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Applicability of radio transmission, radio reception and radio resource management test cases
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Contents

Foreword

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

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

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

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The present document is one part of a multi-part Technical Specification (TS) covering the New Radio (NR) User Equipment (UE) conformance specification, which is divided in the following parts:

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

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

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

3GPP TS 38.521-4 [4]: NR; User Equipment conformance specification; Radio transmission and reception; Part 4: Performance;

3GPP TS 38.522: NR; User Equipment (UE) conformance specification; Applicability of RF and RRM test cases;

3GPP TS 38.533 [5]: NR; User Equipment (UE) conformance specification; Radio resource management;

1 Scope

The present document specifies the recommended applicability statement and completion status for the test cases included in 3GPP TS 38.521-1 [1], TS 38.521-2 [2], TS 38.521-3 [3], TS 38.521-4 [4] and TS 38.533 [5]. These applicability statements are based on the features implemented in the UE.

Special conformance testing functions can be found in 3GPP TS 38.509 [6] and the common test environments are included in 3GPP TS 38.508-1 [7]. Common implementation conformance statement (ICS) proforma can be found in 3GPP TS 38.508-2 [8].

The present document is valid for UE implemented according to 3GPP releases starting from Release 15 up to the Release indicated on the cover page of the present document.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document unless the context in which the reference is made suggests a different Release is relevant (information on the applicable release in a particular context can be found in e.g. test case title, description or applicability, message description or content).

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

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

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

[4] 3GPP TS 38.521-4: NR; User Equipment conformance specification; Radio transmission and reception; Part 4: Performance

[5] 3GPP TS 38.533: NR; User Equipment (UE) conformance specification; Radio resource management

[6] 3GPP TS 38.509: 5GS; Special conformance testing functions for User Equipment (UE)

[7] 3GPP TS 38.508-1: 5GS; User Equipment (UE) conformance specification; Part 1: Common test environment

[8] 3GPP TS 38.508-2: 5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma

[9] 3GPP TR 21.905: Vocabulary for 3GPP Specifications

[10] 3GPP TS 36.521-2: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Implementation Conformance Statement (ICS)

[11] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [9] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [9].

DL_*n*CC: DL_*n*CC(*table_index*) includes all supported *n*-carrier CA/DC configurations in Table *table_index* in TS 38.508-2 [8].

DL_NR_*n*CC: DL_NR_*n*CC(*table_index*) includes all supported DC configurations with *n*-carrier NR DL CA configuration in Table *table_index* in TS 38.508-2 [8].

EIRP(Link=Link angle, Meas=Link angle): measurement of the UE such that the link angle is aligned with the measurement angle. EIRP (indicator to be measured) can be replaced by EIS, Frequency, EVM, carrier Leakage, In-band emission and OBW. Beam peak search grids, TX beam peak direction, and RX beam peak direction can be selected to describe Link.

EIRP(Link=Link angle, Meas=beam peak direction): measurement of the EIRP of the UE such that the measurement angle is aligned with the beam peak direction within an acceptable measurement error uncertainty.

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

Implementation extra Information for Testing (IXIT): A statement made by a supplier or implementer of an UEUT which contains or references all of the information (in addition to that given in the ICS) related to the UEUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the UEUT

Inter-band carrier aggregation: Carrier aggregation of component carriers in different operating bands.

NOTE: Carriers aggregated in each band can be contiguous or non-contiguous.

Intra-band contiguous carrier aggregation: Contiguous carriers aggregated in the same operating band.

Intra-band non-contiguous carrier aggregation: Non-contiguous carriers aggregated in the same operating band.

IXIT proforma: A document, in the form of a questionnaire, which when completed for an UEUT becomes an IXIT

Protocol Implementation Conformance Statement (PICS): An ICS for an implementation or system claimed to conform to a given protocol specification

Protocol Implementation eXtra Information for Testing (PIXIT): An IXIT related to testing for conformance to a given protocol specification

Static conformance review: A review of the extent to which the static conformance requirements are claimed to be supported by the UEUT, by comparing the answers in the ICS(s) with the static conformance requirements expressed in the relevant specification(s)

TRP(Link=Link **angle):** measurement of the TRP of the UE such that the measurement angle is aligned with the beam peak direction within an acceptable measurement uncertainty. TX beam peak direction and RX beam peak direction can be selected to describe Link.

NOTE: For requirements based on EIRP/EIS, the radiated interface boundary is associated to the far-field region

UL: UL(*table_index*) includes all supported CA Configurations where at least one UL CA configuration was declared in column "Supported CA Bandwidth Class(es) in UL" in Table *table_index* in TS 38.508-2 [8].

UL_*n*CC: UL_*n*CC(*table_index*) includes all supported CA Configurations where at least one *n*-carrier UL CA configuration was declared in column "Supported CA Bandwidth Class(es) in UL" in Table *table_index* in TS 38.508-2 [8].

UL_NR_*n*CC: UL_NR_*n*CC(*table_index*) includes all supported DC Configurations where at least one DC configuration with *n*-carrier NR UL CA configuration was declared in column "Supported EN-DC Bandwidth Class(es) in UL" in Table *table_index* in TS 38.508-2 [8].

ULTxSwitching: ULTxSwitching(*table_index*) includes all supported CA/DC/SUL Configurations where at least one uplink band pair was declared in column “Supported ULTxSwitching Band Pair" in Table *table_index* in TS 38.508-2 [8].

3.2 Symbols

No specific symbols have been identified so far.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [9] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [9].

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

5GS	5G System
ACLR	Adjacent Channel Leakage Ratio
AWGN	Additive White Gaussian Noise
BPSK	Binary Phase Shift Keying
BWP	Bandwidth Part
CA	Carrier Aggregation
CBW	Channel Bandwidth
CC	Component Carrier
CMR	Channel Measurement Resource
CQI	Channel Quality Indicator
CSI	Channel State Information
DAPS	Dual Active Protocol Stack
DC	Dual Connectivity
DCI	Downlink Control Information
DL	Downlink
DRX	Discontinuous Reception
EIRP	Effective Isotropic Radiated Power
E-UTRA	Evolved UTRA
EVM	Error Vector Magnitude
FDD	Frequency Division Duplex
EN-DC	E-UTRA/NR Dual Connectivity
FR1	Frequency Range 1 (410 MHz - 7125 MHz)
FR2	Frequency Range 2 (24250 MHz - 52600 MHz)
HST	High Speed Train
ICS	Implementation Conformance Statement
IMR	Interference Measurement Resource
IXIT	Implementation eXtra Information for Testing
L1	Layer 1
MAC	Medium Access Control
MCG	Master Cell Group
MPR	Allowed maximum power reduction
NR	New Radio
NSA	Non-Standalone, a mode of operation where operation of another radio is assisted with another radio
PCell	Primary Cell
PDCCH	Physical Downlink Control Channel
PDSCH	Physical Downlink Shared Channel
PIXIT	Protocol Implementation eXtra Information for Testing
PMI	Pre-coding Matrix Indicator
PRACH	Physical Random Access Channel

PSCell	Primary SCG Cell
QAM	Quadrature Amplitude Modulation
RF	Radio Frequency
RLM	Radio Link Monitoring
RRC	Radio Resource Control
RRM	Radio Resource Management
RSRP	Reference Signal Received Power
RSRQ	Reference Signal Received Quality
SA	Standalone
SC	Single Carrier
SCC	Secondary Component Carrier
SCell	Secondary Cell
SCG	Secondary Cell Group
SCS	System Conformance Statement / Subcarrier Spacing
SDL	Supplementary Downlink
SFN	System Frame Number
SFTD	SFN and Frame Timing Difference
SINR	Signal to Interference plus Noise Ratio
SL	Sidelink
SL-MIMO	Sidelink-Multiple Antenna Transmission
SRS	Sounding Reference Signal
SSB	Synchronization Signal Block
SS-RSRP	Synchronization Signal based RSRP
SS-RSRQ	Synchronization Signal based RSRQ
SS-SINR	Synchronization Signal based SINR
SUL	Supplementary UpLink
TC	Test Case
TDD	Time Division Duplex
TRP	Total Radiated Power
TxD	Tx Diversity
UEUT	User Equipment Under Test
UL	Uplink
UL MIMO	Uplink Multiple Antenna transmission
UTRA	UMTS Terrestrial Radio Access
V2X	Vehicle to Everything

4 Recommended test case applicability

The applicability of each individual test is identified in the tables 4.1.1-1 / 4.1.2-1 / 4.1.3-1 / 4.1.4-1 / 4.2-1 / 4.2-2 / 4.2-3 / 4.2-4. This is just a recommendation based on the purpose for which the test case was written.

The applicability of every test is formally expressed by the use of Boolean expressions that are based on parameters (ICS). The parameters (ICS) included in TS 38.508-2 [8] are used in the test case applicability condition without reference. Parameters (ICS) specified in TS 36.521-2 [10] shall be referred with proper reference.

Selection criteria of tested bands and tested CA configurations for each applicable test is formally expressed using group theory based on parameters (ICS) included in annex A of TS 38.508-2 [8] without reference.

Additional information related to the Test Case (TC), e.g. affecting its dynamic behaviour or its execution may be provided as well.

The columns in tables 4.1.1-1 / 4.1.2-1 / 4.1.3-1 / 4.1.4-1 / 4.2-1 / 4.2-2 / 4.2-3 / 4.2-4 have the following meaning:

Clause

The clause column indicates the clause number in TS 38.521-1 [1], TS 38.521-2 [2], TS 38.521-3 [3], TS 38.521-4 [4] and TS 38.533 [5] that contains the test body.

TC Title

The TC Title column describes the name of the test and contains the clause title of the clause in TS 38.521-1 [1], TS 38.521-2 [2], TS 38.521-3 [3], TS 38.521-4 [4] and TS 38.533 [5] that contains the test body.

Release

The release column indicates the earliest release from which each test case is applicable. It may also indicate a range of releases or a single release to which a test case is applicable.

Applicability - Condition

The following notations are used for the applicability column:

R	recommended - the test case is recommended to all terminals supporting NR
O	optional - the test case is optional
N/A	not applicable - in the given context, the test case is not recommended.
Ci	conditional - the test is recommended ("R") or not ("N/A") depending on the support of other items. "i" is an integer identifying a unique conditional status expression which is defined in Table 4.0-1. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." is used to avoid ambiguities.

Applicability - Comment

This comment column contains a verbal description of the condition included in the applicability column.

Tested Bands / CA/DC Configurations Selection

This column defines a set of bands / CA/DC Configurations the test is to be run for, if the test is applicable. If the set is empty, the test is considered as not applicable.

The following notations are used in the tested bands selection column:

Di	Derive the set based on Band Selection Criteria Di defined in table 4.0-2.
Ei	Derive the set based on CA/DC Configurations Selection Criteria Ei defined in table 4.0-3.
TBD	Band selection not defined at this time, in the meantime test all Bands / CA/DC Configurations
Text	For more complex selection criteria, or if the criteria are already specified somewhere else in the spec, text reference to the clause is given.

Branch

This column contains indication if the test case may perform differently depending on the UE capabilities.

NOTE 1: Void.

NOTE 2: Void.

Additional Information

This column contains indication if the test case may perform differently depending on the UE capabilities and the measurement execution.

This column also contains indication of the completion status of the test case.

4.0 Test case conditions and selection criteria

For the purposes of the present document, the applicability of conformance test cases conditions given in Table 4.0-1 apply. The tested bands selection criteria given in Table 4.0-2 apply. The tested CA/DC configuration selection criteria given in Table 4.0-3 apply. The ICS proformas used in Table 4.0-1, Table 4.0-2 and Table 4.0-3 are defined in TS 38.508-2 [8] unless otherwise stated.

