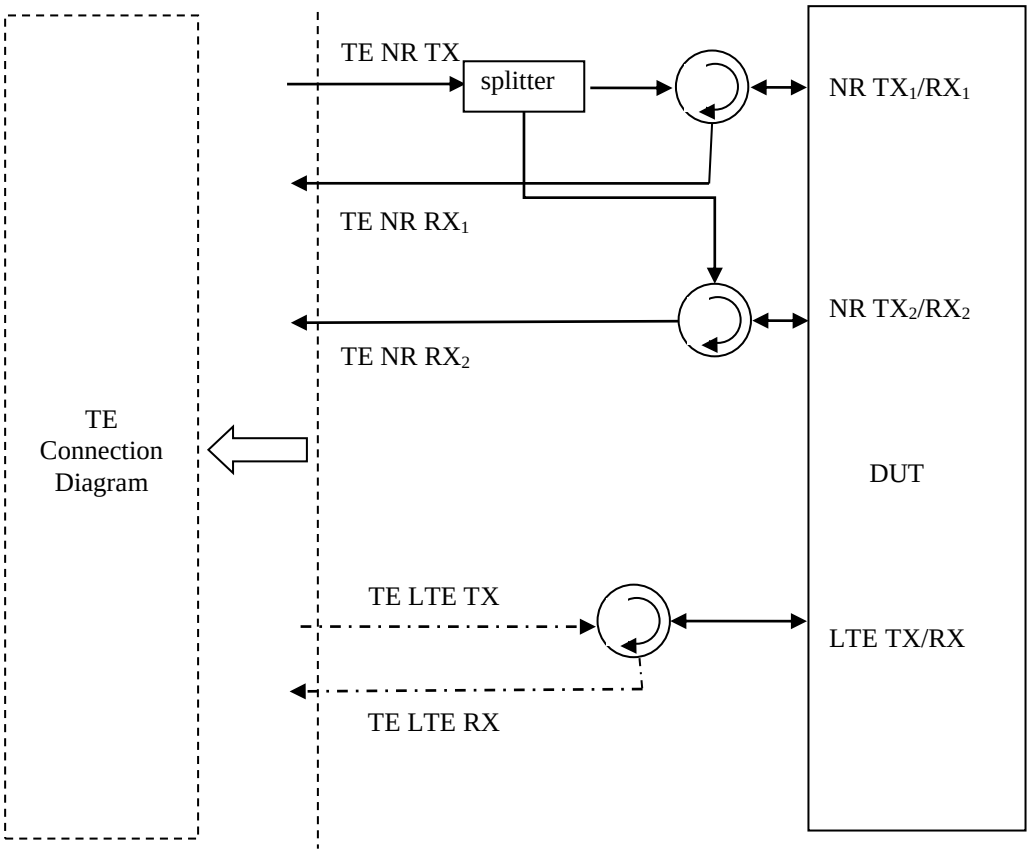


Figure A.3.2.4.1: 2Tx User Equipment connection for single basic cell with NR and LTE cells at different separated connectors and 2TX UL MIMO supported

A.3.2.5 Four Antenna Connectors

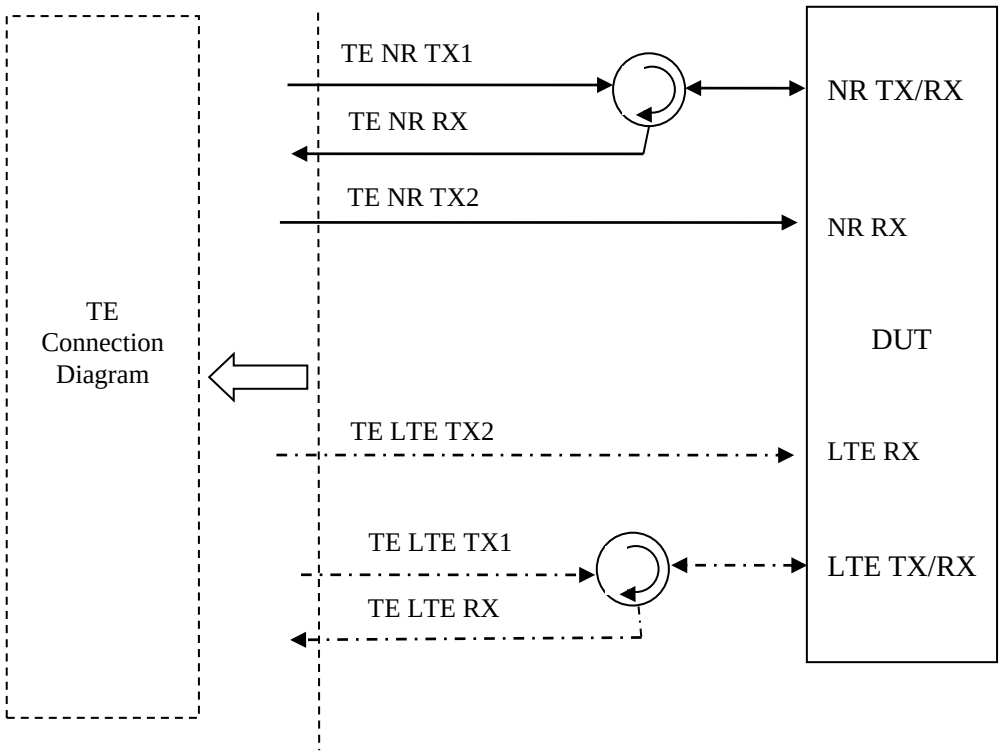


Figure A.3.2.5.1: User Equipment connection for UEs with NR and LTE RxTx and Rx antenna at different separated connectors

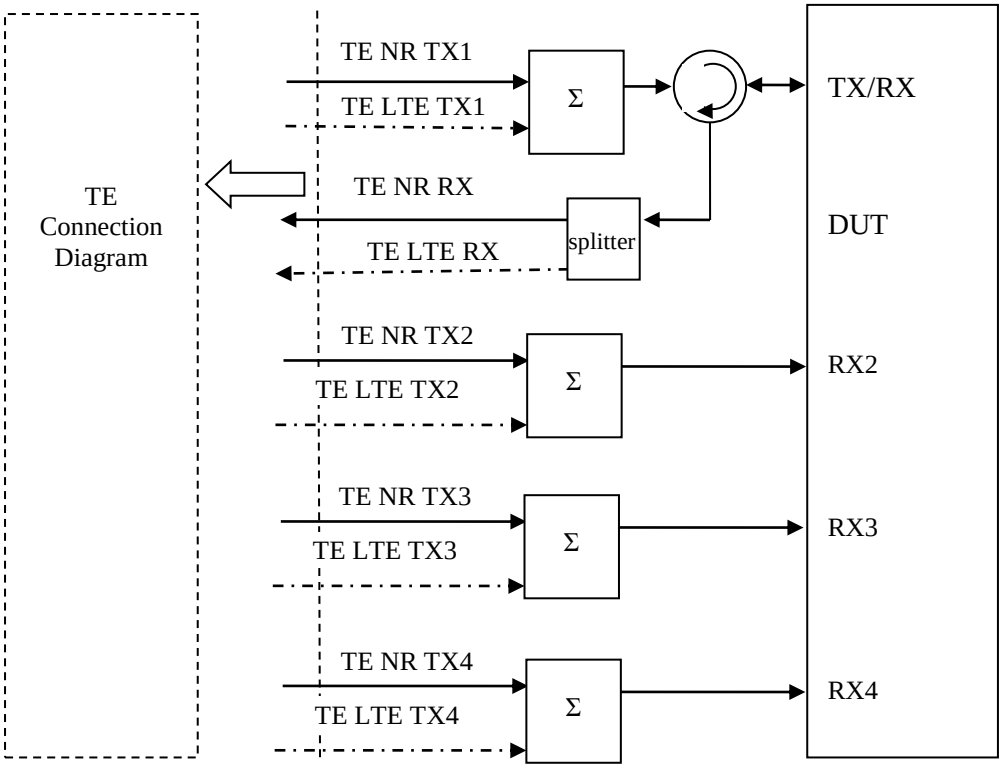


Figure A.3.2.5.2: User Equipment connection for 4Rx capable UEs without any 2Rx RF bands (NR and LTE at same connectors)

1335

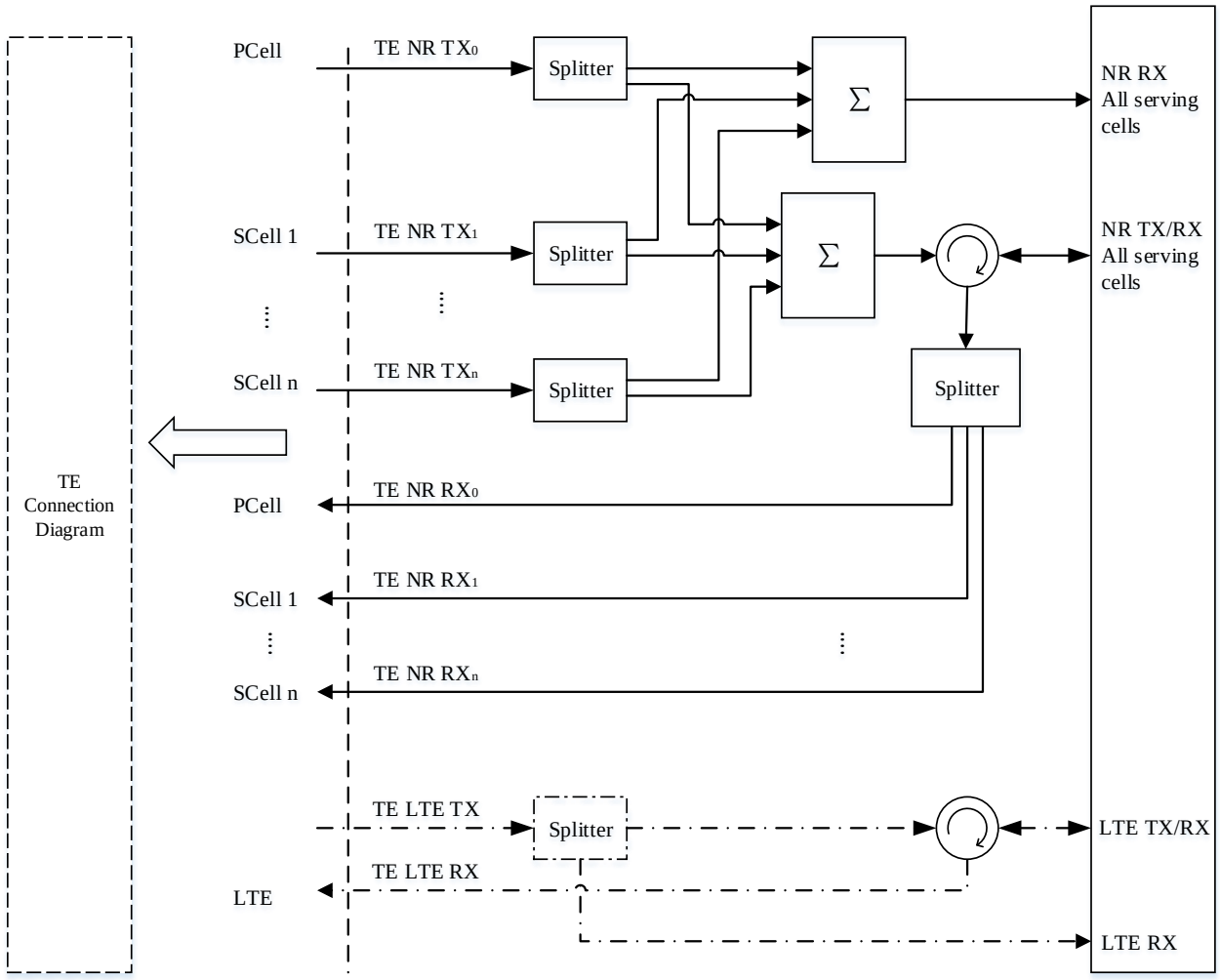


Figure A.3.2.5.3: User Equipment connection for UEs with NR CA (component carriers on common connector) and LTE

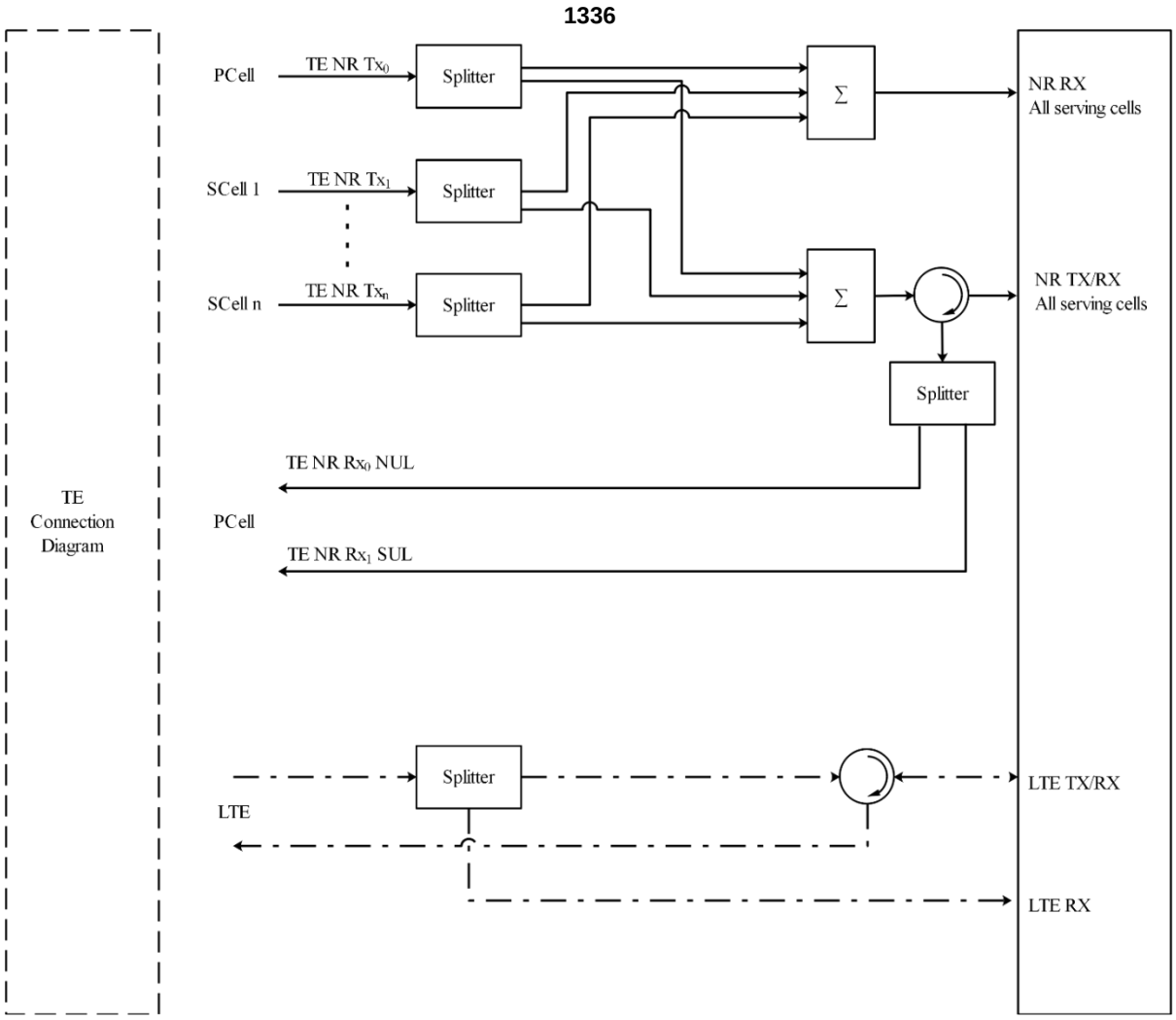


Figure A.3.2.5.4: User Equipment connection for UEs with NR SUL and DL CA (component carriers on common connector) and LTE

A.3.2.6 Over Four Antenna Connectors

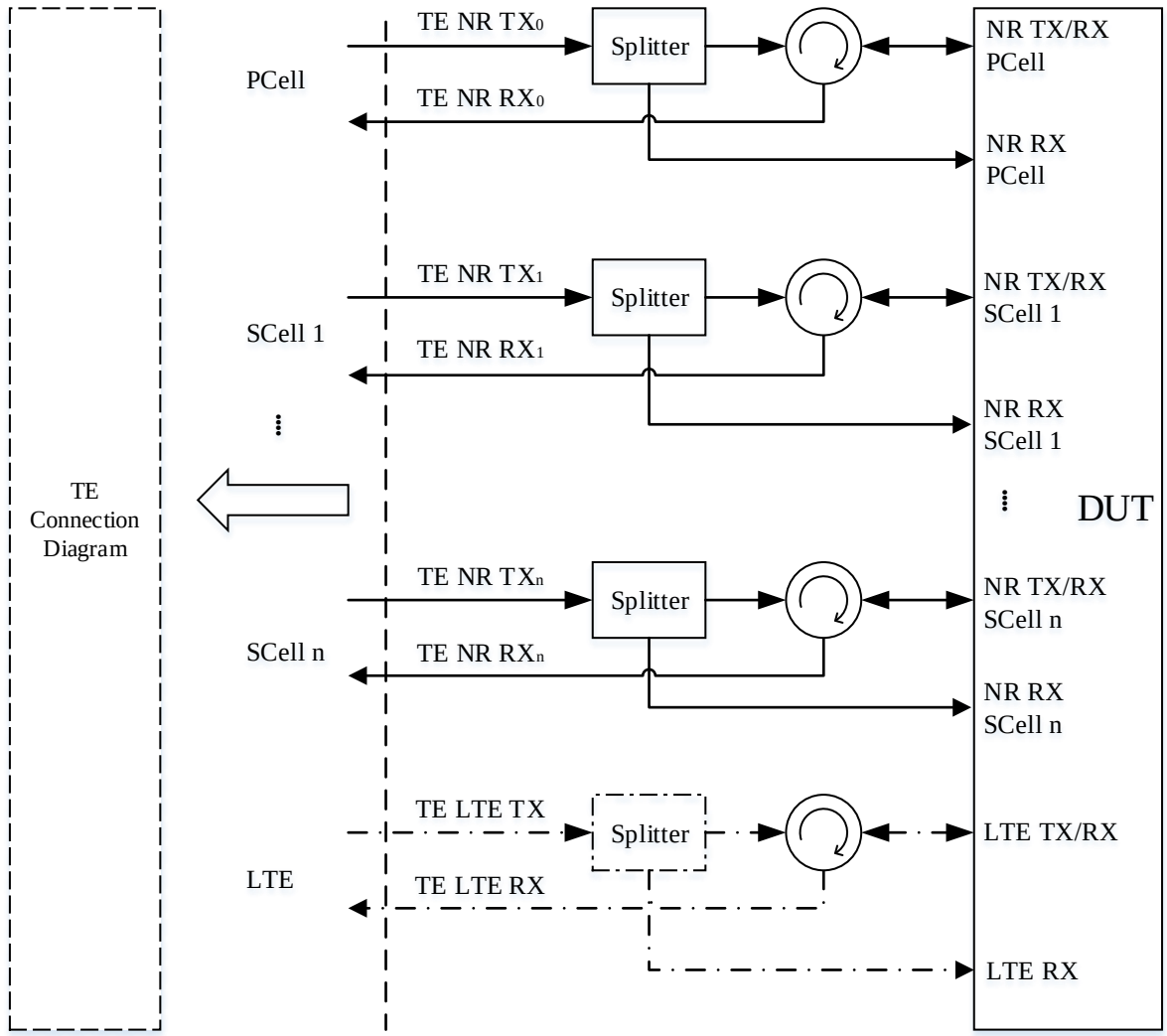


Figure A.3.2.6.1: User Equipment connection for UEs with NR CA (component carriers on separated connectors) and LTE

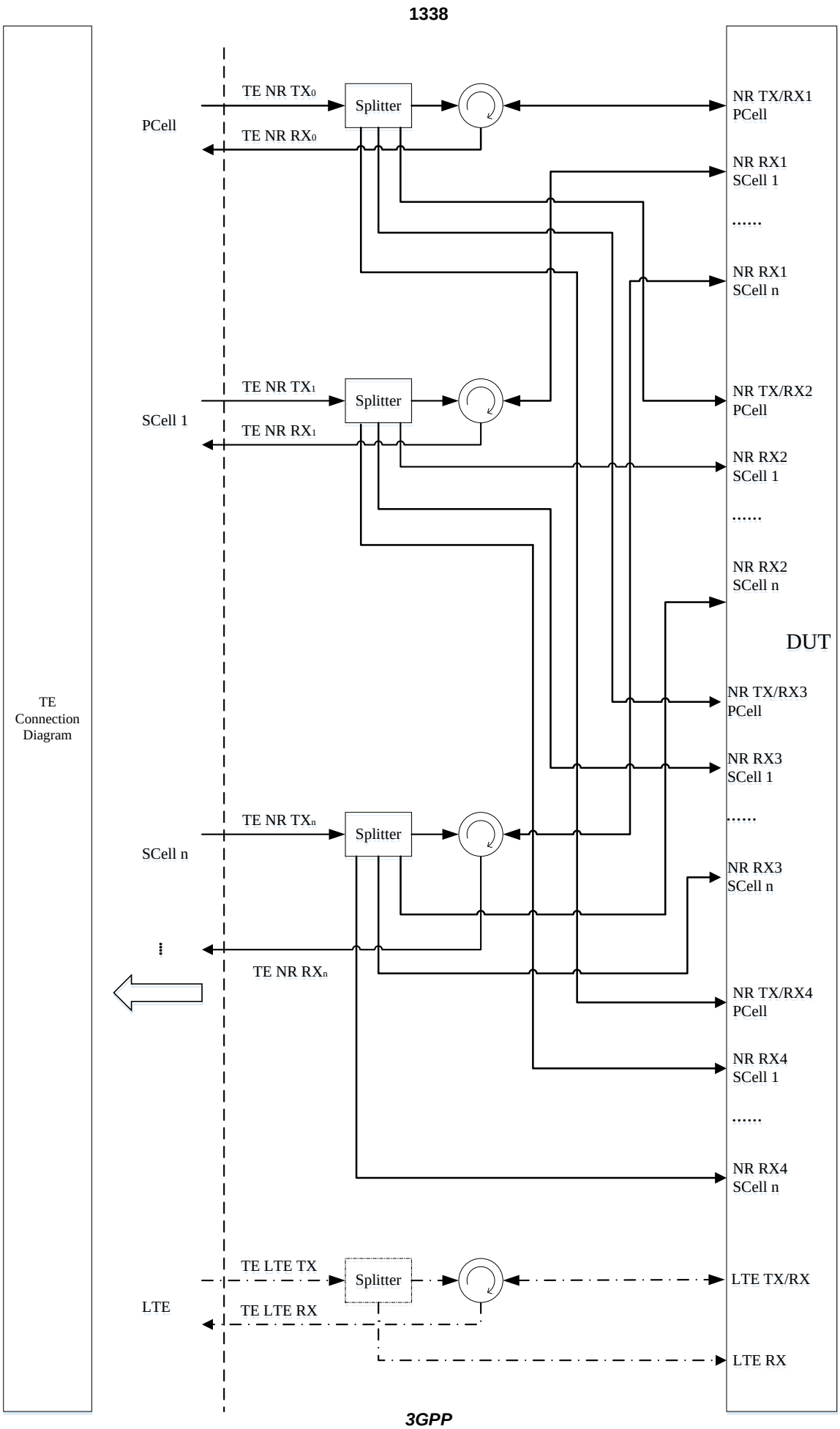

1338
TE Connection Diagram
PCell
SCell 1
SCell n
TE NR TX0
TE NR RX0
TE NR TX1
TE NR RX1
TE NR TXn
TE NR RXn
TE LTE TX
TE LTE RX
LTE
Splitter
NR TX/RX1 PCell
NR RX1 SCell 1
NR RX1 SCell n
NR TX/RX2 PCell
NR RX2 SCell 1
NR RX2 SCell n
NR TX/RX3 PCell
NR RX3 SCell 1
NR RX3 SCell n
NR TX/RX4 PCell
NR RX4 SCell 1
NR RX4 SCell n
LTE TX/RX
LTE RX
DUT
3GPP

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.3.2.7 User Equipment supporting NR Sidelink

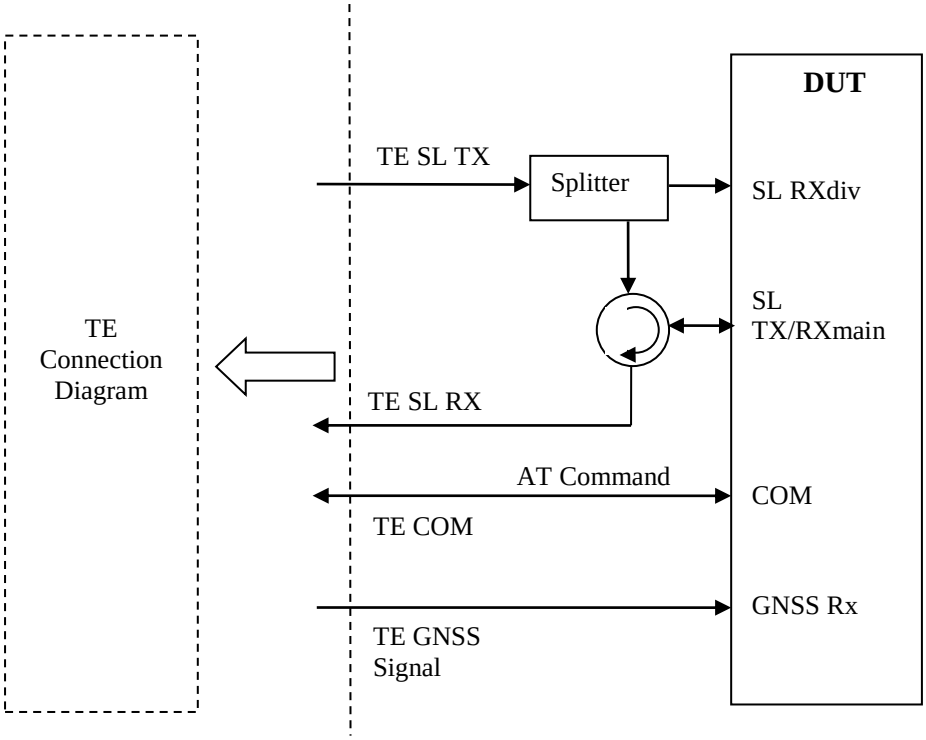


Figure A.3.2.7.1: User Equipment connection for NR sidelink operation non-concurrent with NR UL/DL transmission

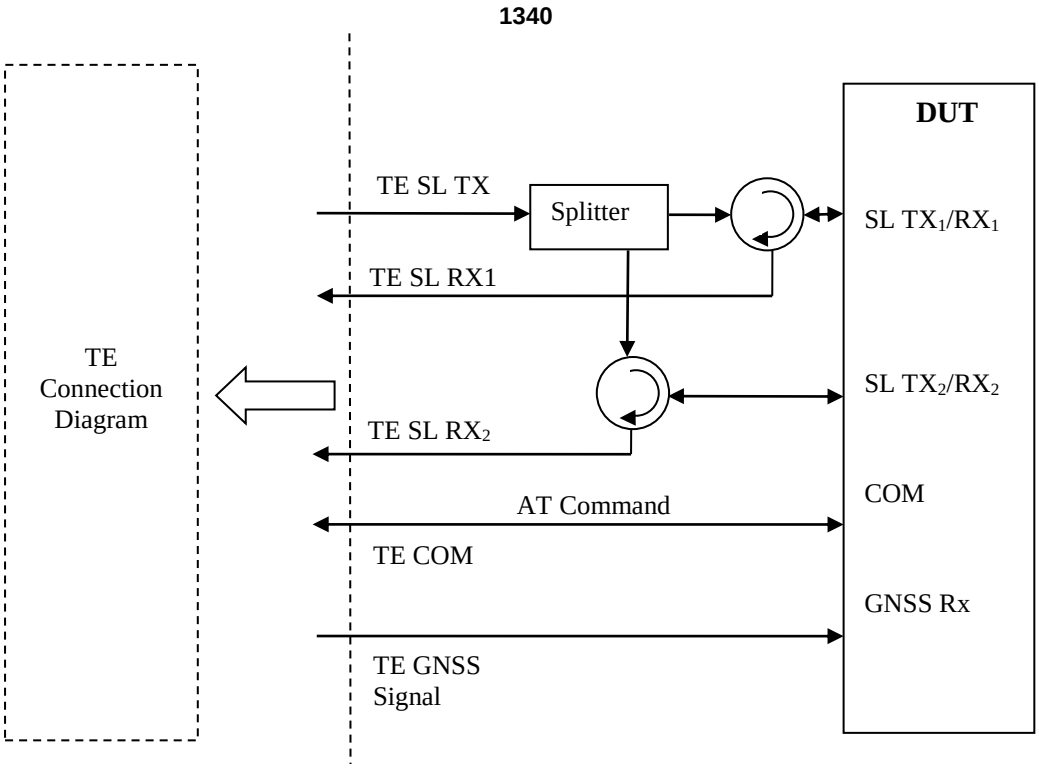


Figure A.3.2.7.2: User Equipment connection for NR sidelink operation non-concurrent with NR UL/DL transmission with SL-MIMO

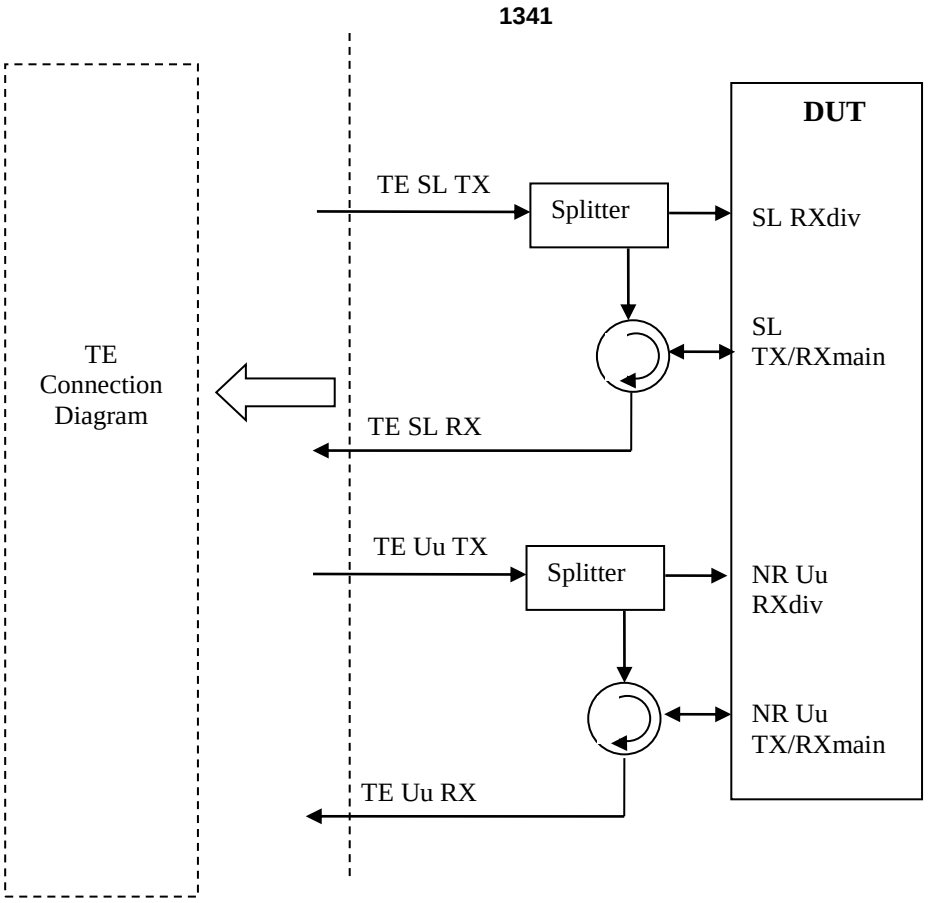


Figure A.3.2.7.3: User Equipment connection for inter-band con-current NR V2X operation

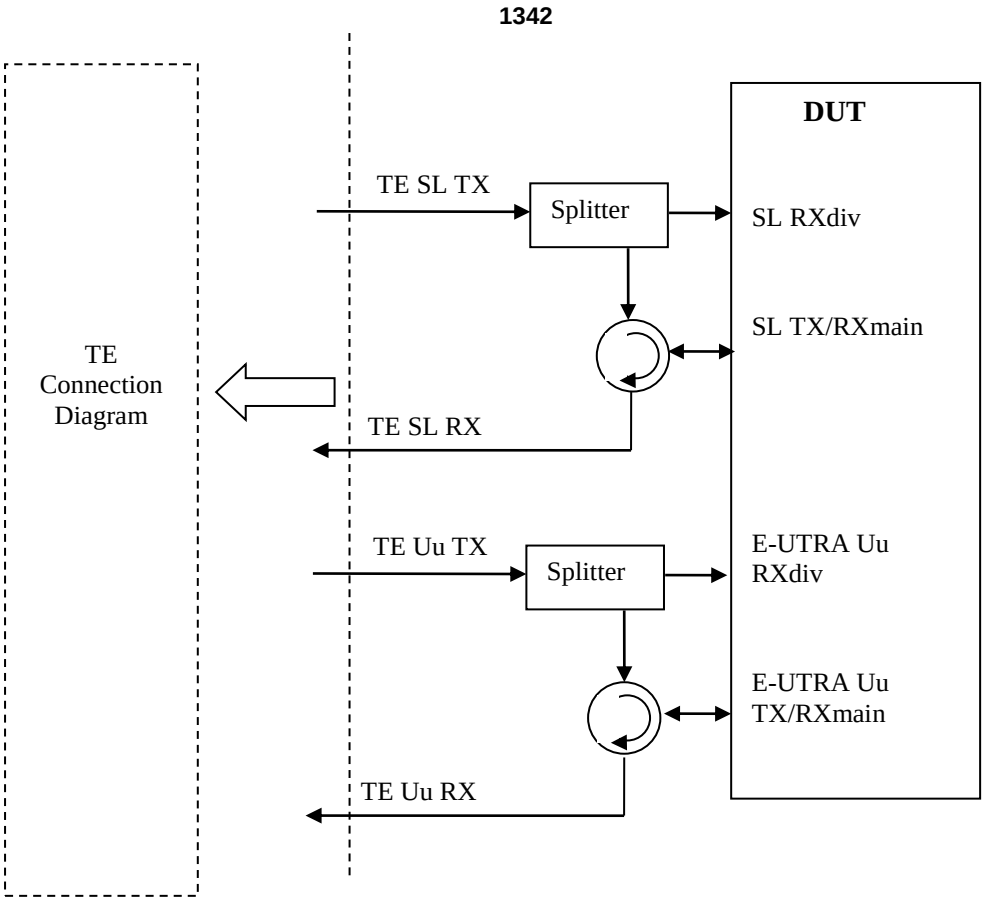


Figure A.3.2.7.4: User Equipment connection for con-current E-UTRA Uu and NR Sidelink operation

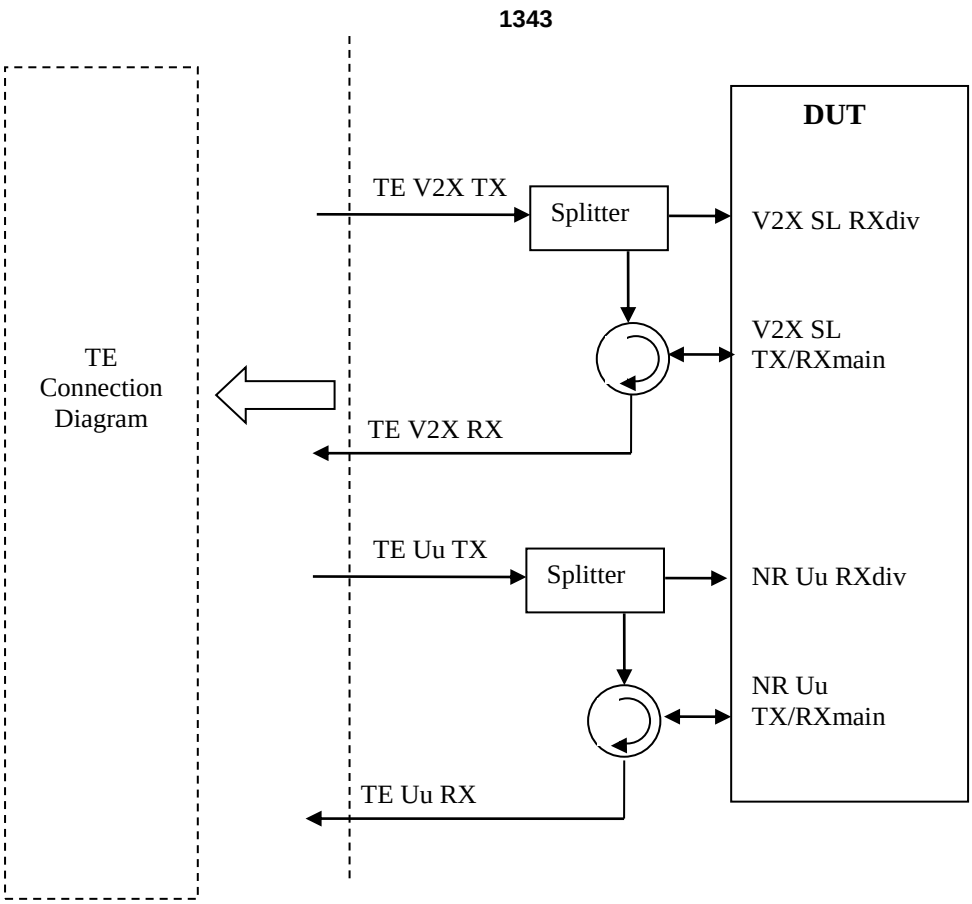


Figure A.3.2.7.5: User Equipment connection for con-current E-UTRA V2X sidelink and NR Uu operation

A.3.3 Test Equipment Parts for Radiated Measurements

A.3.3.1 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.