Table 4.0-1: Applicability of conformance test cases conditions

C001	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 THEN R ELSE N/A
C001a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.1-7/3 THEN R ELSE N/A
C001b	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.5-1/1 THEN R ELSE N/A
C001c	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.1-2/2e OR A.4.3.1-2/12) THEN R ELSE N/A
C001d	Void
C001e	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND E016 THEN R ELSE N/A
C001f	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.5-1/1 AND (A.4.3.11-1/1 OR A.4.3.11-1/3) THEN R ELSE N/A
C001g	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/XX THEN R ELSE N/A Editor's note: XX shall be '84'.
C002	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-2/3 OR A.4.1-2/5) THEN R ELSE N/A
C003	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/14 OR A.4.3.2-1/15) THEN R ELSE N/A
C003b	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/14 OR A.4.3.2-1/15) AND (A.4.3.2-1/58 OR A.4.3.2-1/59 OR A.4.3.2-1/60) THEN R ELSE N/A
C003a	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/14 OR A.4.3.2-1/15) THEN R ELSE N/A
C004	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4A/5) AND A.4.3.2A.1-2/1 THEN R ELSE N/A
C005	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.1-4A/5 AND A.4.1-2/4 AND A.4.3.2A.1-1/1 AND A.4.1-3/1 THEN R ELSE N/A
C006	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 THEN R ELSE N/A
C006a	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.5-1/1 THEN R ELSE N/A
C006b	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/31a THEN R ELSE N/A
C006c	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/1 THEN R ELSE N/A
C006d	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/2 THEN R ELSE N/A
C006e	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/3 THEN R ELSE N/A
C006f	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/4 THEN R ELSE N/A
C006g	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/5 THEN R ELSE N/A
C006h	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/6 THEN R ELSE N/A
C006i	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-1/7 THEN R ELSE N/A
C007	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/22 THEN R ELSE N/A
C008	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND NOT(A.4.3.2-1/22) THEN R ELSE N/A
C009	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/1 AND A.4.3.2B.2.0-2/1 THEN R ELSE N/A
C009a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/1 AND A.4.3.2B.2.0-1/1 THEN R ELSE N/A
C009z	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/1 AND A.4.3.2B.2.0-2/1 AND A.4.3.2-1/25 THEN R ELSE N/A
C010	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/2 AND A.4.3.2B.2.0-2/1 THEN R ELSE N/A
C010a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/2 AND A.4.3.2B.2.0-1/1 THEN R ELSE N/A
C010z	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/2 AND A.4.3.2B.2.0-2/1 AND A.4.3.2-1/25 THEN R ELSE N/A
C011	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-2/1 THEN R ELSE N/A
C011a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-1/1 THEN R ELSE N/A
C011b	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-2A/1 THEN R ELSE N/A
C011c	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-1A/1 THEN R ELSE N/A
C011d	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-2/2 AND A.4.3.2B.2.0-2A/1 THEN R ELSE N/A
C011z	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-2A/1 AND A.4.3.2-1/25 THEN R ELSE N/A
C012	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2/1 THEN R ELSE N/A
C012a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-1A/1 THEN R ELSE N/A
C012b	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2A/2 THEN R ELSE N/A
C012c	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2A/3 THEN R ELSE N/A
C012d	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2A/4 THEN R ELSE N/A
C012e	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-1A/2 THEN R ELSE N/A
C012f	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2/1 AND A.4.3.2-1/31a THEN R ELSE N/A
C012g	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-1A/3 THEN R ELSE N/A
C012h	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-1A/4 THEN R ELSE N/A

C012z	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.1-4/4 AND A.4.3.2B.2.0-2A/1 AND A.4.3.2-1/25 THEN R ELSE N/A
C013	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (A.4.1-4/3 OR A.4.1-4/4) THEN R ELSE N/A
C014	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/4) THEN R ELSE N/A
C015	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C015b	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/6 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C015c	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/66 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C015x	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.9-1/1 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C015y	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/33 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C016	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C016b	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/6 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C016c	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/66 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C016x	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.9-1/1 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C016y	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/20 AND A.4.3.2-1/33 AND A.4.3.2-1/68 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C017	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C017b	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.2-1/6 THEN R ELSE N/A
C017c	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.2-1/66 THEN R ELSE N/A
C017x	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.9-1/1 THEN R ELSE N/A
C017y	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.2-1/33 THEN R ELSE N/A
C017z	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.2-1/33 THEN R ELSE N/A
C017g	C001 AND E016 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C017h	C001 AND E017 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C017i	C001 AND E018 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C017j	C001 AND E003a AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C018	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND 4.3.2-1/9 THEN R ELSE N/A
C019	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C019b	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) AND A.4.3.2-1/6 THEN R ELSE N/A
C019c	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) AND A.4.3.2-1/66 THEN R ELSE N/A
C019x	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) AND A.4.3.9-1/1 THEN R ELSE N/A
C020	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) THEN R ELSE N/A
C021	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 THEN R ELSE N/A

C021a	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.5-1/1 THEN R ELSE N/A
C021b	IF A.4.1-1/1 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 THEN R ELSE N/A
C022	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 THEN R ELSE N/A
C022a	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.5-1/1 THEN R ELSE N/A
C023	IF A.4.1-4/5 AND A.4.1-3/2 THEN R ELSE N/A
C023a	IF A.4.1-4/5 AND A.4.1-3/2 AND A.4.3.5-1/1 THEN R ELSE N/A
C024	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/1 THEN R ELSE N/A
C025	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 THEN R ELSE N/A
C025a	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 AND A.4.3.5-1/1 THEN R ELSE N/A
C025b	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 AND (A.4.3.11-1/1 OR A.4.3.11-1/4) THEN R ELSE N/A
C025c	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 AND A.4.3.5-1/1 AND (A.4.3.11-1/1 OR A.4.3.11-1/4) THEN R ELSE N/A
C025d	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 AND A.4.3.11-1/5 THEN R ELSE N/A
C025e	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.11-1/5 THEN R ELSE N/A
C026	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND 4.3.6-1/11 THEN R ELSE N/A
C027	Void
C028	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/1 AND 4.3.6-1/11 THEN R ELSE N/A
C029	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/1 AND 4.3.2-1/9 THEN R ELSE N/A
C030	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/9 THEN R ELSE N/A
C030a	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/9 THEN R ELSE N/A
C031	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4A/5) AND A.4.3.2A.1-1/1 THEN R ELSE N/A
C032	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND (A.4.1-2/3 OR A.4.1-2/5) THEN R ELSE N/A
C033	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4A/5) AND A.4.3.2A.1-1/2 THEN R ELSE N/A
C034	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/6 THEN R ELSE N/A
C035	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/6 THEN R ELSE N/A
C036	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4A/5) AND A.4.3.2A.1-1/3 THEN R ELSE N/A
C037	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/41 THEN R ELSE N/A
C037a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C038	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.6-1/41 THEN R ELSE N/A
C038a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C039	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4/5 OR A.4.1-4/7) AND A.4.1-5/1 AND A.4.3.6-1/41 THEN R ELSE N/A
C040	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.6-1/41 THEN R ELSE N/A
C041	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.1-5/1 AND A.4.3.2-1/34 AND A.4.3.6-1/41 THEN R ELSE N/A
C041a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.1-5/1 AND A.4.3.2-1/34 AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C041b	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.1-5/1 AND A.4.3.2-1/34 AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C042	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.2-1/34 AND A.4.3.6-1/41 THEN R ELSE N/A
C042a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.2-1/34 AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C042b	IF A.4.1-1/1 AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.3.2-1/34 AND A.4.3.6-1/41 AND A.4.3.5-1/1 THEN R ELSE N/A
C043	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND (4.3.6-1/43 OR 4.3.6-1/44) THEN R ELSE N/A
C043a	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/34 AND A.4.3.6-1/41a AND A.4.3.5-1/1 THEN R ELSE N/A
C044	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND 4.3.6-1/42 THEN R ELSE N/A
C045	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.3.2B.2.0-1/2 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) THEN R ELSE N/A

C046	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.3.2B.2.0-1/3 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) THEN R ELSE N/A
C047	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.3.2B.2.0-1/4 AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) THEN R ELSE N/A
C048	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.3.2B.2.0-1/2 AND A.4.1-4/1 THEN R ELSE N/A
C049	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND A.4.3.2B.2.0-1/3 AND A.4.1-4/1 THEN R ELSE N/A
C050	IF A.4.1-1/2 AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.1-7/3 AND A.4.3.2-1/36 THEN R ELSE N/A
C051	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.1-4A/5 AND A.4.3.2A.1-2/1 AND A.4.3.2-1/37 THEN R ELSE N/A
C052	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.11-1/1 OR A.4.3.11-1/3)THEN R ELSE N/A
C053	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/1 THEN R ELSE N/A
C054	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/2 THEN R ELSE N/A
C055	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/3 THEN R ELSE N/A
C056	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/4 THEN R ELSE N/A
C057	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/5 THEN R ELSE N/A
C058	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/6 THEN R ELSE N/A
C059	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.1-4A/3 OR A.4.1-4A/4) AND A.4.3.2A.1-2/7 THEN R ELSE N/A
C060	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.3.2-1/14 OR A.4.3.2-1/15) THEN R ELSE N/A
C061	IF A.4.1-1/2 AND A.4.1-2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) THEN R ELSE N/A
C061a	IF A.4.1-1/2 AND A.4.1-2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND E032 THEN R ELSE N/A
C061b	IF A.4.1-1/2 AND A.4.1-2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND E033 THEN R ELSE N/A
C062	IF A.4.1-1/2 AND A.4.1.2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.9-1/1 THEN R ELSE N/A
C063	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND (A.4.1-4/3 OR A.4.1-4/2) AND A.4.3.2B.2.0-1A/2 THEN R ELSE N/A
C064	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND (A.4.1-4/3 OR A.4.1-4/2) AND A.4.3.2B.2.0-1A/3 THEN R ELSE N/A
C064a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND (A.4.1-4/3 OR A.4.1-4/2) AND A.4.3.2B.2.0-1A/4 THEN R ELSE N/A
C064b	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-3/2 AND (A.4.1-4/3 OR A.4.1-4/2) AND A.4.3.2B.2.0-1A/5 THEN R ELSE N/A
C065	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND (A.4.3.2-1/42 OR A.4.3.2-1/43 OR A.4.3.2-1/44) AND (A.4.3.2-1/24 OR A.4.3.2-1/24A) THEN R ELSE N/A
C065a	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND (A.4.3.2-1/42 OR A.4.3.2-1/43 OR A.4.3.2-1/44) AND (A.4.3.2-1/24 OR A.4.3.2-1/24A) AND A.4.3.2A.1-1/1 THEN R ELSE N/A
C065b	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND (A.4.3.2-1/42 OR A.4.3.2-1/43) THEN R ELSE N/A
C066	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/42 OR A.4.3.2-1/43 OR A.4.3.2-1/44) AND (A.4.3.2-1/24 OR A.4.3.2-1/24A) THEN R ELSE N/A
C066a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/42 OR A.4.3.2-1/43 OR A.4.3.2-1/44) AND (A.4.3.2-1/24 OR A.4.3.2-1/24A) AND A.4.3.2A.1-1/1 THEN R ELSE N/A
C066b	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.3.2-1/42 OR A.4.3.2-1/43) THEN R ELSE N/A
C067	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND (A.4.1-4A/1 OR A.4.1-4A/2 OR A.4.1-4A/5) AND A.4.1-3/2 THEN R ELSE N/A
C068	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND [10] A.4.6-1/1 AND A.4.1-3/2 THEN R ELSE N/A
C069	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/6 THEN R ELSE N/A
C070	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/41 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C071	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/41 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C072	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/41 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A

C073	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/41 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C074	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/39 AND A.4.3.2-1/40 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C075	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/39 AND A.4.3.2-1/40 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C076	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/39 AND A.4.3.2-1/40 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C077	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/39 AND A.4.3.2-1/40 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C078	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND (A.4.1-2/3 OR A.4.1-2/5) AND A.4.1-4A/1 AND A.4.3.2A.1-1/1 THEN R ELSE N/A
C079	IF A.4.1-1/3 AND A.4.1-2/7 THEN R ELSE N/A
C079a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-1/3 AND A.4.1-2/7 THEN R ELSE N/A
C080	IF ([10]A.4.1-1/1 OR [10]A.4.1-1/2) AND A.4.1-1/2 AND A.4.1-2/8 THEN R ELSE N/A
C080a	IF ([10]A.4.1-1/1 OR [10]A.4.1-1/2) AND A.4.1-1/2 AND A.4.1-2/8 AND A.4.3.5-1/1 THEN R ELSE N/A
C081	IF ([10]A.4.1-1/1 OR [10]A.4.1-1/2) AND (A.4.1-3/2 OR A.4.1-3/5) AND (A.4.3.6-1/46 OR A.4.3.6-1/47) THEN R ELSE N/A
C081a	IF ([10]A.4.1-1/1 OR [10]A.4.1-1/2) AND (A.4.1-3/2 OR A.4.1-3/5) AND [10]A.4.4-1a/5 AND (A.4.3.6-1/46 OR A.4.3.6-1/47) THEN R ELSE N/A
C082	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/63 AND A.4.3.2-1/65 THEN R ELSE N/A
C082a	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/63 AND A.4.3.2-1/65 AND A.4.3.5-1/1 THEN R ELSE N/A
C083	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/41 AND A.4.3.2-1/64 AND A.4.3.2-1/65 THEN R ELSE N/A
C083a	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/41 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.5-1/1 THEN R ELSE N/A
C084	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/63 AND A.4.3.2-1/65 THEN R ELSE N/A
C084a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/63 AND A.4.3.2-1/65 AND A.4.3.5-1/1THEN R ELSE N/A
C085	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/41 AND A.4.3.2-1/64 AND A.4.3.2-1/65 THEN R ELSE N/A
C085a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/41 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.5-1/1 THEN R ELSE N/A
C086	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-2/7 THEN R ELSE N/A
C086a	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-2/7 AND A.4.3.5-1/1 THEN R ELSE N/A
C087	Void
C088	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND NOT A.4.3.1-7a/2 AND A.4.3.5-1/1 AND A.4.3.5-1/5 THEN R ELSE N/A
C089	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) AND A.4.3.5-1/1 AND A.4.3.5-1/5 THEN R ELSE N/A
C090	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND NOT A.4.3.1-7a/3 AND A.4.3.5-1/1 AND A.4.3.5-1/5 THEN R ELSE N/A
C091	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) AND A.4.3.5-1/1 AND A.4.3.5-1/5 THEN R ELSE N/A
C092	IF A.4.1-1/2 AND A.4.1-2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.5-1/1 AND A.4.3.5-1/5 THEN R ELSE N/A
C093	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/45 THEN R ELSE N/A
C094	IF ((A.4.1-1/1 AND A.4.1-1/1) OR (A.4.1-1/1 AND A.4.1-1/2) OR (A.4.1-1/2 AND A.4.1-1/1) OR (A.4.1-1/2 AND A.4.1-1/2)) AND A.4.1-3/1 AND A.4.3.6-1/45 THEN R ELSE N/A
C095	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.6-1/45 THEN R ELSE N/A
C096	IF ((A.4.1-1/1 OR A.4.1-1/2) AND [10] A.4.1-1/3) THEN R ELSE N/A
C097	IF ((A.4.1-1/1 AND [10]A.4.1-1/1) OR (A.4.1-1/1 AND [10]A.4.1-1/2) OR (A.4.1-1/2 AND [10]A.4.1-1/1) OR (A.4.1-1/2 AND [10]A.4.1-1/2)) AND A.4.1-2/7 AND A.4.1-3/2 AND (A.4.3.11-1/1 OR A.4.3.11-1/3) THEN R ELSE N/A
C098	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.5-1/1 AND (A.4.3.11-1/1 OR A.4.3.11-1/3) THEN R ELSE N/A THEN R ELSE N/A

C099	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.11-1/2 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C100	IF A.4.1-1/3 AND A.4.1-2/7 AND A.4.3.10-1/3 THEN R ELSE N/A
C101	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/9 THEN R ELSE N/A
C102	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/16 THEN R ELSE N/A
C103	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.8-1/15 AND A.4.3.8-1/18 THEN R ELSE N/A
C104	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.8-1/17 AND A.4.3.8-1/18 THEN R ELSE N/A
C105	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/11 THEN R ELSE N/A
C106	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.8-1/11 THEN R ELSE N/A
C107	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/15 THEN R ELSE N/A
C108	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/17 THEN R ELSE N/A
C109	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/15 AND A.4.3.8-1/18 THEN R ELSE N/A
C110	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.8-1/17 AND A.4.3.8-1/18 THEN R ELSE N/A
C111	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/31 AND A.4.3.2-1/57 THEN R ELSE N/A
C112	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/31 AND A.4.3.2-1/57 AND (A.4.1-2/3 OR A.4.1-2/5) THEN R ELSE N/A
C113	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/53 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C113a	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/53 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C113b	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/53 AND A.4.3.2-1/56 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C113c	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/53 AND A.4.3.2-1/56 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C114	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/54 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C114a	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/54 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C114b	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/54 AND A.4.3.2-1/56 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C114c	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/54 AND A.4.3.2-1/56 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C115	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/55 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C115a	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/55 AND A.4.3.2-1/56 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C115b	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/55 AND A.4.3.2-1/56 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C115c	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/55 AND A.4.3.2-1/56 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C116	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/61 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C117	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/61 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C118	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/61 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C119	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/61 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C120	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/12 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C121	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/62 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C122	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/12 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A

C123	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/62 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C124	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/12 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C125	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/12 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C126	IF A.4.1-1/2 AND A.4.1-2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) and A.4.3.2-1/3 THEN R ELSE N/A
C126a	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/2 AND A.4.1-4/3 AND A.4.3.2B.2.0-2A/1 AND A.4.3.2-1/37 THEN R ELSE N/A
C127	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.11-1/2 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C128	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/67 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C129	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/67 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C130	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/67 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C131	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/67 AND (NOT A.4.3.9-1/2 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C132	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A THEN R ELSE N/A
C133	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/74 THEN R ELSE N/A THEN R ELSE N/A
C134	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/72 THEN R ELSE N/A THEN R ELSE N/A
C135	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C136	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.2-1/73 THEN R ELSE N/A
C137	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.2-1/71 AND A.4.3.2-1/75 THEN R ELSE N/A
C138	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C139	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/74 THEN R ELSE N/A
C140	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/72 THEN R ELSE N/A
C141	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C141a	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.5-1/1 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C142	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.5-1/1 AND A.4.3.2-1/73 THEN R ELSE N/A
C142a	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/74 THEN R ELSE N/A
C143	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3) AND A.4.1-3/2 AND A.4.3.5-1/1 AND A.4.3.2-1/71 AND A.4.3.2-1/75 THEN R ELSE N/A
C143a	IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/71 AND A.4.3.2-1/72 THEN R ELSE N/A
C144	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C144a	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/76 THEN R ELSE N/A
C145	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/74 THEN R ELSE N/A
C145a	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.2-1/73 THEN R ELSE N/A
C146	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/71 AND A.4.3.2-1/72 THEN R ELSE N/A
C146a	IF A.4.1-1/1 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.2-1/71 AND A.4.3.2-1/75 THEN R ELSE N/A
C147	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/64 AND A.4.3.2-1/77 THEN R ELSE N/A
C148	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.2-1/64 AND A.4.3.2-1/77 THEN R ELSE N/A
C149	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/64 AND A.4.3.2-1/77 THEN R ELSE N/A
C150	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.5-1/1 AND A.4.3.2-1/64 AND A.4.3.2-1/77 THEN R ELSE N/A
C151	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND (A.4.3.2-1/14 OR A.4.3.2-1/15) THEN R ELSE N/A

C152	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/56 AND A.4.3.2-1/78 AND NOT A.4.3.1-7a/2 THEN R ELSE N/A
C153	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/56 AND A.4.3.2-1/78 AND NOT A.4.3.1-7a/3 THEN R ELSE N/A
C154	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/56 AND A.4.3.2-1/78 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C155	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/56 AND A.4.3.2-1/78 AND (A.4.3.9-4b/38 OR A.4.3.9-4b/41 OR A.4.3.9-4b/77 OR A.4.3.9-4b/78 OR A.4.3.9-4b/79) OR (A.4.3.9-4b/34 OR A.4.3.9-4b/39 OR A.4.3.9-4b/40 OR A.4.3.9-4b/48)) THEN R ELSE N/A
C156	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/79 THEN R ELSE N/A
C157	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/46 THEN R ELSE N/A
C158	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/46 THEN R ELSE N/A
C159	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/46THEN R ELSE N/A
C160	IF A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1 AND A.4.3.2-1/46 THEN R ELSE N/A
C161	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/41a THEN R ELSE N/A
C162	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/41a AND A.4.3.5-1/1 THEN R ELSE N/A
C163	IF (A.4.1-4/4 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.6-1/41a AND A.4.3.2-1/34 THEN R ELSE N/A
C164	IF (A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1) AND A.4.3.6-1/41a THEN R ELSE N/A
C165	IF (A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1) AND A.4.3.6-1/41a AND A.4.3.5-1/1 THEN R ELSE N/A
C166	IF (A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1) AND A.4.3.6-1/41a AND A.4.3.2-1/34 THEN R ELSE N/A
C167	IF (A.4.1-1/2 AND A.4.1-2/8 AND A.4.1-3/1) AND A.4.3.6-1/41a AND A.4.3.6-1/41a AND A.4.3.2-1/34 THEN R ELSE N/A
C168	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.6-1/42 THEN R ELSE N/A
C169	IF A.4.1-1/1 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/62 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C170	IF A.4.1-1/2 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/62 AND (NOT A.4.3.9-1/2 AND A.4.3.9-4a/7 OR (A.4.3.9-4a/1 OR A.4.3.9-4a/2 OR A.4.3.9-4a/3 OR A.4.3.9-4a/66 OR A.4.3.9-4a/70)) THEN R ELSE N/A
C171	IF A.4.1-1/2 AND A.4.1.2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/12 THEN R ELSE N/A
C172	IF A.4.1-1/2 AND A.4.1.2/8 AND (A.4.1-3/1 OR A.4.1-3/2 OR A.4.1-3/3 OR A.4.1-3/5) AND A.4.3.2-1/6 THEN R ELSE N/A
C173	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.2-1/77 THEN R ELSE N/A
C174	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.5-1/1 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.2-1/77 THEN R ELSE N/A
C175	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.2-1/77 THEN R ELSE N/A
C176	IF (A.4.1-4/1 OR A.4.1-4/2 OR A.4.1-4/3 OR A.4.1-4/5) AND A.4.1-3/2 AND A.4.3.5-1/1 AND A.4.3.2-1/64 AND A.4.3.2-1/65 AND A.4.3.2-1/77 THEN R ELSE N/A
C177	IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-2/7 AND A.4.1-3/1 AND A.4.3.12-1/2 THEN R ELSE N/A
NOTE 1: Cxxxx applicability is defined for enhanced type 1 receiver for NR related tests (A.4.3.9-1/1).	
NOTE 2: Cxxxy applicability is defined for alternative additional DMRS position for co-existence with LTE CRS related tests (A.4.3.2-1/20).	
NOTE 3: Cxxxz applicability is defined for modified MPR behaviour related test (A.4.3.2-1/25).	

Table 4.0-2: Tested Bands Selection Criteria

Code	Tested Bands Selection Criteria	Comment
D001	(A.4.3.1-1 OR A.4.3.1-2) AND NOT (A.4.3.1-5 OR A.4.3.1-6)	All supported FR1 Bands without SUL/SDL bands
D002	A.4.3.1-4	All supported FR1 PC2 Bands
D003	A.4.3.1-5	All supported FR1 SUL Bands
D004	{n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n28, n30, n34, n38, n39, n40, n41, n50, n51, n65, n66, n70, n71, n74, n75, n76}	UE supported bands among n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n28, n30, n34, n38, n39, n40, n41, n50, n51, n65, n66, n70, n71, n74, n75, n76
D005	A.4.3.1-3	All supported FR2 Bands
D006	A.4.3.1-1 OR A.4.3.1-2	All supported FR1 Bands
D007	A.4.3.1-1 OR A.4.3.1-2 OR A.4.3.1-3	All supported NR Bands
D008	ANY((A.4.3.1-1) AND 10MHz)	Any FDD FR1 band within the set supporting 10 MHz UE Channel BW
D009	ANY((A.4.3.1-2) AND 20MHz)	Any TDD FR1 band within the set supporting 20 MHz UE Channel BW
D010	ANY((A.4.3.1-2) AND 40MHz)	Any TDD FR1 band within the set supporting 40 MHz UE Channel BW
D011	A.4.3.9-4a OR A.4.3.9-4b	All supported 4 Rx antenna ports Bands
D012	((A.4.3.9-12) AND FDD) AND NOT (A.4.3.1-5 OR A.4.3.1-6)	All supported FDD FR1 bands with UL MIMO capabilities and not SUL/SDL bands
D013	ANY((A.4.3.1-3) AND 50MHz)	Any TDD FR2 band within the set supporting 50 MHz UE Channel BW
D014	ANY((A.4.3.1-3) AND 100MHz)	Any TDD FR2 band within the set supporting 100 MHz UE Channel BW
D015	ANY((A.4.3.1-3) AND 200MHz)	Any TDD FR2 band within the set supporting 200 MHz UE Channel BW
D016	A.4.3.1-9	All supported FR1 sidelink bands
D017	{n40, n41, n77, n78, n79}	UE supported TDD bands among n40, n41, n77, n78, n79
D018	A.4.3.1-2/2e OR A.4.3.1-2/12	All supported FR1 Bands for operation with shared spectrum channel access
D019	{n34, n38, n39, n48, n90} AND 10MHz	TDD FR1 bands among n34, n38, n39, n48, n90 supporting 10MHz UE Channel BW
D020	ANY((A.4.3.1-1 OR A.4.3.1-2) AND NOT (A.4.3.2-1/XX))	Any FDD or TDD FR1 band not supporting TxD Editor's note: XX shall be '84'.
D021	ANY((A.4.3.1-4 AND A.4.3.2-1/XX) OR A.4.3.1-4e)	Any NR FR1 PC2 band supporting TxD OR any NR FR1 PC1.5 band Editor's note: XX shall be '84'.
D022	A.4.3.9-12 AND NOT (A.4.3.1-5 OR A.4.3.1-6)	All supported FR1 Bands with UL MIMO capabilities and not SUL/SDL bands
D023	A.4.3.9-13	All supported FR2 Bands with UL MIMO capabilities

NOTE 1: Band Selection is based on set theory. For each feature, item number shall correspond to the Band number. The result is the set of bands for which the test shall be conducted. The following operators are used:

AND: Set intersection ($\cap$). {n1,n2} AND {n2,n3} = {n2}

OR: Set union ($\cup$). {n1,n2} OR {n2,n3} = {n1,n2,n3}

NOT: Set complement (\), full set being all bands. NOT{n1} = {n2 ...n256}

Also note that this is set without repetitions so {n1} AND {n1} = {n1}

The following basic sets are used:

{n1,n2}: Explicitly given band set

10MHz: All bands supporting 10 MHz

FDD: All bands in FDD mode

Table 4.0-3: Tested CA/DC Configuration Selection Criteria

Code	Tested CA/DC Configuration Selection Criteria	Comment
E001	DL_2CC(A.4.3.2A.2.1-3) AND A.4.3.2B.2.0-1/1 AND NOT UL(A.4.3.2A.2.1-2)	All supported intra-band contiguous CA Configurations with 2 carriers in DL but no CA in UL
E002	DL_2CC(A.4.3.2A.4.1-3) AND A.4.3.2B.2.0-1/1 AND NOT UL(A.4.3.2A.4.1-2)	All supported inter-band CA Configurations with 2 carriers in DL but no CA in UL
E003	UL_2CC(A.4.3.2B.2.1-2) AND A.4.3.2B.2.0-2/1	All supported Intra-band contiguous EN-DC configurations in FR1 (2UL CCs)
E003a	DL_2CC(A.4.3.2B.2.1-2) AND A.4.3.2B.2.0-1/1	All supported Intra-band contiguous EN-DC configurations in FR1 (2DL CCs)
E004	UL_2CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-2/1	All supported Intra-band non-contiguous EN-DC configurations in FR1 (2UL CCs)
E004a	DL_2CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-1/1	All supported Intra-band non-contiguous EN-DC configurations in FR1 (2DL CCs)
E005	UL_2CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-2/1	All supported Inter-band EN-DC configurations within FR1 (2UL CCs)
E005a	DL_2CC(A.4.3.2B.2.3.1-2) OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2 AND A.4.3.2B.2.0-1/1	All supported Inter-band EN-DC configurations within FR1 (2DL CCs)
E005b	UL_NR_1CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-2A/1	All supported Inter-band EN-DC configurations within FR1 with 1 UL NR CC and one or more LTE UL CC(s)
E005c	DL_NR_1CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1A/1	All supported Inter-band EN-DC configurations within FR1 with 1 DL NR CC and one or more LTE DL CC(s)
E005d	A.4.3.2B.2.3.1-3	All supported PC2 Inter-band EN-DC configurations within FR1
E005z	UL_3CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-2/2 AND A.4.3.2B.2.0-2A/1	All supported Inter-band EN-DC configurations within FR1 (2UL E-UTRA CCs, 1UL NR CC)
E006	DL_3CC(A.4.3.2B.2.1-2 OR A.4.3.2B.2.2-2 OR A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1/2	All supported EN-DC configurations within FR1 (3DL CCs)
E007	DL_4CC(A.4.3.2B.2.1-2 OR A.4.3.2B.2.2-2 OR A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1/3	All supported EN-DC configurations within FR1 (4DL CCs)
E008	DL_5CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1/4	All supported EN-DC configurations within FR1 (5DL CCs)
E009	DL_6CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1/5	All supported EN-DC configurations within FR1 (6DL CCs)
E010	UL_NR_1CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-2A/1	All supported Inter-band EN-DC configurations including FR2 (1UL NR CC)
E010a	DL_NR_1CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-1A /1	All supported Inter-band EN-DC configurations including FR2 (1DL NR CC)
E011	UL_NR_2CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-2/2 AND A.4.3.2B.2.0-2A/2	All supported Inter-band EN-DC configurations including FR2 (2UL NR CCs)
E011a	DL_NR_2CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-1/2 AND A.4.3.2B.2.0-1A/2	All supported Inter-band EN-DC configurations including FR2 (2DL NR CCs)
E012	UL_NR_3CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-2/3 AND NR_A.4.3.2B.2.0-2A/3	All supported Inter-band EN-DC configurations including FR2 (3UL NR CCs)
E012a	DL_NR_3CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-1/3 AND A.4.3.2B.2.0-1A/3	All supported Inter-band EN-DC configurations including FR2 (3DL NR CCs)
E013	UL_NR_4CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-2/4 AND A.4.3.2B.2.0-2A/4	All supported Inter-band EN-DC configurations including FR2 (4UL NR CCs)