1344

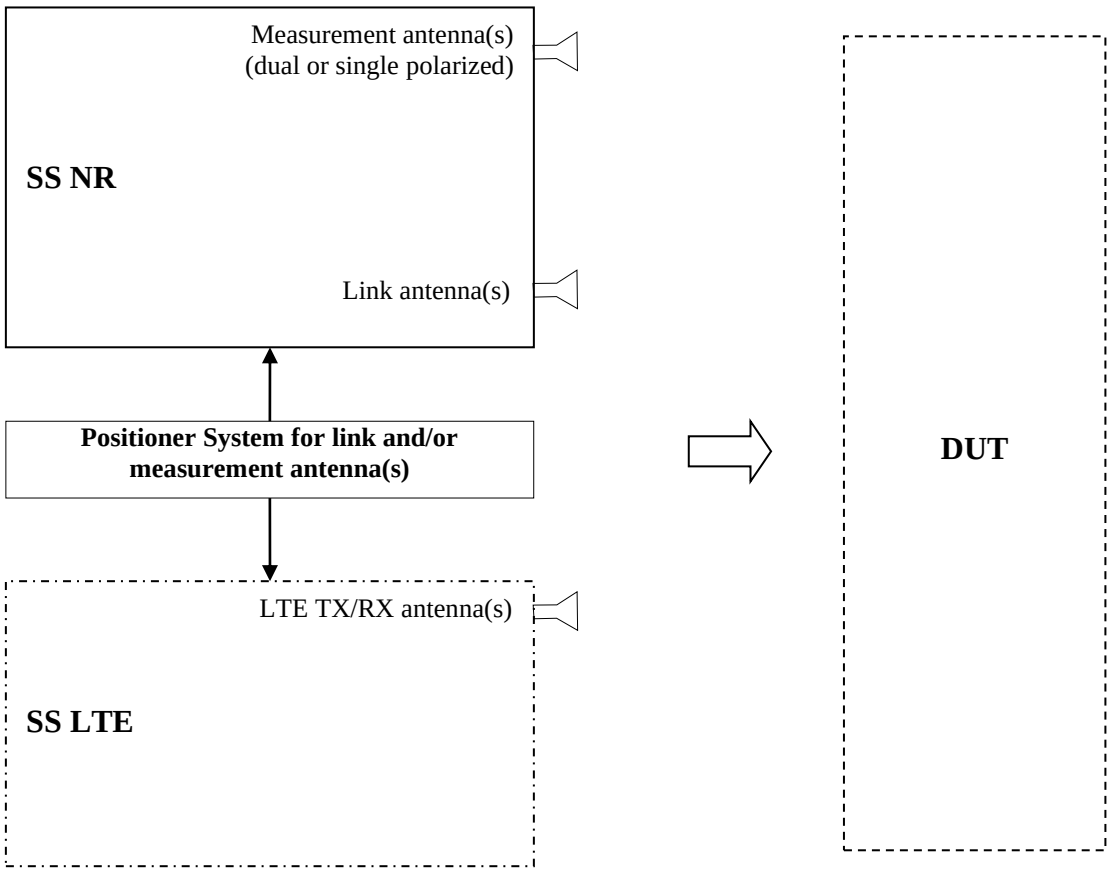


Figure A.3.3.1.1: Basic TE diagram for radiated RX and TX tests

For NR radiated RX tests requiring to simulate a modulated interference, connection diagram defined in figure A.3.3.1.2 will apply.

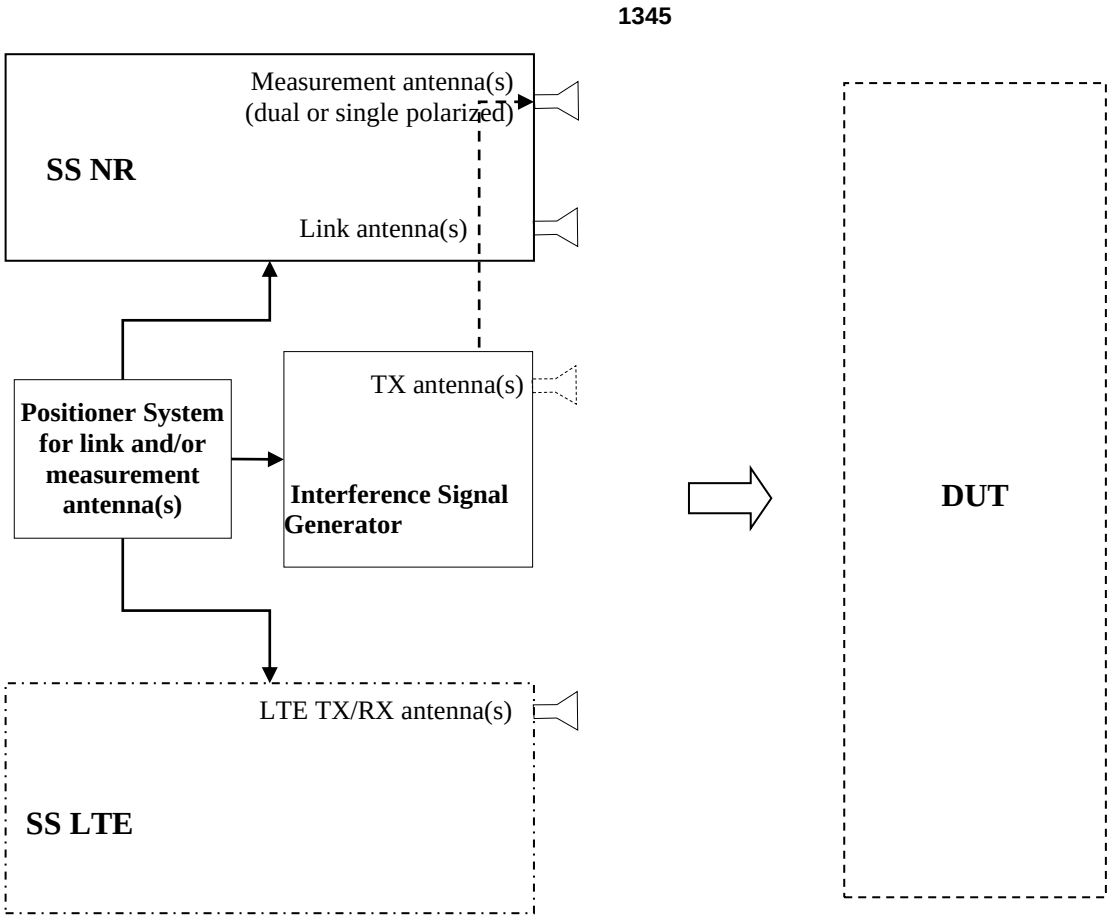


Figure A.3.3.1.2: TE diagram for radiated RX tests with Modulated Interference

A.3.3.2 Demodulation and CSI tests

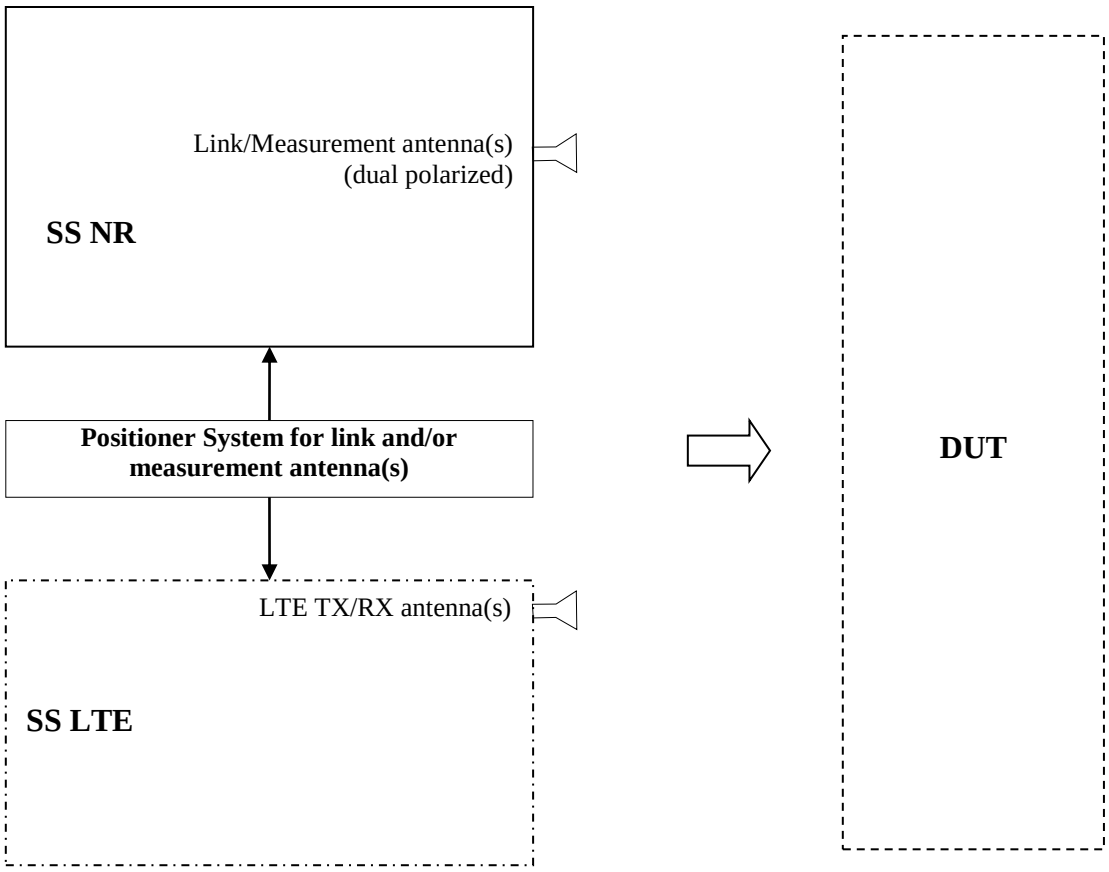


Figure A.3.3.2.1: Demodulation and CSI tests

Figures A.3.3.2.1-1 and A.3.3.2.1-1 show the connection diagram inside SS NR of Figure A.3.3.2.1 for downlink signal path.

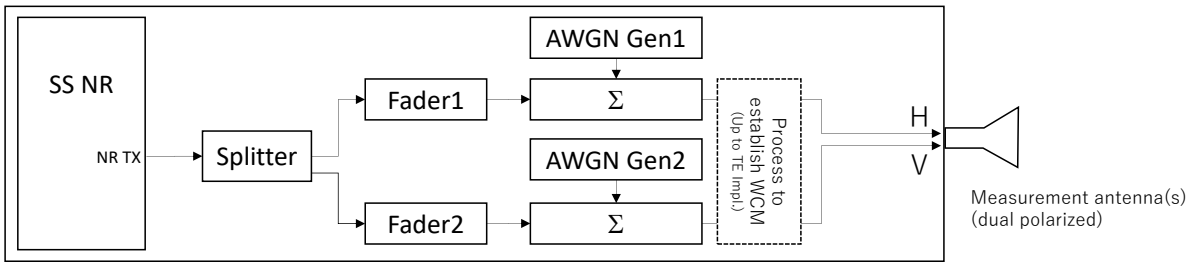


Figure A.3.3.2.1-1: TE diagram for Demodulation and CSI tests (1x2)

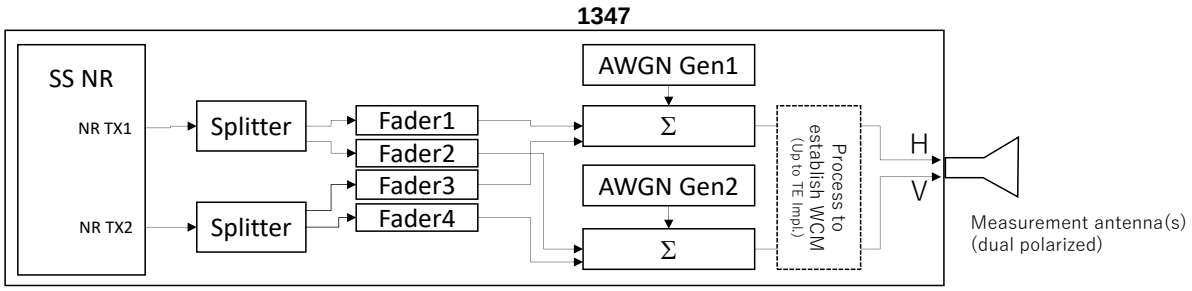


Figure A.3.3.2.1-2: TE diagram for Demodulation and CSI tests (2x2)

A.3.3.3 RRM tests

The Test Equipment part is focused on logical representation of TE antenna(s) and positioner. The Test Equipment connection diagram below is applicable for NR radiated RRM tests. SS NR uses several antennas to cover all required AoA offsets. The actual number of antennas is not determined and depends on the TE implementation. Positioner in the TE part is optional.

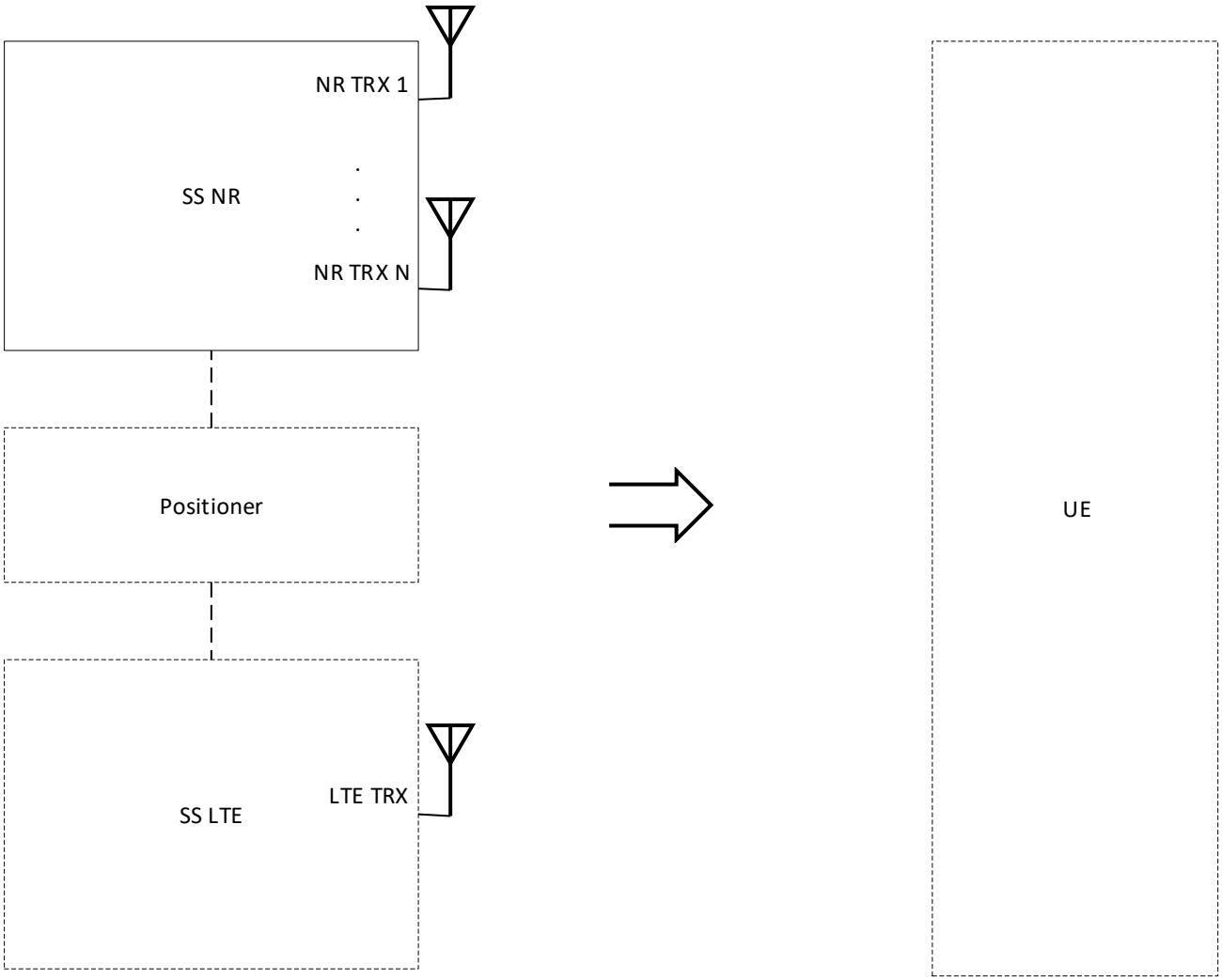


Figure A.3.3.3.1: TE diagram for radiated RRM tests

Figure A.3.3.3.1-1 shows the connection diagram inside the SS NR of Figure A.3.3.3.1 for downlink signal path (for single probe). 1x2 without fading in FR2 RRM test case represents the scenario with single antenna transmission from TE side and 2 antenna receptions at UE side, which is equivalent to 1x1 in conducted test case from test equipment perspective.

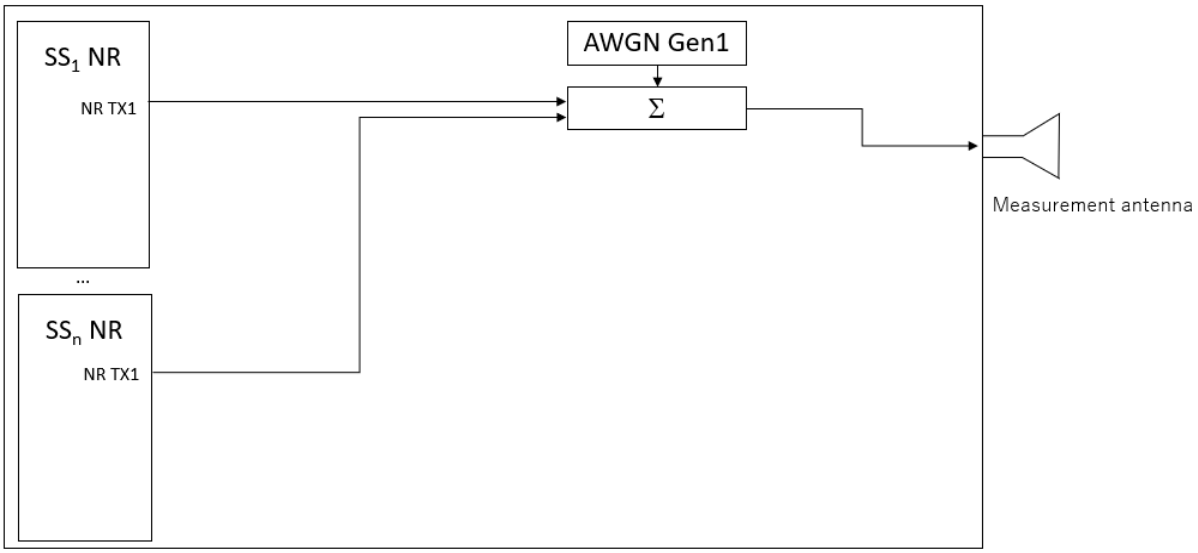


Figure A.3.3.3.1-1: TE diagram for radiated 1AoA RRM tests (1x2 without fading)

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.

1349

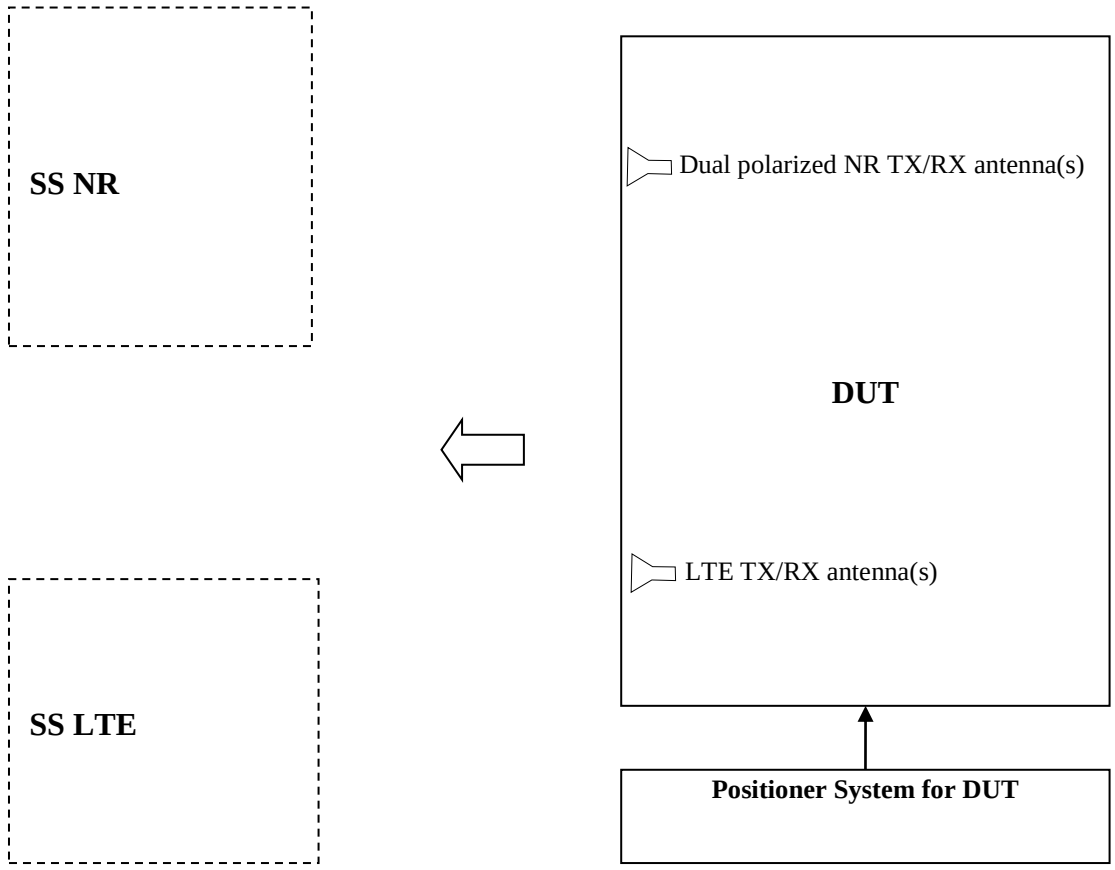


Figure A.3.4.1.1: UE diagram for radiated RX and TX tests

A.3.4.2 Demodulation and CSI tests

Same as Figure A.3.4.1.1.

A.3.4.3 RRM 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

Permitted Test Methods	UE RF	Demodulation	RRM	
			1 AoA	2 AoA
DFF	yes	yes	yes	yes
DFF Simplification	yes	yes	yes	N/A
IFF	yes	yes	yes	N/A
NFTF	yes (Note 1)	N/A	N/A	N/A
Enhanced IFF	yes	yes	yes	yes
IFF+DFF	yes	yes	yes	yes
Note 1: Not applicable for EIS, Frequency Error, EVM, Carrier Leakage, In-Band Emission, EVM SF, OBW as defined in Table J-1 of TS38.521-2 [15]				

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.

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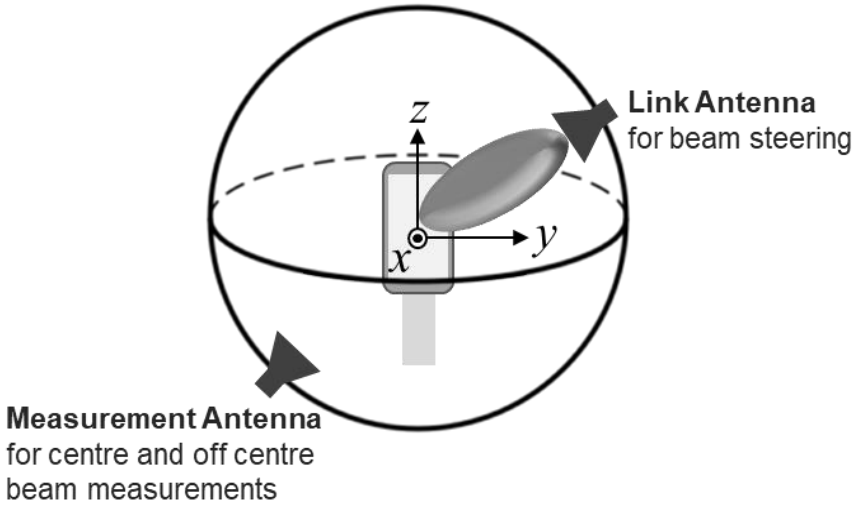

Figure B.2.2.1-1: DFF measurement setup

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 $D \leq 5$ 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

For RRM testing, an example baseline system with two simultaneously active AoA (N_{MAX_AoAs} = 2) as defined in Clause 7.1.3 using a DFF setup is illustrated in Figure 2.2.1-2. Implementations of the RRM baseline system with only a subset of the probes are possible as long as the system can satisfy the relative angular relationships outlined in Clause 7.1.3.2.1.

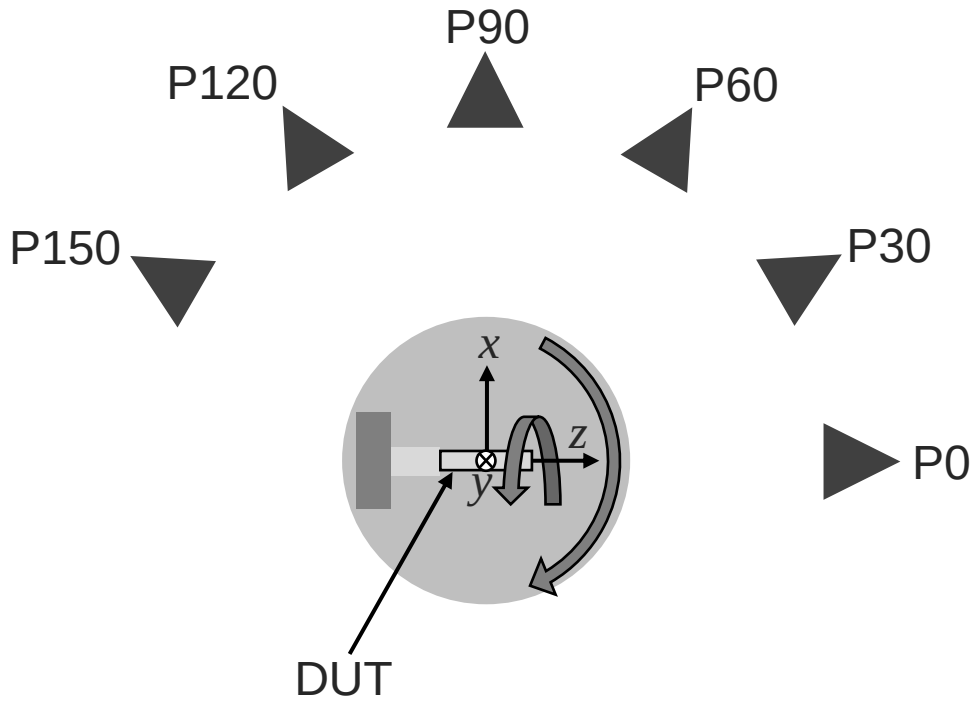

Figure B.2.2.1-2: Example RRM baseline system with two simultaneously active AoA using a DFF setup.

B.2.2.2 Quiet zone dimension

In order to allow testing of DUTs of different sizes and to allow for flexibility in test chamber implementations, there will be various defined quiet zone dimensions. The smallest quiet zone shall have a radius of 100mm to accommodate DUTs such as smartphones. The next larger quiet zone shall have a radius of 150mm to accommodate larger DUTs such as tablets. To test even larger devices, e.g., larger tablets and laptops, quiet zones with 200mm and 275mm are defined The device types are listed as examples and other device types are not precluded.

The radiating portions of the device have to be fully enclosed within the quiet zone, but the non-radiating portions of the device can be located/placed outside the quiet zone if a vendor declaration with positioning reference points and the minimum QZ required to contain all active antennas within the quiet zone (per band) is provided. This grey-box testing approach where the declared reference point is aligned with the centre of the QZ is further illustrated in Figure B.2.2.2-1.

1353

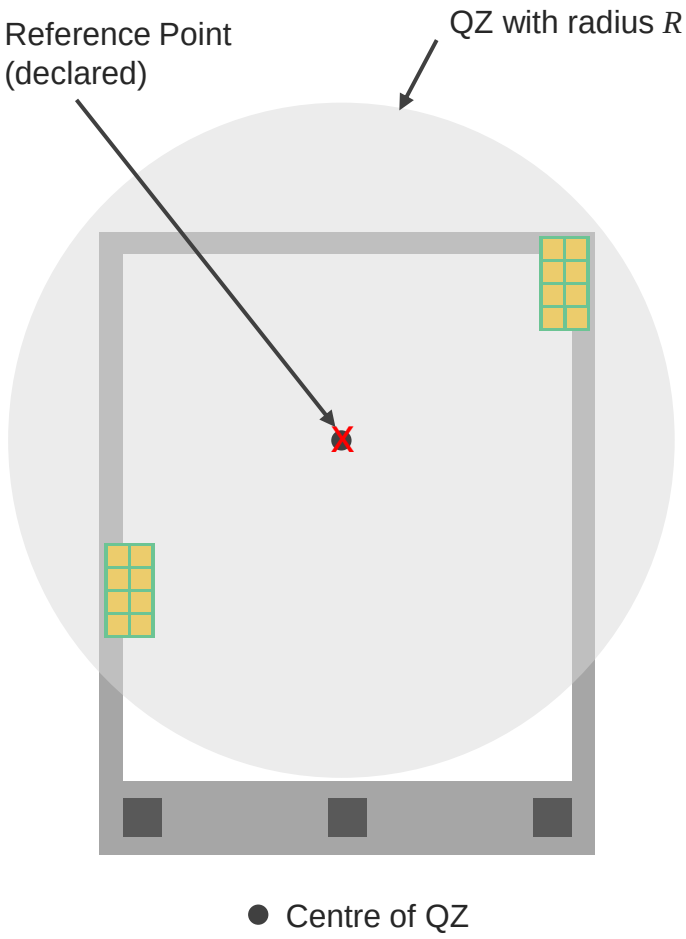

Figure B.2.2.2-1: Grey-box test approach

In the absence of a vendor declaration, the geometric centre of the DUT shall be aligned with the centre of the QZ and the DUT shall be fully contained within the QZ. This black-box testing approach is further illustrated in Figure B.2.2.2-2.

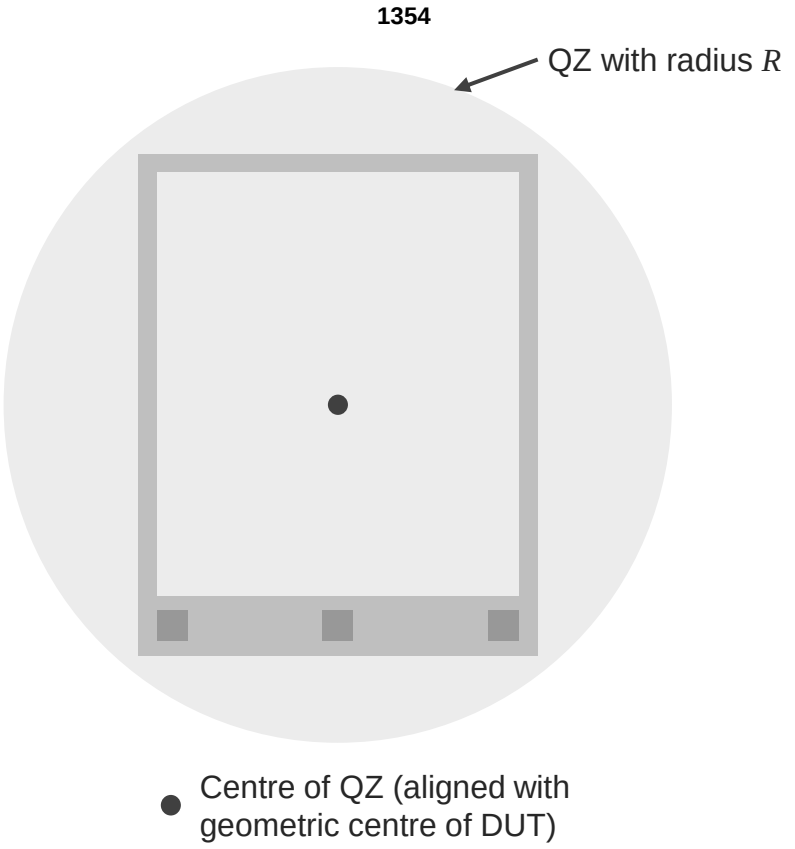

Figure B.2.2.2-2: Black-box test approach

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: $\left(\frac{4\pi R}{\lambda}\right)^2$.

The minimum range length of a DFF system, i.e., the minimum distance between the centre of the quiet zone and the measurement antenna, needs to take into account the unknown offset of the antenna aperture from the centre of quiet zone in order to guarantee far-field conditions for any antenna array integrated inside the DUT. The distance between the centre of the quiet zone to the measurement antenna is referenced as R_{DFF}, while the radius of the quiet zone is R_{QZ}

as illustrated in Figure B.2.2.4-1. The minimum distance between the antenna array integrated anywhere within the DUT and the measurement antenna needs to meet the far-field distance, $R_{FF} = 2D^2/\lambda$.

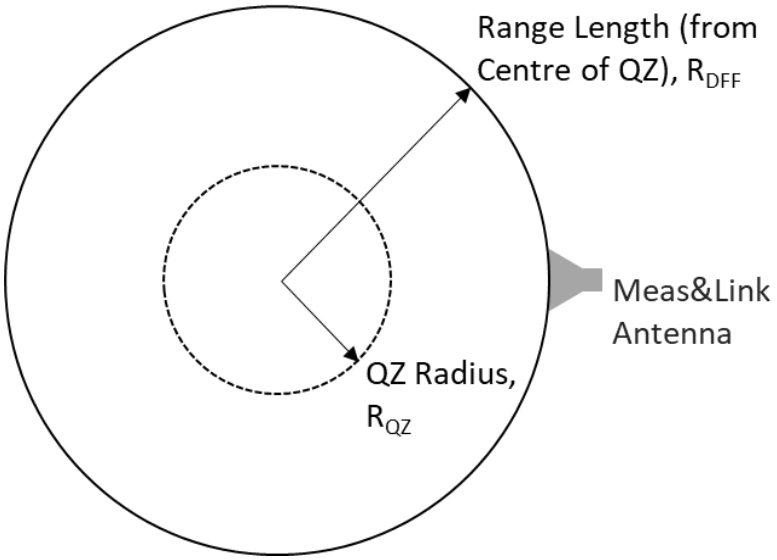

Figure B.2.2.4-1: Illustration of DFF System for range length definition

The setup in Figure B.2.2.4-2 is used to derive the minimum range length for NR FR2 DFF systems where the sphere enclosing the DUT matches the QZ and the DUT antenna with radiating aperture diameter D located in the corner of the DUT. With this setup, the minimum range length, R_{DFF}, can be determined as

$R_{DFF} = R_{QZ} – D/2 + R_{FF} = R_{QZ} – D/2 + 2D^2/\lambda$

which is tabulated in Table B.2.2.4-1 for two different QZ sizes assuming D=5cm.

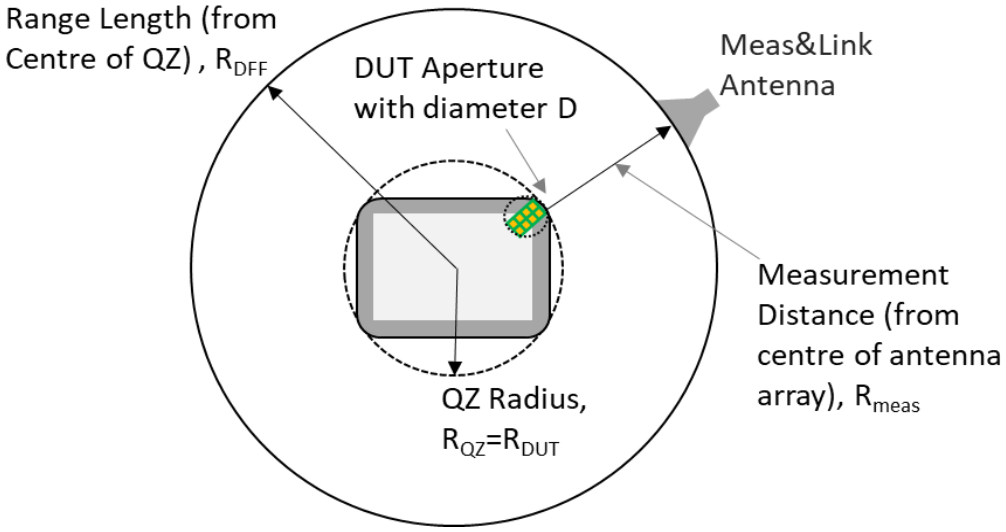

Figure B.2.2.4-2: Illustration of DFF System for minimum range length definition

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Table B.2.2.4-1: Minimum Range Length of DFF System for *D* = 5cm

f [GHz] / QZ [cm]	24.25	30	40	50	52.6
20	0.48	0.58	0.74	0.91	0.95
30	0.53	0.63	0.79	0.96	1.00

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.

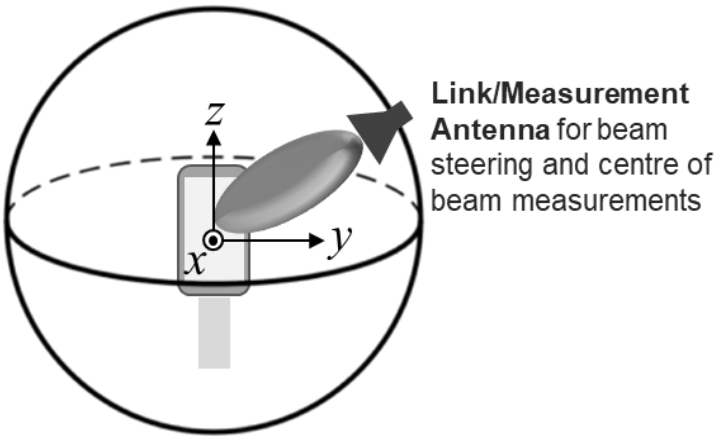

Figure B.2.3.1-1: DFF simplification for centre of beam measurement setup

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.