E013a	DL_NR_4CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-1/4 AND A.4.3.2B.2.0-1A/4	All supported Inter-band EN-DC configurations including FR2 (4DL NR CCs)
E014	DL_NR_5CC(A.4.3.2B.2.3.6-2 OR A.4.3.2B.2.3.7-2 OR A.4.3.2B.2.3.8-2 OR A.4.3.2B.2.3.9-2) AND A.4.3.2B.2.0-1/5 AND A.4.3.2B.2.0-1A/5	All supported Inter-band EN-DC configurations including FR2 (5DL NR CCs)
E015	UL_2CC(A.4.3.2A.2.1-3 OR A.4.3.2A.3.1-3 OR A.4.3.2A.4.1-3 OR A.4.3.2A.4.2-3) AND A.4.3.2A.1-2/1	All supported FR1 2UL CA configurations
E016	DL_2CC(A.4.3.2A.2.1-3 OR A.4.3.2A.3.1-3 OR A.4.3.2A.4.1-3) AND A.4.3.2A.1-1/1	All supported FR1 2DL CA configurations
E017	DL_3CC(A.4.3.2A.2.1-3 OR A.4.3.2A.3.1-3 OR A.4.3.2A.4.1-3 OR A.4.3.2A.4.2-3) AND A.4.3.2A.1-1/2	All supported FR1 3DL CA configurations
E018	DL_4CC(A.4.3.2A.2.1-3 OR A.4.3.2A.3.1-3 OR A.4.3.2A.4.1-3 OR A.4.3.2A.4.2-3) AND A.4.3.2A.1-1/3	All supported FR1 4DL CA configurations
E019	ULTxSwitching(A.4.3.2A.4.1-3)	All supported FR1 2UL CA configurations with ULTxSwitching capability
E020	UL_2CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-2/1	All supported FR2 2UL CA configurations
E021	UL_3CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-2/2	All supported FR2 3UL CA configurations
E022	UL_4CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-2/3	All supported FR2 4UL CA configurations
E023	UL_5CC(A.4.3.2A.2.2-3) AND A.4.3.2A.1-2/4	All supported FR2 5UL CA configurations
E024	UL_6CC(A.4.3.2A.2.2-3) AND A.4.3.2A.1-2/5	All supported FR2 6UL CA configurations
E025	UL_7CC(A.4.3.2A.2.2-3) AND A.4.3.2A.1-2/6	All supported FR2 7UL CA configurations
E026	UL_8CC(A.4.3.2A.2.2-3) AND A.4.3.2A.1-2/7	All supported FR2 8UL CA configurations
E027	DL_NR_2CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-1A/2	All supported Intra-band non-contiguous EN-DC configurations in FR1 (2DL NR CCs)
E028	DL_NR_3CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-1A/3	All supported Intra-band non-contiguous EN-DC configurations in FR1 (3DL NR CCs)
E028a	DL_NR_4CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-1A/4	All supported Intra-band non-contiguous EN-DC configurations in FR1 (4DL NR CCs)
E028b	DL_NR_5CC(A.4.3.2B.2.2-2) AND A.4.3.2B.2.0-1A/5	All supported Intra-band non-contiguous EN-DC configurations in FR1 (5DL NR CCs)
E029	DL_NR_2CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1A/2	All supported Inter-band EN-DC configurations within FR1 (2DL NR CCs)
E030	DL_NR_3CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1A/3	All supported Inter-band EN-DC configurations within FR1 (3DL NR CCs)
E030a	DL_NR_4CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1A/4	All supported Inter-band EN-DC configurations within FR1 (4DL NR CCs)
E030b	DL_NR_5CC(A.4.3.2B.2.3.1-2 OR A.4.3.2B.2.3.2-2 OR A.4.3.2B.2.3.3-2 OR A.4.3.2B.2.3.4-2 OR A.4.3.2B.2.3.5-2) AND A.4.3.2B.2.0-1A/5	All supported Inter-band EN-DC configurations within FR1 (5DL NR CCs)
E031	A.4.3.2C.3-2	All supported FR1 intra-band contiguous 2DL CA with SUL in uplink Configurations
E031b	ULTxSwitching(A.4.3.2B.2.3.1-2)	All supported FR1 2UL inter-band EN-DC configurations with ULTxSwitching capability
E032	DL_2CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/1	All supported FR2 2DL CA configurations
E033	DL_3CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/2	All supported FR2 3DL CA configurations
E034	DL_4CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/3	All supported FR2 4DL CA configurations
E035	DL_5CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/4	All supported FR2 5DL CA configurations
E036	DL_6CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/5	All supported FR2 6DL CA configurations
E037	DL_7CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/6	All supported FR2 7DL CA configurations
E038	DL_8CC(A.4.3.2A.2.2-3 OR A.4.3.2A.3.2-3 OR A.4.3.2A.3.2-3a) AND A.4.3.2A.1-1/7	All supported FR2 8DL CA configurations

NOTE 1: UL(*table_index*) includes all supported CA Configurations where at least one UL CA configuration was declared in column "Supported CA Bandwidth Class(es) in UL" in Table *table_index* in TS 38.508-2 [8].
NOTE 2: UL_*n*CC(table_index) includes all supported CA or DC Configurations where at least one n-carrier UL CA or DC configuration was declared in column "Supported CA Bandwidth Class(es) in UL" or “Supported EN-DC Bandwidth Class(es) in UL” in Table table_index in TS 38.508-2 [8].
NOTE 3: UL_NR_*n*CC(*table_index*) includes all supported DC Configurations where at least one DC configuration with *n*-carrier NR UL CA configuration was declared in column "Supported EN-DC Bandwidth Class(es) in UL" in Table *table_index* in TS 38.508-2 [8].
NOTE 4: DL_*n*CC(*table_index*) includes all supported *n*-carrier CA/DC Configurations in Table *table_index* in TS 38.508-2 [8].
NOTE 5: DL_NR_*n*CC(*table_index*) includes all supported DC Configurations with *n*-carrier NR DL CA configuration in Table *table_index* in TS 38.508-2 [8].
NOTE 6: ULTxSwitching(*table_index*) includes all supported CA/DC/SUL Configurations where at least one uplink band pair was declared in column “Supported ULTxSwitching Band Pair" in Table *table_index* in TS 38.508-2 [8].

4.1 RF conformance test cases

NOTE: To determine applicability of a test case, supported CBW and SCS in the *RF-Parameters* IE (see TS 38.331 [11]) which conveys RF related capabilities for NR operation is taken into account.

4.1.1 FR1 standalone conformance test cases

Table 4.1.1-1: Applicability of RF SA FR1 conformance test cases, ref. TS 38.521-1 [1]