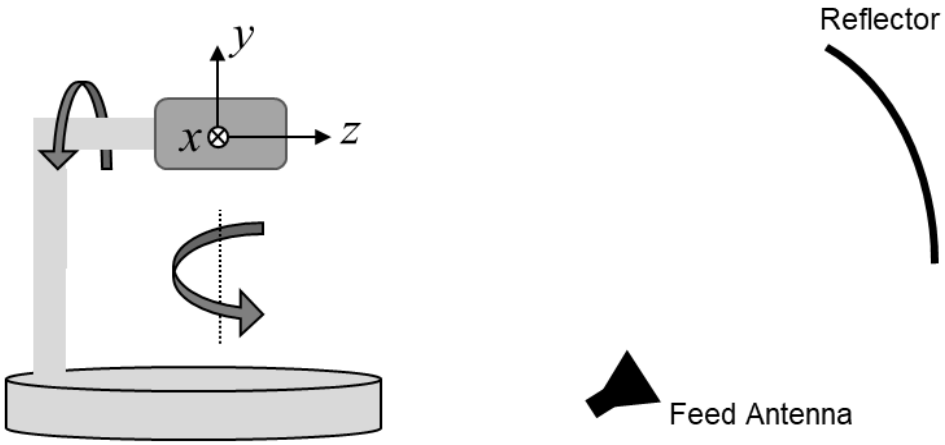

Figure B.2.4.1-1: Example of IFF: CATR measurement setup

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, i.e., the quiet zone is defined as a sphere with radius R.
- DUT must fit within the quiet zone 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:

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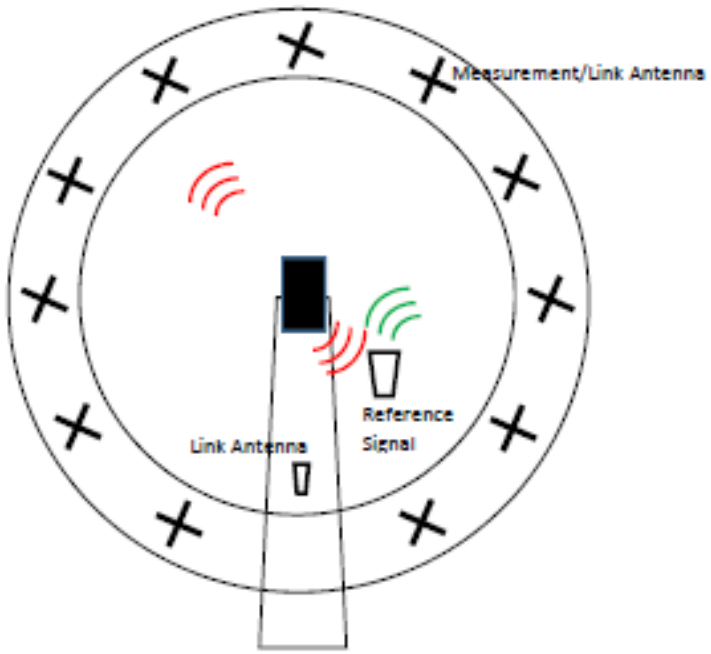

Figure B.2.5.1-1: Example of NFTF measurement setup

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.

B.2.6 Enhanced IFF

B.2.6.1 Description

The Enhanced IFF method utilizing multiple compact antenna test ranges (CATRs) creates the far field environment using a transformation with 2 or more parabolic reflectors for RRM testing with two simultaneously active AoA (N_{MAX_AoAs} = 2) as defined in Clause 7.1.3.

An example RRM baseline system using an Enhanced IFF setup are shown in Figure B.2.6.1-1. Implementations of the RRM baseline system with only a subset of the reflectors/probes are possible as long as the system can satisfy the relative angular relationships outlined in Clause 7.1.3.2.1.

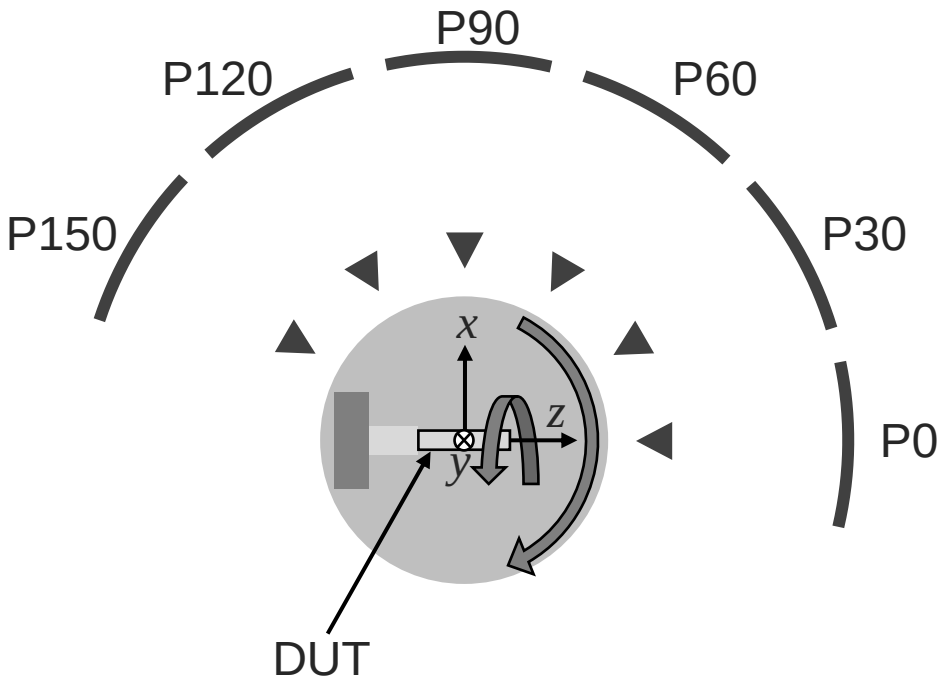

Figure B.2.6.1-1: Example RRM baseline system with two simultaneously active AoA using an Enhanced IFF setup

The key aspects of this test method setup are the same as the IFF setup, outlined in Clause B.2.4.1.

B.2.6.2 Quiet zone dimension

Same as Clause B.2.2.2.

B.2.6.3 Quality of the quiet zone

Same as Clause B.2.2.3.

B.2.6.4 Measurement Distance

Same as Clause B.2.4.4.

B.2.7 IFF+DFF

B.2.7.1 Description

The IFF+DFF method is utilizing a combination of compact antenna test ranges (CATRs) and DFF probes for RRM testing with two simultaneously active AoA ($N_{MAX\_AoAs} = 2$) as defined in Clause 7.1.3.

An example RRM baseline system using the IFF+DFF setup is shown in Figure B.2.7.1-1. Implementations of the RRM baseline system with only a subset of the probes are possible as long as the system can satisfy the relative angular relationships outlined in Clause 7.1.3.2.1.

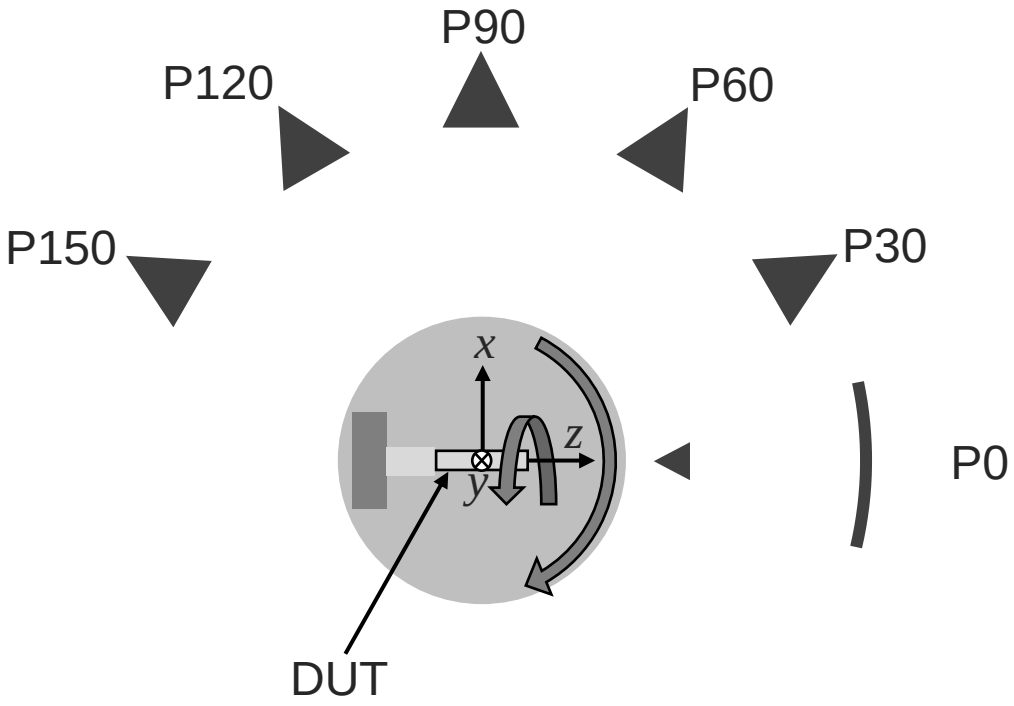

Figure B.2.7.1-1: Example RRM baseline system with two simultaneously active AoA using an IFF+DFF setup

The key aspects of this test method setup are the same as the IFF setup for the probes based on the IFF method, outlined in B.2.4.1 and the DFF setup for the probes based on the DFF method, outlined in Clause B.2.2.1.

B.2.7.2 Quiet zone dimension

Same as Clause B.2.2.2.

B.2.7.3 Quality of the quiet zone

Same as Clause B.2.2.3.

B.2.7.4 Measurement Distance

Same as Clause B.2.4.4 for the IFF setup for the probes based on the IFF method and Clause B.2.2.4 for the DFF setup for the probes based on the DFF method.

Annex C (informative): Calculation of test frequencies

C.0 General

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 NR band, NR CA or NR DC band combination.

Clause C.1 describes definitions and parameters used by the procedures to determine test frequencies, SS/PBCH Block (SSB) and CORESET#0 configuration parameters.

Clause C.2 describes how to calculate test frequencies for symmetric NR bands, asymmetric NR bands, NR CA and NR DC configurations.

Clause C.3.2 describes how to determine the SSB, CORESET#0 and signalling parameters for FR1 carriers with SCS=15 kHz or SCS=30 kHz, and for FR2 carriers with SCS=60 kHz or SCS=120 kHz. CORESET#0 is required for a carrier to be used as a Pcell.

Clause C.3.3 describes how to determine the SSB and signalling parameters for a carriers without CORESET#0.

Clause C.5 describes how to calculate test frequencies for NR V2X bands.

C.1 Definitions and Parameters

Figure C.1-1 shows SSB and CORESET#0 and related parameters.CORESET#0 is required for a carrier to be used as a PCell.

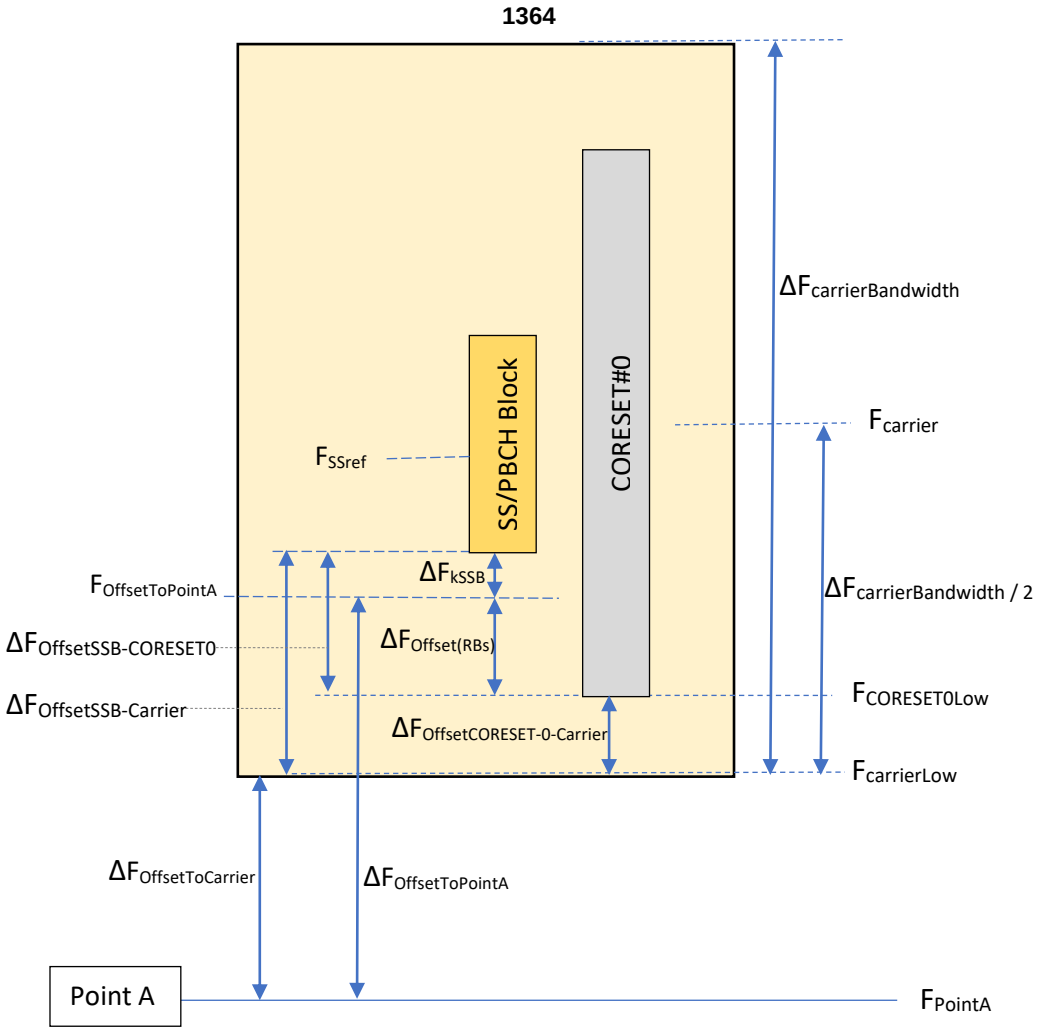

Figure C.1-1: location of SSB and CORESET#0 within a channel

The parameters referenced in figure C.1-1 are defined in Table C.1-1.

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Table C.1-1: Definition of parameters in Figure C.1-1 used in Annex C

Parameter	Description
FPointA	Reference Point A frequency.
$F_{carrier}$	$F_{carrier}$ is the centre frequency of a carrier corresponding to its NR-ARFCN value.
$F_{carrierLow}$	$F_{carrierLow}$ is the centre frequency of lowest subcarrier of the carrier. $F_{carrierLow} = F_{carrier} - 12 * SCS_{Carrier} * (N_{RB} / 2)$ with N_{RB} according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8] for the channel bandwidth of the carrier.
$\Delta F_{carrierBandwidth}$	$\Delta F_{carrierBandwidth}$ is the carrier's channel bandwidth as provided in *carrierBandwidth* to the UE (*SCS-SpecificCarrier*).
$\Delta F_{offsetToCarrier}$	$\Delta F_{offsetToCarrier}$ 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_{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].
$\Delta F_{Offset(RBs)}$	$\Delta F_{Offset(RBs)}$ = 12* Offset(RBs) * *subCarrierSpacingCommon*, where Offset(RBs) is given in tables 13-1 to 13-10 of TS 38.213 [22].
ΔF_{kSSB}	$\Delta F_{KSSB} = k_{SSB}$ * subcarrier spacing of SSB (SCS_{SSB}).
$\Delta F_{OffsetSSB-CORESET0}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of CORESET#0. $\Delta F_{OffsetSSB-CORESET0} = \Delta F_{Offset(RBs)} + \Delta F_{kSSB.}$
$\Delta F_{OffsetCORESET-0-Carrier}$	Frequency offset, $F_{OffsetCORESET\#0-Carrier}$, between the lowest subcarrier of CORESET#0 and the lowest subcarrier of the carrier.
$\Delta F_{OffsetSSB-Carrier}$	Frequency offset between the lowest subcarrier of the SSB and the lowest subcarrier of the carrier.
$F_{CORESET0Low}$	Centre frequency of subcarrier 0 of CORESET#0.
$F_{OffsetToPointA}$	Frequency of 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).
$\Delta F_{OffsetToPointA}$	Frequency offset between $F_{OffsetToPointA}$ and point A. $\Delta F_{OffsetToPointA}$ = *offsetToPointA* * {15 kHz for FR1; 60 kHz for FR2} (TS 38.211 [29] clause 4.4.4.2).

Additional parameters used in this annex are defined in Table C.1-2.

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Table C.1-2: Definition of additional parameters used in Annex C.

k_{SSB}	as defined in TS 38.211 [29] clause 7.4.3.1
$SCS_{Carrier}$	subcarrier spacing for the carrier (*SCS-SpecificCarrier*): 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_{common}	Subcarrier spacing for SIB1, Msg.2/4 for initial access, paging and broadcast SI-messages. Provided to the UE in the MIB in IE *subCarrierSpacingCommon*.
PRB_{size}	Physical Resource Block size of the carrier = 12 * $SCS_{Carrier}$.
CRB_{size}	Common Resource Block size = 12 * SCS_{common}.
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].
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 (MHz) of the carrier according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
CBW_{UL}	Uplink channel bandwidth (MHz) of the carrier according to Table 5.3.2-1 of TS 38.101-1 [7] and TS 38.101-2 [8].
$F_{Tx\text{-}Rx\_separation}$	Default Tx – Rx carrier centre frequency separation of the band as defined in clause 5.4.4 of TS 38.101-1 [7]. For TDD bands $F_{Tx\text{-}Rx\_separation}$ = 0.
$\Delta F_{Tx\text{-}Rx\_separation}$	$\Delta F_{Tx\text{-}Rx}$ = | (BW_{DL} – BW_{UL})/2 | is the deviation to the default Tx-Rx carrier centre frequency separation ($F_{Tx\text{-}Rx\_separation}$) for FDD FR1 bands supporting asymmetric channel bandwidths as defined in clause 5.3.6 of TS 38.101-1 [7].
BW_{SSB}	Bandwidth of the SSB. $\mathbf{BW_{SSB}}$ = 12 * SCS_{SSB} * 20
ΔGSCN, $GSCN_{MIN}$, $GSCN_{MAX}$	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 the applicable table 13-1 to 13-10 in TS 38.213 [22] for the given band and {SCS_{SSB}, $SCS_{Carrier}$} combination of the carrier.
$Offset_{RBs,max}$	Maximum value for Offset (RBs) according to the applicable table 13-1 to 13-1o in TS 38.213 [22] for the given band and {SCS_{SSB}, $SCS_{Carrier}$} combination of the carrier limited to the table indexes with number of RBs $N_{\mathrm{RB}}^{\mathrm{CORESET}}$ equal to the minimum value of $N_{\mathrm{RB}}^{\mathrm{CORESET}}$ in the table.
$Offset_{RBs,min}$	Minimum value for Offset (RBs) according to the applicable table 13-1 to 13-1o in TS 38.213 [22] for the given band and {SCS_{SSB}, $SCS_{Carrier}$} combination of the carrier limited to the table indexes with number of RBs $N_{\mathrm{RB}}^{\mathrm{CORESET}}$ equal to the minimum value of $N_{\mathrm{RB}}^{\mathrm{CORESET}}$ in the table.

C.2 Determination of test frequencies

C.2.0 General

Test frequencies are determined as:

For symmetric NR bands (supporting same bandwidth in UL and DL):

- test frequencies for the supported symmetric channel bandwidth combinations are determined as described in clause C.2.1; and

- the test frequencies for the supported asymmetric channel bandwidth combinations are determined as described in clause C.2.3.

For asymmetric NR bands (supporting different bandwidth in UL and DL):

- the test frequencies for the supported symmetric channel bandwidth combinations are determined as described in clause C.2.2; and
- the test frequencies for the supported asymmetric channel bandwidth combinations are determined as described in clause C.2.3.

For NR CA and NR DC:

- the test frequencies are determined as described in the relevant subclause in C.2.4 depending to the type of configuration.

The carrier test frequencies are determined considering 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 Determination of test frequencies for symmetric NR bands and symmetric uplink and downlink channel bandwidth combinations

C.2.1.1 Determination of test frequencies for 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 test frequencies for 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 Determination of test frequencies for asymmetric NR bands and symmetric uplink and downlink channel bandwidth combinations

Determination of test frequencies for asymmetric NR bands, and symmetric uplink and downlink channel bandwidth combinations are determined using the procedure in clause C.2.3 with $\Delta F_{Tx\text{-}Rx} = 0$.

C.2.3 Determination of test frequencies for bands supporting asymmetric channel bandwidth combinations

C.2.3.1 General

The following procedure is used to calculate test frequencies for NR bands supporting asymmetric UL and DL channel 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.

The procedure is also used to calculate test frequencies for symmetric UL and DL bandwidth combinations for asymmetric NR bands.

For FDD bands supporting asymmetric uplink and downlink bandwidth combinations a deviation of $\Delta F_{TX\text{-}RX}$ (C.2.3.1-Eq1) is to be added to the default Tx-Rx carrier centre frequency separation, $F_{Tx\text{-}Rx\_separation}$ (TS 38.101-1 [7] clause 5.3.6).

$\Delta F_{TX\text{-}RX} = \lvert(CBW_{DL} - CBW_{UL})/2\rvert$	C.2.3.1-Eq1

For the case of asymmetric NR bands and symmetric UL and DL bandwidth combinations $\Delta F_{TX\text{-}RX} = 0$.To meet the Tx-Rx frequency separation requirement for asymmetric NR bands were the supported overall UL bandwidth is smaller than the supported overall DL bandwidth it may not be possible to cover the full DL frequency range for all UL and DL channel bandwidth combinations. For CA when such band is only used for DL CC the full range can be used for all DL channel bandwidths.

To maximize the tested frequency range for the non-CA case the UL frequency range, as being smaller than the DL frequency range, need to be used as the starting point to calculate the uplink and downlink test frequencies.

C.2.3.2 Determination of Low-, Mid- and High-Range for bands supporting asymmetric uplink and downlink bandwidth combinations

The following procedure is used to determine the test frequencies for Low-, Mid- and High-Range for bands supporting asymmetric UL and DL bandwidth combinations.

1. Calculate uplink carrier centre frequencies:

$\mathbf{F_{UL\_LowRange}} = \mathbf{Ceil}((F_{UL\_Low} + CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.2-Eq1
$\mathbf{F_{UL\_MidRange}} = \mathbf{Round}((F_{UL\_Low} + BW_{UL\_Band}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.2-Eq2
$\mathbf{F_{UL\_HighRange}} = \mathbf{Floor}((F_{UL\_Low} + BW_{UL\_Band} - CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.2-Eq3

2. Calculate the downlink frequencies:

Calculate the DL carrier centre frequencies from the UL frequencies in step 1.

$\mathbf{F_{DL\_LowRange}} = F_{UL\_LowRange} + F_{Tx\text{-}Rx\_separation} + \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq4
$\mathbf{F_{DL\_MidRange}} = F_{UL\_MidRange} + F_{Tx\text{-}Rx\_separation} + \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq5
$\mathbf{F_{DL\_HighRange}} = F_{UL\_HighRange} + F_{Tx\text{-}Rx\_separation} + \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq6

3. Check that the calculated centre test frequencies in step 2 for the BW_{DL} fits within the bands DL frequency range:

If $F_{DL\_LowRange}$ is smaller than the lowest frequency of the band then recalculate the minimum $F_{DL\_LowRange}$ and modify the associated $F_{UL\_LowRange}$, $F_{DL\_MidRange}$ and $F_{UL\_MidRange}$ as:

$F_{DL\_LowRange} = Ceil((F_{DL\_Low} + CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.2-Eq7
$F_{UL\_LowRange} = F_{DL\_LowRange} - F_{Tx\text{-}Rx\_separation} - \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq8
$\mathbf{F_{DL\_MidRange}} = \mathbf{Round}((F_{DL\_LowRange} + F_{DL\_HighRange})/2 / \Delta F_{Raster}))* \Delta F_{Raster}$	C.2.3.2-Eq8a
$\mathbf{F_{UL\_MidRange}} = F_{DL\_MidRange} - F_{Tx\text{-}Rx\_separation} - \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq8b

If $F_{DL\_HighRange}$ is larger than the higher frequency of the band then recalculate the maximum $F_{DL\_HighRange}$ and modify the associated $F_{UL\_HighRange}$, $F_{DL\_MidRange}$ and $F_{UL\_MidRange}$ as:

$\mathbf{F_{DL\_HighRange}} = \mathbf{Floor}((F_{DL\_Low} + BW_{DL\_Band} - CBW_{DL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.2-Eq9
$F_{UL\_HighRange} = F_{DL\_HighRange} - F_{Tx\text{-}Rx\_separation} - \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq10
$\mathbf{F_{DL\_MidRange}} = \mathbf{Round}((F_{DL\_LowRange} + F_{DL\_HighRange})/2 / \Delta F_{Raster}))* \Delta F_{Raster}$	C.2.3.2-Eq11
$\mathbf{F_{UL\_MidRange}} = F_{DL\_MidRange} - F_{Tx\text{-}Rx\_separation} - \Delta F_{Tx\text{-}Rx}$	C.2.3.2-Eq12

C.2.3.3 Determination of test frequencies for a Mid range adjacent inter-frequency cell for FR2 RRM multicell testing

The following procedure is used to determine the test frequencies for Mid-Range adjacent inter-frequency cell used for RRM FR2 NR multi-cell in NR SA and EN-DC test cases. The reason for using an adjacent inter-frequency cell to the Mid-range cell for FR2 instead of using Low- or High- Range test frequencies as used for FR1 is to reduce test system complexity.

In addition to the definition of parameters in clause C.1 the following parameters are used to calculate the test frequencies for the Mid adjacent inter-frequency cell:

Parameter	Description
F_{Mid}	Carrier centre frequency (MHz) of the Mid-range cell
CBW_{Mid}	Channel bandwidth (MHz) of the Mid-range cell
$CBW_{Adjecent}$	Channel bandwidth (MHz) of the adjacent cell

1. Calculate the Mid-range adjacent cell carrier centre frequencies:

$\mathbf{F_{MidRangeAdjecentCell}} = \mathbf{Ceil}((F_{Mid} + (CBW_{Mid} + CBW_{Adjecent})/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.3.3-Eq1

2. Calculate SSB and CORESET#0 parameters as described in clause C.4.

C.2.4 Frequency determination for NR CA and NR DC configurations

C.2.4.1 Determination of test frequencies for NR Inter-band CA and NR DC

Test frequencies for NR Inter-band CA configurations and NR DC use the single carrier test frequencies for each of the included NR bands in the configuration as specified in clause 4.3.1.1.1 for FR1 bands and in clause 4.3.1.2.1 for FR2 bands.

C.2.4.2 Determination of test frequencies for NR Intra-band Contiguous CA

C.2.4.2.1 General

By default, test frequencies for NR Intra-band Contiguous CA in clause 4.3.1 are specified using the nominal channel spacing between the carrier components as specified in TS 38.101-1 [7] clause 5.4A.1 for FR1 and TS 38.101-2 [8] clause 5.4A.1 for FR2. In addition, some NR bands may have test frequencies specified based on an adjusted channel spacing as specified in in TS 38.101-1 [7] clause 5.4A.1 for FR1 and TS 38.101-2 [8] clause 5.4A.1 for FR2.

The test frequencies for NR Intra-band Contiguous CA with SCS=15kHz or SCS=30 kHz for FR1 and with SCS=60 kHZ or SCS=120 kHz for FR2 is calculated for each CC such that the specific test cases can decide which CC is used as PCell. This means that all CC test frequencies is calculated with a CORESET#0 as specified in clause C.3.2.

The test frequencies for CCs with SCS=60 kHz for FR1 and with SCS=240 kHz for FR2 is calculated without CORESET#0 as specified in C.3.3. CCs with SCS=60 kHz for FR1 and with SCS=240 kHz for FR2 can only be used for NR Intra-band Contiguous CA configurations with mixed numerologies.

Note: For NR Intra-band Contiguous CA configurations for bands where Tx frequency range is lower than Rx frequency range the RAN4 requirements for reference sensitivity testing is specified having the PCC frequency lower than the SCC frequencies such that UL PRB maximise the Tx-Rx separation. This means that CC1 shall be used as PCell in the reference test case for bands where Tx frequency range is lower than Rx frequency range; and highest CC shall be used as PCell in the reference test case for bands where Tx frequency range is higher than Rx frequency range.

In addition to the definition of parameters in clause C.1 the following parameters are used to calculate carrier components (CC) test frequencies for NR Intra-band Contiguous and Non-contiguous CA configurations:

Parameter	Description
N_{CC}	Number of CCs in the for NR Intra-band configuration
$CCBW_{DL}(i)$	Channel bandwidth (MHz) of downlink CC(i), where i = 1 to N_{CC}
$F_{Channel\_Spacing}(i)$	Channel spacing between CC(i) and CC(i+1), where i = 1 to (N_{CC}-1)

C.2.4.2.2 Determination of test frequencies for Low-, Mid- and High-Range

Downlink CC(1), lowest frequency CC:

$F_{DL\_LowRange\_CC}(1)$ is rounded up and $F_{DL\_HighRange\_CC}(1)$ 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].

$F_{DL\_LowRange\_CC}(1) = Ceil((F_{DL\_Low} + CCBW_{DL}(1) / 2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq1
$F_{DL\_MidRange\_CC}(1) = Round((F_{DL\_Low} + BW_{DL}/2 - \sum_{k=1 \text{ to } (Ncc)} CCBW_{DL}(k)/2 + CCBW_{DL}(1)/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq2
$F_{DL\_HighRange\_CC}(1) = Floor((F_{DL\_High} - CCBW_{DL}(N_{CC})/2 - \sum_{k=1 \text{ to } (Ncc-1)} F_{Channel\_Spacing}(k)) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2.2-Eq3

Downlink CC(2) to CC(N_{CC}), in increasing frequency order:

$F_{DL\_LowRange\_CC}(i) = F_{DL\_LowRange\_CC}(i-1) + F_{Channel\_Spacing}(i))$, i=2 to N_{CC}	C.2.4.2.2-Eq4
$F_{DL\_MidRange\_CC}(i) = F_{DL\_MidRange\_CC}(i-1) + F_{Channel\_Spacing}(i))$, i=2 to N_{CC}	C.2.4.2.2-Eq5
$F_{DL\_HighRange\_CC}(i) = F_{DL\_HighRange\_CC}(i-1) + F_{Channel\_Spacing}(i))$, i=2 to N_{CC}	C.2.4.2.2-Eq6

Uplink CC(i), i=1 to N_{CC}:

$\mathbf{F_{UL\_LowRange\_cc(i)}} = F_{DL\_LowRange\_CC}\mathbf{(i)} - F_{Tx\text{-}Rx\_separation}$	C.2.4.2.2-Eq7
$\mathbf{F_{UL\_MidRange\_CC(i)}} = F_{DL\_MidRange\_}\mathbf{cc(i)} - F_{Tx\text{-}Rx\_separation}$	C.2.4.2.2-Eq8
$\mathbf{F_{UL\_HighRange\_CC(i)}} = F_{DL\_HighRange\_}\mathbf{cc(i)} - F_{Tx\text{-}Rx\_separation}$	C.2.4.2.2-Eq9

C.2.4.2A Determination of test frequencies for FR1 NR Intra-band Contiguous CA without UL CA for bands with uplink bandwidth less than downlink bandwidth

C.2.4.2A.1 General

By default, test frequencies for FR1 NR Intra-band Contiguous CA for bands with uplink bandwidth less than downlink bandwidth in clause 4.3.1 (e.g. n66 and n70) are specified with CC1 used as PCC and all additional CCs are specified as

SCCs without UL to enable the SCCs for High range to extend into the upper DL BW beyond the UL BW. The nominal channel spacing between the carrier components is calculated as specified in TS 38.101-1 [7] clause 5.4A.1.

In addition to the definition of parameters in clause C.1 the defintion of parameters N_{CC}, $CCBW_{DL}$ and $F_{Channel\_Spacing}$ in clause C.2.4.2.1, and ΔF_{TX-RX} in clause C.2.3.1 are used to calculate the test frequencies.

C.2.4.2A.2 Determination of test frequencies for Low-, Mid- and High-Range

1. Calculate UL carrier centre frequencies for Low and High ranges:

$\mathbf{F_{UL\_LowRange}} = \mathbf{Ceil}((F_{UL\_Low} + CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2A.2-Eq1
$\mathbf{F_{UL\_HighRange}} = \mathbf{Floor}((F_{UL\_Low} + BW_{UL\_Band} - CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2A.2-Eq2

2. Calculate the DL CC(1) carrier centre frequencies from the UL frequencies in step 1 for Low and High ranges:

$\mathbf{\Delta F_{TX-RX}} = \lvert(CBW_{DL}(1) - CBW_{UL})/2\rvert$	C.2.4.2A.2-Eq3
$\mathbf{s}$ = +1 if $F_{UL\_Low} <= F_{DL\_Low}$ else -1	C.2.4.2A.2-Eq4
$\mathbf{F_{DL\_LowRange\_CC}}(1) = F_{UL\_LowRange} + s*(F_{Tx-Rx\_separation} + \Delta F_{Tx-Rx})$	C.2.4.2A.2-Eq5
$\mathbf{F_{DL\_HighRange\_CC}}(1) = F_{UL\_HighRange} + s*(F_{Tx-Rx\_separation} + \Delta F_{Tx-Rx})$	C.2.4.2A.2-Eq6

3. Check that DL aggregated CBW for the High range fits into the DL bandwidth.

$\mathbf{F_{DL\_HighRange\_max}} = Floor((F_{DL\_HighRange\_CC}(1) + \sum_{k=1 \text{ to } Ncc-1} F_{Channel\_Spacing}(k) + CCBW_{DL}(N_{CC})/2)$	C.2.4.2A.2-Eq7

If $F_{DL\_HighRange\_max}$ is less or equal to F_{DL_High} then goto step 4 else modify $F_{DL\_HighRange\_CC1}$ such that the full aggregated CBW is located at the DL bandwidth high edge and recalculate $F_{UL\_HighRange}$.

$\mathbf{F_{DL\_HighRange\_CC}}(1) = F_{DL\_High} - CCBW_{DL}(N_{CC})/2 - \sum_{k=1 \text{ to } (Ncc-2)} F_{Channel\_Spacing}(k)$	C.2.4.2A.2-Eq8
$\mathbf{F_{UL\_HighRange}} = F_{DL\_HighRange\_CC}(1) - s*(F_{Tx-Rx\_separation} + \Delta F_{Tx-Rx})$	C.2.4.2A.2-Eq9

4. Calculate the $F_{UL\_MidRange}$ and $F_{DL\_MidRange\_CC(1)}$:

$\mathbf{F_{DL\_MidRange\_CC}}(1) = Round((F_{DL\_LowRange\_CC}(1) + F_{DL\_HighRange\_CC}(1))/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.4.2A.2-Eq10
$\mathbf{F_{UL\_MidRange}} = FU_{DL\_MidRange\_CC}(1) - s*(F_{Tx-Rx\_separation} + \Delta F_{Tx-Rx})$	C.2.4.2A.2-Eq11

5. Calulate DL CC(2) to CC(N_{CC}), in increasing frequency order:

$F_{DL\_LowRange\_CC}(i) = F_{DL\_LowRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, i=2 to N_{CC}	C.2.4.2A.2-Eq12
$F_{DL\_MidRange\_CC}(i) = F_{DL\_MidRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, i=2 to N_{CC}	C.2.4.2A.2-Eq13
$F_{DL\_HighRange\_CC}(i) = F_{DL\_HighRange\_CC}(i-1) + F_{Channel\_Spacing}(i)$, i=2 to N_{CC}	C.2.4.2A.2-Eq14

C.2.4.3 Determination of test frequencies for NR Intra-band Non-Contiguous CA

C.2.4.3.1 General

The default test frequencies in clause 4.3.1 for NR Intra-band Non-Contiguous CA are based on maximum Wgap between the carrier components of the different bands taking the UE capability of maximum supported frequency separation between the lower edge of lowest component carrier and upper edge of highest component carrier for UL for FR1, and UL and DL for FR2.

Test frequencies with Wgap different from maximum Wgap are specified in the specific test cases using them.

In addition to the definition of parameters in clause C.1 the following parameters are used to calculate carrier components (CC) test frequencies for NR Intra-band Contiguous and Non-contiguous CA configurations:

Parameter	Description
N_{SB}	Number of sub-block in the for NR Intra-band non-contiguous configuration
$SBCBW_{DL}(i)$	Downlink channel bandwidth (MHz) of sub-block SB(i), where i = 1 to N_{SB}
maxFsBW	Maximum frequency separation bandwidth between the lower edge of lowest component carrier and upper edge of highest component carrier.
maxWgap	maxWgap is the maximum separation in MHz between each sub-block in the NR Intra-band non-contiguous configuration within maxFsBW for a given sub-block combination.

C.2.4.3.1A Selection of maximum frequency separation for FR1

Select the maxFsBW dependent on the type of configuration and aggregated CBW for the sub-block combination in Table C.2.4.3.1A-1:

Table C.2.4.3.1A-1: Selecting maxFsBW for FR1

Type of configuration	Aggregated CBW	maxFsBW
Without UL CA	All	Full NR bandwidth
With UL CA	<100 MHz	100 MHz
	>=100 MHz and <200 MHz	200 MHz
	>=100 MHz and <600 MHz	600 MHz
	>600 MHz	Full NR bandwidth

C.2.4.3.1B Selection of maximum frequency separation for FR2

Select the maxFsBW dependent on the type of configuration and aggregated CBW for the sub-block combination in Table C.2.4.3.1B-1:

Table C.2.4.3.1B-1: Selecting maxFsBW for FR2

Type of configuration	Aggregated CBW	maxFsBW (Note 1)
With non-contiguous UL CA	<400 MHz	400 MHz
	>=400 MHz and <600 MHz	600 MHz
	>=600 MHz and <800 MHz	800 MHz
	>=800 MHz and <1000 MHz	1000 MHz
	>=1000 MHz and <1200 MHz	1200 MHz
	>=1200 MHz and <1400 MHz	1400 MHz
	>=1400 MHz	N/A
Without non-contiguous UL CA	<400 MHz	400 MHz
	>=400 MHz and <600 MHz	600 MHz
	>=600 MHz and <800 MHz	800 MHz
	>=800 MHz and <1000 MHz	1000 MHz
	>=1000 MHz and <1200 MHz	1200 MHz
	>=1200 MHz and <1400 MHz	1400 MHz
	>=1400 MHz and <1600 MHz	1600 MHz
	>=1600 MHz and <1800 MHz	1800 MHz
	>=1800 MHz and <2000 MHz	2000 MHz
	>=2000 MHz and <2200 MHz	2200 MHz
	>=2200 MHz and <2400 MHz	2400 MHz

Note 1: For FR2 intra-band non-contiguous CA configurations with non-contiguous UL CA the selected value of maxFsBW is based on applicable frequency separation classes for UL non-contiguous operation in TS 38.101-2 [8],Table 5.3A.4-2. For FR2 intra-band non-contiguous CA configurations without non-contiguous UL CA the selected value of maxFsBW is based on applicable frequency separation classes for DL non-contiguous operation in TS 38.101-2 [8],Table 5.3A.4-2.

C.2.4.3.2 Determination of test frequencies for a sub-block combination

Editor's note: The number of test points for intra-band non-contiguous CA configurations is under investigation, e.g. "Low" and "High", or "Mid".

1. Calculate the maxWgap value between sub-blocks for the sub-block combination:

$maxWgap = (maxFsBW - \sum_{k=1 \text{ to } N_{SB}} SBCBW_{DL}(k)) / (N_{SB}-1)$	C.2.4.3.3-Eq1

2. Calculate test frequencies for all sub-blocks in the sub-block combination:

If the maxFsBW is smaller than the full bandwidth of the NR band then calculate test frequencies for both Low and High range else only for the Low range.

For Low range the test frequencies are calculated such that the lower edge of the lowest component carrier of the lowest frequency sub-block is located at the lower edge of the NR bandwidth. The sub-blocks are separated by the calculated maxWgap in step 1.

For High range the test frequencies are calculated such that the upper edge of the highest component carrier of the highest frequency sub-block is located at the upper edge frequency of the NR bandwidth. The sub-blocks are separated by the calculated maxWgap in step 1.

Within each sub-block the test frequencies and parameters of the sub-block are calculated based on the location of the sub-block and the relevant principles in clause C.2, C3 and C4 for the type of component carriers in the sub-block.

The test frequencies for CCs with SCS=60 kHz for FR1 and with SCS=240 kHz for FR2 is calculated without CORESET#0 as specified in C.3.3. CCs with SCS=60 kHz for FR1 and with SCS=240 kHz for FR2 can only be used for NR Intra-band Non-Contiguous CA configurations with mixed numerologies.

C.2.4.3.3 Void

C.2.5 Frequency determination for supplemental uplink

C.2.5.1 General

The following procedure is used to calculate test frequencies for NR supplemental uplink as described below, where CBW_{UL} refers to the carrier's UL channel bandwidths and BW_{UL} refers to the band's total UL bandwidths.

C.2.5.2 Determination of Low-, Mid- and High-Range for supplemental uplink bands

The following procedure is used to determine the uplink carrier centre frequencies for Low-, Mid- and High-Range for supplemental uplink bands.

$\mathbf{F_{UL\_LowRange}} = \mathbf{Ceil}((F_{UL\_Low} + CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.5.2-Eq1
$\mathbf{F_{UL\_MidRange}} = \mathbf{Round}((F_{UL\_Low} + BW_{UL\_Band}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.5.2-Eq2
$\mathbf{F_{UL\_HighRange}} = \mathbf{Floor}((F_{UL\_Low} + BW_{UL\_Band} - CBW_{UL}/2) / \Delta F_{Raster}) * \Delta F_{Raster}$	C.2.5.2-Eq3

C.2.6 Frequency determination for EN-DC configurations

C.2.6.1 Determination of test frequencies for EN-DC Inter-band

Test frequencies for EN-DC Intra-band non-contiguous configurations use the Low and High ranges test frequencies for each of the included single carrier E-UTRA and NR bands, and E-UTRA and NR CA configurations in the configuration as specified E-UTRA in TS 36.508 [2], clause 4.3.1 and for NR in clause 4.3.1.1.1 for FR1 bands and in clause 4.3.1.2.1 for FR2 bands.

C.2.6.2 Determination of test frequencies for EN_DC Intra-band Contiguous CA

C.2.6.2.1 General

By default, test frequencies for EN-DC Intra-band Contiguous CA in clause 4.3.1 are specified using the nominal channel spacing between the E-UTRA and NR carrier components as specified in TS 38.101-3 [9], clause 5.4B.1.

The test frequencies for EN_DC Intra-band Contiguous CA is calculated for Low and High ranges for the following two cases:

- with NR CC at the band edge; and
- with E-UTRA CC at the band edge.

In addition to the definition of parameters in clause C.1 the following parameters are used to calculate carrier components (CC) test frequencies for EN_DC Intra-band Contiguous:

Parameter	Description
N_{NR_CC}	Number of NR CCs in the EN-DC Intra-band configuration
N_{EUTRA_CC}	Number of E-UTRA CCs in the EN-DC Intra-band configuration
$CCBW_{NR\_DL}(i)$	Channel bandwidth (MHz) of downlink NR CC(i), where i = 1 to N_{NR_CC}
$CCBW_{EUTRA\_DL}(m)$	Channel bandwidth (MHz) of downlink E-UTRA CC(m), where m = 1 to N_{EUTRA_CC}
$F_{NR\_EUTRA\_Channel\_Spacing}$	Nominal channel spacing between adjacent NR and E-UTRA CCs as defined in TS 38.101-3 [9], 5.4B.1.
$F_{EUTRA\_Channel\_Spacing}(m)$	Nominal channel spacing between E-UTRA adjacent contiguous CC(m) and CC(m+1), where m = 1 to (N_{EUTRA_CC}-1) as defined in TS 36.101 [48], 5.7.1A.
$F_{NR\_Channel\_Spacing}(i)$	Nominal channel spacing between NR adjacent contiguous CC(i) and CC(i+1), where i = 1 to (N_{NR_CC}-1) as defined in TS 38.101-1 [7] clause 5.4A.1 for FR1 and TS 38.101-2 [8] clause 5.4A.1 for FR2
$LCM\Delta F_{Raster}$	Least Common Multiple of NR ΔF_{Raster} and E-UTRA ΔF_{Raster} equals to 300 kHz for E-UTRA ΔF_{Raster} = 100 kHz and NR ΔF_{Raster} = 15kHz, 30kHz and 60kHz.

C.2.6.2.2 Determination of test frequencies for Low-, Mid- and High-Range with NR at band edges

Downlink NR CC(1), lowest frequency CC:

$F_{NR\_DL\_LowRange\_CC}(1)$ is rounded up and $F_{NR\_DL\_HighRange\_CC}(1)$ 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].

The NR test frequencies are calculated such that both the NR CC and E-UTRA CC adjacent to each other are located at the NR and E-UTRA frequency raster respectively.

$F_{NR\_DL\_LowRange\_CC}(1) = Ceil((F_{DL\_Low} + CCBW_{NR\_DL}(1) / 2 + F_{NR\_EUTRA\_Channel\_Spacing}) / LCM\Delta F_{Raster}) * LCM\Delta F_{Raster} - F_{NR\_EUTRA\_Channel\_Spacing}$, where $F_{NR\_EUTRA\_Channel\_Spacing} = Round((CCBW_{EUTRA\_DL}(1) + CCBW_{NR\_DL}(N_{NR\_CC}))/(2*\Delta F_{Raster}))* \Delta F_{Raster}$	C.2.6.2.2-Eq1
$F_{NR\_DL\_MidRange\_CC}(1) = Round((F_{DL\_Low} + BW_{DL}/2 – (\sum_{i=1\ to\ N_{NR\_CC}} CCBW_{NR\_DL}(i) + \sum_{m=1\ to\ N_{EUTRA\_CC}} CCBW_{EUTRA\_DL}(m))/2 + CCBW_{NR\_DL}(1))/2) + F_{NR\_EUTRA\_Channel\_Spacing} / LCM\Delta F_{Raster}) * LCM\Delta F_{Raster} - F_{NR\_EUTRA\_Channel\_Spacing}$, where $F_{NR\_EUTRA\_Channel\_Spacing} = Round((CCBW_{EUTRA\_DL}(1) + CCBW_{NR\_DL}(N_{NR\_CC}))/(2*\Delta F_{Raster}))* \Delta F_{Raster}$	C.2.6.2.2-Eq2
$F_{NR\_DL\_HighRange\_CC}(1) = Floor((F_{DL\_High} - CCBW_{NR\_DL}(N_{NR\_CC})/2– \sum_{i=1\ to\ (N_{NR\_CC-1})} F_{NR\_Channel\_Spacing}(i) - F_{NR\_EUTRA\_Channel\_Spacing}) / LCM\Delta F_{Raster}) * LCM\Delta F_{Raster} + F_{NR\_EUTRA\_Channel\_Spacing}$, where $F_{NR\_EUTRA\_Channel\_Spacing} = Round((CCBW_{EUTRA\_DL}(N_{EUTRA\_CC}) + CCBW_{NR\_DL}(1))/(2*\Delta F_{Raster}))* \Delta F_{Raster}$	C.2.6.2.2-Eq3

Downlink NR CC(2) to CC(N_{NR_CC}), in increasing frequency order:

$F_{NR\_DL\_LowRange\_CC}(k) = F_{DL\_LowRange\_CC}(k-1) + \sum F_{NR\_Channel\_Spacing}(k)$, k=2 to N_{DL_CC}	C.2.6.2.2-Eq4
$F_{NR\_DL\_MidRange\_CC}(k) = F_{DL\_MidRange\_CC}(k-1) + \sum F_{NR\_Channel\_Spacing}(k)$, k=2 to N_{DL_CC}	C.2.6.2.2-Eq5
$F_{NR\_DL\_HighRange\_CC}(k) = F_{DL\_HighRange\_CC}(k-1) + \sum F_{NR\_Channel\_Spacing}(k)$, k=2 to N_{DL_CC}	C.2.6.2.2-Eq6

Uplink NR CC(k), k=1 to N_{CC}:

$F_{NR\_UL\_LowRange\_CC}(k) = F_{NR\_DL\_LowRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq7
$F_{NR\_UL\_MidRange\_CC}(k) = F_{NR\_DL\_MidRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq8
$F_{NR\_UL\_HighRange\_CC}(k) = F_{NR\_DL\_HighRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq9

Downlink E-UTRA CC(1), lowest frequency CC:

$\Delta F_{NR\_EUTRA\_Channel\_Spacing}$ is selected in each formula C.2.6.2.2-Eq10, C.2.6.2.2-Eq11 and C.2.6.2.2-Eq12 selected such that $F_{EUTRA\_DL\_LowRange\_CC}(1)$, $F_{EUTRA\_DL\_MidRange\_CC}(1)$ and $F_{EUTRA\_DL\_HighRange\_CC}(1)$ are located on the E-UTRA band frequency raster.

$F_{EUTRA\_DL\_LowRange\_CC}(1) = F_{NR\_DL\_LowRange\_CC}(N_{DL\_CC}) + F_{NR\_EUTRA\_Channel\_Spacing}$	C.2.6.2.2-Eq10
$F_{EUTRA\_DL\_MidRange\_CC}(1) = F_{NR\_DL\_MidRange\_CC}(N_{DL\_CC}) + F_{NR\_EUTRA\_Channel\_Spacing}$	C.2.6.2.2-Eq11
$F_{EUTRA\_DL\_HighRange\_CC}(1) = F_{NR\_DL\_HighRange\_CC}(N_{DL\_CC}) - \sum_{i=1 \text{ to } (N_{NR\_CC}-1)} F_{NR\_Channel\_Spacing}(i) - F_{NR\_EUTRA\_Channel\_Spacing} - \sum_{i=1 \text{ to } (N_{EUTRA\_CC}-1)} F_{EUTRA\_Channel\_Spacing}(i)$	C.2.6.2.2-Eq12

Downlink E-UTRA CC(2) to CC(N_{EUTRA_CC}), in increasing frequency order:

$F_{EUTRA\_DL\_LowRange\_CC}(k) = F_{EUTRA\_DL\_LowRange\_CC}(k-1) + \sum F_{EUTRA\_Channel\_Spacing}(k)$, k=2 to N_{EUTRA_CC}	C.2.6.2.2-Eq13
$F_{EUTRA\_DL\_MidRange\_CC}(k) = F_{EUTRA\_DL\_MidRange\_CC}(k-1) + \sum F_{EUTRA\_Channel\_Spacing}(k)$, k=2 to N_{EUTRA_CC}	C.2.6.2.2-Eq14
$F_{EUTRA\_DL\_HighRange\_CC}(k) = F_{EUTRA\_DL\_HighRange\_CC}(k-1) + \sum F_{EUTRA\_Channel\_Spacing}(k)$, k=2 to N_{EUTRA_CC}	C.2.6.2.2-Eq15

Uplink E-UTRA CC(k), k=1 to N_{EUTRA_CC}:

$F_{EUTRA\_UL\_LowRange\_CC}(k) = F_{EUTRA\_DL\_LowRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq16
$F_{EUTRA\_UL\_MidRange\_CC}(k) = F_{EUTRA\_DL\_MidRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq17
$F_{EUTRA\_UL\_HighRange\_CC}(k) = F_{EUTRA\_DL\_HighRange\_CC}(k) - F_{Tx\text{-}Rx\_separation}$	C.2.6.2.2-Eq18

C.2.6.2.3 Determination of test frequencies for Low-, Mid- and High-Range with E-UTRA at band edges

To get the NR carrier on the synchcronisation raster the calculations of the E-UTRA carrier components needs to be based on the location of the NR carrier.

Downlink NR CC(1), lowest frequency CC:

$F_{NR\_DL\_LowRange\_CC}(1)$ is rounded up and $F_{NR\_DL\_HighRange\_CC}(1)$ 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].

$F_{NR\_DL\_LowRange\_CC}(1) = Ceil((F_{DL\_Low} + \sum_{m=1 \text{ to } N_{EUTRA\_CC}} CCBW_{EUTRA\_DL}(m) + CCBW_{NR\_DL}(1) / 2 - F_{NR\_EUTRA\_Channel\_Spacing}) / LCM\Delta F_{Raster}) * LCM\Delta F_{Raster} + F_{NR\_EUTRA\_Channel\_Spacing}$, where $F_{NR\_EUTRA\_Channel\_Spacing} = Round((CCBW_{EUTRA\_DL}(N_{EUTRA\_CC}) + CCBW_{NR\_DL}(1))/(2*\Delta F_{Raster}))* \Delta F_{Raster}$	C.2.6.2.3-Eq1
$F_{NR\_DL\_MidRange\_CC}(1)$ = same formula as C.2.6.2.2-Eq2	C.2.6.2.3-Eq2
$F_{NR\_DL\_HighRange\_CC}(1) = Floor((F_{DL\_High} – (\sum_{m=1 \text{ to } N_{EUTRA\_CC}} CCBW_{EUTRA\_DL}(m) + \sum_{i=1 \text{ to } N_{NR\_CC}} CCBW_{NR\_DL}(i)) + CCBW_{NR\_DL}(1) / 2 + F_{NR\_EUTRA\_Channel\_Spacing}) / LCM\Delta F_{Raster}) * LCM\Delta F_{Raster} - F_{NR\_EUTRA\_Channel\_Spacing}$, where $F_{NR\_EUTRA\_Channel\_Spacing} = Round((CCBW_{EUTRA\_DL}(1) + CCBW_{NR\_DL}(N_{NR\_CC}))/(2*\Delta F_{Raster}))* \Delta F_{Raster}$	C.2.6.2.3-Eq3

Downlink NR CC(2) to CC(N_{NR_CC}), in increasing frequency order:

$F_{NR\_DL\_LowRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq4	C.2.6.2.3-Eq4
$F_{NR\_DL\_MidRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq5	C.2.6.2.3-Eq5
$F_{NR\_DL\_HighRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq6	C.2.6.2.3-Eq6

Uplink NR CC(k), k=1 to N_{CC}:

$\mathbf{F_{NR\_UL\_LowRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq7	C.2.6.2.3-Eq7
$\mathbf{F_{NR\_UL\_MidRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq8	C.2.6.2.3-Eq8
$\mathbf{F_{NR\_UL\_HighRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq9	C.2.6.2.3-Eq9

Downlink E-UTRA CC(1), lowest frequency CC:

$F_{EUTRA\_DL\_LowRange\_CC}(1) = F_{NR\_DL\_LowRange\_CC}(1) - F_{NR\_EUTRA\_Channel\_Spacing} - \sum_{m=1 \text{ to } (N_{EUTRA\_CC} - 1)} F_{EUTRA\_Channel\_Spacing}(m)$	C.2.6.2.3-Eq10
$F_{EUTRA\_DL\_MidRange\_CC}(1)$ = same formula as C.2.6.2.2-Eq11	C.2.6.2.3-Eq11
$F_{EUTRA\_DL\_HighRange\_CC}(1) = F_{NR\_DL\_HighRange\_CC}(N_{DL\_CC}) + \sum_{i=1 \text{ to } (N_{NR\_CC-1})} F_{NR\_Channel\_Spacing}(i) + F_{NR\_EUTRA\_Channel\_Spacing} + \sum_{i=1 \text{ to } (N_{EUTRA\_CC-1})} F_{EUTRA\_Channel\_Spacing}(i)$	C.2.6.2.3-Eq12

Downlink E-UTRA CC(2) to CC(N_{EUTRA_CC}), in increasing frequency order:

$F_{EUTRA\_DL\_LowRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq13	C.2.6.2.3-Eq13
$F_{EUTRA\_DL\_MidRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq14	C.2.6.2.3-Eq14
$F_{EUTRA\_DL\_HighRange\_CC}(k)$ = same formula as C.2.6.2.2-Eq15	C.2.6.2.3-Eq15

Uplink E-UTRA CC(k), k=1 to N_{EUTRA_CC}:

$\mathbf{F_{EUTRA\_UL\_LowRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq16	C.2.6.2.3-Eq16
$\mathbf{F_{EUTRA\_UL\_MidRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq17	C.2.6.2.3-Eq17
$\mathbf{F_{EUTRA\_UL\_HighRange\_CC}(k)}$ = same formula as C.2.6.2.2-Eq18	C.2.6.2.3-Eq18

C.2.6.3 Determination of test frequencies for EN-DC Intra-band non-contiguous

Test frequencies for EN-DC Intra-band non-contiguous configurations use the Low and High ranges test frequencies for each of the included single carrier E-UTRA and NR bands, and E-UTRA and NR CA configurations in the configuration as specified E-UTRA in TS 36.508 [2], clause 4.3.1 and for NR in clause 4.3.1.1.1 for FR1 bands and in clause 4.3.1.2.1 for FR2 bands.

The following cases of test frequencies are specified for relevant E-UTRA and NR CBW combinations, and NR SCS:

- Low with maxWgap (NR - E-UTRA): NR Low range and E-UTRA High range
- High with maxWgap (E-UTRA - NR): NR High range and E-UTRA Low range

C.3 Determination of SSB and CORESET#0

C.3.1 General

The requirements to be met and the principles used for determining the SSB and CORESET#0 for a PCell are:

1. The complete SSB and CORESET#0 shall be within the carrier's channel bandwidth.
2. The SSB centre frequency (SSref) shall be on the synchronisation raster.
3. The SSB shall be kept as close as possible to the carrier's lower edge centre frequency.

4. CORESET#0 configuration is selected using lowest number of RBs and symbols in applicable table in TS 38.213 [22], clause 13.

5. The first SSB subcarrier shall be aligned with the defined resource grid given by SCS indicated by *subCarrierSpacingCommon* in the MIB.

C.3.2 Determination of SSB, CORESET#0 and signalling parameters for a PCell

Calculation of SSB and CORESET#0 parameters is limited to FR1 carriers with SCS=15 kHz or SCS=30 kHz, and to FR2 carriers with SCS=60 kHz or SCS=120 kHz. CORESET#0 is required for a carrier to be used as a PCell.

The following procedure is used to determine an SSB on the synchronisation raster (GSCN) and a CORESET#0 configuration ($k_{SSB,}$ $Offset_{RBs}$ and *OffsetToPointA*) as close as possible to the carrier's lower edge. See figure C1-1 and clause C.1 for definition of parameters referenced in the procedure.

1. Determine SSB and CORESET#0:

   1a. Calculate the lower of F_{SSref}, F_{SSref_Min}, correspondent to SSB lowest subcarrier being at the same frequency as the carrier's lowest subcarrier; and the higher limit of F_{SSref}, F_{SSref_Max}, correspondent to SSB highest subcarrier being at the same frequency as the carrier's highest subcarrier F_{SSref_Min}

$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1
$F_{SSref\_Min} = F_{carrierLow} + CRB_{size} * Offset_{RBs,min} + BW_{SSB} / 2$
$F_{SSref\_Max} = F_{carrierLow} + \Delta F_{carrierBandwidth} - BW_{SSB} / 2$

   1b. Calculate $GSCN_{MIN}$ correspondent to F_{SSref_Min} in accordance to TS 38.101-1 [7], clause 5.4.3.1 for FR1 and TS 38.101-2 [7], clause 5.4.3.1 for FR2 and select the closest valid GSCN value with GSCN >= $GSCN_{MIN}$ for the carrier in according to the carrier's synchronisation raster as specified in clause 5.4.3.3 in TS 38.101-1 [7] and TS 38.101-2 [8].

   1c. Calculate the F_{SSref} for the selected GSCN value in step 1b in accordance to TS 38.101-1 [7], clause 5.4.3.1 for FR1 and TS 38.101-2 [7], clause 5.4.3.1 for FR2.

   1d. Calculate the frequency $F_{offsetToPointA}$, which is the lowest subcarrier of the lowest resource block with the subcarrier spacing being a multiple of resource blocks expressed in terms of common PRB size and overlaps with the SS/PBCH block subcarrier 0 of the first resource block of the SS/PBCH block, F_{SSBlow} (TS 38.211 [3], clause 7.4.3.1):

$F_{SSBlow} = F_{SSref} - BW_{SSB} / 2$
$F_{offsetToPointA} = CRB_{size} * Floor((F_{SSBlow} - F_{carrierLow}) / CRB_{size}) + F_{carrierLow}$

   1e. Calculate the maximum $Offset_{RBs}$ value with $F_{CORESET0Low}$ >= $F_{carrierLow}$:

$Max\_Offset_{RBs} = (F_{offsetToPointA} - F_{carrierLow}) / CRB_{size}$

   1f. Select the largest valid $Offset_{RBs}$ value equal or smaller than the calculated max value, Max_Offset_{RBs} in step 1e within the applicable values for the carrier in TS 38.213 [4], table 13-1 to 13-10 limited to the table indexes with number of RBs $N_{RB}^{CORESET}$ and number of symbols $N_{symb}^{CORESET}$ equal to the minimum value of $N_{RB}^{CORESET}$ in the table and minimum value of $N_{symb}^{CORESET}$ for the selected $N_{RB}^{CORESET}$ .If a valid $Offset_{RBs}$ value is found, then continue from step 1g.

   If no valid $Offset_{RBs}$ value is found, then select the next valid GSCN with F_{SSref} <= F_{SSref_Max} within the valid GSCN range for the carrier and repeat steps 1b to 1f.

If no valid $Offset_{RBs}$ value found within the valid GSCN range then will the carrier not be possible to use as PCell and F_{SSref}, k_{SSB}, F_{PointA}, *OffsetToCarrier* and *OffsetToPointA* are calculated as described in clause C.3.3 and the procedure is completed.

1g. Calculate k_{SSB}

k_{SSB} = (F_{SSBlow} - $F_{offsetToPointA}$) / {15 kHz for FR1, *subCarrierSpacingCommon* (MIB) for FR2} (TS 38.211 [3], clause 7.4.3.1).
N = SCS_{SSB} / {15 kHz for FR1; *subCarrierSpacingCommon* (MIB) for FR2}. k_{SSB} MOD N <> 0 indicates that the SSB subcarriers are not aligned with the resource grid given by the SCS indicated by subCarrierSpacingCommon in the MIB.

If k_{SSB} is an integer and k_{SSB} MOD N = 0, then continue from step 2.

If k_{SSB} is not an integer value or k_{SSB} MOD N <> 0, then select the next valid GSCN with $F_{SSref} < F_{SSref\_Max}$ within the valid GSCN range for the carrier and repeat steps 1b to 1g.

If N > 1 and no valid k_{SSB} value found within the valid GSCN range for the currently selected carrier frequency $F_{carrier}$ then shift $F_{carrier}$ up by ΔF_{Raster} for Low range; or down by ΔF_{Raster} for Mid, Mid-Low, Mid-High and High ranges and repeat steps 1a to 1g for a maximum shift of 3 * ΔF_{Raster} (see clause C.3.1, Note 1).

If no valid k_{SSB} value found within the valid GSCN range then will the carrier not be possible to use as PCell and F_{SSref}, k_{SSB}, F_{PointA}, *OffsetToCarrier* and *OffsetToPointA* are calculated as described in clause C.3.2 and the procedure is completed.

2. Determine OffsetToCarrier

Select offsetToCarrier value for the carrier in accordance to Table C.3.2-1.

Table C.3.2-1: Downlink and uplink offsetToCarrier default values for different frequency ranges

Frequency range	Downlink offsetToCarrier	Uplink offsetToCarrier
Low range	0	0
Mid range	102	504
High range	504	6
Mid-Low range	12	36
Mid-High range	24	114
Note: Different values of *offsetToCarrier* have been selected for Low, Mid-Low, Mid, Mid-High and High ranges to achieve enhanced test coverage of the *offsetToCarrier* range of values.		

In case low, mid and high range are exactly the same frequency, *use offsetToCarrier* associated to low range.

2b. Determine F_{pointA}:

F_{PointA} = $F_{carrierLow}$ - *offsetToCarrier* * PRB_{size}

3. Calculate $\Delta F_{OffsetCORESET\text{-}0\text{-}Carrier}$:

The $\Delta F_{OffsetCORESET\text{-}0\text{-}Carrier}$ value is used to calculate the Offset Carrier CORESET#0 parameter included in the test frequency tables in sub-clauses 4.3.1 and 6.2.3.

$\Delta F_{OffsetCORESET\text{-}0\text{-}Carrier}$ = $F_{offsetToPointA}$ - $Offset_{RB}$ * CRB_{size} - $F_{carrierLow}$

4. Calculate signalling parameters:

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IE field	Value
ssb-SubcarrierOffset	Set to the 4 least significant bits of k_{SSB}. For the case k_{SSB} > 15 the extended by an additional most significant bit encoded within PBCH as specified in TS 38.213 [22]. The IE field *ssb-SubcarrierOffset* is signalled in the MIB.
controlResourceSetZero	Set to the index associated with the selected $Offset_{RBs}$ value in the applicable table, 13-1 to 13-10, in TS 38.213 [22]. The IE field *controlResourceSetZero* is signalled in the IE pdcch-ConfigSIB1 in the MIB.
absoluteFrequencySSB	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
absoluteFrequencyPointA	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
offsetToPointA	($F_{OffsetToPointA}$ - F_{PointA}) / (12*{15 kHz for FR1; 60 kHz for FR2}). The IE field o*ffsetToPointA* is signalled in IE *FrequencyInfoDL-SIB*.
offsetToCarrier	Set to value calculated in step 2a. The IE field o*ffsetToCarrier* is signalled in IE *SCS-SpecificCarrier*.

C.3.3 Determination of SSB and signalling parameters for a carrier without CORESET#0

The following procedure is used for calculation of SSB and signalling parameters for a carrier without a CORESET#0.

1. Calculate F_{SSref}, k_{SSB} and F_{PointA} with the SSB lowest subcarrier at the carrier's lowest subcarrier ($\Delta\mathbf{F}_{\mathbf{OffsetSSB\text{-}Carrier}}$ in Figure C.1-1 = 0):

$F_{SSref} = F_{carrierLow} + BW_{SSB} / 2$
k_{SSB} = {31 for FR1; 15 for FR2} indicating that no CORESET#0 is present for the carrier (TS 38.213 [4], clause 13).
offsetToCarrier = target value for *offsetToCarrier* dependent on frequency range as specified in Table C.3.1-1.
F_{PointA} = FcarrierLow - *offsetToCarrier* * PRB_{size}

2. Calculate signalling parameters:

IE field	Value
ssb-SubcarrierOffset	*S*et to the 4 least significant bits of k_{SSB}. For the case k_{SSB} > 15 the extended by an additional most significant bit encoded within PBCH as specified in TS 38.213 [22]. The IE field *ssb-SubcarrierOffset* is signalled in the MIB.
controlResourceSetZero	Set to 0 indicating that no CORESET#0 exist (TS 38.213 [22], clause 13). The IE field *controlResourceSetZero* is signalled in the IE pdcch-ConfigSIB1 in the MIB.
searchSpaceZero	Set to 0 indicating that no CORESET#0 exist (TS 38.213 [22], clause 13). The IE field *searchSpaceZero* is signalled in the IE pdcch-ConfigSIB1 in the MIB.
absoluteFrequencySSB	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
absoluteFrequencyPointA	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
offsetToCarrier	Set to offsetToCarrier target value selected in step 1.

C.4 Determination of SSB and CORESET#0 for RRM testing with SSB SCS 120 kHz and 240 kHz

C.4.1 General

The requirements to be met and the principles used for determining the SSB and CORESET#0 for a PCell used in RRM test cases are:

1. The complete SSB and CORESET#0 shall be within the carrier's channel bandwidth.
2. The SSB centre frequency (SSref) shall be on the synchronisation raster.
3. The SSB shall be kept as close as possible to the carrier's lower edge centre frequency.
4. The CORESET#0 configuration is selected using 24 RBs and $Offset_{RBs}$ = 0 according to Table 13-8 and Index 0 for SCS_{SSB} =120 KHz and Table 13-10 and Index 0 for SCS_{SSB} =240 kHz.
5. The first SSB subcarrier shall be aligned with the defined resource grid given by SCS indicated by *subCarrierSpacingCommon* in the MIB.

C.4.2 Determination of SSB, CORESET#0 and signalling parameters

The following procedure is used to determine an SSB on the synchronisation raster (GSCN) and a CORESET#0 configuration ($k_{SSB,}$ $Offset_{RBs}$ = 0 and *OffsetToPointA*) as close as possible to the carrier's lower edge. See figure C1-1 and clause C.1 for definition of parameters referenced in the procedure.

1. The target test frequencies for Low, Mid and High ranges are calculated as described in clause C.2.1.1.

For each of Low, Mid and High ranges do:

2. Determine SSB and CORESET#0:

2a. Calculate the lower of F_{SSref}, F_{SSref_Min}, correspondent to SSB lowest subcarrier being at the same frequency as the carrier's lowest subcarrier; and the higher limit of F_{SSref}, F_{SSref_Max}, correspondent to SSB highest subcarrier being at the same frequency as the carrier's highest subcarrier F_{SSref_Min}

$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1
$F_{SSref\_Min} = F_{carrierLow} + CRB_{size} * Offset_{RBs,min} + BW_{SSB} / 2$
$F_{SSref\_Max} = F_{carrierLow} + \Delta F_{carrierBandwidth} - BW_{SSB} / 2$

2b. Calculate $GSCN_{MIN}$ correspondent to F_{SSref_Min} in accordance to TS 38.101-2 [7], clause 5.4.3.1 and select the closest valid GSCN value with GSCN >= $GSCN_{MIN}$ for the carrier in according to the carrier's synchronisation raster as specified in clause 5.4.3.3 in TS 38.101-2 [8].

2c. Calculate the F_{SSref} for the selected GSCN value in step 2b in accordance to TS 38.101-2 [7], clause 5.4.3.1 for FR2.

2d. Calculate the frequency F_{SSBlow} and shift the carrier frequency to achieve $F_{carrierLow}$ equal or as close as possible F_{SSBlow} on the carrier's frequency raster.

$F_{SSBlow} = F_{SSref} - BW_{SSB} / 2$
$F_{carrier}$ = calculated using the formula in clause C.2.1.1 with $F_{DL\_Low} = F_{SSBlow}$
$F_{carrierLow}$ = see formula for $F_{carrierLow}$ in Table C.1-1 with new value of $F_{carrier}$

2e. Calculate k_{SSB}

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k_{SSB} = (F_{SSBlow} - $F_{carrierLow}$) / *subCarrierSpacingCommon* (MIB, FR2) (TS 38.211 [3], clause 7.4.3.1).
N = SCS_{SSB} / *subCarrierSpacingCommon* (MIB, FR2). k_{SSB} MOD N <> 0 indicates that the SSB subcarriers are not aligned with the resource grid given by the SCS indicated by subCarrierSpacingCommon in the MIB.

If k_{SSB} is an integer and k_{SSB} MOD N = 0, then continue from step 3 else modify the carrier frequency to get valid value of k_{SSB} and k_{SSB} MOD N = 0.

3. Calculate Point A frequency, $\Delta F_{offsetToCarrier}$ and $\Delta F_{OffsetToPointA}$:
The CORESET#0 configuration is selected using 24 RBs and $Offset_{RBs}$ = 0 according to Table 13-8 and Index 0 for SCS_{SSB} =120 KHz and Table 13-10 and Index 0 for SCS_{SSB} =240 kHz (see C.4.1). This means that $F_{OffsetToPointA}$ = $F_{carrierLow}$. By selecting Point A equal to $F_{carrierLow}$ this gives:

FPointA = $F_{carrierLow}$
$\Delta F_{offsetToCarrier}$ = 0
$\Delta F_{OffsetToPointA}$ = 0

4. Calculate signalling parameters:

IE field	Value
ssb-SubcarrierOffset	Set to the 4 least significant bits of k_{SSB}. The IE field *ssb-SubcarrierOffset* is signalled in the MIB.
controlResourceSetZero	0 (Index=0 in table 13-8 for SCS_{SSB} =120 KHz and table 13-10 for SCS_{SSB} =240 KHz in TS 38.213 [22]. The IE field *controlResourceSetZero* is signalled in the IE pdcch-ConfigSIB1 in the MIB.
absoluteFrequencySSB	Set to F_{SSref} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
absoluteFrequencyPointA	Set to F_{PointA} expressed in ARFCN as defined in TS 38.101-1 [15] and TS 38.101-2 [39], clause 5.4.2.
offsetToPointA	0 The IE field o*ffsetToPointA* is signalled in IE *FrequencyInfoDL-SIB*.
offsetToCarrier	0 The IE field o*ffsetToCarrier* is signalled in IE *SCS-SpecificCarrier*.

C.5 Determination of test frequencies and S-SSB for V2X bands

C.5.1 General

Figure C.5.1-1 shows carrier and S-SSB on V2X bands and related parameters.

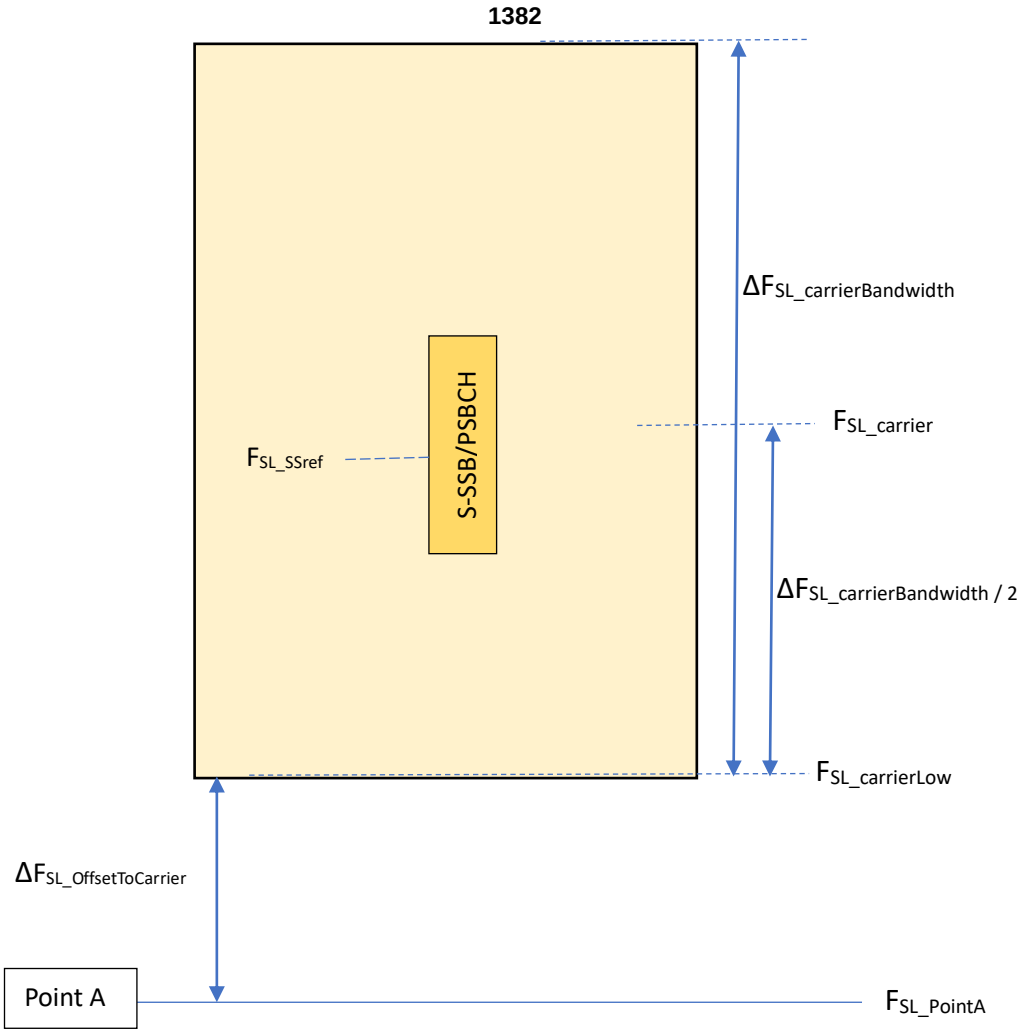

Figure C.5.1-1: location of S-SSB within a channel

The parameters referenced in Figure C.5.1-1 are defined in Table C.5.1-1.

Table C.5.1-1: Definition of parameters for V2X bands

Parameter	Description
F_{SL_PointA}	Reference Point A frequency.
$F_{SL\_carrier}$	$F_{SL\_carrier}$ is the centre frequency of a carrier corresponding to its NR-ARFCN value.
$F_{SL\_carrierLow}$	$F_{SL\_carrierLow}$ is the centre frequency of lowest subcarrier of the carrier. $F_{SL\_carrierLow} = F_{SL\_carrier} - 12 * SCS_{SL\_Carrier} * (N_{RB} / 2)$ with N_{RB} according to section 5.3E.1 of TS 38.101-1 for the channel bandwidth of the carrier.

$\Delta F_{SL\_carrierBandwidth}$	$\Delta F_{SL\_carrierBandwidth}$ is the carrier's channel bandwidth as provided in *carrierBandwidth* to the UE (*sl-SCS-SpecificCarrierList-r16*).
$\Delta F_{SL\_OffsetToCarrier}$	$\Delta F_{SL\_OffsetToCarrier}$ is the frequency offset between Point A and the lower edge of the carrier. $\Delta F_{SL\_OffsetToCarrier}$ = *offsetToCarrier* * CRB_{size}, where CRB_{size} according to the subcarrier spacing of the carrier. *offsetToCarrier* is signalled to the UE (*sl-SCS-SpecificCarrierList-r16*).
F_{SL_SSref}	Centre frequency of subcarrier with index 66 in the S-SS/PSBCH block, corresponding to NR-ARFCN value signalled to the UE by *sl-AbsoluteFrequencySSB-r16*.

Additional parameters used in this annex are defined in Table C.5.1-2.