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6	**Transmitter Characteristics**						
6.2.1	UE maximum output power	Rel-15	C001	UEs supporting 5GS FR1	D020	PC1 PC2 PC3	
6.2.2	UE maximum output power reduction	Rel-15	C001	UEs supporting 5GS FR1	D020	PC1 PC2 PC3	Test execution is not necessary if TS 38.521-1 TC 6.5.2.4.1 is executed. Skip TC 6.2.2 if UE supports NSA and TS 38.521-3 TC 6.2B.2.3 or 6.5B.2.3.3.1 has been executed.
6.2.3	UE additional maximum output power reduction	Rel-15	C001	UEs supporting 5GS FR1 PC3	D020	PC1 PC2 PC3	Test execution is not necessary if TS 38.521-1 TC 6.5.2.3, 6.5.2.4.2 and 6.5.3.3 are executed. Skip TC 6.2.3 if UE supports NSA and TS 38.521-3 TC 6.2B.3.3 has been executed or TS 38.521-3 TCs 6.5B.2.3.2, 6.5B.2.3.3.2 and 6.5B.4.3 have been executed.
6.2.4	Configured transmitted power	Rel-15	C001	UEs supporting 5GS FR1	D001	PC1.5 PC2 PC3	
6.2A.1.1	UE maximum output power for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.2A.2.1	UE maximum output power reduction for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		Test execution is not necessary if TS 38.521-1 TC 6.5A.2.4.1.1 is executed.
6.2A.3.1	UE additional maximum output power reduction for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		Test execution is not necessary if TS 38.521-1 TC 6.5A.2.3 and 6.5A.3.3 are executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2A.4.1	Configured transmitted power for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.2C.1	Configured transmitted power for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.2C.3	UE maximum output power for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.2C.4	UE maximum output power reduction for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		Test execution is not necessary if TS 38.521-1 TC 6.5C.2.4.1 is executed.
6.2C.5	UE additional maximum output power reduction for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.2D.1	UE maximum output power for UL MIMO	Rel-15	N/A	Not recommended due to no test points are defined since there is no configuration satisfying MPR=0dB requirements in RAN4.			Maximum Output Power for UL MIMO is tested as part of the MPR test case with using MPR=1.5dB suggested by RAN4.
6.2D.2	UE maximum output power reduction for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022	PC2 PC3	Test execution is not necessary if TS 38.521-1 TC 6.5D.2.4.1 is executed.
6.2D.3	UE additional maximum output power reduction for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		Test execution is not necessary if TS 38.521-1 TC 6.5D.2.3 and 6.5D.3.3 are executed.
6.2D.4	Configured transmitted power for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.2E.2.1	UE maximum output power reduction for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		Test execution is not necessary if TS 38.521-1 TC 6.5E.2.4.1 is executed.
6.2E.2.2	UE maximum output power reduction for V2X / concurrent operation	FFS	FFS	FFS	FFS		
6.2F.1	UE maximum output power for shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
6.2F.3	UE additional maximum output power reduction for shared spectrum access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
6.2I.1	Maximum output power for RedCap	Rel-17	C177	RedCap UEs supporting 5GS FR1	D018		NOTE 1
6.2I.2	UE maximum output power reduction for RedCap	Rel-17	C177	RedCap UEs supporting 5GS FR1	D018		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2I.3	UE additional maximum output power reduction for RedCap	Rel-17	C177	RedCap UEs supporting 5GS FR1	D018		NOTE 1
6.2I.4	Configured output power for RedCap	Rel-17	C177	RedCap UEs supporting 5GS FR1	D018		NOTE 1
6.3.1	Minimum output power	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.3.3.2	General ON/OFF time mask	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.3.3.2 if UE supports NSA and TS 38.521-3 TC 6.3B.3.1 or 6.3B.3.2 or 6.3B.3.3 has been executed.
6.3.3.4	PRACH time mask	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.3.3.4 if UE supports NSA and TS 38.521-3 TC 6.3B.4.1 or 6.3B.4.2 or 6.3B.4.3 has been executed.
6.3.3.6	SRS time mask	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.3.4.2	Absolute power tolerance	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.3.4.3	Relative power tolerance	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.3.4.4	Aggregate power tolerance	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.3A.1.1	Minimum output power for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.3A.3.1	Transmit ON/OFF time mask for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.3A.3.1_1	Time mask for switching between two uplink carriers	Rel-16	C051	UEs supporting 5GS FR1 and Inter-band CA (2UL CA) and dynamic UL Tx switching	E019		NOTE 1
6.3A.4.1	Absolute power tolerance for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.3A.4.2	Power control relative power tolerance for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.3A.4.3	Aggregate power tolerance for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	E015		
6.3C.1	Minimum output power for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.3C.3	Transmit ON/OFF time mask for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.3C.4.1	Absolute power tolerance for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.3C.4.2	Relative power tolerance for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.3C.4.3	Aggregate power tolerance for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.3D.1	Minimum output power for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.3D.3	Transmit ON/OFF time mask for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3D.4.1	Absolute power tolerance for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.3D.4.2	Relative power tolerance for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.3D.4.3	Aggregate power tolerance for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.3E.1.1	Minimum output power for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		
6.3E.1.1D	Minimum output power for V2X / non-concurrent operation / SL-MIMO	Rel-16	C100	UEs supporting 5GS FR1 and NR sidelink and SL-MIMO	D016		NOTE 1
6.4.1	Frequency error	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.4.1 if UE supports NSA and TS 38.521-3 TC 6.4B.1.1 or 6.4B.1.2 or 6.4B.1.3 has been executed.
6.4.2.1	Error vector magnitude	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.4.2.1 if UE supports NSA and TS 38.521-3 TC 6.4B.2.1.1 or 6.4B.2.2.1 or 6.4B.2.3.1 has been executed.
6.4.2.1a	Error Vector Magnitude including symbols with transient period	Rel-16	C156	UEs supporting 5GS FR1 AND Band supporting enhancedUL-TransientPeriod	D001		NOTE 1
6.4.2.2	Carrier leakage	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.4.2.2 if UE supports NSA and TS 38.521-3 TC 6.4B.2.1.2 or 6.4B.2.2.2 or 6.4B.2.3.2 has been executed.
6.4.2.3	In-band emissions	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.4.2.3 if UE supports NSA and TS 38.521-3 TC 6.4B.2.2.3 or 6.4B.2.3.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4.2.4	EVM equalizer spectrum flatness	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.4.2.4 if UE supports NSA and TS 38.521-3 TC 6.4B.2.1.4 or 6.4B.2.2.4 or 6.4B.2.3.4 has been executed.
6.4.2.5	EVM equalizer spectrum flatness for Pi/2 BPSK	Rel-15	C050	UEs supporting 5GS FR1 Power Class 3 and pi/2-BPSK modulation scheme for power boosting in FR1	D017		
		Rel-16	C111	UEs supporting 5GS FR1 and pi/2-BPSK modulation scheme and low PAPR DMRS	D001		
6.4A.1.1	Frequency error for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.4A.2.1.1	Error vector magnitude for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.4A.2.2.1	Carrier leakage for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.4A.2.3.1	In-band emissions for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.4C.1	Frequency error for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.4C.2.1	Error vector magnitude for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.4C.2.2	Carrier leakage for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.4C.2.3	In-band emissions for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.4C.2.4	EVM equalizer spectrum flatness for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.4C.2.5	EVM equalizer spectrum flatness for Pi/2 BPSK for SUL	Rel-16	C112	UEs supporting 5GS FR1 and SUL and pi/2-BPSK modulation scheme and low PAPR DMRS	D003		
6.4D.1	Frequency error for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.4D.2.1	Error vector magnitude for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.4D.2.2	Carrier leakage for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.4D.2.3	In-band emissions for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.4D.2.4	EVM equalizer spectrum flatness for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.4D.3	Time alignment error for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4D.4	Requirements for coherent UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.4E.2.2.1	Error Vector Magnitude for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
6.4E.2.2.1D	Error Vector Magnitude for V2X / non-concurrent operation / SL-MIMO	Rel-16	C100	UEs supporting 5GS FR1 and NR sidelink and SL-MIMO	D016		NOTE 1
6.4E.2.4.1	In-band emissions for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
6.4E.2.4.1D	In-band emissions for V2X / non-concurrent operation / SL-MIMO	Rel-16	C100	UEs supporting 5GS FR1 and NR sidelink and SL-MIMO	D016		NOTE 1
6.5.1	Occupied bandwidth	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.5.1 if UE supports NSA and TS 38.521-3 TC 6.5B.1.2 or 6.5B.1.3 has been executed.
6.5.2.2	Spectrum emission mask	Rel-15	C001	UEs supporting 5GS FR1	D001	PC1 PC1.5 PC2 PC3	Skip TC 6.5.2.2 if UE supports NSA and TS 38.521-3 TC 6.5B.2.2.1 or 6.5B.2.3.1 has been executed.
6.5.2.3	Additional spectrum emission mask	Rel-15	C001	UEs supporting 5GS FR1	D001	PC1 PC2 PC3	NOTE 1 Skip TC 6.5.2.3 if UE supports NSA and TS 38.521-3 TC 6.5B.2.3.2 has been executed.
6.5.2.4.1	NR ACLR	Rel-15	C001	UEs supporting 5GS FR1	D020	PC1 PC2 PC3	Skip TC 6.5.2.4.1 if UE supports NSA and TS 38.521-3 TC 6.5B.2.3.3.1 has been executed.
6.5.2.4.2	UTRA ACLR	Rel-15	C001a	UEs supporting 5GS FR1 PC3	D001		Skip TC 6.5.2.4.2 if UE supports NSA and TS 38.521-3 TC 6.5B.2.3.3.2 has been executed.
6.5.3.1	General spurious emissions	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.5.3.1 if UE supports NSA and TS 38.521-3 TC 6.5B.3.1.1 or 6.5B.3.2.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5.3.2	Spurious emissions for UE co-existence	Rel-15	C001	UEs supporting 5GS FR1	D001		
6.5.3.3	Additional spurious emissions	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.5.3.3 if UE supports NSA and TS 38.521-3 TC 6.5B.4.3 has been executed.
6.5.4	Transmit intermodulation	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 6.5.4 if UE supports NSA and TS 38.521-3 TC 6.5B.5.3 has been executed.
6.5A.1.1	Occupied bandwidth for CA (2UL CA)	Rel-15	C004	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.2.2.1	Spectrum emission mask for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.2.4.1.1	NR ACLR for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.2.4.2.1	UTRA ACLR for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.3.1.1	General spurious emissions for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.3.2.1	Spurious emissions for UE co-existence for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5A.4.1	Transmit intermodulation for CA (2UL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and CA (2UL CA)	FFS		NOTE 1
6.5C.1	Occupied bandwidth for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.2.2	Spectrum emission mask for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.2.3	Additional spectrum emission mask for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.2.4.1	NR ACLR for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.2.4.2	UTRA ACLR for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.3.1	General spurious emissions for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.3.2	Spurious emissions for UE co-existence for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.3.3	Additional spurious emissions for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5C.4	Transmit intermodulation for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
6.5D.1	Occupied bandwidth for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.2.2	Spectrum Emission Mask for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.2.3	Additional spectrum emission mask for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.2.4.1	NR ACLR for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5D.2.4.2	UTRA ACLR for UL MIMO	Rel-15y	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3.1	General spurious emissions for UL MIMO	Rel-15 only	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3.2	Spurious emissions for UE co-existence for UL MIMO	Rel-15 only	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3.3	Additional spurious emissions for UL MIMO	Rel-15 only	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3_1.1	General spurious emissions for UL MIMO (Rel-16 onward)	Rel-16	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3_1.2	Spurious emission for UE co-existence for UL MIMO (Rel-16 onward)	Rel-16	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.3_1.3	Additional spurious emissions for UL MIMO(Rel-16 onward)	Rel-16	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5D.4	Transmit intermodulation for UL MIMO	Rel-15	C003	UEs supporting 5GS FR1 and UL MIMO	D022		
6.5E.2.2.1	Spectrum emission mask for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		
6.5E.2.3.1	Additional Spectrum emission mask for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
6.5E.2.4.1	Adjacent channel leakage ratio for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		
6.5E.3.2.1	Spurious emissions for UE co-existence for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
6.5E.3.3.1	Additional spurious emissions requirements for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
6.5F.2.2	Spectrum emission mask for operation with shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
6.5F.2.4	Adjacent channel leakage ratio for operation with shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
6.5F.3.1	General spurious emissions	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
6.2G	**Transmitter power for Tx Diversity**						
6.2G.1	UE maximum output power for Tx Diversity	Rel-15	C001g	UEs supporting 5GS FR1 and transparent Tx diversity at least one NR FR1 band	D021	PC2	

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2G.2	UE maximum output power reduction for Tx Diversity	Rel-15	C001g	UEs supporting 5GS FR1 and transparent Tx diversity at least one NR FR1 band	D021	PC1.5 PC2	
6.2G.3	UE additional maximum output power reduction	Rel-15	C001g	UEs supporting 5GS FR1 and transparent Tx diversity at least one NR FR1 band	D021	PC1.5 PC2	
6.5G.2.3	Adjacent channel leakage ratio	Rel-15	C001g	UEs supporting 5GS FR1 and transparent Tx diversity at least one NR FR1 band	D021	PC1.5 PC2	
7	**Receiver Characteristics**						
7.3.2	Reference sensitivity power level	Rel-15	C001	UEs supporting 5GS FR1	D001	2Rx 4Rx	
7.3A.1	Reference sensitivity power level for 2DL CA without exception	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.3A.1_1	Reference sensitivity power level for 2DL CA exceptions	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.3A.2	Reference sensitivity level for CA (3DL CA)	FFS	FFS	FFS	FFS		NOTE 1
7.3A.3	Reference sensitivity level for CA (4DL CA)	FFS	FFS	FFS	FFS		NOTE 1
7.3C.2	Reference sensitivity power level for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
7.3D.2	Reference sensitivity power level for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.3E.2	Reference sensitivity for V2X / non-concurrent operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016		NOTE 1
7.3F.2	Reference sensitivity for shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
7.4	Maximum input level	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 7.4 if UE supports NSA and TS 38.521-3 TC 7.4B.3 or 7.4B.4 has been executed.
7.4A.1	Maximum input level for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.4A.2	Maximum input level for CA (3DL CA)	Rel-16	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017		
7.4A.3	Maximum input level for CA (4DL CA)	FFS	FFS	FFS	FFS		NOTE 1
7.4D	Maximum input level for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.5	Adjacent channel selectivity	Rel-15	C001	UEs supporting 5GS FR1	D001		NOTE 1 Skip TC 7.5 if UE supports NSA and TS 38.521-3 TC 7.5B.2 or 7.5B.3 has been executed.
7.5A.1	Adjacent channel selectivity for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.5A.2	Adjacent channel selectivity for 3DL CA	FFS	FFS	FFS	FFS		NOTE 1
7.5A.3	Adjacent channel selectivity for 4DL CA	FFS	FFS	FFS	FFS		NOTE 1
7.5D	Adjacent channel selectivity for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.5F.1	Adjacent channel selectivity for shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
7.6.2	In-band blocking	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 7.6.2 if UE supports NSA and TS 38.521-3 TC 7.6B.2.2 or 7.6B.2.3 has been executed.
7.6.3	Out-of-band blocking	Rel-15	C001	UEs supporting 5GS FR1	D001		
7.6.4	Narrow band blocking	Rel-15	C001	UEs supporting 5GS FR1	D004		Skip TC 7.6.4 if UE supports NSA and TS 38.521-3 TC 7.6B.4.2 or 7.6B.4.3 has been executed.
7.6A.2.1	In-band blocking for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.6A.2.2	In-band blocking for CA (3DL CA)	Rel-16	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017		
7.6A.2.3	In-band blocking for CA (4DL CA)	Rel-16	C036	UEs supporting 5GS FR1 and CA (4DL CA)	E018		NOTE 1 Skip TC 7.6A.2.3 if UE supports NSA and TS 38.521-3 TC 7.6B.2.3_1.3 has been executed.
7.6A.3.1	Out-of-band blocking for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.6A.3.2	Out-of-band blocking for CA (3DL CA)	Rel-16	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017		
7.6A.3.3	Out-of-band blocking for CA (4DL CA)	Rel-16	C036	UEs supporting 5GS FR1 and CA (4DL CA)	E018		

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.6A.4.1	Narrow band blocking for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.6A.4.2	Narrow band blocking for CA (3DL CA)	Rel-16	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017		
7.6A.4.3	Narrow band blocking for CA (4DL CA)	Rel-16	C036	UEs supporting 5GS FR1 and CA (4DL CA)	E018		Skip TC 7.6A.4.3 if UE supports NSA and TS 38.521-3 TC 7.6B.4.3_1.3 has been executed.
7.6C.2	In-band blocking for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
7.6C.2_1	Inband Blocking for SUL with DL CA	Rel-17	C078	UEs supporting 5GS FR1 and SUL and intra-band contiguous CA (2DL CA)	E031		
7.6C.3	Out-of-band blocking for SUL	Rel-15	C002	UEs supporting 5GS FR1 and SUL	D003		
7.6C.3_1	Out-of-band blocking for SUL with DL CA	Rel-17	C078	UEs supporting 5GS FR1 and SUL and intra-band contiguous CA (2DL CA)	E031		
7.6D.2	In-band blocking for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.6D.3	Out-of-band blocking for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.6D.4	Narrow band blocking for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.6F.2	In-band blocking for shared spectrum channel access	Rel-16	C001c	UEs supporting 5GS FR1 and operation with shared spectrum channel access	D018		
7.7	Spurious response	Rel-15	C001	UEs supporting 5GS FR1	D001		
7.7A.1	Spurious response for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.7A.2	Spurious response for CA (3DL CA)	Rel-16	FFS	UEs supporting 5GS FR1 and CA (3DL CA)	FFS		NOTE 1
7.7A.3	Spurious response for CA (4DL CA)	Rel-16	FFS	UEs supporting 5GS FR1 and CA (4DL CA)	FFS		NOTE 1
7.7D	Spurious response for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.8.2	Wide band Intermodulation	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 7.8.2 if UE supports NSA and TS 38.521-3 TC 7.8B.2.2 or 7.8B.2.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.8A.2.1	Wide band Intermodulation for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016		
7.8A.2.2	Wide band Intermodulation for CA (3DL CA)	Rel-16	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017		
7.8A.2.3	Wide band Intermodulation for CA (4DL CA)	Rel-16	C036	UEs supporting 5GS FR1 and CA (4DL CA)	E018		
7.8D.2	Wide band Intermodulation for UL MIMO	Rel-15	C003a	UEs supporting 5GS FDD FR1 and UL MIMO	D012		
7.9	Spurious emissions	Rel-15	C001	UEs supporting 5GS FR1	D001		Skip TC 7.9 if UE supports NSA and TS 38.521-3 TC 7.9B.1 or 7.9B.2 or 7.9B.3 has been executed.
7.9A.1	Spurious emissions for CA (2DL CA)	Rel-15	C005	UEs supporting 5GS FR1 and inter-band 2DL CA with a DL-only band	E002		
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.521-1.							

Table 4.1.1-1a: Void

Table 4.1.1-1b: Void

Table 4.1.1-1c: Void

4.1.2 FR2 standalone conformance test cases

Table 4.1.2-1: Applicability of RF SA FR2 conformance test cases, ref. TS 38.521-2 [2]

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6	**Transmitter Characteristics**						
6.2.1.1	UE maximum output power - EIRP and TRP	Rel-15	C006	Release 15 UEs supporting 5GS FR2 and Release 16 and forward UEs supporting 5GS FR2 and not supporting either CSI-RS or SSB based enhanced Beam Correspondence	D005	PC1 PC2 PC3 PC4	Skip TC 6.2.1.1 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4.1 has been executed.
6.2.1.2	UE maximum output power - Spherical coverage	Rel-15	C007	Release 15 UEs supporting 5GS FR2 and Release 16 and forward UEs supporting 5GS FR2 and not supporting either CSI-RS or SSB based enhanced Beam Correspondence	D005	PC1 PC2 PC3 PC4	Skip TC 6.2.1.2 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4.2 has been executed.
6.2.1.1_1	UE maximum output power - EIRP and TRP (Rel16 and fwd)	Rel-16	C006	UEs supporting 5GS FR2 and supporting either SSB-based or CSI-RS based enhanced beam correspondence	D005	PC1 PC2 PC3 PC4	Skip TC 6.2.1.1_1 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4.1 has been executed.
6.2.1.2_1	UE maximum output power - Spherical coverage (Rel16 and fwd)	Rel-16	C007	UEs supporting 5GS FR2 and supporting either SSB-based or CSI-RS based enhanced beam correspondence without UL beam sweeping	D005	PC1 PC2 PC3 PC4	Skip TC 6.2.1.2 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4.2 has been executed.
6.2.2	UE maximum output power reduction	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	Skip TC 6.2.2 if UE supports NSA and TS 38.521-3 TC 6.2B.2.4 has been executed.
6.2.3	UE maximum output power with additional requirements	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 6.2.3 if UE supports NSA and TS 38.521-3 TC 6.2B.3.4 has been executed.
6.2A.1.1.1	UE maximum output power - EIRP and TRP for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.1.1 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.1.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2A.1.1.2	UE maximum output power - EIRP and TRP for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.1.2 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.2.1 has been executed.
6.2A.1.1.3	UE maximum output power - EIRP and TRP for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.1.3 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.3.1 has been executed.
6.2A.1.1.4	UE maximum output power - EIRP and TRP for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.1.5	UE maximum output power - EIRP and TRP for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.1.6	UE maximum output power - EIRP and TRP for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.1.7	UE maximum output power - EIRP and TRP for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.2.1	UE maximum output power - Spherical coverage for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.2.1 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.1.2 has been executed.
6.2A.1.2.2	UE maximum output power - Spherical coverage for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.2.2 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.2.2 has been executed.
6.2A.1.2.3	UE maximum output power - Spherical coverage for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	Skip TC 6.2A.1.2.3 if UE supports NSA and TS 38.521-3 TC 6.2B.1.4_1.3.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2A.1.2.4	UE maximum output power - Spherical coverage for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.2.5	UE maximum output power - Spherical coverage for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.2.6	UE maximum output power - Spherical coverage for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1
6.2A.1.2.7	UE maximum output power - Spherical coverage for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.2A.2.1	UE maximum output power reduction for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	NOTE 1
6.2D.1.1	UE maximum output power - EIRP and TRP for UL MIMO	Rel-15	C151	UEs supporting 5GS FR2 and UL-MIMO	D005	PC1 PC2 PC3 PC4	NOTE 1
6.2D.1.2	UE maximum output power - Spherical coverage for UL MIMO	Rel-15	C151	UEs supporting 5GS FR2 and UL-MIMO	D005	PC1 PC2 PC3 PC4	NOTE 1
6.3.1	Minimum output power	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	Skip TC 6.3.1 if UE supports NSA and TS 38.521-3 TC 6.3B.1.4 has been executed.
6.3.2	Transmit OFF power	Rel-15	C006	UEs supporting 5GS FR2	D005		
6.3.3.2	General ON/OFF time mask	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.3.3.2 if UE supports NSA and TS 38.521-3 TC 6.3B.3.4 has been executed.
6.3.3.4	PRACH time mask	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1
6.3.4.2	Absolute power tolerance	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1
6.3.4.3	Relative power tolerance	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1
6.3.4.4	Aggregate power tolerance	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3A.1.1	Minimum output power for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.2	Minimum output power for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.3	Minimum output power for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.4	Minimum output power for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.5	Minimum output power for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.6	Minimum output power for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1
6.3A.1.7	Minimum output power for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.3A.2.1	Void						
6.3A.2.2	Void						
6.3A.2.3	Void						
6.3A.3.1.1	General ON/OFF time mask for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		NOTE 1
6.3A.4.2.1	Absolute power tolerance for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		NOTE 1
6.3A.4.2.2	Absolute power tolerance for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1
6.3A.4.2.3	Absolute power tolerance for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1
6.3A.4.2.4	Absolute power tolerance for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3A.4.2.5	Absolute power tolerance for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.3A.4.2.6	Absolute power tolerance for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.3A.4.2.7	Absolute power tolerance for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.3A.4.4.1	Aggregate power tolerance for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		NOTE 1
6.3A.4.4.2	Aggregate power tolerance for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1
6.3A.4.4.3	Aggregate power tolerance for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1
6.3A.4.4.4	Aggregate power tolerance for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1
6.3A.4.4.5	Aggregate power tolerance for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.3A.4.4.6	Aggregate power tolerance for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.3A.4.4.7	Aggregate power tolerance for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.3D.1	Minimum output power for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023	PC1 PC2 PC3 PC4	NOTE 1
6.3D.2	Transmit OFF power for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023		NOTE 1
6.3D.3.1	General ON/OFF time mask for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023		NOTE 1
6.3D.3.4	SRS time mask for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023		NOTE 1
6.4.1	Frequency error	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.4.1 if UE supports NSA and TS 38.521-3 TC 6.4B.1.4 has been executed.
6.4.2.1	Error vector magnitude	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 6.4.2.1 if UE supports NSA and TS 38.521-3 TC 6.4B.2.4.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4.2.2	Carrier leakage	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	Skip TC 6.4.2.2 if UE supports NSA and TS 38.521-3 TC 6.4B.2.4.2 has been executed.
6.4.2.3	In-band emissions	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 6.4.2.3 if UE supports NSA and TS 38.521-3 TC 6.4B.2.4.3 has been executed.
6.4.2.4	EVM equalizer spectrum flatness	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1 Skip TC 6.4.2.4 if UE supports NSA and TS 38.521-3 TC 6.4B.2.4.4 has been executed.
6.4.2.5	EVM spectral flatness for pi/2 BPSK modulation	Rel-15	C006b	UEs supporting 5GS FR2 and pi/2 BPSK modulation	D005		NOTE 1 Skip TC 6.4.2.5 if UE supports NSA and TS 38.521-3 TC 6.4B.2.4.5 has been executed.
6.4A.1.1	Frequency error for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		NOTE 1
6.4A.1.2	Frequency error for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1
6.4A.1.3	Frequency error for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1
6.4A.2.1.1	Error vector magnitude for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.1.2	Error vector magnitude for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.1.3	Error vector magnitude for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4A.2.1.4	Error vector magnitude for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.1.5	Error vector magnitude for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.1.6	Error vector magnitude for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.1.7	Error vector magnitude for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.1	Carrier leakage for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.2	Carrier leakage for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.3	Carrier leakage for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.4	Carrier leakage for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.5	Carrier leakage for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.2.6	Carrier leakage for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4A.2.2.7	Carrier leakage for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.1	In-band emissions for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 CA (2UL CA)	E020	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.2	In-band emissions for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.3	In-band emissions for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.4	In-band emissions for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.5	In-band emissions for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.6	In-band emissions for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025	PC1 PC2 PC3 PC4	NOTE 1
6.4A.2.3.7	In-band emissions for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026	PC1 PC2 PC3 PC4	NOTE 1
6.4D.1	Frequency error for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023		NOTE 1
6.4D.3	Time alignment error for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D023		NOTE 1
6.5.1	Occupied bandwidth	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.5.1 if UE supports NSA and TS 38.521-3 TC 6.5B.1.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5.2.1	Spectrum Emission Mask	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.5.2.1 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.1 has been executed.
6.5.2.3	Adjacent channel leakage ratio	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.5.2.3 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.3 has been executed.
6.5.3.1	Transmitter Spurious emissions	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.5.3.1 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.1 has been executed.
6.5.3.2	Spurious emission band UE co-existence	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 6.5.3.2 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.2 has been executed.
6.5.3.3	Additional spurious emissions	Rel-15	C006	UEs supporting 5GS FR2	D005		NOTE 1
6.5A.1.1	Occupied bandwidth for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		NOTE 1 Skip TC 6.5A.1.1 if UE supports NSA and TS 38.521-3 TC 6.5B.1.4_1.1 has been executed.
6.5A.1.2	Occupied bandwidth for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1 Skip TC 6.5A.1.2 if UE supports NSA and TS 38.521-3 TC 6.5B.1.4_1.2 has been executed.
6.5A.1.3	Occupied bandwidth for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1 Skip TC 6.5A.1.3 if UE supports NSA and TS 38.521-3 TC 6.5B.1.4_1.3 has been executed.
6.5A.1.4	Occupied bandwidth for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5A.1.5	Occupied bandwidth for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.5A.1.6	Occupied bandwidth for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.5A.1.7	Occupied bandwidth for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.5A.2.1.1	Spectrum Emission Mask for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		Skip TC 6.5A.2.1.1 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.1_1.1 has been executed.
6.5A.2.1.2	Spectrum Emission Mask for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1 Skip TC 6.5A.2.1.2 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.1_1.2 has been executed.
6.5A.2.1.3	Spectrum Emission Mask for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1 Skip TC 6.5A.2.1.3 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.1_1.3 has been executed.
6.5A.2.1.4	Spectrum Emission Mask for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1
6.5A.2.1.5	Spectrum Emission Mask for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.5A.2.1.6	Spectrum Emission Mask for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.5A.2.1.7	Spectrum Emission Mask for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.5A.2.2.1	Adjacent channel leakage ratio for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		Skip TC 6.5A.2.2.1 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.3_1.1 has been executed.
6.5A.2.2.2	Adjacent channel leakage ratio for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		Skip TC 6.5A.2.2.2 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.3_1.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5A.2.2.3	Adjacent channel leakage ratio for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		Skip TC 6.5A.2.2.3 if UE supports NSA and TS 38.521-3 TC 6.5B.2.4.3_1.3 has been executed.
6.5A.2.2.4	Adjacent channel leakage ratio for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1
6.5A.2.2.5	Adjacent channel leakage ratio for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.5A.2.2.6	Adjacent channel leakage ratio for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.5A.2.2.7	Adjacent channel leakage ratio for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.5A.3.1.1	General spurious emissions for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 and CA (2UL CA)	E020		Skip TC 6.5A.3.1.1 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.1_1.1 has been executed.
6.5A.3.1.2	General spurious emissions for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		Skip TC 6.5A.3.1.2 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.1_1.2 has been executed.
6.5A.3.1.3	General spurious emissions for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		Skip TC 6.5A.3.1.3 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.1_1.3 has been executed.
6.5A.3.1.4	Transmitter Spurious emissions for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		
6.5A.3.1.5	Transmitter Spurious emissions for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		
6.5A.3.1.6	Transmitter Spurious emissions for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		
6.5A.3.1.7	Transmitter Spurious emissions for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		
6.5A.3.2.1	Spurious emission band UE co-existence for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 CA (2UL CA)	E020		Skip TC 6.5A.3.2.1 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.2_1.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5A.3.2.2	Spurious emission band UE co-existence for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		Skip TC 6.5A.3.2.2 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.2_1.2 has been executed.
6.5A.3.2.3	Spurious emission band UE co-existence for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		Skip TC 6.5A.3.2.3 if UE supports NSA and TS 38.521-3 TC 6.5B.3.4.2_1.3 has been executed.
6.5A.3.2.4	Spurious emission band UE co-existence for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		
6.5A.3.2.5	Spurious emission band UE co-existence for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		
6.5A.3.2.6	Spurious emission band UE co-existence for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		
6.5A.3.2.7	Spurious emission band UE co-existence for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		
6.5A.3.3.1	Additional spurious emissions for CA (2UL CA)	Rel-15	C053	UEs supporting 5GS FR2 CA (2UL CA)	E020		NOTE 1
6.5A.3.3.2	Additional spurious emissions for CA (3UL CA)	Rel-15	C054	UEs supporting 5GS FR2 and CA (3UL CA)	E021		NOTE 1
6.5A.3.3.3	Additional spurious emissions for CA (4UL CA)	Rel-15	C055	UEs supporting 5GS FR2 and CA (4UL CA)	E022		NOTE 1
6.5A.3.3.4	Additional spurious emissions for CA (5UL CA)	Rel-15	C056	UEs supporting 5GS FR2 and CA (5UL CA)	E023		NOTE 1
6.5A.3.3.5	Additional spurious emissions for CA (6UL CA)	Rel-15	C057	UEs supporting 5GS FR2 and CA (6UL CA)	E024		NOTE 1
6.5A.3.3.6	Additional spurious emissions for CA (7UL CA)	Rel-15	C058	UEs supporting 5GS FR2 and CA (7UL CA)	E025		NOTE 1
6.5A.3.3.7	Additional spurious emissions for CA (8UL CA)	Rel-15	C059	UEs supporting 5GS FR2 and CA (8UL CA)	E026		NOTE 1
6.5D.1	Occupied bandwidth for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1
6.5D.2.1	Spectrum Emission Mask for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1
6.5D.2.2	Adjacent channel leakage ratio for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1
6.5D.3.1	Transmitter Spurious emissions for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5D.3.2	Spurious emission band UE co-existence for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1
6.5D.3.3	Additional spurious emissions for UL MIMO	Rel-15	C060	UEs supporting 5GS FR2 and UL MIMO	D005		NOTE 1
6.6.1	Beam correspondence - EIRP	Rel-15	C008	Release 15UEs supporting 5GS FR2 and not beam correspondence without UL beam sweeping and release 16 and forward UEs that do not support SSB-based or CSI-RS based enhanced beam correspondence and do not support enhanced beam correspondence without UL beam sweeping	D005		NOTE 1
6.6.2	Enhanced Beam correspondence - EIRP	Rel-16	C008	UEs supporting 5GS FR2 and support either CSI-RS or SSB based beam correspondence and do not support beam correspondence without UL beam sweeping	D005		NOTE 1
7	**Receiver Characteristics**						
7.3.2	Reference sensitivity power level	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	Skip TC 7.3.2 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4 has been executed.
7.3A.2.1	Reference sensitivity power level for CA (2DL CA)	Rel-15	C006c	UEs supporting 5GS FR2 and CA (2DL CA)	E032	PC1 PC2 PC3 PC4	Skip TC 7.3A.2.1 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.1 has been executed
7.3A.2.2	Reference sensitivity power level for CA (3DL CA)	Rel-15	C006d	UEs supporting 5GS FR2 and CA (3DL CA)	E033	PC1 PC2 PC3 PC4	Skip TC 7.3A.2.2 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.2 has been executed
7.3A.2.3	Reference sensitivity power level for CA (4DL CA)	Rel-15	C006e	UEs supporting 5GS FR2 and CA (4DL CA)	E034	PC1 PC2 PC3 PC4	Skip TC 7.3A.2.3 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.3 has been executed