Table C.5.1-2: Definition of additional parameters used in section C.5.2

$SCS_{SL\_Carrier}$	subcarrier spacing for the carrier (*sl-SCS-SpecificCarrierList-r16*): FR1: 15kHz, 30kHz or 60kHz according to TS 38.101-1 [7] Table 5.3.5-1
CRB_{size}	Common Resource Block size = 12 * $SCS_{SL\_Carrier}$.
F_{SL_Low}	Lowest frequency of the frequency range of the V2X band as defined in clause 5.2E.1 of TS 38.101-1 [7].
F_{SL_High}	Highest frequency of the frequency range of the V2X band as defined in clause 5.2E.1 of TS 38.101-1 [7].
ΔF_{SL_Raster}	Frequency raster of the band as defined in clause 5.4E.2.3 of TS 38.101-1 [7].
BW_{SL}	Bandwidth of V2X operation frequency range of the band.
CBW_{SL}	UE V2X operation channel bandwidth (MHz) of the carrier according to section 5.3E.1 of TS 38.101-1 [7].
BW_{SL_SSB}	Bandwidth of the SSB. BW_{SL_SSB} = 11 * $SCS_{SL\_Carrier}$ * 20

C.5.2 Determination of test frequencies and S-SSB for V2X bands

The carrier test frequencies are determined considering the channel raster according to clause 5.4.2.3 in TS 38.101-1 [7] for FR1.

The complete S-SSB shall be within a bandwidth of the SL BWP. The subcarrier with index 0 in the S-SSB shall be aligned with a subcarrier with index 0 in an RB of the SL BWP.

1. Determine sidelink carrier centre frequencies and the frequency of the carrier's lowest subcarrier:

$\mathbf{F}_{SL\_LowRange}$ = **Ceil**((F_{SL_Low} + CBW_{SL}/2) / ΔF_{SL_Raster}) * ΔF_{SL_Raster}	C.5.2-Eq1
$\mathbf{F}_{SL\_MidRange}$ = **Round**((F_{SL_Low} + BW_{SL}/2) / $\Delta F_{SL\_Raster\_}$) * ΔF_{SL_Raster}	C.5.2-Eq2
$\mathbf{F}_{SL\_HighRange}$ = **Floor(**(F_{SL_High} – CBW_{SL}/2) / ΔF_{SL_Raster}) * ΔF_{SL_Raster}	C.5.2-Eq3
$\mathbf{F}_{SL\_carrierLow}$ = see formula for $F_{SL\_carrierLow}$ in Table C.1-1	

2. Determine OffsetToCarrier

Select offsetToCarrier value for the carrier in accordance to Table C.5.2-1.

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Table C.5.2-1: Sidelink offsetToCarrier default values for different frequency ranges

Frequency range	Sidelink offsetToCarrier
Low range	0
Mid range	504
High range	6
Mid-Low range	36
Mid-High range	114
Note: Different values of *offsetToCarrier* have been selected for Low, Mid-Low, Mid, Mid-High and High ranges to achieve enhanced test coverage of the *offsetToCarrier* range of values.	

3. Determine F_{SL_PointA}:

$F_{SL\_PointA} = F_{SL\_carrierLow}$ - *offsetToCarrier* * CRB_{size}

4. Determine the centre frequencies of S-SSB for the lowest, mid and highest possible location of F_{SL_SSref}:

$F_{SL\_SSref\_Low} = F_{carrierLow} + BW_{SL\_SSB} / 2$
$F_{SL\_SSref\_Mid} = F_{carrierLow} + (\mathbf{Floor}(N_{RB}/2) – 5) * CRB_{size} + BW_{SSB} / 2$
$F_{SL\_SSref\_High} = F_{carrierLow} + (N_{RB} – 11) * CRB_{size} + BW_{SSB} / 2$

5. Calculate signalling parameters:

IE field	Value
sl-AbsoluteFrequencySSB-r16	Set to F_{SL_SSref} expressed in ARFCN as defined in TS 38.101-1 [15] clause 5.4E.2.
sl-AbsoluteFrequencyPointA-r16	Set to F_{SL_PointA} expressed in ARFCN as defined in TS 38.101-1 [15] clause 5.4E.2.
offsetToCarrier	Set to value calculated in step 2. The IE field offsetToCarrier is signalled in IE sl-SCS-SpecificCarrierList-r16.

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

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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 Access	16.1.0
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 DC_(n)41AA	16.1.0
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 for 5GC NAS testing	16.1.0
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 configuration CA_n66B	16.2.0
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
2020-03	RAN#87	R5-200135	1120		F	Removal of Correction to SIG OTA UE Orientation procedure	16.3.0
2020-03	RAN#87	R5-200147	1130		F	Update to USIM config 6.4.1-11	16.3.0
2020-03	RAN#87	R5-200244	1133		F	Correction to nAndPagingFrameOffset	16.3.0
2020-03	RAN#87	R5-200296	1136		F	Addition of generic procedure for IMS MO speech setup	16.3.0
2020-03	RAN#87	R5-200297	1137		F	Addition of generic procedure for IMS MT speech setup	16.3.0
2020-03	RAN#87	R5-200298	1138		F	Addition of generic procedure for IMS MO call release	16.3.0
2020-03	RAN#87	R5-200299	1139		F	Addition of generic procedure for IMS MT call release	16.3.0
2020-03	RAN#87	R5-200349	1142		F	Correction to frequencyBandList in SIB4	16.3.0
2020-03	RAN#87	R5-200431	1146		F	Correction to CSI-FrequencyOccupation	16.3.0
2020-03	RAN#87	R5-200432	1147		F	Correction to default setting of additionalPmax	16.3.0
2020-03	RAN#87	R5-200433	1148		F	Correction to powerControlOffset for performance tests	16.3.0
2020-03	RAN#87	R5-200434	1149		F	Correction to RACH configuration for RRM tests	16.3.0
2020-03	RAN#87	R5-200435	1150		F	Correction to TDD UL-DL Config for performance test cases	16.3.0
2020-03	RAN#87	R5-200477	1154		F	Update to Registration REQ and Authentication Response message	16.3.0
2020-03	RAN#87	R5-200499	1157		F	Correction of test frequency tables for NR band n1	16.3.0
2020-03	RAN#87	R5-200500	1158		F	Correction of test frequency tables for NR band n2	16.3.0
2020-03	RAN#87	R5-200501	1159		F	Correction of test frequency tables for NR band n3	16.3.0
2020-03	RAN#87	R5-200502	1160		F	Correction of test frequency tables for NR band n7	16.3.0

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2020-03	RAN#87	R5-200503	1161		F	Correction of test frequency tables for NR band n25	16.3.0
2020-03	RAN#87	R5-200504	1162		F	Correction of test frequency tables for NR band n28	16.3.0
2020-03	RAN#87	R5-200505	1163		F	Correction of test frequency tables for NR band n34	16.3.0
2020-03	RAN#87	R5-200506	1164		F	Correction of test frequency tables for NR band n38	16.3.0
2020-03	RAN#87	R5-200507	1165		F	Correction of test frequency tables for NR band n39	16.3.0
2020-03	RAN#87	R5-200508	1166		F	Correction of test frequency tables for NR band n40	16.3.0
2020-03	RAN#87	R5-200510	1168		F	Correction of test frequency tables for NR band n50	16.3.0
2020-03	RAN#87	R5-200511	1169		F	Correction of test frequency tables for NR band n66	16.3.0
2020-03	RAN#87	R5-200512	1170		F	Correction of test frequency tables for NR band n70	16.3.0
2020-03	RAN#87	R5-200513	1171		F	Correction of test frequency tables for NR band n71	16.3.0
2020-03	RAN#87	R5-200514	1172		F	Correction of test frequency tables for NR band n74	16.3.0
2020-03	RAN#87	R5-200515	1173		F	Correction of test frequency tables for NR band n75	16.3.0
2020-03	RAN#87	R5-200531	1189		F	Correction of test frequency tables for NR band n29	16.3.0
2020-03	RAN#87	R5-200532	1190		F	Correction of test frequency tables for NR band n48	16.3.0
2020-03	RAN#87	R5-200533	1191		F	Correction of test frequency tables for NR band n65	16.3.0
2020-03	RAN#87	R5-200597	1200		F	Introduction of test frequencies for inter-band Rel-16 EN-DC configurations in 38.508-1	16.3.0
2020-03	RAN#87	R5-200605	1202		F	Addition of test frequencies for n95 SUL band	16.3.0
2020-03	RAN#87	R5-200645	1206		F	Updates to 4.6.4 UE Capability Information Elements	16.3.0
2020-03	RAN#87	R5-200646	1207		F	Correction to QoS rule number 7	16.3.0
2020-03	RAN#87	R5-200647	1208		F	Correction to IMS emergency call release procedures	16.3.0
2020-03	RAN#87	R5-201246	1209	1	F	TRS configuration messages definition for RF in 38.508-1	16.3.0
2020-03	RAN#87	R5-200678	1210		F	Update of IE ControlResourceSet to introduce band and channel bandwidth specific values for frequencyDomainResources	16.3.0
2020-03	RAN#87	R5-200703	1213		F	Correction to IE BeamFailureRecoveryConfig	16.3.0
2020-03	RAN#87	R5-200774	1215		F	Editorial update IE MeasConfig	16.3.0
2020-03	RAN#87	R5-200775	1216		F	Editorial update IE radioLinkMonitoringRS-Id	16.3.0
2020-03	RAN#87	R5-200804	1218		F	Correction of test frequency tables for NR band n5	16.3.0
2020-03	RAN#87	R5-200805	1219		F	Correction of test frequency tables for NR band n8	16.3.0
2020-03	RAN#87	R5-200806	1220		F	Correction of test frequency tables for NR band n12	16.3.0
2020-03	RAN#87	R5-200807	1221		F	Correction of test frequency tables for NR band n20	16.3.0
2020-03	RAN#87	R5-200808	1222		F	Correction of test frequency tables for NR band n51	16.3.0
2020-03	RAN#87	R5-200900	1197	1	F	Corrections on test frequencies for EN-DC band combinations including FR1 and FR2 in 38.508-1	16.3.0
2020-03	RAN#87	R5-200901	1198	1	F	Corrections on test frequencies for EN-DC band combinations including FR2 in 38.508-1	16.3.0
2020-03	RAN#87	R5-200902	1199	1	F	Corrections on uplink EN-DC configurations for test frequencies in 38.508-1	16.3.0
2020-03	RAN#87	R5-200921	1132	1	F	Addition of Rel-16 inter-band CA and EN-DC FR1 two bands test configurations	16.3.0
2020-03	RAN#87	R5-200930	1081	1	F	Update SIB1	16.3.0
2020-03	RAN#87	R5-200931	1082	1	F	Update CounterCheck	16.3.0
2020-03	RAN#87	R5-200932	1083	1	F	Editorial update DLInformationTransfer	16.3.0
2020-03	RAN#87	R5-200933	1084	1	F	Editorial update FailureInformation	16.3.0
2020-03	RAN#87	R5-200934	1085	1	F	Editorial update MeasurementReport	16.3.0
2020-03	RAN#87	R5-200935	1086	1	F	Editorial update MobilityFromNRCommand	16.3.0
2020-03	RAN#87	R5-200936	1087	1	F	Editorial update Paging	16.3.0
2020-03	RAN#87	R5-200937	1088	1	F	Editorial update RRCReestablishment	16.3.0
2020-03	RAN#87	R5-200938	1090	1	F	Editorial update RRCReconfigurationComplete	16.3.0
2020-03	RAN#87	R5-200939	1091	1	F	Editorial update RRCReject	16.3.0
2020-03	RAN#87	R5-200940	1092	1	F	Editorial update RRCRelease	16.3.0
2020-03	RAN#87	R5-200941	1093	1	F	Editorial update RRCResumeComplete	16.3.0
2020-03	RAN#87	R5-200942	1094	1	F	Editorial update RRCSetup	16.3.0
2020-03	RAN#87	R5-200943	1096	1	F	Editorial update SCGFailureInformation	16.3.0
2020-03	RAN#87	R5-200944	1097	1	F	Editorial update SecurityMode	16.3.0
2020-03	RAN#87	R5-200945	1098	1	F	Update SystemInformation	16.3.0
2020-03	RAN#87	R5-200946	1099	1	F	Editorial update UEAssistanceInformation	16.3.0
2020-03	RAN#87	R5-200947	1100	1	F	Editorial update UECapability	16.3.0
2020-03	RAN#87	R5-200948	1101	1	F	Editorial update ULInformation	16.3.0
2020-03	RAN#87	R5-200949	1103	1	F	Editorial update IE RLC-BearerConfig	16.3.0
2020-03	RAN#87	R5-200951	1108	1	F	Add IE TDD-UL-DL-ConfigDedicated	16.3.0
2020-03	RAN#87	R5-200952	1111	1	F	Update IE ServingCellConfig	16.3.0
2020-03	RAN#87	R5-200953	1112	1	F	Update IE ServingCellConfigCommonSIB	16.3.0
2020-03	RAN#87	R5-200954	1113	1	F	Update IE DMRS-DownlinkConfig	16.3.0
2020-03	RAN#87	R5-200955	1114	1	F	Update IE FrequencyInfoUL	16.3.0

2020-03	RAN#87	R5-200956	1118	1	F	Update chapter 4.5.1 General	16.3.0
2020-03	RAN#87	R5-200957	1122	1	F	Update chapter 4.5.4 RRC_CONNECTED	16.3.0
2020-03	RAN#87	R5-200958	1125	1	F	Update IE CellGroupId	16.3.0
2020-03	RAN#87	R5-200959	1126	1	F	Update IE ServCellIndex	16.3.0
2020-03	RAN#87	R5-200960	1127	1	F	Update IE SK-Counter	16.3.0
2020-03	RAN#87	R5-200961	1128	1	F	Update IE SDAP-Config	16.3.0
2020-03	RAN#87	R5-200965	1145	1	F	Correction to CORESET and search space configuration	16.3.0
2020-03	RAN#87	R5-200966	1193	1	F	Addition of NR SUL connection diagrams	16.3.0
2020-03	RAN#87	R5-200967	1201	1	F	Clarification to high test channel bandwidth table	16.3.0
2020-03	RAN#87	R5-200968	1203	1	F	Addition of missing EN-DC test frequencies	16.3.0
2020-03	RAN#87	R5-200996	1124	1	F	Correction to PUCCH-Config for Format1 and Format2	16.3.0
2020-03	RAN#87	R5-201005	1131	1	F	Update of Annex C on calculation of test frequencies to achieve full bandwidth testing of NR bands	16.3.0
2020-03	RAN#87	R5-201020	1155	1	F	Update SIG test frequencies in clause 6.2.3.x	16.3.0
2020-03	RAN#87	R5-201021	1167	1	F	Correction of test frequency tables for NR band n41	16.3.0
2020-03	RAN#87	R5-201022	1174	1	F	Correction of test frequency tables for NR band n77	16.3.0
2020-03	RAN#87	R5-201023	1175	1	F	Correction of test frequency tables for NR band n78	16.3.0
2020-03	RAN#87	R5-201024	1176	1	F	Correction of test frequency tables for NR band n79	16.3.0
2020-03	RAN#87	R5-201025	1177	1	F	Correction of test frequency tables for NR band n257	16.3.0
2020-03	RAN#87	R5-201026	1178	1	F	Correction of test frequency tables for NR band n258	16.3.0
2020-03	RAN#87	R5-201027	1179	1	F	Correction of test frequency tables for NR band n260	16.3.0
2020-03	RAN#87	R5-201028	1180	1	F	Correction of test frequency tables for NR band n261	16.3.0
2020-03	RAN#87	R5-201029	1192	1	F	Update of clause 4.4.2 on simulated cells	16.3.0
2020-03	RAN#87	R5-201061	1153	1	F	Addition of a few R16s inter-band EN-DC FR1 test configurations	16.3.0
2020-03	RAN#87	R5-201065	1194	1	F	Addition of test channel bandwidth for NR bands in 38.508-1	16.3.0
2020-03	RAN#87	R5-201092	1123	1	F	Updates to NR FR1 and LTE Power levels in OTA	16.3.0
2020-03	RAN#87	R5-201093	1224	1	F	Message content Updates for Carrier Aggregation	16.3.0
2020-03	RAN#87	R5-201108	1143	1	F	Correction to EUTRA-AllowedMeasBandwidth	16.3.0
2020-03	RAN#87	R5-201116	1204	1	F	Updates to 4.7.3 Contents of EAP-AKA messages in 38.508-1	16.3.0
2020-03	RAN#87	R5-201148	1134	1	F	Updates to default SSB index of intra-frequency NR cells	16.3.0
2020-03	RAN#87	R5-201159	1151	1	F	Correction to test frequencies for n257 intra-band contiguous CA	16.3.0
2020-03	RAN#87	R5-201173	1117	1	F	Update IE TDD-UL-DL-Config	16.3.0
2020-03	RAN#87	R5-201174	1095	1	F	Update RRCSystemInfoRequest	16.3.0
2020-03	RAN#87	R5-201175	1106	1	F	Update IE RLF-TimersAndConstants	16.3.0
2020-03	RAN#87	R5-201176	1107	1	F	Update IE SCS-SpecificCarrier	16.3.0
2020-03	RAN#87	R5-201177	1109	1	F	Update chapter 4.6.0	16.3.0
2020-03	RAN#87	R5-201179	1116	1	F	Update IE MeasObjectNR	16.3.0
2020-03	RAN#87	R5-201189	1214	1	F	Addition of IFF DFF Hybrid Setup for FR2 2AoA RRM test	16.3.0
2020-03	RAN#87	R5-201194	1141	1	F	Update to Common Coreset RB IE and section 5-6 Demod message contents	16.3.0
2020-03	RAN#87	R5-201195	1144	1	F	Update of DCI 1_0 and DCI_1_1 configuration	16.3.0
2020-03	RAN#87	R5-201197	1152	1	F	Correction to TRS configuration for RRM tests	16.3.0
2020-03	RAN#87	R5-201202	1205	1	F	Update to Switch Off/ Power off procedure in RRC_CONNECTED mode	16.3.0
2020-03	RAN#87	R5-201203	1129	1	F	Update to PDCP-Config	16.3.0
2020-03	RAN#87	R5-201217	1217	1	F	Updates to PsDU session modification procedures	16.3.0
2020-03	RAN#87	R5-201221	1089	1	F	Update RRCReconfiguration	16.3.0
2020-03	RAN#87	R5-201222	1121	1	F	Update IE CellGroupConfig	16.3.0
2020-03	RAN#87	R5-201232	1140	2	F	CR to 38.508-1 to introduce DFF Range Length	16.3.0
2020-03	RAN#87	R5-201234	1110	2	F	Update IE ServingCellConfigCommon	16.3.0
2020-03	RAN#87	R5-201148	1134	1	F	Add new missing column of Table 4.4.2-2	16.3.1
2020-06	RAN#88	R5-201320	1225	-	F	Update IE CellGroupConfig	16.4.0
2020-06	RAN#88	R5-201322	1227	-	F	Update of default value of frequencyDomainResources in ControlResourceSet IE	16.4.0
2020-06	RAN#88	R5-201331	1228	-	F	Correction to Table 4.9.6.1-1-Switch off in Idle	16.4.0
2020-06	RAN#88	R5-201333	1230	-	F	Addition of 4.9.6.3A Switch off Power off procedure in RRC_CONNECTED with T3540 started	16.4.0
2020-06	RAN#88	R5-201335	1232	-	F	Update to USIM config 6.4.1-1	16.4.0
2020-06	RAN#88	R5-201336	1233	-	F	Update to USIM Table 6.4.1-10	16.4.0
2020-06	RAN#88	R5-201337	1234	-	F	Correction to Table 7.3.1-7 NZP-CSI-RS-Resource for TRS	16.4.0
2020-06	RAN#88	R5-201446	1235	-	F	Fixing wrong reference for RRC_CONNECTED state on WLAN access	16.4.0
2020-06	RAN#88	R5-201572	1253	-	F	Corrections to default content of DCI messages	16.4.0
2020-06	RAN#88	RP-201138	1258	1	F	Correction to IE SearchSpace	16.4.0
2020-06	RAN#88	R5-201731	1265	-	F	Addition of NR SUL connection diagram in A.3.1.4	16.4.0

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2020-06	RAN#88	R5-201800	1267	-	F	Addition of USIM configuration for TC 6.3.1.8 and TC 6.3.1.9	16.4.0
2020-06	RAN#88	R5-201837	1268	-	F	Update of test channel bandwidths for band n48	16.4.0
2020-06	RAN#88	R5-201932	1271	-	F	Removing brackets from mid test channel BWs for FR2	16.4.0
2020-06	RAN#88	R5-201956	1273	-	F	Correction of clause 4.4.2 on simulated cells	16.4.0
2020-06	RAN#88	R5-201958	1275	-	F	Correction to Annex C on calculation of kSSB to align SSB and RMSI subcarriers	16.4.0
2020-06	RAN#88	R5-201959	1276	-	F	Removal of definition of frequencyDomainResources value dependent on CORESET#0 configuration in Annex C.	16.4.0
2020-06	RAN#88	R5-201961	1278	-	F	Correction of test frequency tables for NR band n1	16.4.0
2020-06	RAN#88	R5-201962	1279	-	F	Correction of test frequency tables for NR band n2	16.4.0
2020-06	RAN#88	R5-201963	1280	-	F	Correction of test frequency tables for NR band n3	16.4.0
2020-06	RAN#88	R5-201964	1281	-	F	Correction of test frequency tables for NR band n5	16.4.0
2020-06	RAN#88	R5-201965	1282	-	F	Correction of test frequency tables for NR band n7	16.4.0
2020-06	RAN#88	R5-201966	1283	-	F	Correction of test frequency tables for NR band n8	16.4.0
2020-06	RAN#88	R5-201967	1284	-	F	Correction of test frequency tables for NR band n12	16.4.0
2020-06	RAN#88	R5-201968	1285	-	F	Correction of test frequency tables for NR band n20	16.4.0
2020-06	RAN#88	R5-201969	1286	-	F	Correction of test frequency tables for NR band n25	16.4.0
2020-06	RAN#88	R5-201970	1287	-	F	Correction of test frequency tables for NR band n28	16.4.0
2020-06	RAN#88	R5-201971	1288	-	F	Correction of test frequency tables for NR band n34	16.4.0
2020-06	RAN#88	R5-201972	1289	-	F	Correction of test frequency tables for NR band n38	16.4.0
2020-06	RAN#88	R5-201973	1290	-	F	Correction of test frequency tables for NR band n39	16.4.0
2020-06	RAN#88	R5-201974	1291	-	F	Correction of test frequency tables for NR band n40	16.4.0
2020-06	RAN#88	R5-201975	1292	-	F	Correction of test frequency tables for NR band n41	16.4.0
2020-06	RAN#88	R5-201976	1293	-	F	Correction of test frequency tables for NR band n50	16.4.0
2020-06	RAN#88	R5-201977	1294	-	F	Correction of test frequency tables for NR band n51	16.4.0
2020-06	RAN#88	R5-201978	1295	-	F	Correction of test frequency tables for NR band n66	16.4.0
2020-06	RAN#88	R5-201979	1296	-	F	Correction of test frequency tables for NR band n70	16.4.0
2020-06	RAN#88	R5-201980	1297	-	F	Correction of test frequency tables for NR band n71	16.4.0
2020-06	RAN#88	R5-201981	1298	-	F	Correction of test frequency tables for NR band n74	16.4.0
2020-06	RAN#88	R5-201982	1299	-	F	Correction of test frequency tables for NR band n77	16.4.0
2020-06	RAN#88	R5-201983	1300	-	F	Correction of test frequency tables for NR band n78	16.4.0
2020-06	RAN#88	R5-201984	1301	-	F	Correction of test frequency tables for NR band n79	16.4.0
2020-06	RAN#88	R5-201989	1306	-	F	Corrections of test frequency tables for CA_n41C	16.4.0
2020-06	RAN#88	R5-201990	1307	-	F	Corrections of test frequency tables for CA_n78C	16.4.0
2020-06	RAN#88	R5-201991	1308	-	F	Editorial correction to test frequency clause numbering	16.4.0
2020-06	RAN#88	R5-201995	1312	-	F	Correction of test frequency tables for CA_n66B	16.4.0
2020-06	RAN#88	R5-201997	1314	-	F	Introduction of test frequencies for NR band n26	16.4.0
2020-06	RAN#88	R5-201998	1315	-	F	Introduction of test frequencies for NR band 26 for protocol testing	16.4.0
2020-06	RAN#88	R5-201999	1316	-	F	Correction of test frequency tables for NR band n29	16.4.0
2020-06	RAN#88	R5-202000	1317	-	F	Correction of test frequency tables for NR band n48	16.4.0
2020-06	RAN#88	R5-202001	1318	-	F	Correction of test frequency tables for NR band n65	16.4.0
2020-06	RAN#88	R5-202024	1327	-	F	Update IE PDCP-Config	16.4.0
2020-06	RAN#88	R5-202123	1330	-	F	CR to 38.508-1 to clarify the test zone/quiet zone	16.4.0
2020-06	RAN#88	R5-202186	1333	-	F	Addition of locationAndBandwidth in BWP for FR1 in 38.508-1	16.4.0
2020-06	RAN#88	R5-202210	1335	-	F	Corrections on test frequencies for inter-band EN-DC configurations within FR1 for five bands in 38.508-1	16.4.0
2020-06	RAN#88	R5-202212	1336	-	F	Corrections of test frequency tables for CA_n257x	16.4.0
2020-06	RAN#88	R5-202213	1337	-	F	Corrections of test frequency tables for CA_n258x	16.4.0
2020-06	RAN#88	R5-202214	1338	-	F	Corrections of test frequency tables for CA_n260x	16.4.0
2020-06	RAN#88	R5-202215	1339	-	F	Corrections of test frequency tables for CA_n261x	16.4.0
2020-06	RAN#88	R5-202244	1343	-	F	Correction to nrofRBs under TRS CSI-FrequencyOccupation for Demod test cases with 10 MHz CBW	16.4.0
2020-06	RAN#88	R5-202284	1351	-	F	Correction to configuration bwp-id parameter in TCI-State IE	16.4.0
2020-06	RAN#88	R5-202409	1354	-	F	Update PDCCH-ControlResourceSet for RRM testing	16.4.0
2020-06	RAN#88	R5-202410	1355	-	F	Addition Physical Layer Parameter section for RRM testing	16.4.0
2020-06	RAN#88	R5-202449	1356	-	F	Correction of test frequencies for DC n71AA	16.4.0
2020-06	RAN#88	R5-202486	1358	-	F	Correction to content of EF5GSN3GPPLOCI	16.4.0
2020-06	RAN#88	R5-202525	1360	-	F	Correction to System Information Combination for PWS	16.4.0
2020-06	RAN#88	R5-202531	1353	1	F	Addition of R16 new channel bandwidths for n1 in 38.508-1	16.4.0
2020-06	RAN#88	R5-202534	1266	1	F	Removal of USIM configuration 14	16.4.0
2020-06	RAN#88	R5-202549	1350	1	F	Aligning the tabular representation of ASN.1 with PRD13 sections 4.8 and 5	16.4.0
2020-06	RAN#88	R5-202554	1252	1	F	Updates to PDCCH-ConfigCommon	16.4.0
2020-06	RAN#88	R5-202561	1226	1	F	Update IE default content for control resource set establishment and common search space mapping	16.4.0

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2020-06	RAN#88	R5-202562	1229	1	F	Update to 4.9.6.3 Switch off Power off procedure in RRC_CONNECTED	16.4.0
2020-06	RAN#88	R5-202563	1231	1	F	Correction to Table 4.9.7.2.3-1-Tracking Area Update Request	16.4.0
2020-06	RAN#88	R5-202564	1236	1	F	Correction to Table 4.5.2.2-2-Adding second SMC procedure for Selected EPS NAS security algorithms IE	16.4.0
2020-06	RAN#88	R5-202565	1237	1	F	Clarification to ROUND for negative Threshold values in SIB1 and SIB4	16.4.0
2020-06	RAN#88	R5-202573	1251	1	F	Updates to test frequency definitions for SDL NR bands	16.4.0
2020-06	RAN#88	R5-202574	1257	1	F	Correction to condition SRB_NR_PDCP in RadioBearerConfig	16.4.0
2020-06	RAN#88	R5-202575	1260	1	F	Correction to UECapabilityEnquiry in case of EN-DC interband CA	16.4.0
2020-06	RAN#88	R5-202576	1262	1	F	Updates to PDCP-Config	16.4.0
2020-06	RAN#88	R5-202577	1274	1	F	Clarifications of Annex C on calculation of test frequencies	16.4.0
2020-06	RAN#88	R5-202578	1277	1	F	Update SIG test frequencies in clause 6.2.3.x	16.4.0
2020-06	RAN#88	R5-202579	1302	1	F	Correction of test frequency tables for NR band n257	16.4.0
2020-06	RAN#88	R5-202580	1303	1	F	Correction of test frequency tables for NR band n258	16.4.0
2020-06	RAN#88	R5-202581	1304	1	F	Correction of test frequency tables for NR band n260	16.4.0
2020-06	RAN#88	R5-202582	1305	1	F	Correction of test frequency tables for NR band n261	16.4.0
2020-06	RAN#88	R5-202583	1322	1	F	Introduction of protocol testing applicability for EN-DC inter-band, NR-CA inter-band and NR DC test frequency tables	16.4.0
2020-06	RAN#88	R5-202585	1331	1	F	Correction to Reference QoS rules	16.4.0
2020-06	RAN#88	R5-202586	1346	1	F	Updates to Generic Test Procedure for IMS MT speech call establishment	16.4.0
2020-06	RAN#88	R5-202587	1347	1	F	Updates to Generic Test Procedure for IMS MO call release	16.4.0
2020-06	RAN#88	R5-202588	1349	1	F	Aligning the tabular representation of ASN.1 with PRD13 section 4.6	16.4.0
2020-06	RAN#88	R5-202589	1359	1	F	Update the default USIM configurations	16.4.0
2020-06	RAN#88	R5-202590	1361	1	F	Addition of Generic procedure to check user plane connectivity for CA tests	16.4.0
2020-06	RAN#88	R5-202703	1255	1	F	Clarifications on the QoQZ validation procedure for RRM	16.4.0
2020-06	RAN#88	R5-202708	1254	1	F	TRS - PowerControlOffset correction for UE RF testing	16.4.0
2020-06	RAN#88	R5-202820	1352	1	F	Correction to PRB-Id for secondHopPRB	16.4.0
2020-06	RAN#88	R5-202859	1329	1	F	Updates on FR2 inter-band EN-DC configurations for test frequencies in 38.508-1	16.4.0
2020-06	RAN#88	R5-202879	1332	1	F	Addition of BW to Table 4.6.3-33	16.4.0
2020-06	RAN#88	R5-202880	1334	1	F	Clarification of disabling Tx diversity for FR2 UE	16.4.0
2020-06	RAN#88	R5-202881	1341	1	F	Restructuring 38.508-1 message contents for Demod and CSI reporting test cases	16.4.0
2020-06	RAN#88	R5-202882	1342	1	F	Update of PUCCH-ResourceId for Demod test cases	16.4.0
2020-06	RAN#88	R5-202883	1348	1	F	Configuration of p-ZP-CSI-RS-ResourceSet for PDSCH Demod test cases	16.4.0
2020-06	RAN#88	R5-202956	1270	1	F	Update of default test channel BW	16.4.0
2020-06	RAN#88	R5-202962	1269	2	F	Updating DCI related messages	16.4.0
2020-06	RAN#88	R5-202967	1344	1	F	Update to default value of PDSCH-to-HARQ_feedback timing indicator (k1)	16.4.0
2020-06	RAN#88	R5-203056	1313	1	F	Introduction of test frequencies for Rel-16 NR CA configuration CA_n66B and CA_n66(2A) in cl 6.2.3.4	16.4.0
2020-06	RAN#88	R5-203057	1319	1	F	Addition of test frequencies for additional channel bandwidths for NR band n66	16.4.0
2020-06	RAN#88	R5-203078	1325	1	F	Updates to Generic Test Procedure for IMS MO speech call establishment	16.4.0
2020-06	RAN#88	R5-203079	1326	2	F	Update NR-DC in chapter 4	16.4.0
2020-09	RAN#89	R5-203275	1364	-	F	Editorial update IE ARFCN-ValueNR	16.5.0
2020-09	RAN#89	R5-203277	1366	-	F	Add IEs ARFCN-ValueUTRA-FDD, AvailabilityCombinationsPerCell, AvailabilityIndicator and BAP-Routing-ID	16.5.0
2020-09	RAN#89	R5-203278	1367	-	F	n26 Default CH BW in 38.508-1	16.5.0
2020-09	RAN#89	R5-203287	1368	-	F	Correction PRB-Id for PUCCH secondHopPRB	16.5.0
2020-09	RAN#89	R5-203320	1369	-	F	Add IE BeamFailureRecoverySCellConfig	16.5.0
2020-09	RAN#89	R5-203339	1372	-	F	Add IE CGI-InfoEUTRALogging	16.5.0
2020-09	RAN#89	R5-203340	1373	-	F	Add IEs CGI-Info-Logging and CLI-RSSI-Range	16.5.0
2020-09	RAN#89	R5-203341	1374	-	F	Add IEs CommonLocationInfo, CondReconfigId, CondReconfigToAddModList and ConditionalReconfiguration	16.5.0
2020-09	RAN#89	R5-203342	1375	-	F	Add IEs ConfiguredGrantConfigIndex and ConfiguredGrantConfigIndexMAC	16.5.0
2020-09	RAN#89	R5-203343	1376	-	F	Add IE DRX-ConfigSecondaryGroup	16.5.0
2020-09	RAN#89	R5-203344	1377	-	F	Add IE HighSpeedConfig	16.5.0
2020-09	RAN#89	R5-203345	1378	-	F	Add IE InvalidSymbolPattern	16.5.0
2020-09	RAN#89	R5-203346	1379	-	F	Add IEs LBT-FailureRecoveryConfig and LocationInfo	16.5.0

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2020-09	RAN#89	R5-203347	1380	-	F	Add IE MeasIdleConfig	16.5.0
2020-09	RAN#89	R5-203348	1381	-	F	Add IE MeasObjectCLI	16.5.0
2020-09	RAN#89	R5-203349	1382	-	F	Add IE MeasObjectNR-SL	16.5.0
2020-09	RAN#89	R5-203350	1383	-	F	Add IE MeasObjectUTRA-FDD	16.5.0
2020-09	RAN#89	R5-203351	1384	-	F	Add IEs MeasResultIdleEUTRA and MeasResultIdleNR	16.5.0
2020-09	RAN#89	R5-203355	1387	-	F	Add IEs MsgA-ConfigCommon and MsgA-PUSCH-Config	16.5.0
2020-09	RAN#89	R5-203356	1388	-	F	Add IEs NeedForGapsConfigNR and NeedForGapsInfoNR	16.5.0
2020-09	RAN#89	R5-203357	1389	-	F	Correction to Table 4.5.2.2-2-second SMC procedure for Selected EPS NAS security algorithms IE	16.5.0
2020-09	RAN#89	R5-203359	1391	-	F	Correction to Table 4.6.3-141 ReportConfigInterRAT	16.5.0
2020-09	RAN#89	R5-203446	1395	-	F	Add IEs NPN-Identity and NPN-IdentityInfoList	16.5.0
2020-09	RAN#89	R5-203449	1396	-	F	Add IE PLMN-IdentityList2	16.5.0
2020-09	RAN#89	R5-203450	1397	-	F	Add IE PUCCH-ConfigurationList	16.5.0
2020-09	RAN#89	R5-203451	1398	-	F	Add IE PUCCH-SpatialRelationInfo-Id	16.5.0
2020-09	RAN#89	R5-203455	1399	-	F	Corrections to 4.5.1	16.5.0
2020-09	RAN#89	R5-203456	1400	-	F	Updating usages of TS 34.229-1 to TS 34.229-5	16.5.0
2020-09	RAN#89	R5-203467	1401	-	F	Add IE RACH-ConfigCommonTwoStepRA	16.5.0
2020-09	RAN#89	R5-203470	1402	-	F	Add IE RACH-ConfigGenericTwoStepRA	16.5.0
2020-09	RAN#89	R5-203471	1403	-	F	Add IE ReferenceTimeInfo	16.5.0
2020-09	RAN#89	R5-203472	1404	-	F	Add IE RepetitionSchemeConfig	16.5.0
2020-09	RAN#89	R5-203476	1405	-	F	Add IE ReportConfigNR-SL	16.5.0
2020-09	RAN#89	R5-203500	1410	-	F	Update to Table 4.6.3-74: MeasObjectEUTRA	16.5.0
2020-09	RAN#89	R5-203506	1411	-	F	Add IE RSSI-Range	16.5.0
2020-09	RAN#89	R5-203507	1412	-	F	Add IEs SemiStaticChannelAccessConfig and Sensor-LocationInfo	16.5.0
2020-09	RAN#89	R5-203508	1413	-	F	Add IE SI-RequestConfig	16.5.0
2020-09	RAN#89	R5-203509	1414	-	F	Add IEs SPS-ConfigIndex, SPS-PUCCH-AN and SPS-PUCCH-AN-List	16.5.0
2020-09	RAN#89	R5-203510	1415	-	F	Add IE SRS-RSRP-Range	16.5.0
2020-09	RAN#89	R5-203533	1417	-	F	Update to PDSCH-ServingCellConfig	16.5.0
2020-09	RAN#89	R5-203534	1418	-	F	Updates to CellGroupConfig and RNTI-Value for NR-DC	16.5.0
2020-09	RAN#89	R5-203557	1420	-	F	Add IEs UL-DelayValueConfig and UplinkCancellation	16.5.0
2020-09	RAN#89	R5-203575	1422	-	F	Add chapter Positioning System information blocks	16.5.0
2020-09	RAN#89	R5-203577	1423	-	F	Add IEs SIB10, SIB11, SIB12, SIB13 and SIB14	16.5.0
2020-09	RAN#89	R5-203582	1424	-	F	Add messages DedicatedSIBRequest, DLDedicatedMessageSegment, DLInformationTransferMRDC and IABOtherInformation	16.5.0
2020-09	RAN#89	R5-203634	1429	-	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.5.0
2020-09	RAN#89	R5-203662	1432	-	F	Removal of USIM profile #16	16.5.0
2020-09	RAN#89	R5-203671	1433	-	F	Update of PDSCH-to-HARQ_feedback timing indicator (k1) value	16.5.0
2020-09	RAN#89	R5-203681	1436	-	F	Editorial correction typos in annex C.2.3.2	16.5.0
2020-09	RAN#89	R5-203704	1438	-	F	Correction to Table 4.6.3-87 NZP-CSI-RS-ResourceSet	16.5.0
2020-09	RAN#89	R5-203719	1441	-	F	Add messages LoggedMeasurementConfiguration, MCGFailureInformation and SidelinkUEInformationNR	16.5.0
2020-09	RAN#89	R5-203725	1442	-	F	Add messages UEInformationRequest, UEInformationResponse, ULDedicatedMessageSegment and ULInformationTransferIRAT	16.5.0
2020-09	RAN#89	R5-203729	1443	-	F	Update IE RACH-ConfigGeneric	16.5.0
2020-09	RAN#89	R5-203730	1444	-	F	Scheduling Request Resource config for RRM test cases	16.5.0
2020-09	RAN#89	R5-203731	1445	-	F	OSI scheduling config for RRM test cases	16.5.0
2020-09	RAN#89	R5-203755	1447	-	F	Update IE SchedulingRequestResourceConfig	16.5.0
2020-09	RAN#89	R5-203767	1449	-	F	Addition of test frequencies for new Rel-16 CBW for NR band n77	16.5.0
2020-09	RAN#89	R5-203768	1450	-	F	Addition of test frequencies for new Rel-16 CBW for NR band n78	16.5.0
2020-09	RAN#89	R5-203769	1451	-	F	Introduction of test frequencies for Rel-16 NR band n30	16.5.0
2020-09	RAN#89	R5-203793	1454	-	F	Correction of n29 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-203794	1455	-	F	Introduction of n30 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-203796	1456	-	F	Correction of EN-DC test frequency information for protocol testing	16.5.0
2020-09	RAN#89	R5-203813	1457	-	F	Correction to PUCCH-Config	16.5.0
2020-09	RAN#89	R5-203815	1458	-	F	FR2 PUSCH K2 values alignment to TS 38.214	16.5.0
2020-09	RAN#89	R5-203908	1463	-	F	Corrections on test frequencies for NR FR2 CA band n261	16.5.0
2020-09	RAN#89	R5-203998	1467	-	F	Addition of test frequencies for new Rel-16 CBW 25 and 50 MHz for NR band n1	16.5.0
2020-09	RAN#89	R5-204021	1469	-	F	Correction of n51 and n76 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-204032	1470	-	F	Introduction of n259 test frequencies for protocol testing	16.5.0
2020-09	RAN#89	R5-204038	1471	-	F	Corrections of test frequency tables for EN-DC configuration DC_(n)41AA	16.5.0