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.3A.2.4	Reference sensitivity power level for CA (5DL CA)	Rel-15	C006f	UEs supporting 5GS FR2 and CA (5DL CA)	E035	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 7.3A.2.4 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.4 has been executed
7.3A.2.5	Reference sensitivity power level for CA (6DL CA)	Rel-15	C006g	UEs supporting 5GS FR2 and CA (6DL CA)	E036	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 7.3A.2.5 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.5 has been executed
7.3A.2.6	Reference sensitivity power level for CA (7DL CA)	Rel-15	C006h	UEs supporting 5GS FR2 and CA (7DL CA)	E037	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 7.3A.2.6 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.6 has been executed
7.3A.2.7	Reference sensitivity power level for CA (8DL CA)	Rel-15	C006i	UEs supporting 5GS FR2 and CA (8DL CA)	E038	PC1 PC2 PC3 PC4	NOTE 1 Skip TC 7.3A.2.7 if UE supports NSA and TS 38.521-3 TC 7.3B.2.4_1.7 has been executed
7.3.4	EIS spherical coverage	Rel-15	C006	UEs supporting 5GS FR2	D005	PC1 PC2 PC3 PC4	Skip TC 7.3.4 if UE supports NSA and TS 38.521-3 TC 7.3B.4 has been executed.
7.3A.3.1	EIS spherical coverage for CA (2DL CA)	Rel-16	C006c	UEs supporting 5GS FR2 and CA (2DL CA)	E032	PC1 PC2 PC3 PC4	NOTE 1
7.3A.3.2	EIS spherical coverage for CA (3DL CA)	Rel-16	C006d	UEs supporting 5GS FR2 and CA (3DL CA)	E033	PC1 PC2 PC3 PC4	NOTE 1
7.3A.3.3	EIS spherical coverage for CA (4DL CA)	Rel-16	C006e	UEs supporting 5GS FR2 and CA (4DL CA)	E034	PC1 PC2 PC3 PC4	NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.3A.3.4	EIS spherical coverage for CA (5DL CA)	Rel-16	C006f	UEs supporting 5GS FR2 and CA (5DL CA)	E035	PC1 PC2 PC3 PC4	NOTE 1
7.3A.3.5	EIS spherical coverage for CA (6DL CA)	Rel-16	C006g	UEs supporting 5GS FR2 and CA (6DL CA)	E036	PC1 PC2 PC3 PC4	NOTE 1
7.3A.3.6	EIS spherical coverage for CA (7DL CA)	Rel-16	C006h	UEs supporting 5GS FR2 and CA (7DL CA)	E037	PC1 PC2 PC3 PC4	NOTE 1
7.3A.3.7	EIS spherical coverage for CA (8DL CA)	Rel-16	C006i	UEs supporting 5GS FR2 and CA (8DL CA)	E038	PC1 PC2 PC3 PC4	NOTE 1
7.4	Maximum input level	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.1	Maximum input level for CA (2DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.2	Maximum input level for CA (3DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.3	Maximum input level for CA (4DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.4	Maximum input level for CA (5DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.5	Maximum input level for CA (6DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.6	Maximum input level for CA (7DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.4A.7	Maximum input level for CA (8DL CA)	Rel-15	N/A	not recommended due to testability issues	N/A		NOTE 1
7.5	Adjacent channel selectivity	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 7.5 if UE supports NSA and TS 38.521-3 TC 7.5B.4 has been executed.
7.6.2	In-band blocking	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 7.6.2 if UE supports NSA and TS 38.521-3 TC 7.6B.2.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.9	Spurious emissions	Rel-15	C006	UEs supporting 5GS FR2	D005		Skip TC 7.9 if UE supports NSA and TS 38.521-3 TC 7.9B.4 has been executed.
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band/CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.521-2. NOTE 2: Void. NOTE 3: Void. NOTE 4: Void.							

Table 4.1.2-1a: Void

Table 4.1.2-1b: Void

Table 4.1.2-1c: Void

4.1.3 NR interworking between NR FR1 and NR FR2 and between NR and LTE conformance test cases

Table 4.1.3-1: Applicability of RF EN-DC FR1 and FR2 conformance test cases, ref. TS 38.521-3 [3]

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6	**Transmitter characteristics**						
6.2B	**Transmitter power for DC**						
6.2B.1.1	UE Maximum Output Power for Intra-Band Contiguous EN-DC	Rel-15	C009	UEs supporting Intra-Band Contiguous EN-DC (2UL CCs)	E003		NOTE 1
6.2B.1.2	UE Maximum Output Power for Intra-Band Non-Contiguous EN-DC	Rel-15	C010	UEs supporting Intra-Band non-contiguous EN-DC (2UL CCs)	E004		
6.2B.1.3	UE Maximum Output Power for Inter-Band EN-DC within FR1 (1 E-UTRA CC, 1 NR CC)	Rel-15	C011	UEs supporting Inter-Band EN-DC within FR1 (2UL CCs)	E005 E005d	PC3 PC2	
6.2B.1.3_1	UE Maximum Output Power for Inter-Band EN-DC within FR1 (2 E-UTRA CCs, 1 NR CC)	Rel-16	C011d	UEs supporting Inter-Band EN-DC within FR1 (2UL E-UTRA CCs, 1UL NR CC)	E005z	PC3	
6.2B.1.4.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 (1 NR CC) - EIRP and TRP	Rel-15	C012	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC	E010	PC1 PC2 PC3 PC4	NOTE 5 Skip TC 6.2B.1.4.1 if UE supports SA and TSC 38.521-2 TC 6.2.1.1 has been executed.
6.2B.1.4.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 (1 NR CC) - Spherical Coverage	Rel-15	C012	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC	E010	PC1 PC2 PC3 PC4	NOTE 5 Skip TC 6.2B.1.4.2 if UE supports SA and TSC 38.521-2 TC 6.2.1.2 has been executed.
6.2B.1.4_1	**UE Maximum Output Power for Inter-Band EN-DC including FR2 (>1 NR CC)**						
6.2B.1.4_1.1.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 (2 NR CCs) - EIRP and TRP	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.1.1 if UE supports SA and TS 38.521-2 TC 6.2A.1.1.1 has been executed.
6.2B.1.4_1.1.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 (2 NR CCs) - Spherical Coverage	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2B.1.4_1.2.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 (3 NR CCs) - EIRP and TRP	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.2.1 if UE supports SA and TS 38.521-2 TC 6.2A.1.1.2 has been executed.
6.2B.1.4_1.2.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 (3 NR CCs) - Spherical Coverage	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1
6.2B.1.4_1.3.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 (4 NR CCs) - EIRP and TRP	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.3.1 if UE supports SA and TS 38.521-2 TC 6.2A.1.1.3 has been executed.
6.2B.1.4_1.3.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 (4 NR CCs) - Spherical Coverage	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.3.1 if UE supports SA and TS 38.521-2 TC 6.2A.1.2.3 has been executed.
6.2B.1.4_1.4.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 (5 NR CCs) - EIRP and TRP	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.4.1 if UE supports SA and TS 38.521-2 TC 6.2A.1.1.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2B.1.4_1.4.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 (5 NR CCs) - Spherical Coverage	Rel-15	FFS	FFS	FFS	PC1 PC2 PC3 PC4	NOTE 1 NOTE 5 Skip TC 6.2B.1.4_1.4.2 if UE supports SA and TS 38.521-2 TC 6.2A.1.2.4 has been executed.
6.2B.1.4D.1	UE Maximum Output Power for Inter-Band EN-DC including FR2 for UL MIMO - EIRP and TRP	FFS	FFS	FFS	FFS		NOTE 1
6.2B.1.4D.2	UE Maximum Output Power for Inter-Band EN-DC including FR2 for UL MIMO - Spherical Coverage	FFS	FFS	FFS	FFS		NOTE 1
6.2B.2.1	UE Maximum Output Power reduction for Intra-Band Contiguous EN-DC	Rel-15	C009	UEs supporting Intra-Band Contiguous EN-DC (2UL CCs)	E003		Test execution is not necessary if TS 38.521-3 TC 6.5B.2.1.3 is executed.
6.2B.2.2	UE Maximum Output Power reduction for Intra-Band Non-Contiguous EN-DC	Rel-15	C010	UEs supporting Intra-Band non-contiguous EN-DC (2UL CCs)	E004		Test execution is not necessary if TS 38.521-3 TC 6.5B.2.2.3 has been executed.
6.2B.2.3	UE Maximum Output Power reduction for Inter-Band EN-DC within FR1 (1 NR CC)	Rel-15	C011	UEs supporting Inter-Band EN-DC within FR1 with 1 NR UL CC	E005b	PC3 PC2	NOTE 5 Test execution is not necessary if TS 38.521-3 TC 6.5B.2.3.3.1 is executed. Skip TC 6.2B.2.3 if UE supports SA and TS 38.521-1 TC 6.2.2 or 6.5.2.4.1 has been executed.
6.2B.2.4	UE Maximum Output Power reduction for Inter-Band EN-DC including FR2 (1 NR CC)	Rel-15	C012z	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC and modified MPR behaviour	E010		NOTE 1 NOTE 5 Skip TC 6.2B.2.4 if UE supports SA and TS 38.521-2 TC 6.2.2 has been executed.
6.2B.2.4_1	**UE Maximum Output Power reduction for Inter-Band EN-DC including FR2 (>1 NR CC)**						

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.2B.2.4_1.1	UE Maximum Output Power reduction for Inter-Band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.2B.2.4_1.1 if UE supports SA and TS 38.521-2 TC 6.2A.2.1 has been executed.
6.2B.3.1	UE Additional Maximum Output Power reduction for Intra-band contiguous EN-DC	Rel-15	C009z	UEs supporting Intra-Band Contiguous EN-DC (2UL CCs) and modified MPR behaviour	E003		
6.2B.3.2	UE Additional Maximum Output Power reduction for Intra-Band Non-Contiguous EN-DC	Rel-15	FFS	FFS	FFS		NOTE 1
6.2B.3.3	UE Additional Maximum Output power reduction for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011z	UEs supporting Inter-Band EN-DC within FR1 with 1 NR UL CC and modified MPR behaviour	E005b	PC3 PC2	NOTE 5 Test execution is not necessary if TS 38.521-3 TCs 6.5B.2.3.2, 6.5B.2.3.3.2 and 6.5B.4.3 are executed. Skip TC 6.2B.3.3 if UE supports SA and TS 38.521-1 TC 6.2.3 has been executed, or TS 38.521-1 TCs 6.5.2.3, 6,5,2,4,2 and 6.5.3.3 have been executed.
6.2B.3.4	UE Additional Maximum Output Power reduction for Inter-Band EN-DC including FR2 (1 NR CC)	Rel-15	C012z	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC and modified MPR behaviour	E010	PC3 PC2	NOTE 5 Skip TC 6.2B.3.4 if UE supports SA and TS 38.521-2 TC 6.2.3 has been executed.
6.2B.4.1.1	Configured Output Power Level for Intra-Band Contiguous EN-DC	Rel-15	C009	UEs supporting Intra-Band Contiguous EN-DC (2UL CCs)	E003		NOTE 1
6.2B.4.1.2	Configured Output Power for Intra-Band Non-Contiguous EN-DC	Rel-15	C010	UEs supporting Intra-Band Non-Contiguous EN-DC (2UL CCs)	E004		NOTE 1
6.2B.4.1.3	Configured Output Power for Inter-Band EN-DC within FR1(1 E-UTRA CC, 1 NR CC)	Rel-15	C011	UEs supporting Inter-Band EN-DC within FR1 (2UL CCs)	E005		
6.2B.4.1.3_1	Configured Output Power for Inter-Band EN-DC within FR1 (2 E-UTRA CCs, 1 NR CC)	Rel-16	C011d	UEs supporting Inter-Band EN-DC within FR1 (2UL E-UTRA CCs, 1UL NR CC)	E005z	PC3	
6.2B.4.1.4	Configured Output Power for Inter-Band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting inter-band EN-DC including FR2 with 1 NR UL CC	E010		