2020-09	RAN#89	R5-204039	1472	-	F	Corrections of test frequency tables for EN-DC configuration DC_(n)71AA	16.5.0
2020-09	RAN#89	R5-204041	1473	-	F	Addition of test channel bandwidths for n1 new CBW in 38.508-1 R16	16.5.0
2020-09	RAN#89	R5-204049	1475	-	F	Correction to the procedure for determination of SSB and CORESET0	16.5.0
2020-09	RAN#89	R5-204052	1478	-	F	PUCCH Resource ID for CSI TCs	16.5.0
2020-09	RAN#89	R5-204053	1479	-	F	Correction to PDCCH-ConfigCommon for performance tests	16.5.0
2020-09	RAN#89	R5-204150	1484	-	F	Update Table 5.4.2.0-2: ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204167	1488	-	F	Corrections of test frequency tables for CA_n260(A-I)	16.5.0
2020-09	RAN#89	R5-204168	1489	-	F	Update Table 7.3.1-4: ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204223	1491	-	F	Update missing SMTC configurations in RRM message contents	16.5.0
2020-09	RAN#89	R5-204238	1493	-	F	Correction to default contents of RRCReestablishmentRequest message	16.5.0
2020-09	RAN#89	R5-204325	1495	-	F	Adding procedure for establishment of multiple additional PDN connections in EPS (S1 mode)	16.5.0
2020-09	RAN#89	R5-204327	1497	-	F	Updates to Test procedure for UE for Tracking area updating / Inter-system change from N1 mode to S1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204329	1499	-	F	Update of 4.5A.2 UE-requested PDU session establishment procedure	16.5.0
2020-09	RAN#89	R5-204330	1500	-	F	Updates Procedure to UE-requested PDU session modification after the first S1 to N1 mode change	16.5.0
2020-09	RAN#89	R5-204331	1501	-	F	Void 4.9.14 Procedure for UE-requested PDU session modification after the first S1 to N1 mode change	16.5.0
2020-09	RAN#89	R5-204346	1502	-	F	Introduction of test frequencies for Rel-16 NR band n259	16.5.0
2020-09	RAN#89	R5-204378	1427	1	F	Correction to NR inter-band CA configurations in FR1	16.5.0
2020-09	RAN#89	R5-204384	1409	1	F	Correction to test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204386	1390	1	F	Correction to Table 4.6.1-17 RRCResume	16.5.0
2020-09	RAN#89	R5-204387	1406	1	F	Corrections to generic procedures for MO and MT speech call establishment	16.5.0
2020-09	RAN#89	R5-204388	1407	1	F	Correction to USIM configurations 7 and 13	16.5.0
2020-09	RAN#89	R5-204389	1408	1	F	Correction to switch off / power off procedures for IMS	16.5.0
2020-09	RAN#89	R5-204390	1421	1	F	Correction of description of NGEN-DC in table 4.5.1-1	16.5.0
2020-09	RAN#89	R5-204391	1425	1	F	Correction to UE-CapabilityRAT-RequestList and UE-CapabilityRequestFilterNR	16.5.0
2020-09	RAN#89	R5-204392	1439	1	F	Addition of Generic Test Procedure for IMS MO SMS in 5GC	16.5.0
2020-09	RAN#89	R5-204393	1440	1	F	Addition of Generic Test Procedure for IMS MT SMS in 5GC	16.5.0
2020-09	RAN#89	R5-204394	1446	1	F	Update IE RLC-BearerConfig	16.5.0
2020-09	RAN#89	R5-204395	1481	1	F	Update IE SIB2	16.5.0
2020-09	RAN#89	R5-204396	1482	1	F	New procedure for PDU Session Release	16.5.0
2020-09	RAN#89	R5-204397	1483	1	F	Update to FreqBandList	16.5.0
2020-09	RAN#89	R5-204398	1490	1	F	Update IE ServingCellConfigCommon	16.5.0
2020-09	RAN#89	R5-204399	1494	1	F	Adding generic procedure E-UTRA RRC_IDLE with unrestricted number of PDN connections	16.5.0
2020-09	RAN#89	R5-204400	1496	1	F	Update of PDU SESSION ESTABLISHMENT ACCEPT for multi PDU-PDN handling	16.5.0
2020-09	RAN#89	R5-204401	1498	1	F	Updates of Test procedure for UE for Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	16.5.0
2020-09	RAN#89	R5-204507	1371	1	F	Add IEs BH-RLC-ChannelConfig, BH-LogicalChannelIdentity, BH-LogicalChannelIdentity-Ext and BH-RLC-ChannelID	16.5.0
2020-09	RAN#89	R5-204508	1386	1	F	Add IEs MeasResultsSL and MeasTriggerQuantityEUTRA	16.5.0
2020-09	RAN#89	R5-204509	1416	1	F	Modification to InterRAT-Parameters to add the UE capability nr-HO-ToEN-DC-r16	16.5.0
2020-09	RAN#89	R5-204510	1419	1	F	Add IE SSB-PositionQCL-Relation	16.5.0
2020-09	RAN#89	R5-204704	1503	-	F	Adding the test frequency for DC_3A-7A_n78A	16.5.0
2020-09	RAN#89	R5-204706	1504	-	F	Adding the test frequency for DC_28A_n3A	16.5.0
2020-09	RAN#89	R5-204708	1435	1	F	Updating indicator for SUL FR1 test cases	16.5.0
2020-09	RAN#89	R5-204709	1437	1	F	Update frequencyDomainResources and nrofcandidates	16.5.0
2020-09	RAN#89	R5-204751	1428	1	F	Introduction of test frequencies for additional Rel-15 band EN-DC inter-band configurations	16.5.0
2020-09	RAN#89	R5-204752	1460	1	F	Correction to TCI-state related configurations	16.5.0
2020-09	RAN#89	R5-204753	1461	1	F	Correction to CSI-RS related configurations	16.5.0

2020-09	RAN#89	R5-204754	1468	1	F	Update on test frequencies for EN-DC configurations including FR2	16.5.0
2020-09	RAN#89	R5-204755	1485	1	F	Corrections of test frequency tables for CA_n258x	16.5.0
2020-09	RAN#89	R5-204756	1486	1	F	Corrections of test frequency tables for CA_n260x	16.5.0
2020-09	RAN#89	R5-204757	1487	1	F	Corrections of test frequency tables for CA_n261x	16.5.0
2020-09	RAN#89	R5-204758	1492	1	F	Add SSB subcarrier spacing configurations in RRM message contents	16.5.0
2020-09	RAN#89	R5-204800	1362	1	F	Introduction of test frequencies for Rel-16 inter-band EN-DC combinations within FR1	16.5.0
2020-09	RAN#89	R5-204852	1434	1	F	Jumbo CR for update to Demod message contents	16.5.0
2020-09	RAN#89	R5-204896	1370	1	F	Addition of test frequencies for n28 with CBW of 30MHz	16.5.0
2020-09	RAN#89	R5-204899	1448	1	F	Adding default value for IE rbg-Size for demodulation and CSI reporting tests	16.5.0
2020-09	RAN#89	R5-204900	1462	1	F	Introduction of definition of Mid, Low, High test channel bandwidth and removal of NOTEs that incorrectly permit UE not to support mandatory BWs	16.5.0
2020-09	RAN#89	R5-204901	1476	1	F	Correction to message configuration for performance tests	16.5.0
2020-10	RAN#89	R5-204325	1495	-	F	Addition of missing Table 4.5A.2B.2.2-2 and specific message contents of R5-204325	16.5.1
2020-12	RAN#90	R5-205093	1507	-	F	Add IE BandCombinationListSidelink	16.6.0
2020-12	RAN#90	R5-205096	1508	-	F	Add IE CarrierAggregationVariant	16.6.0
2020-12	RAN#90	R5-205104	1509	-	F	Add IEs FreqSeparationClassDL-Only and HighSpeedParameters	16.6.0
2020-12	RAN#90	R5-205130	1514	-	F	Add IE PowSav-Parameters	16.6.0
2020-12	RAN#90	R5-205167	1519	-	F	Add IE OLPC-SRS-Pos	16.6.0
2020-12	RAN#90	R5-205172	1521	-	F	Add IEs SidelinkParameters, SON-Parameters and SpatialRelationsSRS-Pos	16.6.0
2020-12	RAN#90	R5-205178	1522	-	F	Add IE UE-BasedPerfMeas-Parameters	16.6.0
2020-12	RAN#90	R5-205181	1523	-	F	Add IE SharedSpectrumChAccessParamsPerBand	16.6.0
2020-12	RAN#90	R5-205186	1524	-	F	Add IEs AbsoluteTimeInfo, AreaConfiguration and BT-NameList	16.6.0
2020-12	RAN#90	R5-205187	1525	-	F	Add IEs IAB-IP-Address, IAB-IP-AddressIndex and IAB-IP-Usage	16.6.0
2020-12	RAN#90	R5-205188	1526	-	F	Add IEs LoggingDuration, LoggingInterval, LogMeasResultListBT and LogMeasResultListWLAN	16.6.0
2020-12	RAN#90	R5-205189	1527	-	F	Add IE PhysCellIdUTRA-FDD	16.6.0
2020-12	RAN#90	R5-205190	1528	-	F	Add IEs Sensor-NameList, TraceReference and UE-MeasurementsAvailable-r16	16.6.0
2020-12	RAN#90	R5-205191	1529	-	F	Add IEs UTRA-FDD-Q-OffsetRange, VisitedCellInfoList and WLAN-NameList	16.6.0
2020-12	RAN#90	R5-205215	1533	-	F	Update chapter 4.5.1 General	16.6.0
2020-12	RAN#90	R5-205249	1537	-	F	Introduction of test frequencies for NR Band n53 signalling testing	16.6.0
2020-12	RAN#90	R5-205250	1538	-	F	Introduction of test channel BWs for NR Band n53	16.6.0
2020-12	RAN#90	R5-205288	1539	-	F	Addition of IE DCP-Config-r16	16.6.0
2020-12	RAN#90	R5-205332	1542	-	F	Updates to generic procedure NR-DC RRC_CONNECTED	16.6.0
2020-12	RAN#90	R5-205334	1544	-	F	Updates to RadioBearerConfig in Table 4.6.3-132	16.6.0
2020-12	RAN#90	R5-205336	1546	-	F	Updates to RRCReconfiguration in Table 4.6.1-13	16.6.0
2020-12	RAN#90	R5-205339	1549	-	F	Updates to RRCReconfiguration-NR-DC in Table 4.8.1-1CA	16.6.0
2020-12	RAN#90	R5-205403	1554	-	F	Addition of PC5 RRC messages for sidelink communication	16.6.0
2020-12	RAN#90	R5-205404	1555	-	F	Addition of sidelink IEs for Uu RRC and PC5 RRC	16.6.0
2020-12	RAN#90	R5-205532	1573	-	F	Clarifications to Annex C and CORESET1	16.6.0
2020-12	RAN#90	R5-205661	1580	-	F	Update of Annex C on calculating test frequencies for RRM testing	16.6.0
2020-12	RAN#90	R5-205701	1588	-	F	Update RF test channel bandwidths for n14 and n30	16.6.0
2020-12	RAN#90	R5-205725	1594	-	F	Correction to test channel bandwidth for NR band n40 and n50	16.6.0
2020-12	RAN#90	R5-205728	1597	-	F	Adding test frequencies for CA_n78B	16.6.0
2020-12	RAN#90	R5-205771	1602	-	F	Addition of test frequencies for a few Rel-16 EN-DC configurations	16.6.0
2020-12	RAN#90	R5-205832	1603	-	F	Connection diagrams for radiated RRM Tests	16.6.0
2020-12	RAN#90	R5-205874	1607	-	F	Correction of test frequency of CA_n41C	16.6.0
2020-12	RAN#90	R5-205875	1608	-	F	Correction of test frequency of CA_n66B	16.6.0
2020-12	RAN#90	R5-205881	1610	-	F	Addition of test frequency for 40MHz of band n38	16.6.0
2020-12	RAN#90	R5-205926	1612	-	F	Correction to nrofRBs IE for CSI-FrequencyOccupation	16.6.0
2020-12	RAN#90	R5-205932	1614	-	F	Addition of IE configuration for ULFPTx to clause 5	16.6.0
2020-12	RAN#90	R5-205937	1615	-	F	Update of 4.9.12 Generic Test Procedure for IMS Emergency call establishment in 5GC without IMS emergency registration and editorials	16.6.0
2020-12	RAN#90	R5-205939	1617	-	F	Update for Flexible PDU-PDN - Default messages	16.6.0
2020-12	RAN#90	R5-205940	1618	-	F	Update for Flexible PDU-PDN - DNN Configurations	16.6.0
2020-12	RAN#90	R5-205997	1621	-	F	Correction of test frequencies for NR band n1	16.6.0
2020-12	RAN#90	R5-205998	1622	-	F	Editorial correction to NR-DC test frequency clause 4.3.1	16.6.0
2020-12	RAN#90	R5-206002	1626	-	F	Correction of FR1 NR band test frequency tables for protocol testing	16.6.0

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2020-12	RAN#90	R5-206003	1627	-	F	Correction of FR2 NR band test frequency tables for protocol testing	16.6.0
2020-12	RAN#90	R5-206004	1628	-	F	Change of default SCS for NR CA test frequencies for FR2 protocol testing	16.6.0
2020-12	RAN#90	R5-206008	1632	-	F	Editorial correction to NR CA test frequencies for FR1 protocol testing	16.6.0
2020-12	RAN#90	R5-206019	1637	-	F	Correction of test frequencies for CA_n260 of intra-band non-contiguous A-I	16.6.0
2020-12	RAN#90	R5-206046	1642	-	F	Clarify usage of SSB-Ids for RRM test cases	16.6.0
2020-12	RAN#90	R5-206048	1644	-	F	Clarification on the conditions in DCI format 1_1 table for RRM	16.6.0
2020-12	RAN#90	R5-206060	1645	-	F	Correction to 4.9.17 IMS MO release	16.6.0
2020-12	RAN#90	R5-206061	1646	-	F	Correction to 4.9.18 IMS MT release	16.6.0
2020-12	RAN#90	R5-206065	1650	-	F	Alignment of Rel-16 5GSM messages	16.6.0
2020-12	RAN#90	R5-206066	1651	-	F	Addition of new SSTs	16.6.0
2020-12	RAN#90	R5-206067	1652	-	F	Update IE SIB2	16.6.0
2020-12	RAN#90	R5-206078	1654	-	F	Update IE SIB4	16.6.0
2020-12	RAN#90	R5-206086	1655	-	F	Addition of common message contents for sustained downlink data rate tests	16.6.0
2020-12	RAN#90	R5-206087	1656	-	F	Correction to Default RRM TRS qcl-info and PDCCH TCI State	16.6.0
2020-12	RAN#90	R5-206112	1657	-	F	Update requirements of test equipment for RF test	16.6.0
2020-12	RAN#90	R5-206113	1658	-	F	Update requirements of test equipment for RRM tests	16.6.0
2020-12	RAN#90	R5-206115	1659	-	F	Update requirements of reference test conditions for RRM tests	16.6.0
2020-12	RAN#90	R5-206157	1663	-	F	CSI-measConfig applicable for RRM testing	16.6.0
2020-12	RAN#90	R5-206158	1664	-	F	Editorial update IE CellAccessRelatedInfo-EUTRA-5GC	16.6.0
2020-12	RAN#90	R5-206164	1666	-	F	Editorial update IE CellAccessRelatedInfo-EUTRA-EPC	16.6.0
2020-12	RAN#90	R5-206266	1671	-	F	Corrections to test procedures in subclause 4.9	16.6.0
2020-12	RAN#90	R5-206288	1510	1	F	Corrections to UE-requested PDU session establishment procedure	16.6.0
2020-12	RAN#90	R5-206289	1515	1	F	Update of 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	16.6.0
2020-12	RAN#90	R5-206290	1516	1	F	Update of 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	16.6.0
2020-12	RAN#90	R5-206291	1517	1	F	Update of 4.5.2 RRC_IDLE	16.6.0
2020-12	RAN#90	R5-206292	1532	1	F	Correction to Test procedure 4.9.5	16.6.0
2020-12	RAN#90	R5-206293	1534	1	F	Corrections to generic procedures regarding IMS usage	16.6.0
2020-12	RAN#90	R5-206294	1540	1	F	Update Generic Test Procedures for IMS MO, MT speech call	16.6.0
2020-12	RAN#90	R5-206295	1543	1	F	Updates to generic procedure parameters in Table 4.5.1-1	16.6.0
2020-12	RAN#90	R5-206296	1616	1	F	Update for Flexible PDU-PDN - Session-Connection establishment	16.6.0
2020-12	RAN#90	R5-206297	1541	1	F	Updates to CellGroupConfig in Table 4.6.3-19	16.6.0
2020-12	RAN#90	R5-206298	1545	1	F	Updates to RadioBearerConfig in Table 4.6.3-132 for NR-DC	16.6.0
2020-12	RAN#90	R5-206299	1547	1	F	Updates to RRCReconfiguration in Table 4.6.1-13 for NR-DC	16.6.0
2020-12	RAN#90	R5-206300	1548	1	F	Updates to RRCReconfigurationComplete	16.6.0
2020-12	RAN#90	R5-206301	1586	1	F	Update IE SSB-ToMeasure	16.6.0
2020-12	RAN#90	R5-206302	1620	1	F	Correction to PDCCH-ConfigCommon	16.6.0
2020-12	RAN#90	R5-206303	1665	1	F	Messages Exceptions corrections for SUL cases	16.6.0
2020-12	RAN#90	R5-206304	1670	1	F	Update to ims-EmergencySupport indication of SIB1	16.6.0
2020-12	RAN#90	R5-206305	1595	1	F	Correction to test frequencies for signalling testing	16.6.0
2020-12	RAN#90	R5-206306	1625	1	F	Introducing test frequencies for CA_n261(2A) for protocol testing	16.6.0
2020-12	RAN#90	R5-206307	1629	1	F	Introduction of NR-DC test frequencies for protocol testing	16.6.0
2020-12	RAN#90	R5-206308	1661	1	F	Update requirements of test equipment for Signalling test	16.6.0
2020-12	RAN#90	R5-206309	1531	1	F	Correction to Table 4.8.1-1A RRCReconfiguration-HO	16.6.0
2020-12	RAN#90	R5-206388	1631	1	F	Introduction of n14 test frequencies for protocol testing	16.6.0
2020-12	RAN#90	R5-206394	1552	1	F	Adding ReferenceTimeInfo IE config for IIoT test	16.6.0
2020-12	RAN#90	R5-206403	1559	1	F	Update to RRC messages and IEs for R16 Mobility Enhancement	16.6.0
2020-12	RAN#90	R5-206407	1553	1	F	Correction to Uu RRC messages and SIBs for sidelink communication	16.6.0
2020-12	RAN#90	R5-206408	1556	1	F	Addition of V2X default configuration_USIM	16.6.0
2020-12	RAN#90	R5-206409	1557	1	F	Addition of V2X default configuration_NAS Messages	16.6.0
2020-12	RAN#90	R5-206419	1575	1	F	Updates to default contents of NAS messages for Rel-16 RACS	16.6.0
2020-12	RAN#90	R5-206420	1576	1	F	Updates to default contents of RRC messages for Rel-16 RACS	16.6.0
2020-12	RAN#90	R5-206426	1649	1	F	Alignment of Rel-16 5GMM messages	16.6.0
2020-12	RAN#90	R5-206427	1668	1	F	Updates to DLDedicatedMessageSegment message	16.6.0
2020-12	RAN#90	R5-206621	1589	1	F	Correction to test frequencies for NR band n34	16.6.0
2020-12	RAN#90	R5-206622	1590	1	F	Correction to test frequencies for NR band n38	16.6.0
2020-12	RAN#90	R5-206623	1591	1	F	Correction to test frequencies for NR band n39	16.6.0

2020-12	RAN#90	R5-206624	1592	1	F	Correction to test frequencies for NR band n40	16.6.0
2020-12	RAN#90	R5-206625	1593	1	F	Correction to test frequencies for NR band n50	16.6.0
2020-12	RAN#90	R5-206626	1609	1	F	Correction of test frequency of CA_n78C	16.6.0
2020-12	RAN#90	R5-206628	1611	1	F	Update to DEMOD message contents	16.6.0
2020-12	RAN#90	R5-206629	1669	1	F	Single PDN and PDU configuration for EN-DC RF testing	16.6.0
2020-12	RAN#90	R5-206630	1619	1	F	Addition of aperiodic CSI-RS reference configuration for RRM test	16.6.0
2020-12	RAN#90	R5-206631	1623	1	F	Introduction of test frequencies for SCS=60 kHz and EN-DC configurations DC_41X_n41A	16.6.0
2020-12	RAN#90	R5-206632	1505	1	F	Message contents for iRAT periodical measurements	16.6.0
2020-12	RAN#90	R5-206633	1638	1	F	Minor corrections of 4.1 for test environment conditions	16.6.0
2020-12	RAN#90	R5-206712	1579	1	F	Addition of UL and DL inter-band CA configurations for several FR1 bands	16.6.0
2020-12	RAN#90	R5-206713	1587	1	F	Update to reference test conditions for R16 EN-DC configuration	16.6.0
2020-12	RAN#90	R5-206714	1639	1	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.6.0
2020-12	RAN#90	R5-206715	1660	1	F	Introduction of test frequencies for additional Rel-16 EN-DC inter-band configurations	16.6.0
2020-12	RAN#90	R5-206736	1536	1	F	Introduction of test frequencies for NR Band n53	16.6.0
2020-12	RAN#90	R5-206737	1572	1	F	Addition of R16 new channel bandwidths for n3 in 38.508-1	16.6.0
2020-12	RAN#90	R5-206738	1630	1	F	Introduction of test frequencies for n14	16.6.0
2020-12	RAN#90	R5-206739	1636	1	F	Correction of 4.3.1 for test channel bandwidth of NR bands	16.6.0
2020-12	RAN#90	R5-206757	1596	1	F	Adding test frequencies for CA_n40B	16.6.0
2020-12	RAN#90	R5-206758	1598	1	F	Adding test frequencies for CA_n77A-n77A	16.6.0
2020-12	RAN#90	R5-206759	1599	1	F	Adding test frequencies for CA_n78A-n78A	16.6.0
2020-12	RAN#90	R5-206760	1633	1	F	Updating message contents for Uplink carrier switching	16.6.0
2020-12	RAN#90	R5-206790	1581	1	F	Introduction of test frequencies for RRM and NR band n257	16.6.0
2020-12	RAN#90	R5-206791	1582	1	F	Introduction of test frequencies for RRM and NR band n258	16.6.0
2020-12	RAN#90	R5-206792	1583	1	F	Introduction of test frequencies for RRM and NR band n260	16.6.0
2020-12	RAN#90	R5-206793	1584	1	F	Introduction of test frequencies for RRM and NR band n261	16.6.0
2020-12	RAN#90	R5-206794	1585	1	F	Introduction of test frequencies for RRM and NR band n259	16.6.0
2020-12	RAN#90	R5-206820	1667	1	F	Update to quality of quiet zone validation rule for IFF DFF hybrid setup	16.6.0
2020-12	RAN#90	R5-206860	1506	1	F	SSB bitmap correction for RRM test cases	16.6.0
2020-12	RAN#90	R5-206861	1624	1	F	Introducing test frequencies for CA_n261(2A)	16.6.0
2020-12	RAN#90	R5-206862	1643	1	F	Clarify the RF / RRM conditions for default messages	16.6.0
2021-03	RAN#91	R5-210186	1678	-	F	Update global conditions	16.7.0
2021-03	RAN#91	R5-210327	1688	-	F	Update FailureInformation message	16.7.0
2021-03	RAN#91	R5-210328	1689	-	F	Editorial update RRCReconfiguration message	16.7.0
2021-03	RAN#91	R5-210359	1692	-	F	Editorial update SidelinkUEInformationNR message	16.7.0
2021-03	RAN#91	R5-210394	1697	-	F	Editorial update UEAssistanceInformation message	16.7.0
2021-03	RAN#91	R5-210414	1699	-	F	Update UECapabilityEnquiry message	16.7.0
2021-03	RAN#91	R5-210468	1704	-	F	Add new SIB combination for RRM tests with single cell	16.7.0
2021-03	RAN#91	R5-210599	1711	-	F	Editorial correction on numbering of several Tables in 38.508-1	16.7.0
2021-03	RAN#91	R5-210616	1713	-	F	Editorial update DLDedicatedMessageSegment message	16.7.0
2021-03	RAN#91	R5-210623	1714	-	F	Correction to Table 4.6.1-13 RRCReconfiguration	16.7.0
2021-03	RAN#91	R5-210626	1717	-	F	Correction to Table 6.4.1-11 USIM Configuration 11	16.7.0
2021-03	RAN#91	R5-210627	1718	-	F	Correction to Table 4.8.2.1-7 Reference QoS rule 7	16.7.0
2021-03	RAN#91	R5-210687	1719	-	F	Correction to Table 4.6.3-25B CondReconfigId	16.7.0
2021-03	RAN#91	R5-210688	1720	-	F	Correction to Table 4.6.3-25C CondReconfigToAddModList	16.7.0
2021-03	RAN#91	R5-210689	1721	-	F	Correction to Table 4.6.3-25D ConditionalReconfiguration	16.7.0
2021-03	RAN#91	R5-210698	1723	-	F	Addition of IE SL-PreconfigurationNR	16.7.0
2021-03	RAN#91	R5-210699	1724	-	F	Addition of V2X NAS IEs	16.7.0
2021-03	RAN#91	R5-210701	1726	-	F	Correction of NR SL IE SL-BWP-ConfigCommon	16.7.0
2021-03	RAN#91	R5-210703	1728	-	F	Correction of NR SL IE SL-ConfigDedicatedNR	16.7.0
2021-03	RAN#91	R5-210704	1729	-	F	Correction of NR SL IE SL-FreqConfigCommon	16.7.0
2021-03	RAN#91	R5-210705	1730	-	F	Correction of NR SL IE SL-LogicalChannelConfig	16.7.0
2021-03	RAN#91	R5-210706	1731	-	F	Correction of NR SL IE SL-MeasConfigInfo	16.7.0
2021-03	RAN#91	R5-210707	1732	-	F	Correction of NR SL IE SL-PDCP-Config	16.7.0
2021-03	RAN#91	R5-210708	1733	-	F	Correction of NR SL IE SL-RadioBearerConfig	16.7.0
2021-03	RAN#91	R5-210709	1734	-	F	Correction of NR SL IE SL-ResourcePool	16.7.0
2021-03	RAN#91	R5-210710	1735	-	F	Correction of NR SL IE SL-RLC-BearerConfig	16.7.0
2021-03	RAN#91	R5-210711	1736	-	F	Correction of NR SL IE SL-RLC-Config	16.7.0
2021-03	RAN#91	R5-210713	1738	-	F	Correction to NR Uu IE ARFCN-ValueNR	16.7.0
2021-03	RAN#91	R5-210714	1739	-	F	Correction to NR Uu IE SCS-SpecificCarrier	16.7.0
2021-03	RAN#91	R5-210771	1744	-	F	Correction in CodebookConfig for 4Tx RI Demod test cases	16.7.0

2021-03	RAN#91	R5-210772	1745	-	F	Alignment xOverhead setting with PDSCH RMCs for Demod FR2 testing	16.7.0
2021-03	RAN#91	R5-210805	1746	-	F	Update IE SemiStaticChannelAccessConfig	16.7.0
2021-03	RAN#91	R5-210812	1747	-	F	Update IE ServingCellConfig	16.7.0
2021-03	RAN#91	R5-210824	1748	-	F	Number of control symbols for RRM tests with 240kHz SSB SCS	16.7.0
2021-03	RAN#91	R5-210826	1750	-	F	Editorial update IE ServingCellConfigCommon	16.7.0
2021-03	RAN#91	R5-210873	1752	-	F	Correction of aperiodic CSI-RS reference configuration for RRM tests	16.7.0
2021-03	RAN#91	R5-210897	1753	-	F	Correction to test frequency parameters for band n83	16.7.0
2021-03	RAN#91	R5-210898	1754	-	F	Correction to test frequency parameters for band n84	16.7.0
2021-03	RAN#91	R5-211032	1759	-	F	Correction test frequencies for CA_n261(2A)	16.7.0
2021-03	RAN#91	R5-211033	1760	-	F	Correction test frequencies for CA_n261(2A) for protocol testing	16.7.0
2021-03	RAN#91	R5-211034	1761	-	F	Correction of protocol applicability for test frequencies for DC_xA_n261(2A) configurations	16.7.0
2021-03	RAN#91	R5-211107	1770	-	F	Corrections to subclauses in 38.508-1 with appropriate subclause level and heading styles	16.7.0
2021-03	RAN#91	R5-211116	1772	-	F	Update of 4.3.1.1.3.41.1 for test frequency of NR intra-band contiguous CA_n41C	16.7.0
2021-03	RAN#91	R5-211117	1773	-	F	Update of 4.3.1.1.3.66.1 for test frequency of NR intra-band contiguous CA_n66B	16.7.0
2021-03	RAN#91	R5-211118	1774	-	F	Update of 4.3.1.1.3.78.1 for test frequency of NR intra-band contiguous CA_n78C	16.7.0
2021-03	RAN#91	R5-211121	1777	-	F	Update of 4.3.1.3.2.1 for test frequencies for NR-DC configurations between FR1 and FR2	16.7.0
2021-03	RAN#91	R5-211124	1780	-	F	Update of 4.3.1.6.1.3 for test frequencies for EN-DC band combinations including FR1 and FR2	16.7.0
2021-03	RAN#91	R5-211168	1784	-	F	Updates to PDU SESSION ESTABLISHMENT ACCEPT message	16.7.0
2021-03	RAN#91	R5-211170	1786	-	F	Editorial update to BandCombinationListSidelink IE	16.7.0
2021-03	RAN#91	R5-211171	1787	-	F	Update to RRCReconfiguration-Speech IE	16.7.0
2021-03	RAN#91	R5-211204	1791	-	F	Editorial update IE BWP	16.7.0
2021-03	RAN#91	R5-211328	1796	-	F	Correction to frequency parameters for band n53	16.7.0
2021-03	RAN#91	R5-211335	1727	1	F	Correction of NR SL IE SL-BWP-PoolConfigCommon	16.7.0
2021-03	RAN#91	R5-211336	1737	1	F	Correction of NR SL IE SL-SDAP-Config	16.7.0
2021-03	RAN#91	R5-211337	1740	1	F	Correction to PC5-RRC message RRCReconfigurationSidelink	16.7.0
2021-03	RAN#91	R5-211338	1741	1	F	Correction to PC5-RRC message UECapabilityEnquirySidelink	16.7.0
2021-03	RAN#91	R5-211339	1742	1	F	Correction to PC5-RRC message UECapabilityInformationSidelink	16.7.0
2021-03	RAN#91	R5-211369	1673	1	F	Corrections to generic test procedures for IMS	16.7.0
2021-03	RAN#91	R5-211370	1676	1	F	Correction to generic procedure for UE-requested PDU session modification after S1 to N1 change	16.7.0
2021-03	RAN#91	R5-211371	1680	1	F	Correction to test procedure 4.9.7	16.7.0
2021-03	RAN#91	R5-211372	1698	1	F	Correction to RRC IDLE procedures	16.7.0
2021-03	RAN#91	R5-211374	1712	1	F	Update IE PDCCH-ConfigCommon	16.7.0
2021-03	RAN#91	R5-211375	1715	1	F	Correction to Table 4.6.3-185 SSB-MTC	16.7.0
2021-03	RAN#91	R5-211456	1722	1	F	Correction to Table 4.6.3-142 ReportConfigNR	16.7.0
2021-03	RAN#91	R5-211462	1725	1	F	Addition of SI combination for NR SL	16.7.0
2021-03	RAN#91	R5-211465	1693	1	F	Updates to SIB1 and SIB10 for Rel-16 NPN	16.7.0
2021-03	RAN#91	R5-211466	1694	1	F	Addition of System information combination for Rel-16 NPN	16.7.0
2021-03	RAN#91	R5-211467	1684	1	F	Introduction of definition of common environment for R16 NR Immediate MDT	16.7.0
2021-03	RAN#91	R5-211468	1685	1	F	Updating Contents of RRC messages for Logged MDT test cases	16.7.0
2021-03	RAN#91	R5-211491	1700	1	F	Addition of Cell configurations for 5G-SRVCC from NG-RAN to UTRAN	16.7.0
2021-03	RAN#91	R5-211497	1682	1	F	Editorial update IE PhysicalCellGroupConfig	16.7.0
2021-03	RAN#91	R5-211498	1781	1	F	Introduction of support for URLLC	16.7.0
2021-03	RAN#91	R5-211499	1782	1	F	Addition of QoS for URLLC	16.7.0
2021-03	RAN#91	R5-211548	1695	1	F	Addition of NID information for Rel-16 NPN	16.7.0
2021-03	RAN#91	R5-211604	1794	-	F	Introduction of test frequencies for CBW 70 MHz for n77	16.7.0
2021-03	RAN#91	R5-211605	1795	-	F	Introduction of test frequencies for CBW 70 MHz for n78	16.7.0
2021-03	RAN#91	R5-211660	1677	1	F	Update of EN-DC inter-band configurations in clause 4.3.1	16.7.0
2021-03	RAN#91	R5-211661	1690	1	F	Addition of 3 band EN-DC Test Frequency (DC_1A-8A_n78A, DC_3A-8A_n78A)	16.7.0
2021-03	RAN#91	R5-211662	1691	1	F	Addition of 4 band EN-DC Test Frequency (DC_1A-3A-8A_n78A)	16.7.0
2021-03	RAN#91	R5-211663	1743	1	F	Update PDSCH-TimeDomainResourceAllocationList to consider coreset0 for Demod FR2 test cases	16.7.0
2021-03	RAN#91	R5-211664	1763	1	F	Update message content for PMI reporting test cases	16.7.0
2021-03	RAN#91	R5-211665	1705	1	F	Changes to RRM default message contents	16.7.0

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2021-03	RAN#91	R5-211666	1706	1	F	Add SSB Index table for RRM with SECOND_SSB condition	16.7.0
2021-03	RAN#91	R5-211667	1751	1	F	Addition of default configuration of CSI-IM for RRM tests	16.7.0
2021-03	RAN#91	R5-211668	1790	1	F	Specify CSI-SSB-ResourceSet for RRM	16.7.0
2021-03	RAN#91	R5-211669	1702	1	F	Editorial rework of the conditions for CSI-FrequencyOccupation	16.7.0
2021-03	RAN#91	R5-211670	1703	1	F	Align TDD UL DL Common for RRM with TS 38.533	16.7.0
2021-03	RAN#91	R5-211671	1707	1	F	Correct reportOffsetList in CSI-ReportConfig	16.7.0
2021-03	RAN#91	R5-211672	1708	1	F	Specify CSI-SSB-ResourceSet	16.7.0
2021-03	RAN#91	R5-211673	1764	1	F	Clarification on the connection diagram for FR2 demod and RRM test cases	16.7.0
2021-03	RAN#91	R5-211762	1778	1	F	Update of 4.3.1.4.1 for test frequencies for EN-DC band combinations within FR1	16.7.0
2021-03	RAN#91	R5-211763	1779	1	F	Update of 4.3.1.5.1 for test frequencies for EN-DC band combinations including FR2	16.7.0
2021-03	RAN#91	R5-211784	1776	1	F	Update of 4.3.1.0A for mid test channel bandwidth	16.7.0
2021-03	RAN#91	R5-211785	1792	1	F	Correction of test frequencies for NR band n48	16.7.0
2021-03	RAN#91	R5-211855	1758	1	F	Updating the value of P-Max for EN-DC and NR SA test cases	16.7.0
2021-03	RAN#91	R5-211856	1768	1	F	Correction to the message contents for CQI reporting tests in 5.4.2.4	16.7.0
2021-03	RAN#91	R5-211857	1769	1	F	Correction to the message contents for PMI reporting tests in 5.4.2.5	16.7.0
2021-03	RAN#91	R5-210927	1755	-	F	Updating Rel-17 mid and highest channel bandwidth for n83 and n84	17.0.0
2021-03	RAN#91	R5-210928	1756	-	F	Adding Rel-17 CBW 30MHz test frequencies for n83	17.0.0
2021-03	RAN#91	R5-210929	1757	-	F	Updating test frequencies for Rel-17 new CBWs for band n84	17.0.0
2021-03	RAN#91	R5-211836	1766	1	F	Introduction of test frequencies for n48 adding CBW 70 MHz - DL only	17.0.0
2021-06	RAN#92	R5-212203	1804	-	F	Resubmission of Addition of SI combination for NR SL	17.1.0
2021-06	RAN#92	R5-212213	1807	-	F	Add IE Phy-ParametersSharedSpectrumChAccess	17.1.0
2021-06	RAN#92	R5-212248	1811	-	F	Correction to TCI stated of CSI-RS for TRS	17.1.0
2021-06	RAN#92	R5-212249	1812	-	F	Correction to physical layer parameters for demodulation tests	17.1.0
2021-06	RAN#92	R5-212250	1813	-	F	Update of TE diagram for FR2 RRM tests with multiple NR cells	17.1.0
2021-06	RAN#92	R5-212409	1817	-	F	Correction to IE BWP-DownlinkDedicated	17.1.0
2021-06	RAN#92	R5-212455	1822	-	F	Correction of NR SL IE SL-BWP-Config	17.1.0
2021-06	RAN#92	R5-212456	1823	-	F	Correction of NR SL IE SL-BWP-PoolConfig	17.1.0
2021-06	RAN#92	R5-212457	1824	-	F	Correction of NR SL IE SL-CBR-CommonTxConfigList	17.1.0
2021-06	RAN#92	R5-212458	1825	-	F	Correction of NR SL IE SL-CBR-PriorityTxConfigList	17.1.0
2021-06	RAN#92	R5-212459	1826	-	F	Correction of NR SL IE SL-ConfiguredGrantConfig	17.1.0
2021-06	RAN#92	R5-212460	1827	-	F	Correction of NR SL IE SL-DestinationIdentity	17.1.0
2021-06	RAN#92	R5-212461	1828	-	F	Correction of NR SL IE SL-FreqConfig	17.1.0
2021-06	RAN#92	R5-212462	1829	-	F	Correction of NR SL IE SL-MeasConfigCommon	17.1.0
2021-06	RAN#92	R5-212463	1830	-	F	Correction of NR SL IE SL-MeasIdList	17.1.0
2021-06	RAN#92	R5-212464	1831	-	F	Correction of NR SL IE SL-MeasObjectList	17.1.0
2021-06	RAN#92	R5-212465	1832	-	F	Correction of NR SL IE SL-PSBCH-Config	17.1.0
2021-06	RAN#92	R5-212468	1835	-	F	Correction of NR SL IE SL-QoS-Profile	17.1.0
2021-06	RAN#92	R5-212469	1836	-	F	Correction of NR SL IE SL-QuantityConfig	17.1.0
2021-06	RAN#92	R5-212473	1840	-	F	Correction of NR SL IE SL-ScheduledConfig	17.1.0
2021-06	RAN#92	R5-212476	1843	-	F	Correction of NR SL IE SL-TxPower	17.1.0
2021-06	RAN#92	R5-212478	1845	-	F	Correction of NR SL IE SL-UE-SelectedConfig	17.1.0
2021-06	RAN#92	R5-212479	1846	-	F	Correction of NR SL IE SL-ZoneConfig	17.1.0
2021-06	RAN#92	R5-212616	1859	-	F	Correction to PUCCH resource indicator value for PMI reporting requirements	17.1.0
2021-06	RAN#92	R5-212642	1861	-	F	Editorial correction of header level in clause 5.4.2.0 in 38.508-1	17.1.0
2021-06	RAN#92	R5-212688	1865	-	F	Correction of nominal channel spacing in test frequencies for CA_n257x	17.1.0
2021-06	RAN#92	R5-212689	1866	-	F	Correction of nominal channel spacing in test frequencies for CA_n258x	17.1.0
2021-06	RAN#92	R5-212690	1867	-	F	Correction of nominal channel spacing in test frequencies for CA_n260x	17.1.0
2021-06	RAN#92	R5-212691	1868	-	F	Correction of nominal channel spacing in test frequencies for CA_n261x	17.1.0
2021-06	RAN#92	R5-212692	1869	-	F	Correction of test frequencies for CA_n41C	17.1.0
2021-06	RAN#92	R5-212693	1870	-	F	Correction of test frequencies for CA_n78C	17.1.0
2021-06	RAN#92	R5-212694	1871	-	F	Correction of test frequencies for DC_(n)41AA	17.1.0
2021-06	RAN#92	R5-212695	1872	-	F	Editorial correction of test frequencies for protocol testing	17.1.0
2021-06	RAN#92	R5-212698	1875	-	F	Introduction of test frequencies for n41 adding CBW 70 MHz	17.1.0
2021-06	RAN#92	R5-212699	1876	-	F	Introduction of test frequencies for n48 adding CBW 30 MHz	17.1.0
2021-06	RAN#92	R5-212702	1879	-	F	Introduction of principles for calculating test frequencies for NR Intra-band Contiguous CA for asymmetric bands in Annex C	17.1.0
2021-06	RAN#92	R5-212703	1880	-	F	Correction of test frequencies for CA_n66B	17.1.0

2021-06	RAN#92	R5-212705	1881	-	F	Add message contents for RRM FR2 tests with reduced RB allocation	17.1.0
2021-06	RAN#92	R5-212724	1885	-	F	Correct number of HARQ processes for PDSCH	17.1.0
2021-06	RAN#92	R5-212819	1892	-	F	Correction of 4.3.1.0D for bandwidth part	17.1.0
2021-06	RAN#92	R5-212820	1893	-	F	Correction of 4.3.1.1.2 for test frequencies for NR FR1 inter-band CA configurations	17.1.0
2021-06	RAN#92	R5-212886	1897	-	F	Update of default SCS for n48 for protocol testing	17.1.0
2021-06	RAN#92	R5-212890	1898	-	F	Test frequencies definition for EN-DC band 41CA	17.1.0
2021-06	RAN#92	R5-212892	1900	-	F	Correction to NZP CSI-RS default configuration for RRM test	17.1.0
2021-06	RAN#92	R5-212921	1901	-	F	Addition of GNSS requirements for NR sidelink	17.1.0
2021-06	RAN#92	R5-212924	1904	-	F	Addition of connection diagram of NR sidelink testing	17.1.0
2021-06	RAN#92	R5-212946	1905	-	F	Updating IEs for URLLC	17.1.0
2021-06	RAN#92	R5-212986	1906	-	F	Introducing Rel-16 CA configuration CA_n28A-n41A to clause 4.3.1	17.1.0
2021-06	RAN#92	R5-213003	1907	-	F	Adding test frequency description for SUL configuration	17.1.0
2021-06	RAN#92	R5-213004	1908	-	F	Adding connection diagrams for SUL configuration with DL CA	17.1.0
2021-06	RAN#92	R5-213054	1910	-	F	Correction to PDU Session Authentication Command, PDU Session Authentication Complete and PDU Session Authentication Result messages.	17.1.0
2021-06	RAN#92	R5-213057	1912	-	F	Introduction of test frequencies for CA_n48(2A)	17.1.0
2021-06	RAN#92	R5-213150	1917	-	F	Updates to global conditions	17.1.0
2021-06	RAN#92	R5-213153	1920	-	F	Updates to PDU SESSION ESTABLISHMENT REJECT message	17.1.0
2021-06	RAN#92	R5-213154	1921	-	F	Updates to PDU SESSION MODIFICATION REJECT message	17.1.0
2021-06	RAN#92	R5-213155	1922	-	F	Updates to QoS flows	17.1.0
2021-06	RAN#92	R5-213180	1939	-	F	Update chapter 4.5.2 RRC_IDLE	17.1.0
2021-06	RAN#92	R5-213192	1940	-	F	Update chapter 4.5.4 RRC_CONNECTED	17.1.0
2021-06	RAN#92	R5-213304	1953	-	F	Correction of test frequencies for NR band n66	17.1.0
2021-06	RAN#92	R5-213307	1954	-	F	Correction of common default messages for demod FR2	17.1.0
2021-06	RAN#92	R5-213339	1956	-	F	Update PUCCH-ConfigCommon for Demod testing	17.1.0
2021-06	RAN#92	R5-213340	1957	-	F	Update message content for subband CQI reporting test cases	17.1.0
2021-06	RAN#92	R5-213400	1961	-	F	Inclusion of additional P-CSCF IP address in PDU session establishment	17.1.0
2021-06	RAN#92	R5-213409	1955	1	F	Editorial updates to test procedure titles	17.1.0
2021-06	RAN#92	R5-213416	1838	1	F	Correction of NR SL IE SL-ReportConfigList	17.1.0
2021-06	RAN#92	R5-213417	1841	1	F	Correction of NR SL IE SL-SyncConfig	17.1.0
2021-06	RAN#92	R5-213418	1848	1	F	Correction to PC5-RRC message MeasurementReportSidelink	17.1.0
2021-06	RAN#92	R5-213419	1850	1	F	Correction to PC5-RRC message RRCReconfigurationFailureSidelink	17.1.0
2021-06	RAN#92	R5-213423	1857	1	F	Updates to NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND and NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE messages	17.1.0
2021-06	RAN#92	R5-213424	1858	1	F	Updates to NETWORK SLICE-SPECIFIC AUTHENTICATION RESULT message	17.1.0
2021-06	RAN#92	R5-213425	1924	1	F	Introduction of Always-On indication for URLLC	17.1.0
2021-06	RAN#92	R5-213439	1816	1	F	Correction to IMS call release sequences	17.1.0
2021-06	RAN#92	R5-213440	1886	1	F	Addition of Generic Test procedure for IMS MO Video call establishment in 5GC	17.1.0
2021-06	RAN#92	R5-213441	1913	1	F	Correction to Table 4.9.12.2.2-1 for IMS Emergency call establishment in 5GC without IMS emergency registration	17.1.0
2021-06	RAN#92	R5-213442	1914	1	F	Correction to Procedure for UE-requested PDU session modification after the first S1 to N1 mode change / Single-registration mode with N26	17.1.0
2021-06	RAN#92	R5-213443	1941	1	F	Update chapter 4.5.1 General	17.1.0
2021-06	RAN#92	R5-213444	1887	1	F	Addition of default contents for RRCReconfiguration-Video	17.1.0
2021-06	RAN#92	R5-213445	1888	1	F	Corrections to PDCP config	17.1.0
2021-06	RAN#92	R5-213446	1798	1	F	Update of USIM Configurations 4, 7, 8, 10, 12 and 21	17.1.0
2021-06	RAN#92	R5-213447	1854	1	F	Correction to Table 6.4.1-12 USIM Configuration 12	17.1.0
2021-06	RAN#92	R5-213448	1873	1	F	Update of default SCS for n38, n39, n40 and n50 for protocol testing	17.1.0
2021-06	RAN#92	R5-213449	1942	1	F	Update maximum number of simultaneous configured cells for FR1 and FR2 in OTA	17.1.0
2021-06	RAN#92	R5-213450	1951	1	F	Updates to FR1 and E-UTRA OTA signal level testing	17.1.0
2021-06	RAN#92	R5-213451	1802	1	F	Correction and editorials to default message content specification	17.1.0
2021-06	RAN#92	R5-213452	1915	1	F	Correction to Combinations of system information blocks	17.1.0
2021-06	RAN#92	R5-213557	1819	1	F	Addition of general procedures for NR sidelink	17.1.0
2021-06	RAN#92	R5-213558	1820	1	F	Addition of test procedure to establish sidelink unicast mode	17.1.0
2021-06	RAN#92	R5-213559	1821	1	F	Addition of test state for NR sidelink	17.1.0
2021-06	RAN#92	R5-213560	1833	1	F	Correction of NR SL IE SL-PSSCH-TxConfigList	17.1.0

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2021-06	RAN#92	R5-213561	1834	1	F	Correction of NR SL IE SL-QoS-FlowIdentity	17.1.0
2021-06	RAN#92	R5-213562	1837	1	F	Correction of NR SL IE SLRB-Uu-ConfigIndex	17.1.0
2021-06	RAN#92	R5-213563	1839	1	F	Correction of NR SL IE SL-RLC-BearerConfigIndex	17.1.0
2021-06	RAN#92	R5-213564	1844	1	F	Correction of NR SL IE SL-TypeTxSync	17.1.0
2021-06	RAN#92	R5-213565	1847	1	F	Correction to PC5-RRC message MasterInformationBlockSidelink	17.1.0
2021-06	RAN#92	R5-213566	1849	1	F	Correction to PC5-RRC message RRCReconfigurationCompleteSidelink	17.1.0
2021-06	RAN#92	R5-213567	1856	1	F	Update IE SL-Thres-RSRP-List	17.1.0
2021-06	RAN#92	R5-213573	1890	1	F	Updates to NPN-Identity for Rel-16 NPN	17.1.0
2021-06	RAN#92	R5-213574	1891	1	F	Addition of System information combination for Rel-16 NPN	17.1.0
2021-06	RAN#92	R5-213580	1889	1	F	Updates to default contents of UECapabilityEnquiry message	17.1.0
2021-06	RAN#92	R5-213601	1855	1	F	Introduction of definition of common environment for R16 NR SON and MDT	17.1.0
2021-06	RAN#92	R5-213643	1918	1	F	Addition of DNN configurations for new SSTs	17.1.0
2021-06	RAN#92	R5-213644	1919	1	F	Updates to UE Policy Delivery messages	17.1.0
2021-06	RAN#92	R5-213645	1923	1	F	Updates to REGISTRATION ACCEPT message	17.1.0
2021-06	RAN#92	R5-213675	1960	1	F	Correction to procedure 4.9.9 Tracking area updating / Inter-system change from S1 mode to N1 mode in 5GMM/EMM-IDLE mode	17.1.0
2021-06	RAN#92	R5-213833	1926	1	F	Testing frequencies update for band n3	17.1.0
2021-06	RAN#92	R5-213834	1950	1	F	CR to 38.508-1 on larger quiet zone with grey-box approach	17.1.0
2021-06	RAN#92	R5-213853	1864	1	F	Correction of test frequencies for CA_n260(A-I)	17.1.0
2021-06	RAN#92	R5-213854	1862	1	F	Introduction of principles for calculating test frequencies for NR Intra-band Non-Contiguous CA in Annex C	17.1.0
2021-06	RAN#92	R5-213858	1896	1	F	Update Note about n28 Test frequency Mid range and CBW 30 MHz	17.1.0
2021-06	RAN#92	R5-213859	1925	1	F	Mid range test frequencies update in case asymmetric bandwidths	17.1.0
2021-06	RAN#92	R5-213860	1927	1	F	Testing frequencies update for band n34	17.1.0
2021-06	RAN#92	R5-213861	1928	1	F	Testing frequencies update for band n39	17.1.0
2021-06	RAN#92	R5-213862	1929	1	F	Testing frequencies update for band n53	17.1.0
2021-06	RAN#92	R5-213863	1930	1	F	Testing frequencies update for band n66	17.1.0
2021-06	RAN#92	R5-213864	1931	1	F	Testing frequencies update for band n70	17.1.0
2021-06	RAN#92	R5-213865	1932	1	F	Testing frequencies update for band n80	17.1.0
2021-06	RAN#92	R5-213866	1933	1	F	Testing frequencies update for band n81	17.1.0
2021-06	RAN#92	R5-213867	1934	1	F	Testing frequencies update for band n82	17.1.0
2021-06	RAN#92	R5-213868	1935	1	F	Testing frequencies update for band n86	17.1.0
2021-06	RAN#92	R5-213869	1937	1	F	OffsetToCarrier alignment for cases with equal low, mid and high frequency range (n30, n39, n51, n70) and editorial corrections in annex C.3.	17.1.0
2021-06	RAN#92	R5-213870	1884	1	F	Align Chapter 7 of TS 38.508-1 with Annex H of TS 38.533	17.1.0
2021-06	RAN#92	R5-213871	1944	1	F	Introduction of test frequencies for n257 for RRM Inter-freq adjacent cell	17.1.0
2021-06	RAN#92	R5-213872	1945	1	F	Introduction of test frequencies for n258 for RRM Inter-freq adjacent cell	17.1.0
2021-06	RAN#92	R5-213873	1947	1	F	Introduction of test frequencies for n260 for RRM Inter-freq adjacent cell	17.1.0
2021-06	RAN#92	R5-213874	1948	1	F	Introduction of test frequencies for n261 for RRM Inter-freq adjacent cell	17.1.0
2021-06	RAN#92	R5-213875	1863	1	F	Introduction of principles for calculating test frequencies for EN-DC configurations in Annex C	17.1.0
2021-06	RAN#92	R5-213876	1882	1	F	Add locationAndBandwidth for RRM FR2 tests with reduced RB allocation	17.1.0
2021-06	RAN#92	R5-213877	1936	1	F	Annex C: Clarifications to maximum and minimum offsetRBs	17.1.0
2021-06	RAN#92	R5-213878	1938	1	F	Annex C update to add SUL test frequencies calculation	17.1.0
2021-06	RAN#92	R5-213879	1949	1	F	Determination of test frequencies for a Mid range adjacent inter-frequency cell for FR2 RRM multicell testing in Annex C	17.1.0
2021-06	RAN#92	R5-213964	1877	1	F	Correction of test frequencies for CA_n66(2A)	17.1.0
2021-06	RAN#92	R5-213977	1946	1	F	Introduction of test frequencies for n259 for RRM Inter-freq adjacent cell	17.1.0
2021-06	RAN#92	R5-213996	1902	1	F	Addition of calculation method of NR sidelink test frequencies	17.1.0
2021-06	RAN#92	R5-213997	1903	1	F	Addition of V2X test frequencies of band n47	17.1.0
2021-06	RAN#92	R5-214017	1799	1	F	Updating test frequencies for Rel-17 EN-DC band combinations within FR1	17.1.0
2021-06	RAN#92	R5-214018	1801	1	F	Add test frequencies for R17 NR inter-band CA configurations in FR1	17.1.0
2021-06	RAN#92	R5-214019	1909	1	F	Introducing Rel-17 CA configuration CA_n28A-n79A to clause 4.3.1	17.1.0
2021-06	RAN#92	R5-214026	1809	1	F	RRC signalling for UL power boosting via suspended IBE requirements	17.1.0

2021-06	RAN#92	R5-214047	1959	1	F	Clarification on PDU configuration for RF, Demod and RRM tests	17.1.0
2021-06	RAN#92	R5-214076	1860	1	F	Update IE PDCCH-ConfigCommon for additional BWP	17.1.0
2021-06	RAN#92	R5-214107	1883	1	F	Align RRM CSI-ResourcePeriodicityAndOffset to TS 38.133	17.1.0
2021-09	RAN#93	R5-214381	1963	-	F	Correct dl_DataToUL_ACK for short DCI test cases	17.2.0
2021-09	RAN#93	R5-214436	1967	-	F	Correction to 38.508 Table 4.8.2.3-2: Reference QoS flow #2	17.2.0
2021-09	RAN#93	R5-214554	1968	-	F	Correction of default test frequencies for bands n38, n39, n40 and n50 and protocol testing	17.2.0
2021-09	RAN#93	R5-214611	1970	-	F	Correction of default test frequencies for band n48 and protocol testing	17.2.0
2021-09	RAN#93	R5-214622	1971	-	F	Editorial updates to test procedure titles	17.2.0
2021-09	RAN#93	R5-214678	1972	-	F	Correction to k1 setting for FR2 RRM	17.2.0
2021-09	RAN#93	R5-214727	1974	-	F	Introduction of test frequencies for CA_n48B	17.2.0
2021-09	RAN#93	R5-214728	1975	-	F	Corrections to UEInformationRequest and UEInformationResponse	17.2.0
2021-09	RAN#93	R5-214755	1976	-	F	Updates to System information combination for NR-DC	17.2.0
2021-09	RAN#93	R5-214800	1979	-	F	Correction to IEs for UE policy part	17.2.0
2021-09	RAN#93	R5-214808	1987	-	F	Correction to NR V2X USIM configuration	17.2.0
2021-09	RAN#93	R5-214853	1989	-	F	Introduction of test frequencies for CA_n48B and protocol testing	17.2.0
2021-09	RAN#93	R5-214900	1992	-	F	Editorial Updates to Clause. 4.4.3.1.2 for System information combination	17.2.0
2021-09	RAN#93	R5-214929	1994	-	F	Introduction of test frequencies for CA_n71(2A) for protocol testing	17.2.0
2021-09	RAN#93	R5-214947	1997	-	F	Correction to Table 6.4.1-8 USIM Configuration 8	17.2.0
2021-09	RAN#93	R5-214959	1998	-	F	Correction of test frequencies for CA_n66(2A) for protocol testing	17.2.0
2021-09	RAN#93	R5-214962	1999	-	F	Alignment of test frequency tables for CA_n48(2A), CA_n66(2A), CA_n77(2A) and CA_n78(2A)	17.2.0
2021-09	RAN#93	R5-214977	2003	-	F	Correction to default configuration-ControlResourceSet	17.2.0
2021-09	RAN#93	R5-214978	2004	-	F	Correction to default configuration-SCell CSI on PCell	17.2.0
2021-09	RAN#93	R5-215071	2006	-	F	Update to Out of Coverage procedure to trigger SL-MIMO transmission	17.2.0
2021-09	RAN#93	R5-215308	2012	-	F	Adding test frequencies for SUL band n97	17.2.0
2021-09	RAN#93	R5-215341	2015	-	F	Correction to TRS configuration for RF test cases	17.2.0
2021-09	RAN#93	R5-215456	2019	-	F	Update of 4.3.1.4.1 for test frequencies for EN-DC configurations within FR1	17.2.0
2021-09	RAN#93	R5-215462	2021	-	F	Correction of 4.3.1.0D for locationAndBandwidth in BWP	17.2.0
2021-09	RAN#93	R5-215499	2023	-	F	Introduction of V2X SST	17.2.0
2021-09	RAN#93	R5-215504	2028	-	F	Updates to Table 4.4A.5-2	17.2.0
2021-09	RAN#93	R5-215518	2029	-	F	Editorial correction: channel bandwidth and RB allocation revision in Test frequencies for CA_n260(A-I)	17.2.0
2021-09	RAN#93	R5-215530	2030	-	F	Correction on Test frequencies for DC_(n)41CA	17.2.0
2021-09	RAN#93	R5-215541	2031	-	F	Test frequencies update for CA_ n257G, CA_ n257H and CA_ n257I	17.2.0
2021-09	RAN#93	R5-215612	2032	-	F	Correction RF E-UTRA CONNECTED state	17.2.0
2021-09	RAN#93	R5-215678	2034	-	F	RRC and NAS message handling in uplink in case of simultaneous RRC and NAS procedures	17.2.0
2021-09	RAN#93	R5-215679	2035	-	F	Enquiry of Capability and checking of UeCapabilityInformation contents for NR-DC	17.2.0
2021-09	RAN#93	R5-215689	2039	-	F	Correction to USIM Configuration 18 and 19	17.2.0
2021-09	RAN#93	R5-215691	2040	-	F	Update chapter 4.5.4 RRC_CONNECTED	17.2.0
2021-09	RAN#93	R5-215835	1964	1	F	Correct CSI-MeasConfig for test cases with 1SSB	17.2.0
2021-09	RAN#93	R5-215836	1965	1	F	Complete CSI-ReportConfig for RRM	17.2.0
2021-09	RAN#93	R5-215837	2014	1	F	Correction to CSI report configurations	17.2.0
2021-09	RAN#93	R5-215936	2005	1	F	Update of SIB2 to add messages for relaxed RRM measurement	17.2.0
2021-09	RAN#93	R5-215969	1962	1	F	Updating Test Frequencies for Rel-17 CA,DC band combinations within FR1 into TS 38.508-1	17.2.0
2021-09	RAN#93	R5-215970	1993	1	F	Introduction of test frequencies for CA_n71(2A)	17.2.0
2021-09	RAN#93	R5-215971	2008	1	F	Addition of R17 CADC configuration into 38.508-1	17.2.0
2021-09	RAN#93	R5-215972	2020	1	F	Update of 4.3.1.1.2 for NR inter-band CA configurations in FR1	17.2.0
2021-09	RAN#93	R5-216027	2016	1	F	Addition of Perf RI FR2 message contents	17.2.0
2021-09	RAN#93	R5-216070	2007	1	F	Adding connection diagram for eMIMO multi-TRP demod test cases	17.2.0
2021-09	RAN#93	R5-216079	1973	1	F	Updating test frequencies for Rel-17 inter-band EN-DC configurations	17.2.0
2021-09	RAN#93	R5-216116	2009	1	F	Updates to Test Equipment connection for Demodulation Performance and CSI reporting tests	17.2.0
2021-09	RAN#93	R5-216122	2010	1	B	Introduction of test frequencies for n24 and n99	17.2.0
2021-09	RAN#93	R5-216150	1977	1	F	Correction to Test Procedure for IMS MO and MT call release in 5GC	17.2.0
2021-09	RAN#93	R5-216151	2017	1	F	Correction to introduce Handling of PDU Session Release during switch off/Power off procedures	17.2.0

2021-09	RAN#93	R5-216152	2026	1	F	Addition of UE Configuration Update procedure	17.2.0
2021-09	RAN#93	R5-216153	2037	1	F	Corrections for IMS video call signalling	17.2.0
2021-09	RAN#93	R5-216154	2041	1	F	Correction to Table 4.6.3-142 and Table 4.6.3-79 for SFTD measurement reporting	17.2.0
2021-09	RAN#93	R5-216155	2024	1	F	Introduction of PS Data Off	17.2.0
2021-09	RAN#93	R5-216156	2025	1	F	Introduction of URSP	17.2.0
2021-09	RAN#93	R5-216157	2027	1	F	Updates to REGISTRATION messages	17.2.0
2021-09	RAN#93	R5-216158	2036	1	F	Correction to Table 4.8.2.2-1 for default Packet filter ID	17.2.0
2021-09	RAN#93	R5-216159	1969	1	F	Correction for USIM configurations	17.2.0
2021-09	RAN#93	R5-216160	2018	1	F	Updates to NR cell configurations for SIG	17.2.0
2021-09	RAN#93	R5-216161	2038	1	F	Correction to reference configurations for IMS video call signalling	17.2.0
2021-09	RAN#93	R5-216243	1991	1	F	Correction of test frequencies for CA_n66B for protocol testing	17.2.0
2021-09	RAN#93	R5-216256	2022	1	F	Introduction of MIoT SST	17.2.0
2021-09	RAN#93	R5-216263	1980	1	F	Correction to IEs for V2XP info	17.2.0
2021-09	RAN#93	R5-216264	1981	1	F	Correction to IEs for Served by E-UTRA or served by NR	17.2.0
2021-09	RAN#93	R5-216265	1982	1	F	Correction to IEs for Not served by E-UTRA and not served by NR	17.2.0
2021-09	RAN#93	R5-216266	1983	1	F	Correction to IEs for V2X service identifier to PC5 RAT and Tx profiles mapping rules	17.2.0
2021-09	RAN#93	R5-216267	1984	1	F	Correction to IEs for Privacy config	17.2.0
2021-09	RAN#93	R5-216268	1985	1	F	Correction to IEs for V2X communication over PC5 in E-UTRA-PC5	17.2.0
2021-09	RAN#93	R5-216269	1986	1	F	Correction to IEs for V2X communication over PC5 in NR-PC5	17.2.0
2021-09	RAN#93	R5-216270	1988	1	F	Correction to UE Policy Delivery msg	17.2.0
2021-09	RAN#93	R5-216284	1990	1	F	Update default message contents of LoggedMeasurementConfiguration	17.2.0
2021-09	RAN#93	R5-216320	2011	1	B	Introduction of signalling test frequencies for n24 and n99	17.2.0
2021-09	RAN#93	R5-216321	2013	1	F	Adding signalling test frequencies for SUL band n97	17.2.0
2021-09	RAN#93	R5-216327	2000	1	F	Default message content update for NR EIEI	17.2.0
2021-09	RAN#93	R5-216328	2001	1	F	Generic procedure for eCall over IMS establishment in 5GS Normal Service	17.2.0
2021-09	RAN#93	R5-216329	2002	1	F	USIM configuration for NR EIEI	17.2.0
2021-12	RAN#94	R5-216510	2047	-	F	Updating Test Frequencies for Rel-16 CA,DC band combinations within FR1 into TS 38.508-1	17.3.0
2021-12	RAN#94	R5-216530	2048	-	F	Addition of test frequencies for asymmetric channel bandwidths for n24	17.3.0
2021-12	RAN#94	R5-216603	2051	-	F	Addition of NR band n95	17.3.0
2021-12	RAN#94	R5-216636	2052	-	F	Updates on simultaneous co-existence of NR cells	17.3.0
2021-12	RAN#94	R5-216761	2053	-	F	Addition of PDCCH Search Space Ext configuration in 38.508-1	17.3.0
2021-12	RAN#94	R5-216767	2054	-	F	Updates to NETWORK SLICE-SPECIFIC AUTHENTICATION COMMAND message	17.3.0
2021-12	RAN#94	R5-216768	2055	-	F	Updates to NETWORK SLICE-SPECIFIC AUTHENTICATION COMPLETE message	17.3.0
2021-12	RAN#94	R5-216773	2059	-	F	Update IE SSB-PositionQCL-Relation	17.3.0
2021-12	RAN#94	R5-216829	2061	-	F	Correction to IMS MO emergency call release procedure	17.3.0
2021-12	RAN#94	R5-216851	2062	-	F	Correction to IE Table 7.3.1-3 - SSB-MTC	17.3.0
2021-12	RAN#94	R5-216895	2063	-	F	Correction to IE Table 4.6.3-77A - MeasObjectUTRA-FDD	17.3.0
2021-12	RAN#94	R5-216896	2064	-	F	Correction to IE Table 4.6.3-79 - MeasResults	17.3.0
2021-12	RAN#94	R5-216898	2066	-	F	Correction to IE Table 4.6.5-16 - UTRA-FDD-Q-OffsetRange	17.3.0
2021-12	RAN#94	R5-216899	2067	-	F	Correction to RRC message Table 4.6.1-8 - MobilityFromNRCommand	17.3.0
2021-12	RAN#94	R5-216905	2068	-	F	Correction to IE Table 4.6.3-62A - HighSpeedConfig	17.3.0
2021-12	RAN#94	R5-216922	2097	-	F	Update of Table 4.7.1-7-Registration Accept	17.3.0
2021-12	RAN#94	R5-217024	2101	-	F	Add Reference file	17.3.0
2021-12	RAN#94	R5-217025	2102	-	F	Correction to DIRECT LINK ESTABLISHMENT REQUEST msg	17.3.0
2021-12	RAN#94	R5-217026	2103	-	F	Correction to DIRECT LINK ESTABLISHMENT ACCEPT msg	17.3.0
2021-12	RAN#94	R5-217027	2104	-	F	Correction to DIRECT LINK MODIFICATION REQUEST msg	17.3.0
2021-12	RAN#94	R5-217028	2105	-	F	Correction to DIRECT LINK MODIFICATION ACCEPT msg	17.3.0
2021-12	RAN#94	R5-217029	2106	-	F	Correction to DIRECT LINK RELEASE REQUEST msg	17.3.0
2021-12	RAN#94	R5-217030	2107	-	F	Correction to DIRECT LINK RELEASE ACCEPT msg	17.3.0
2021-12	RAN#94	R5-217032	2109	-	F	Correction to DIRECT LINK KEEPALIVE RESPONSE msg	17.3.0
2021-12	RAN#94	R5-217035	2112	-	F	Correction to DIRECT LINK AUTHENTICATION REJECT msg	17.3.0
2021-12	RAN#94	R5-217038	2115	-	F	Correction to DIRECT LINK SECURITY MODE REJECT msg	17.3.0
2021-12	RAN#94	R5-217039	2116	-	F	Correction to DIRECT LINK REKEYING REQUEST msg	17.3.0
2021-12	RAN#94	R5-217040	2117	-	F	Correction to DIRECT LINK REKEYING RESPONSE msg	17.3.0
2021-12	RAN#94	R5-217044	2121	-	F	Correction to DIRECT LINK IDENTIFIER UPDATE REJECT msg	17.3.0
2021-12	RAN#94	R5-217045	2122	-	F	Correction to DIRECT LINK MODIFICATION REJECT msg	17.3.0

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2021-12	RAN#94	R5-217095	2125	-	F	Update chapter 4.8.1 for NE-DC	17.3.0
2021-12	RAN#94	R5-217118	2128	-	F	Meas exception for TRS config in RF test cases	17.3.0
2021-12	RAN#94	R5-217243	2133	-	F	Correction to IE Table 4.6.3-127 QuantityConfig	17.3.0
2021-12	RAN#94	R5-217246	2134	-	F	Correction of spec number and addition of uncertainty value for OTA testing in section 5.2.1	17.3.0
2021-12	RAN#94	R5-217259	2135	-	F	Addition of 13 NR CA combinations to FR1 inter-band configurations table	17.3.0
2021-12	RAN#94	R5-217286	2137	-	F	Correction to IMS Emergency call establishment test procedure with IMS emergency registration	17.3.0
2021-12	RAN#94	R5-217298	2138	-	F	Addition of test frequencies for Rel-15 EN-DC configurations	17.3.0
2021-12	RAN#94	R5-217340	2139	-	F	Correction of 4.3.1.2.4.4.2 for test frequency for intra-band non-contiguous CA_n260	17.3.0
2021-12	RAN#94	R5-217366	2140	-	F	Addition of default message for 16Tx PMI reporting test cases in 5.4.2.5	17.3.0
2021-12	RAN#94	R5-217379	2141	-	F	Addition of default DCI_0_2 for URLLC	17.3.0
2021-12	RAN#94	R5-217390	2143	-	F	Update to SIG test frequencies for V2X	17.3.0
2021-12	RAN#94	R5-217430	2144	-	F	Correction to the periodicity of CSI-RS for tracking	17.3.0
2021-12	RAN#94	R5-217453	2146	-	F	Updates to 4.8.4	17.3.0
2021-12	RAN#94	R5-217527	2148	-	F	message content update for HST single tap 1Tx PDSCH test cases	17.3.0
2021-12	RAN#94	R5-217555	2153	-	F	Editorial correction in channel bandwidth clause	17.3.0
2021-12	RAN#94	R5-217587	2155	-	F	Addition of CA_n1A-n3A into TS 38.508-1	17.3.0
2021-12	RAN#94	R5-217588	2156	-	F	Introduction of test frequencies for CA_n48(2A) for protocol testing	17.3.0
2021-12	RAN#94	R5-217589	2157	-	F	Introduction of test frequencies for n38 and CBWs 25 MHz and 30 MHz	17.3.0
2021-12	RAN#94	R5-217682	2160	-	F	Editorial update to clause 4.5A.2	17.3.0
2021-12	RAN#94	R5-217735	2163	-	F	Introduction of test frequencies for CA_n260K, CA_n260L and CA_n260M	17.3.0
2021-12	RAN#94	R5-217766	2165	-	F	Correction to NR V2X default configuration	17.3.0
2021-12	RAN#94	R5-217792	2043	1	F	Update chapter 4.5.4 RRC_CONNECTED	17.3.0
2021-12	RAN#94	R5-217793	2044	1	F	Update chapter 4.5.1 General	17.3.0
2021-12	RAN#94	R5-217794	2045	1	F	Update chapter 4.5.2 RRC_IDLE	17.3.0
2021-12	RAN#94	R5-217795	2060	1	F	Addition of new generic procedure for IMS MT video call establishment	17.3.0
2021-12	RAN#94	R5-217796	2130	1	F	Adding test procedure for adding video to a speech call	17.3.0
2021-12	RAN#94	R5-217797	2136	1	F	Correction to IMS MO Video call establishment test procedure	17.3.0
2021-12	RAN#94	R5-217798	2147	1	F	Adding test procedure for removing video from an ongoing call	17.3.0
2021-12	RAN#94	R5-217799	2042	1	F	Update RRCReconfiguration	17.3.0
2021-12	RAN#94	R5-217800	2046	1	F	Update IE CellAccessRelatedInfo	17.3.0
2021-12	RAN#94	R5-217801	2127	1	F	Update RRCReconfigurationComplete	17.3.0
2021-12	RAN#94	R5-217877	2098	1	F	Correction to default configuration of SIB12	17.3.0
2021-12	RAN#94	R5-217878	2099	1	F	Addition of default configuration of DCI and SCI for NR SL test	17.3.0
2021-12	RAN#94	R5-217879	2100	1	F	Addition of power level setting for NR SL test	17.3.0
2021-12	RAN#94	R5-217880	2108	1	F	Correction to DIRECT LINK KEEPALIVE REQUEST msg	17.3.0
2021-12	RAN#94	R5-217881	2110	1	F	Correction to DIRECT LINK AUTHENTICATION REQUEST msg	17.3.0
2021-12	RAN#94	R5-217882	2111	1	F	Correction to DIRECT LINK AUTHENTICATION RESPONSE msg	17.3.0
2021-12	RAN#94	R5-217883	2113	1	F	Correction to DIRECT LINK SECURITY MODE COMMAND msg	17.3.0
2021-12	RAN#94	R5-217884	2114	1	F	Correction to DIRECT LINK SECURITY MODE COMPLETE msg	17.3.0
2021-12	RAN#94	R5-217885	2118	1	F	Correction to DIRECT LINK IDENTIFIER UPDATE REQUEST msg	17.3.0
2021-12	RAN#94	R5-217886	2119	1	F	Correction to DIRECT LINK IDENTIFIER UPDATE ACCEPT msg	17.3.0
2021-12	RAN#94	R5-217887	2120	1	F	Correction to DIRECT LINK IDENTIFIER UPDATE ACK msg	17.3.0
2021-12	RAN#94	R5-217888	2123	1	F	Correction to DIRECT LINK ESTABLISHMENT REJECT	17.3.0
2021-12	RAN#94	R5-217933	2050	1	F	Updates to UTRA signal levels in FR1 and OTA environment	17.3.0
2021-12	RAN#94	R5-217943	2124	1	F	Update Radio resource control information elements for NR 2-step RACH test cases	17.3.0
2021-12	RAN#94	R5-217944	2161	1	F	Test Procedure for eCall over IMS establishment in 5GS eCall only Support	17.3.0
2021-12	RAN#94	R5-217949	2056	1	F	Update IE MeasObjectNR	17.3.0
2021-12	RAN#94	R5-217950	2057	1	F	Update IE ServingCellConfigCommon	17.3.0
2021-12	RAN#94	R5-217951	2058	1	F	Update IE ServingCellConfigCommonSIB	17.3.0
2021-12	RAN#94	R5-218220	2158	1	F	Correction of test frequencies for CA_n257x	17.3.0
2021-12	RAN#94	R5-218221	2129	1	F	Add meas objects and report config for inter-RAT	17.3.0
2021-12	RAN#94	R5-218267	2049	1	F	Addition of NR inter-band CA configurations for CA_n260-n261 in FR2	17.3.0
2021-12	RAN#94	R5-218268	2151	1	F	Addition of R16 FR1+FR2 CADC configuration into 38.508-1	17.3.0
2021-12	RAN#94	R5-218269	2159	1	F	Addition of test frequencies for R16 EN-DC FR2 configurations with n260	17.3.0

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2021-12	RAN#94	R5-218335	2065	1	F	Correction to IE Table 4.6.3-141 - ReportConfigInterRAT	17.3.0
2021-12	RAN#94	R5-218361	2152	1	F	Addition of test frequencies for n3 CBW 50MHz	17.3.0
2021-12	RAN#94	R5-218414	2166	1	F	Update to demod parameter CSI-RS-ResourceMapping to add 1Tx condition	17.3.0
2021-12	RAN#94	R5-218415	2164	1	F	Update to n71 test frequencies for LTE-NR coex test cases	17.3.0
2021-12	RAN#94	R5-218451	2132	1	F	Introduction_of_test_frequencies_for_new_EN-DC_comb_within_FR1	17.3.0
2021-12	RAN#94	R5-218452	2149	1	F	Introduction of test frequencies for CA_n48B BCS1	17.3.0
2021-12	RAN#94	R5-218470	2150	1	F	Introduction of test frequencies for CA_n48B BCS2	17.3.0
2022-03	RAN#95	R5-220090	2171	-	F	Correction of clause title tyles of 4.3.1.1.1.x	17.4.0
2022-03	RAN#95	R5-220094	2172	-	F	Correction of test channel bandwidth for n38	17.4.0
2022-03	RAN#95	R5-220186	2186	-	F	Editorial update of test procedure 4.9.15	17.4.0
2022-03	RAN#95	R5-220206	2188	-	F	Addition of test frequencies for CA_n3A-n41A with and without UL configuration	17.4.0
2022-03	RAN#95	R5-220240	2189	-	F	Corrections to 4.9.17 on IMS MO call release	17.4.0
2022-03	RAN#95	R5-220248	2191	-	F	Correct TDD pattern for FR2 RF 60kHz SCS	17.4.0
2022-03	RAN#95	R5-220271	2192	-	F	Addition of test frequencies for CA_n41A-n79A with UL configuration	17.4.0
2022-03	RAN#95	R5-220308	2195	-	F	Introduction of test frequencies for CA_n261M	17.4.0
2022-03	RAN#95	R5-220309	2196	-	F	Correction of NR inter-band CA configurations for CA_n260-n261 in FR2	17.4.0
2022-03	RAN#95	R5-220311	2197	-	F	Introduction of test frequencies for Rel-16 inter-band EN-DC two band combinations within FR1	17.4.0
2022-03	RAN#95	R5-220374	2198	-	F	Introduction of test frequencies for additional Rel-17 EN-DC inter-band configurations	17.4.0
2022-03	RAN#95	R5-220449	2199	-	F	Update of test frequencies for protocol testing and NR inter-band CA	17.4.0
2022-03	RAN#95	R5-220452	2200	-	F	Correction to RF E-UTRA RRC_CONNECTED procedure	17.4.0
2022-03	RAN#95	R5-220541	2204	-	F	Introduction of test frequencies for n25 adding CBWs 25MHz, 30MHz, 40MHz	17.4.0
2022-03	RAN#95	R5-220567	2206	-	F	Addition of default AT command and information element for NR SL test	17.4.0
2022-03	RAN#95	R5-220569	2208	-	F	Correction to test procedures for establishing unicast link	17.4.0
2022-03	RAN#95	R5-220579	2218	-	F	Correction to SIB12	17.4.0
2022-03	RAN#95	R5-220580	2219	-	F	Correction to IE SL-BWP-Config and SL-BWP-ConfigCommon	17.4.0
2022-03	RAN#95	R5-220582	2221	-	F	Correction to IE SL-ResourcePool	17.4.0
2022-03	RAN#95	R5-220590	2229	-	F	Correction to V2X service identifier to PC5 RAT and Tx profiles mapping rule	17.4.0
2022-03	RAN#95	R5-220591	2230	-	F	Correction to V2X frequencies	17.4.0
2022-03	RAN#95	R5-220632	2231	-	F	Introduction_of_test_frequencies_for_new_EN-DC_comb_within_FR1	17.4.0
2022-03	RAN#95	R5-220643	2232	-	F	Introduction of test frequencies for n2 adding CBWs 25MHz, 30MHz, 40MHz	17.4.0
2022-03	RAN#95	R5-220653	2234	-	F	Addition of test frequencies for CA_n41C-n79A with and without UL configuration	17.4.0
2022-03	RAN#95	R5-220725	2237	-	F	Addition of default configuration for NR SL RRM test	17.4.0
2022-03	RAN#95	R5-220760	2238	-	F	Introduction of test frequencies for n5 adding CBW 25MHz	17.4.0
2022-03	RAN#95	R5-220761	2239	-	F	Editorial corrections for NR CA configuration CA_n48B	17.4.0
2022-03	RAN#95	R5-220771	2242	-	F	Introduction of test frequencies for CA_n66(2A) BCS1 and BCS2	17.4.0
2022-03	RAN#95	R5-220774	2243	-	F	Corrections to test procedures 4.9.26 and 4.9.27	17.4.0
2022-03	RAN#95	R5-220779	2245	-	F	Update of test frequencies for n66 and asymmetric channel bandwidth combination set 1	17.4.0
2022-03	RAN#95	R5-220788	2246	-	F	Addition of V2X connection diagram	17.4.0
2022-03	RAN#95	R5-220797	2249	-	F	Addition of connection diagram for 16Tx	17.4.0
2022-03	RAN#95	R5-220808	2250	-	F	Update to MAC-CellGroupConfig	17.4.0
2022-03	RAN#95	R5-220847	2253	-	F	Addition of test frequency n53 in Table 6.2.3.1-4	17.4.0
2022-03	RAN#95	R5-220860	2254	-	F	Introducing Rel-17 2 band CA configurations for n24 and n41 to clause 4.3.1	17.4.0
2022-03	RAN#95	R5-220861	2255	-	F	Introducing Rel-17 2 band CA configurations for n24 and n48 to clause 4.3.1	17.4.0
2022-03	RAN#95	R5-220862	2256	-	F	Introducing Rel-17 2 band CA configurations for n24 and n77 to clause 4.3.1	17.4.0
2022-03	RAN#95	R5-220916	2259	-	F	Addition of PRB-Id setting for RRM test cases	17.4.0
2022-03	RAN#95	R5-220955	2262	-	F	Updates to IE UE Route Selection Policy Rules	17.4.0
2022-03	RAN#95	R5-220960	2264	-	F	Addition of test frequency for DC_7C_n78A	17.4.0
2022-03	RAN#95	R5-220972	2265	-	F	Addition of test frequencies for Rel-16 EN-DC configurations	17.4.0
2022-03	RAN#95	R5-220974	2266	-	F	Correction to applicability for protocol testing for inter-band EN-DC configurations	17.4.0

2022-03	RAN#95	R5-221070	2269	-	F	USIM configurations for NR EIEI test cases	17.4.0
2022-03	RAN#95	R5-221104	2270	-	F	Addition of new USIM configuration for RACS test case	17.4.0
2022-03	RAN#95	R5-221132	2271	-	F	Updating channel bandwidths for NR band n97	17.4.0
2022-03	RAN#95	R5-221133	2272	-	F	Updating test frequencies for NR band n97	17.4.0
2022-03	RAN#95	R5-221167	2275	-	F	Update to Ciphering algo IE for FR1 NSA SDR	17.4.0
2022-03	RAN#95	R5-221176	2276	-	F	Introduction of test frequencies for NR CA configurations CA_n5A-n7A, CA_n5A-n78A and CA_n7A-n78A	17.4.0
2022-03	RAN#95	R5-221186	2278	-	F	Introduction of test frequencies for DC_1A_n5A, DC_1A_n7A, DC_3A_n5A, DC_7A_n5A, DC_28A_n7A	17.4.0
2022-03	RAN#95	R5-221255	2282	-	F	Update K1 value for RRM TDD FR1 30kHz RMC	17.4.0
2022-03	RAN#95	R5-221264	2284	-	F	Correction of csi-ResourceConfigId	17.4.0
2022-03	RAN#95	R5-221265	2285	-	F	Correction of DMRS-DownlinkConfig	17.4.0
2022-03	RAN#95	R5-221292	2287	-	F	Addition of Setup Diagram for RRM multicell 2x2 test cases	17.4.0
2022-03	RAN#95	R5-221369	2289	-	F	Update to PUCCH resource configuration for Scell CSI	17.4.0
2022-03	RAN#95	R5-221377	2290	-	F	Addition of Test frequencies for NE-DC band configurations for signalling testing	17.4.0
2022-03	RAN#95	R5-221389	2291	-	F	Correction to SIG test frequencies for intra-band non-contiguous CA	17.4.0
2022-03	RAN#95	R5-221413	2293	-	F	Update IE SDAP-Config	17.4.0
2022-03	RAN#95	R5-221419	2173	1	F	Update chapter 4.5.1 General	17.4.0
2022-03	RAN#95	R5-221420	2233	1	F	Correction to RRCReconfiguration message with condition REEST	17.4.0
2022-03	RAN#95	R5-221421	2277	1	F	Correction to the BWP-DownlinkDedicated	17.4.0
2022-03	RAN#95	R5-221422	2280	1	F	NE-DC support for UECapabilityEnquiry and UECapabilityInformation messages	17.4.0
2022-03	RAN#95	R5-221423	2194	1	F	Correction to IMS MO speech call establishment generic procedure	17.4.0
2022-03	RAN#95	R5-221424	2176	1	F	Correction to test procedure 4.9.11 IMS Emergency call or eCall over IMS establishment in 5GC with IMS emergency registration	17.4.0
2022-03	RAN#95	R5-221425	2177	1	F	Correction to test procedure 4.9.12 IMS Emergency call or eCall over IMS establishment in 5GC without IMS emergency registration	17.4.0
2022-03	RAN#95	R5-221426	2263	1	F	Updates to IE Route Selection Descriptors	17.4.0
2022-03	RAN#95	R5-221491	2168	1	F	Update of NR CA configurations for Protocol testing with NR CA 3CC	17.4.0
2022-03	RAN#95	R5-221492	2169	1	F	Update of inter-band cell environment for Protocol testing with NR CA 3CC	17.4.0
2022-03	RAN#95	R5-221493	2286	1	F	Modification of common test environment for EHC testing	17.4.0
2022-03	RAN#95	R5-221499	2207	1	F	Correction to generic test procedures for NR SL MIMO tests	17.4.0
2022-03	RAN#95	R5-221500	2209	1	F	Addition of test procedures for releasing unicast link	17.4.0
2022-03	RAN#95	R5-221501	2210	1	F	Addition of test procedures for data exchanging on unicast link	17.4.0
2022-03	RAN#95	R5-221502	2211	1	F	Correction to PC5 RRC message MasterInformationBlockSidelink	17.4.0
2022-03	RAN#95	R5-221503	2212	1	F	Correction to PC5 RRC message MeasurementReportSidelink	17.4.0
2022-03	RAN#95	R5-221504	2213	1	F	Correction to PC5 RRC message RRCReconfigurationSidelink	17.4.0
2022-03	RAN#95	R5-221505	2214	1	F	Correction to PC5 RRC message RRCReconfigurationCompleteSidelink	17.4.0
2022-03	RAN#95	R5-221506	2215	1	F	Correction to PC5 RRC message RRCReconfigurationFailureSidelink	17.4.0
2022-03	RAN#95	R5-221507	2216	1	F	Correction to PC5 RRC message UECapabilityEnquirySidelink	17.4.0
2022-03	RAN#95	R5-221508	2217	1	F	Correction to PC5 RRC message UECapabilityInformationSidelink	17.4.0
2022-03	RAN#95	R5-221509	2222	1	F	Correction to V2X message DIRECT LINK ESTABLISHMENT REQUEST	17.4.0
2022-03	RAN#95	R5-221510	2223	1	F	Correction to V2X message DIRECT LINK ESTABLISHMENT ACCEPT	17.4.0
2022-03	RAN#95	R5-221511	2224	1	F	Correction to V2X message DIRECT LINK RELEASE REQUEST	17.4.0
2022-03	RAN#95	R5-221512	2225	1	F	Correction to V2X message DIRECT LINK RELEASE ACCEPT	17.4.0
2022-03	RAN#95	R5-221513	2226	1	F	Correction to V2X message DIRECT LINK KEEPALIVE REQUEST	17.4.0
2022-03	RAN#95	R5-221514	2227	1	F	Correction to V2X message DIRECT LINK SECURITY MODE COMMAND	17.4.0
2022-03	RAN#95	R5-221515	2228	1	F	Correction to V2X message DIRECT LINK SECURITY MODE COMPLETE	17.4.0
2022-03	RAN#95	R5-221584	2251	1	F	Addition of default DCI_1_2 for URLLC	17.4.0
2022-03	RAN#95	R5-221591	2203	1	F	Addition of positioning system information blocks associated parameters	17.4.0
2022-03	RAN#95	R5-221667	2258	1	F	Correction to test frequency range for n14	17.4.0
2022-03	RAN#95	R5-221668	2268	1	F	Correction of 4.3.1.2.4.4.2 for test frequencies for CA_n260_A-I	17.4.0
2022-03	RAN#95	R5-221669	2236	1	F	Correction to default RRC IEs for RRM	17.4.0
2022-03	RAN#95	R5-221670	2167	1	F	Updated the related RRC information for DSS	17.4.0
2022-03	RAN#95	R5-221671	2190	1	F	Added FR2 connection diagram using modulated interferer	17.4.0

2022-03	RAN#95	R5-221672	2244	1	F	Correction of 4.1.1 on removal of lower humidity limit in NR test environment	17.4.0
2022-03	RAN#95	R5-221757	2267	1	F	Correction of 4.3.1.1.5.48 for test frequencies of CA_n48_2A	17.4.0
2022-03	RAN#95	R5-221787	2283	1	F	Update of mid test channel bandwidth for band n25	17.4.0
2022-03	RAN#95	R5-221815	2247	1	F	Update to NR sidelink preconfiguration	17.4.0
2022-03	RAN#95	R5-221816	2248	1	F	Update to GNSS configuration for NR sidelink	17.4.0
2022-03	RAN#95	R5-221869	2273	1	F	Updating test frequencies for NR band n1	17.4.0
2022-03	RAN#95	R5-221871	2185	1	F	Add test frequencies for R17 NR inter-band CA configurations in FR1	17.4.0
2022-03	RAN#95	R5-221872	2187	1	F	Addition of test frequencies for NE-DC configurations DC_n28A_3A, DC_n28A_3C, DC_n28A_39A, DC_n28A_39C	17.4.0
2022-03	RAN#95	R5-221873	2202	1	F	Update of protocol testing applicability for 3CC inter-band NR DC configurations	17.4.0
2022-03	RAN#95	R5-221874	2261	1	F	Addition of several NR CA combinations to FR1 inter-band configurations table	17.4.0
2022-03	RAN#95	R5-222039	2205	1	F	Correction to cl 4.5.3 RRC_INACTIVE generic procedure	17.4.0
2022-06	RAN#96	R5-222122	2294	-	F	Correction for Procedure for UE-requested PDU session modification after the first S1 to N1 mode change	17.5.0
2022-06	RAN#96	R5-222173	2296	-	F	Introduction of test frequencies for CA_n77C BCS0 and BCS1	17.5.0
2022-06	RAN#96	R5-222175	2297	-	F	Introduction of test frequencies for CA_n77C for protocol testing	17.5.0
2022-06	RAN#96	R5-222283	2300	-	F	Introduction of test frequencies for Rel-16 inter-band EN-DC three band combinations within FR1	17.5.0
2022-06	RAN#96	R5-222308	2302	-	F	Introduction of NR-DC in FR1 for test setup diagrams	17.5.0
2022-06	RAN#96	R5-222329	2303	-	F	Correction of test frequencies for CA_n66(2A) BCS1 and BCS2	17.5.0
2022-06	RAN#96	R5-222380	2308	-	F	Updating RRCReconfiguration and RadioBearerConfig for NR-DC and NE-DC	17.5.0
2022-06	RAN#96	R5-222431	2310	-	F	Correction to message contents for CQI reporting	17.5.0
2022-06	RAN#96	R5-222460	2312	-	F	Updates to REGISTRATION ACCEPT message	17.5.0
2022-06	RAN#96	R5-222461	2313	-	F	Updates to Configuration Update Command message	17.5.0
2022-06	RAN#96	R5-222462	2314	-	F	Updates to Registration Reject message	17.5.0
2022-06	RAN#96	R5-222463	2315	-	F	Updates to De-registration Request message	17.5.0
2022-06	RAN#96	R5-222464	2316	-	F	Update of Combinations of system information blocks for NE-DC	17.5.0
2022-06	RAN#96	R5-222502	2317	-	F	Addition of test frequency for performance test cases	17.5.0
2022-06	RAN#96	R5-222503	2318	-	F	Addition of locationAndBandwidth for BW 45 MHz	17.5.0
2022-06	RAN#96	R5-222512	2319	-	F	Correction to generic procedure 4.9.28	17.5.0
2022-06	RAN#96	R5-222513	2320	-	F	Editorial update RRCReconfiguration	17.5.0
2022-06	RAN#96	R5-222537	2321	-	F	Corrections to Table 7.3.1-12G	17.5.0
2022-06	RAN#96	R5-222565	2324	-	F	Update IE P-Max	17.5.0
2022-06	RAN#96	R5-222566	2325	-	F	Editorial update IE FreqBandList	17.5.0
2022-06	RAN#96	R5-222567	2326	-	F	Editorial update IE CellGroupConfig	17.5.0
2022-06	RAN#96	R5-222568	2327	-	F	Editorial update IE CellGroupId	17.5.0
2022-06	RAN#96	R5-222570	2328	-	F	Editorial update IE PDCCH-ConfigCommon	17.5.0
2022-06	RAN#96	R5-222572	2329	-	F	Addition of CA configuration for CA_n29A-n71A	17.5.0
2022-06	RAN#96	R5-222617	2331	-	F	Addition of default message contents for NR SL Demod	17.5.0
2022-06	RAN#96	R5-222647	2338	-	F	Correction to sidelink IE SL-ReportConfigList	17.5.0
2022-06	RAN#96	R5-222650	2341	-	F	Correction to general functional requirements for RedCap test	17.5.0
2022-06	RAN#96	R5-222657	2344	-	F	Editorial update IE SCellIndex	17.5.0
2022-06	RAN#96	R5-222818	2346	-	F	Correction to V2X message	17.5.0
2022-06	RAN#96	R5-222836	2354	-	F	Clarification of Annex C for calculation of SSB and CORESET#0 for PCells	17.5.0
2022-06	RAN#96	R5-222876	2370	-	F	Removing redundant ciphering algorithm for SDR testing	17.5.0
2022-06	RAN#96	R5-222917	2372	-	F	Connection diagram for 1x2 nDLCA Demodulation and CSI cases	17.5.0
2022-06	RAN#96	R5-222924	2373	-	F	Addition of connection diagram for Tx Diversity support	17.5.0
2022-06	RAN#96	R5-222933	2374	-	F	Update of auxiliary procedure 4.5A.2B	17.5.0
2022-06	RAN#96	R5-223025	2376	-	F	Update of NR inter-band CA configurations in FR1	17.5.0
2022-06	RAN#96	R5-223067	2378	-	F	Addition of test frequency for NR inter-band CA configurations including n1	17.5.0
2022-06	RAN#96	R5-223072	2379	-	F	Introduction of test frequencies for CA_n258G for protocol testing	17.5.0
2022-06	RAN#96	R5-223084	2382	-	F	Corrections to usages of Annex A.6 of TS 34.229-5	17.5.0
2022-06	RAN#96	R5-223126	2397	-	F	Introducing band configuration DC_20A_n257A	17.5.0
2022-06	RAN#96	R5-223158	2399	-	F	Editorial update IE ServCellIndex	17.5.0
2022-06	RAN#96	R5-223197	2401	-	F	Introduction of test frequencies for additional Rel-17 NR CA and EN-DC inter-band configurations	17.5.0
2022-06	RAN#96	R5-223222	2403	-	F	Correction to 4.3.1.1.2.1 on test frequencies for NR inter-band CA configurations in FR1 with two bands	17.5.0

2022-06	RAN#96	R5-223223	2404	-	F	Correction to 4.3.1.1.2.2 on test frequencies for NR inter-band CA configurations in FR1 with three bands	17.5.0
2022-06	RAN#96	R5-223224	2405	-	F	Correction to 4.3.1.1.5.66 on test frequencies for NR intra-band non-contiguous CA configurations of CA_n66 with class 2A	17.5.0
2022-06	RAN#96	R5-223225	2406	-	F	Correction to 4.3.1.1.5.71 on test frequencies for NR intra-band non-contiguous CA configurations of CA_n71 with class 2A	17.5.0
2022-06	RAN#96	R5-223229	2410	-	F	Correction to 4.3.1.4.1.3 on test frequencies for inter-band EN-DC R17 configurations with three bands	17.5.0
2022-06	RAN#96	R5-223234	2411	-	F	Editorial correction to 4.3.1.2.2 on test frequencies for NR inter-band CA configurations in FR2 for CA_n260-n261	17.5.0
2022-06	RAN#96	R5-223250	2412	-	F	Hardcoding USIM configurations	17.5.0
2022-06	RAN#96	R5-223341	2375	1	F	Update of Test procedure for IMS MO Emergency call release	17.5.0
2022-06	RAN#96	R5-223359	2332	1	F	Addition of test frequency for NR SL concurrent	17.5.0
2022-06	RAN#96	R5-223360	2333	1	F	Correction to default configuration of SCI	17.5.0
2022-06	RAN#96	R5-223361	2334	1	F	Correction to sidelink IE SL-BWP-PoolConfig	17.5.0
2022-06	RAN#96	R5-223362	2335	1	F	Correction to sidelink IE SL-BWP-PoolConfigCommon	17.5.0
2022-06	RAN#96	R5-223363	2336	1	F	Correction to sidelink IE SL-FreqConfig	17.5.0
2022-06	RAN#96	R5-223364	2337	1	F	Correction to sidelink IE SL-FreqConfigCommon	17.5.0
2022-06	RAN#96	R5-223365	2339	1	F	Correction to test procedures for unicast link establishment	17.5.0
2022-06	RAN#96	R5-223387	2330	1	F	Addition of scheduling information for positioning system information blocks	17.5.0
2022-06	RAN#96	R5-223399	2295	1	F	Addition of SIB11 to common environment for early measurements	17.5.0
2022-06	RAN#96	R5-223400	2414	1	F	Modification of SIB1 in common environment for idle/inactive measurements	17.5.0
2022-06	RAN#96	R5-223410	2340	1	F	Addition of abbreviations for RedCap test	17.5.0
2022-06	RAN#96	R5-223413	2380	1	F	Updates to Test procedure 4.9.15	17.5.0
2022-06	RAN#96	R5-223414	2307	1	F	Editorial updates to SIBs	17.5.0
2022-06	RAN#96	R5-223415	2381	1	F	Updates to Data-off condition for PDU SESSION ESTABLISHMENT REQUEST message	17.5.0
2022-06	RAN#96	R5-223416	2299	1	F	Resolving test frequency for n53 10 Mhz CBW	17.5.0
2022-06	RAN#96	R5-223417	2353	1	F	Correction to Combinations of system information blocks	17.5.0
2022-06	RAN#96	R5-223480	2402	1	F	Corrections on mandatory channel bandwidths after Rel-15	17.5.0
2022-06	RAN#96	R5-223602	2415	-	F	Correction to 4.3.1.4.1.3 on test frequencies for DC_1A-28A_n78C	17.5.0
2022-06	RAN#96	R5-223649	2398	1	F	Introduction of test frequencies for 3 band EN-DC configurations	17.5.0
2022-06	RAN#96	R5-223650	2400	1	F	Introduction of test frequencies for additional Rel-16 NR CA DC and EN-DC inter-band configurations	17.5.0
2022-06	RAN#96	R5-223651	2407	1	F	Correction to 4.3.1.1.5.77 on test frequencies for NR intra-band non-contiguous CA configurations of CA_n77 with class 2A	17.5.0
2022-06	RAN#96	R5-223652	2408	1	F	Correction to 4.3.1.1.5.78 on test frequencies for NR intra-band non-contiguous CA configurations of CA_n78 with class 2A	17.5.0
2022-06	RAN#96	R5-223653	2409	1	F	Correction to 4.3.1.4.1.3 on test frequencies for inter-band EN-DC R16 configurations	17.5.0
2022-06	RAN#96	R5-223755	2301	1	F	Introduction of test frequencies for NR-DC in FR1	17.5.0
2022-06	RAN#96	R5-223784	2371	1	F	Addition of RedCap default test channel bandwidth	17.5.0
2022-06	RAN#96	R5-223792	2322	1	F	Correction to test frequency for n53	17.5.0
2022-06	RAN#96	R5-223793	2369	1	F	Clarification of PCC and SCC configuration for CA test cases	17.5.0
2022-06	RAN#96	R5-223795	2323	1	F	CR on Permitted Methodologies and Applicability	17.5.0
2022-06	RAN#96	R5-223796	2377	1	F	Add new messages and procedure for test function to limit Pcell Power	17.5.0
2022-09	RAN#97	R5-223987	2416	-	F	Correction to test procedure 4.9.11 IMS Emergency call or eCall over IMS establishment in 5GC with IMS emergency registration	17.6.0
2022-09	RAN#97	R5-224033	2417	-	F	Introduction of test frequencies for NR-U band n46	17.6.0
2022-09	RAN#97	R5-224034	2418	-	F	Introduction of test frequencies for NR-U band n96	17.6.0
2022-09	RAN#97	R5-224094	2429	-	F	Update of MDT default RRC messages and IEs	17.6.0
2022-09	RAN#97	R5-224139	2434	-	F	Add IE BeamFailureRecoveryServingCellConfig	17.6.0
2022-09	RAN#97	R5-224140	2435	-	F	Add IE BetaOffsetsCrossPri	17.6.0
2022-09	RAN#97	R5-224149	2436	-	F	Introduction of test frequencies for Rel-16 inter-band DC_3A-7A-20A_n8A within FR1	17.6.0
2022-09	RAN#97	R5-224166	2437	-	F	Correction to Table 4.7.2-2 PDU Session Establishment Accept	17.6.0
2022-09	RAN#97	R5-224179	2438	-	F	Test frequencies for NR DC configurations in FR1 for signalling testing	17.6.0
2022-09	RAN#97	R5-224235	2443	-	F	Correction of the styles of the subclauses in 4.3.1.1 and 4.3.1.2	17.6.0
2022-09	RAN#97	R5-224276	2445	-	F	Add IE CandidateBeamRS	17.6.0
2022-09	RAN#97	R5-224284	2446	-	F	Add IE CFR-ConfigMulticast	17.6.0
2022-09	RAN#97	R5-224290	2447	-	F	Add IEs DL-PRS-ProcessingWindowPreConfig, DMRS-BundlingPUCCH-Config and DMRS-BundlingPUSCH-Config	17.6.0

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2022-09	RAN#97	R5-224380	2459	-	F	Add IE FreqPriorityListNRSlicing	17.6.0
2022-09	RAN#97	R5-224458	2465	-	F	Alignment CSI-ResourcePeriodicityAndOffset to CSI-RS.3.2 TDD	17.6.0
2022-09	RAN#97	R5-224459	2466	-	F	Correction derivation path Table 7.3.1-35	17.6.0
2022-09	RAN#97	R5-224460	2467	-	F	Correction to 7.3.1-12G	17.6.0
2022-09	RAN#97	R5-224462	2469	-	F	Definition of ZP-CSI-RS-ResourceSetId	17.6.0
2022-09	RAN#97	R5-224638	2478	-	F	Clarification to Antenna ports of DCI format 1_1 for RF TCs	17.6.0
2022-09	RAN#97	R5-224639	2479	-	F	Correction to CSI-MeasConfig for RRM	17.6.0
2022-09	RAN#97	R5-224658	2482	-	F	Add IE GapPriority	17.6.0
2022-09	RAN#97	R5-224662	2484	-	F	Add IE HysteresisLocation	17.6.0
2022-09	RAN#97	R5-224685	2485	-	F	Correction to IMS MO Video call establishment test procedure in 5GC	17.6.0
2022-09	RAN#97	R5-224686	2486	-	F	Correction to IMS MT Video call establishment test procedure in 5GC	17.6.0
2022-09	RAN#97	R5-224689	2489	-	F	Correction to IMS MT speech call establishment test procedure in 5GC	17.6.0
2022-09	RAN#97	R5-224725	2491	-	F	Update the SN-FieldLength of PDCP-Config and RLC-Config for RedCap test	17.6.0
2022-09	RAN#97	R5-224740	2495	-	F	Add Default configuration for DCI format 4_1 scheduling MBS Multicast test	17.6.0
2022-09	RAN#97	R5-224741	2496	-	F	Add Default configuration for DCI format 4_2 scheduling MBS Multicast test	17.6.0
2022-09	RAN#97	R5-224762	2508	-	F	Add IE MeasGapId	17.6.0
2022-09	RAN#97	R5-224763	2509	-	F	Add IE MeasObjectRxTxDiff	17.6.0
2022-09	RAN#97	R5-224816	2511	-	F	Add IE MeasResultRxTxTimeDiff	17.6.0
2022-09	RAN#97	R5-224817	2512	-	F	Add IE MRB-Identity	17.6.0
2022-09	RAN#97	R5-224818	2513	-	F	Add IEs MUSIM-GapConfig, MUSIM-GapID and MUSIM-GapInfo	17.6.0
2022-09	RAN#97	R5-224819	2514	-	F	Add IEs NeedForGapNCSG-ConfigEUTRA, NeedForGapNCSG-ConfigNR, NeedForGapNCSG-InfoEUTRA and NeedForGapNCSG-InfoNR	17.6.0
2022-09	RAN#97	R5-224820	2515	-	F	Add IE NonCellDefiningSSB	17.6.0
2022-09	RAN#97	R5-224821	2516	-	F	Add IE NR-DL-PRS-PDC-Info	17.6.0
2022-09	RAN#97	R5-224822	2517	-	F	Add IEs NSAG-IdentityInfo and NTN-Config	17.6.0
2022-09	RAN#97	R5-224824	2519	-	F	Add IEs RxTxTimeDiff, SCellActivationRS-Config and SCellActivationRS-ConfigId	17.6.0
2022-09	RAN#97	R5-224825	2520	-	F	Add IE SemiStaticChannelAccessConfigUE	17.6.0
2022-09	RAN#97	R5-224859	2521	-	F	Add IE TCI-Info	17.6.0
2022-09	RAN#97	R5-224860	2522	-	F	Add IE UE-TimersAndConstantsRemoteUE	17.6.0
2022-09	RAN#97	R5-224861	2523	-	F	Add IEs UL-ExcessDelayConfig and UE UL-GapFR2-Config	17.6.0
2022-09	RAN#97	R5-224862	2524	-	F	Add IEs Uplink-PowerControl, Uu-RelayRLC-ChannelConfig and Uu-RelayRLC-ChannelID	17.6.0
2022-09	RAN#97	R5-224863	2525	-	F	Add IE AppLayerMeasParameters	17.6.0
2022-09	RAN#97	R5-224864	2526	-	F	Add IE FR2-2-AccessParamsPerBand	17.6.0
2022-09	RAN#97	R5-224877	2528	-	F	Add IE NTN-Parameters	17.6.0
2022-09	RAN#97	R5-224878	2529	-	F	Add IE PosSRS-RRC-Inactive-OutsideInitialUL-BWP-r17	17.6.0
2022-09	RAN#97	R5-224880	2531	-	F	Add IE RedCapParameters	17.6.0
2022-09	RAN#97	R5-224881	2532	-	F	Add IE SRS-AllPosResourcesRRC-Inactive	17.6.0
2022-09	RAN#97	R5-224882	2533	-	F	Add IE UE-RadioPagingInfo	17.6.0
2022-09	RAN#97	R5-224883	2534	-	F	Add IE AppLayerMeasConfig	17.6.0
2022-09	RAN#97	R5-224909	2535	-	F	Update IE DownlinkConfigCommonSIB	17.6.0
2022-09	RAN#97	R5-224912	2537	-	F	Update IE MeasObjectNR	17.6.0
2022-09	RAN#97	R5-224913	2538	-	F	Add IE MeasResultForRSSI	17.6.0
2022-09	RAN#97	R5-224914	2539	-	F	Update IE MeasResults	17.6.0
2022-09	RAN#97	R5-224915	2540	-	F	Add IE MeasRSSI-ReportConfig	17.6.0
2022-09	RAN#97	R5-224916	2541	-	F	Update IE ReportConfigNR	17.6.0
2022-09	RAN#97	R5-224917	2542	-	F	Add IE RMTC Config	17.6.0
2022-09	RAN#97	R5-224992	2545	-	F	Add IE DedicatedInfoF1c	17.6.0
2022-09	RAN#97	R5-225007	2546	-	F	Add IE MeasConfigAppLayerId	17.6.0
2022-09	RAN#97	R5-225092	2550	-	F	Adding new connection diagram for SUL with UL MIMO test case	17.6.0
2022-09	RAN#97	R5-225177	2553	-	F	Introduction of new default 5GMM messages	17.6.0
2022-09	RAN#97	R5-225178	2554	-	F	Introduction of new default 5GSM messages	17.6.0
2022-09	RAN#97	R5-225180	2556	-	F	Updates to default 5GSM messages	17.6.0
2022-09	RAN#97	R5-225188	2557	-	F	CR to Correct Permitted Methodologies and Applicability	17.6.0
2022-09	RAN#97	R5-225212	2558	-	F	Update nrofRB for 200 MHz ChBw 120 kHz SCS	17.6.0
2022-09	RAN#97	R5-225215	2559	-	F	Update number of HARQ processes for RRM test cases	17.6.0
2022-09	RAN#97	R5-225271	2555	1	F	Updates to default 5GMM messages	17.6.0

2022-09	RAN#97	R5-225280	2494	1	F	Add Default configuration for DCI format 4_0 scheduling MBS Broadcast test	17.6.0
2022-09	RAN#97	R5-225290	2471	1	F	Correction of NR SL message contents	17.6.0
2022-09	RAN#97	R5-225291	2472	1	F	Correction of test procedure 4.9.31 - Connectivity check	17.6.0
2022-09	RAN#97	R5-225299	2448	1	F	Updates to Table 4.6.3-16: CellAccessRelatedInfo for NPN	17.6.0
2022-09	RAN#97	R5-225300	2456	1	F	Addition of Test Environment for legacy test cases applicable to SNPN Only UE	17.6.0
2022-09	RAN#97	R5-225310	2544	1	F	Update of protocol applicability for DC_19A_n77(2A), DC_19A_n78(2A), DC_21A_n77(2A) and DC_21A_n78(2A)	17.6.0
2022-09	RAN#97	R5-225311	2462	1	F	Correction of the scheduling information for combination NR-15	17.6.0
2022-09	RAN#97	R5-225312	2463	1	F	Addition of message contents for DedicatedSIBRequest	17.6.0
2022-09	RAN#97	R5-225316	2425	1	F	Update default message contents of RACH-ConfigDedicated	17.6.0
2022-09	RAN#97	R5-225321	2536	1	F	Update IE LBT FailureRecoveryConfig	17.6.0
2022-09	RAN#97	R5-225325	2497	1	F	Add test procedures for MBS Multicast test	17.6.0
2022-09	RAN#97	R5-225326	2502	1	F	Add SIB20 for MBS Broadcast test	17.6.0
2022-09	RAN#97	R5-225327	2503	1	F	Add SIB21 for MBS Broadcast test	17.6.0
2022-09	RAN#97	R5-225328	2504	1	F	Add MBSBroadcastConfiguration for MBS Broadcast test	17.6.0
2022-09	RAN#97	R5-225329	2505	1	F	Add MBSInterestIndication for MBS Broadcast test	17.6.0
2022-09	RAN#97	R5-225330	2506	1	F	Add MBS information elements for MBS test	17.6.0
2022-09	RAN#97	R5-225333	2475	1	F	Update of MDT message and information element	17.6.0
2022-09	RAN#97	R5-225342	2492	1	F	Addition of RedCap default test channel bandwidth for signaling MFBI test	17.6.0
2022-09	RAN#97	R5-225343	2493	1	F	Addition of RedCap default test channel bandwidth for signaling test	17.6.0
2022-09	RAN#97	R5-225352	2449	1	F	Update of Table 4.6.1-30 to add message contents values for SDT in UEAssistanceInformation	17.6.0
2022-09	RAN#97	R5-225353	2450	1	F	Update of Table 4.6.1-28 to add message contents values for SDT in SIB1	17.6.0
2022-09	RAN#97	R5-225354	2451	1	F	Update of Table 4.6.1-16 to add message contents values for SDT in RRCRelease	17.6.0
2022-09	RAN#97	R5-225355	2453	1	F	Update of Table 4.6.3-96 to add message contents values for SDT in PDCCH-ConfigCommon	17.6.0
2022-09	RAN#97	R5-225356	2473	1	F	Addition of SIB16 for slice based cell reselection	17.6.0
2022-09	RAN#97	R5-225357	2474	1	F	Updates to message contents for slice specific RACH configuration	17.6.0
2022-09	RAN#97	R5-225358	2464	1	F	Add UplinkDataCompression into PDCP-Config for NR UDC test	17.6.0
2022-09	RAN#97	R5-225362	2483	1	F	Updates to test procedures 4.9.12A and 4.9.12B	17.6.0
2022-09	RAN#97	R5-225363	2458	1	F	Add IEs DRX-ConfigSL, EphemerisInfo, FeatureCombination and FeatureCombinationPreambles	17.6.0
2022-09	RAN#97	R5-225364	2530	1	F	Editorial update IE RAT-Type	17.6.0
2022-09	RAN#97	R5-225365	2549	1	F	Updating the values for IE P-Max	17.6.0
2022-09	RAN#97	R5-225366	2428	1	F	Updates on UE Power Limit Messages: Option 2	17.6.0
2022-09	RAN#97	R5-225367	2548	1	F	Introducing FR2 signal test frequencies for intra-band contiguous 3CA	17.6.0
2022-09	RAN#97	R5-225681	2441	1	F	Correction of test channel bandwidth for R16	17.6.0
2022-09	RAN#97	R5-225682	2442	1	F	Correction of test channel bandwidth for n79	17.6.0
2022-09	RAN#97	R5-225684	2440	1	F	Correction of test channel bandwidth for R15	17.6.0
2022-09	RAN#97	R5-225686	2439	1	F	Update UE capability information elements for PC1.5 duty cycle	17.6.0
2022-09	RAN#97	R5-225730	2476	1	F	Addition of test frequencies for DC_21A_n28A	17.6.0
2022-09	RAN#97	R5-225731	2527	1	F	Addition of configurations for many 4CA NR combinations	17.6.0
2022-09	RAN#97	R5-225766	2543	1	F	Corrections on Mid test channel bandwidth for band n66 for Redcap	17.6.0
2022-09	RAN#97	R5-225780	2468	1	F	Correction quantity config for inter-RAT to UTRA	17.6.0
2022-09	RAN#97	R5-225781	2477	1	F	Correction to connection diagram for DL CA Demodulation and CSI test cases	17.6.0
2022-09	RAN#97	R5-225782	2481	1	F	Correction to RRC message for uplink CA	17.6.0