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3B	**Output power dynamics for DC**						
6.3B.1.1	Minimum Output power for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.3B.1.2	Minimum output power for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.3B.1.2 if UE supports SA and TS 38.521-1 TC 6.3.1 has been executed.
6.3B.1.3	Minimum output power for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.1.3 if UE supports SA and TS 38.521-1 TC 6.3.1 has been executed.
6.3B.1.4	Minimum Output Power for EN-DC Interband including FR2 (1 NR CC)	Rel-15	C012	UEs supporting inter-band EN-DC including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.3B.1.4 if UE supports SA and TS 38.521-2 TC 6.3.1 has been executed.
6.3B.1.4_1	**Minimum output power for inter-band EN-DC including FR2 (>1 NR CC)**						
6.3B.1.4_1.1	Minimum output power for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.3B.1.4_1.1 if UE supports SA and TS 38.521-2 TC 6.3A.1.1 has been executed.
6.3B.1.4_1.2	Minimum output power for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.3B.1.4_1.1 if UE supports SA and TS 38.521-2 TC 6.3A.1.2 has been executed.
6.3B.1.4_1.3	Minimum output power for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.3B.1.4_1.1 if UE supports SA and TS 38.521-2 TC 6.3A.1.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3B.1.4D	Minimum output power for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.3B.1.4 if UE supports SA and TS 38.521-2 TC 6.3D.1 has been executed.
6.3B.2.4	Transmit OFF Power for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting inter-band EN-DC including FR2 with 1 NR UL CC	E005		
6.3B.2.4_1	Void						
6.3B.3.1	Transmit ON/OFF time mask for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.3B.3.1 if UE supports SA and TS 38.521-1 TC 6.3.3.2 has been executed.
6.3B.3.2	Transmit ON/OFF time mask for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.3B.3.2 if UE supports SA and TS 38.521-1 TC 6.3.3.2 has been executed.
6.3B.3.3	Transmit ON/OFF time mask for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.3.3 if UE supports SA and TS 38.521-1 TC 6.3.3.2 has been executed.
6.3B.3.4	Transmit ON/OFF time mask for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting inter-band EN-DC including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.3B.3.4 if UE supports SA and TS 38.521-2 TC 6.3.3.2 has been executed.
6.3B.3_1.1	E-UTRA and NR switching time mask for switching between two uplink carriers for inter-band EN-DC	Rel-16	C126a	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC and dynamic UL Tx switching	E031b		NOTE 1
6.3B.4.1	PRACH time mask for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.3B.4.1 if UE supports SA and TS 38.521-1 TC 6.3.3.4 has been executed.
6.3B.4.2	PRACH Time Mask for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.3B.4.2 if UE supports SA and TS 38.521-1 TC 6.3.3.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3B.4.3	PRACH Time Mask for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.4.3 if UE supports SA and TS 38.521-1 TC 6.3.3.4 has been executed.
6.3B.4.4	PRACH Time Mask for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC	E010		NOTE 1 NOTE 5 Skip TC 6.3B.4.4 if UE supports SA and TS 38.521-2 TC 6.3.3.4 has been executed.
6.3B.8.1.1	Absolute Power Tolerance for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2 UL CCs)	E003		NOTE 5 Skip TC 6.3B.8.1.1 if UE supports SA and TS 38.521-1 TC 6.3.4.2 has been executed.
6.3B.8.1.2	Absolute Power Tolerance for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2 UL CCs)	E004		NOTE 5 Skip TC 6.3B.8.1.2 if UE supports SA and TS 38.521-1 TC 6.3.4.2 has been executed.
6.3B.8.1.3	Absolute Power Tolerance for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.8.1.3 if UE supports SA and TS 38.521-1 TC 6.3.4.2 has been executed.
6.3B.8.1.4	Absolute Power Tolerance for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	FFS	FFS	FFS		NOTE 1
6.3B.8.2.1	Relative Power Tolerance for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2 UL CCs)	E003		NOTE 5 Skip TC 6.3B.8.2.1 if UE supports SA and TS 38.521-1 TC 6.3.4.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.3B.8.2.2	Relative Power Tolerance for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2 UL CCs)	E004		NOTE 5 Skip TC 6.3B.8.2.2 if UE supports SA and TS 38.521-1 TC 6.3.4.3 has been executed.
6.3B.8.2.3	Relative Power Tolerance for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.8.2.3 if UE supports SA and TS 38.521-1 TC 6.3.4.3 has been executed.
6.3B.8.2.4	Relative Power Tolerance for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	FFS	FFS	FFS		NOTE 1
6.3B.8.3.1	Aggregate Power Tolerance for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2 UL CCs)	E003		NOTE 5 Skip TC 6.3B.8.3.1 if UE supports SA and TS 38.521-1 TC 6.3.4.4 has been executed.
6.3B.8.3.2	Aggregate Power Tolerance for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2 UL CCs)	E004		NOTE 5 Skip TC 6.3B.8.3.2 if UE supports SA and TS 38.521-1 TC 6.3.4.4 has been executed.
6.3B.8.3.3	Aggregate Power Tolerance for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.3B.8.3.3 if UE supports SA and TS 38.521-1 TC 6.3.4.4 has been executed.
6.3B.8.3.4	Aggregate Power Tolerance for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	FFS	FFS	FFS		NOTE 1
6.4B	**Transmit Signal Quality for DC**						
6.4B.1.1	Frequency Error for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting Intra-Band Contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.4B.1.1 if UE supports SA and TS 38.521-1 TC 6.4.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4B.1.2	Frequency Error for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.4B.1.2 if UE supports SA and TS 38.521-1 TC 6.4.1 has been executed.
6.4B.1.3	Frequency error for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.4B.1.3 if UE supports SA and TS 38.521-1 TC 6.4.1 has been executed.
6.4B.1.4	Frequency Error for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-Band EN-DC including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.4B.1.4 if UE supports SA and TS 38.521-2 TC 6.4.1 has been executed.
6.4B.1.4_1	**Frequency Error for Inter-band EN-DC including FR2 (>1 NR CC)**						
6.4B.1.4_1.1	Frequency Error for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	C012b	UEs supporting Inter-Band EN-DC including FR2 with 2 NR UL CCs	E011		NOTE 5
6.4B.1.4_1.2	Frequency Error for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	C012c	UEs supporting Inter-Band EN-DC including FR2 with 3 NR UL CCs	E012		NOTE 5
6.4B.1.4_1.3	Frequency Error for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	C012d	UEs supporting Inter-Band EN-DC including FR2 with 4 NR UL CCs	E013		NOTE 5
6.4B.2.1.1	Error Vector Magnitude for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.4B.2.1.1 if UE supports SA and TS 38.521-1 TC 6.4.2.1 has been executed.
6.4B.2.1.2	Carrier Leakage for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.4B.2.1.2 if UE supports SA and TS 38.521-1 TC 6.4.2.2 has been executed.
6.4B.2.1.3	In-band Emissions for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4B.2.1.4	EVM Equalizer Flatness for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.4B.2.1.4 if UE supports SA and TS 38.521-1 TC 6.4.2.4 has been executed.
6.4B.2.2.1	Error Vector Magnitude for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.4B.2.2.1 if UE supports SA and TS 38.521-1 TC 6.4.2.1 has been executed.
6.4B.2.2.2	Carrier Leakage for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.4B.2.2.2 if UE supports SA and TS 38.521-1 TC 6.4.2.2has been executed.
6.4B.2.2.3	In-band Emissions for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.4B.2.2.3 if UE supports SA and TS 38.521-1 TC 6.4.2.3 has been executed.
6.4B.2.2.4	EVM Equalizer Flatness for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.4B.2.2.4 if UE supports SA and TS 38.521-1 TC 6.4.2.4 has been executed.
6.4B.2.3.1	Error Vector Magnitude for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.4B.2.3.1 if UE supports SA and TS 38.521-1 TC 6.4.2.1 has been executed.
6.4B.2.3.2	Carrier Leakage for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.4B.2.3.2 if UE supports SA and TS 38.521-1 TC 6.4.2.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4B.2.3.3	In-band Emissions for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.4B.2.3.3 if UE supports SA and TS 38.521-1 TC 6.4.2.3 has been executed.
6.4B.2.3.4	EVM Equalizer Flatness for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.4B.2.3.4 if UE supports SA and TS 38.521-1 TC 6.4.2.4 has been executed.
6.4B.2.4.1	Error Vector Magnitude for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.1 if UE supports SA and TS 38.521-2 TC 6.4.2.1 has been executed.
6.4B.2.4.1_1	**Error Vector Magnitude for inter-band EN-DC including FR2 (>1 NR CC)**						
6.4B.2.4.1_1.1	Error Vector Magnitude for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.1_1.1 if UE supports SA and TS 38.521-2 TC 6.4A.2.1.1 has been executed.
6.4B.2.4.1_1.2	Error Vector Magnitude for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.1_1.2 if UE supports SA and TS 38.521-2 TC 6.4A.2.1.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4B.2.4.1_1.3	Error Vector Magnitude for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.1_1.3 if UE supports SA and TS 38.521-2 TC 6.4A.2.1.3 has been executed.
6.4B.2.4.1D	Error Vector Magnitude for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.2	Carrier Leakage for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.4B.2.4.2 if UE supports SA and TS 38.521-2 TC 6.4.2.2 has been executed.
6.4B.2.4.2_1	**Carrier Leakage for inter-band EN-DC including FR2 (>1 NR CC)**						
6.4B.2.4.2_1.1	Carrier Leakage for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.2_1.1 if UE supports SA and TS 38.521-2 TC 6.4A.2.2.1 has been executed.
6.4B.2.4.2_1.2	Carrier Leakage for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.2_1.2 if UE supports SA and TS 38.521-2 TC 6.4A.2.2.2 has been executed.
6.4B.2.4.2_1.3	Carrier Leakage for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.2_1.3 if UE supports SA and TS 38.521-2 TC 6.4A.2.2.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.4B.2.4.2D	Carrier Leakage for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.3	In-band Emissions for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.3 if UE supports SA and TS 38.521-2 TC 6.4.2.3 has been executed.
6.4B.2.4.3D	In-band Emissions for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.3_1	**In-band Emissions for inter-band EN-DC including FR2 (>1 NR CC)**						
6.4B.2.4.3_1.1	In-band Emissions for inter-band EN-DC including FR2 (2 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.3_1.2	In-band Emissions for inter-band EN-DC including FR2 (3 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.3_1.3	In-band Emissions for inter-band EN-DC including FR2 (4 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.4	EVM Equalizer Flatness for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.4 if UE supports SA and TS 38.521-2 TC 6.4.2.4 has been executed.
6.4B.2.4.4D	EVM Equalizer Flatness for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.4B.2.4.5	EVM spectral flatness for pi/2 BPSK modulation for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012f	UEs supporting Inter-band including FR2 with 1 NR UL CC and pi/2 BPSK modulation	E010		NOTE 1 NOTE 5 Skip TC 6.4B.2.4.5 if UE supports SA and TS 38.521-2 TC 6.4.2.5 has been executed.
6.5B	**Output RF spectrum emissions for DC**						
6.5B.1.1	Occupied bandwidth for Intra-Band Contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.1.2	Occupied bandwidth for Intra-Band Non-Contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 1 NOTE 5 Skip TC 6.5B.1.2 if UE supports SA and TS 38.521-1 TC 6.5.1 has been executed.
6.5B.1.3	Occupied bandwidth for Inter-Band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.1.3 if UE supports SA and TS 38.521-1 TC 6.5.1 has been executed.
6.5B.1.4	Occupied bandwidth for Inter-Band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 1 NOTE 5 Skip TC 6.5B.1.4 if UE supports SA and TS 38.521-2 TC 6.5.1 has been executed.
6.5B.1.4D	Occupied bandwidth for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.5B.1.4_1	**Occupied bandwidth for Inter-band EN-DC including FR2 (>1 NR CC)**						
6.5B.1.4_1.1	Occupied bandwidth for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.1.4_1.1 if UE supports SA and TS 38.521-2 TC 6.5A.1.1 has been executed.
6.5B.1.4_1.2	Occupied bandwidth for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.1.4_1.2 if UE supports SA and TS 38.521-2 TC 6.5A.1.2 has been executed.
6.5B.1.4_1.3	Occupied bandwidth for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.1.4_1.3 if UE supports SA and TS 38.521-2 TC 6.5A.1.3 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.2.1.1	Spectrum emissions mask for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.5B.2.1.2	Additional spectrum emissions mask for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.5B.2.1.3	Adjacent channel leakage ratio for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.5B.2.2.1	Spectrum emissions mask for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 1
6.5B.2.2.2	Additional Spectrum emissions mask for intra-band non-contiguous EN-DC	FFS	FFS	FFS	FFS		NOTE 1
6.5B.2.2.3	Adjacent channel leakage ratio for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 1
6.5B.2.3.1	Spectrum emissions mask for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.2.3.1 if UE supports SA and TS 38.521-1 TC 6.5.2.2 has been executed.
6.5B.2.3.2	Additional Spectrum emissions mask for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.2.3.2 if UE supports SA and TS 38.521-1 TC 6.5.2.3 has been executed.
6.5B.2.3.3.1	NR-Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.2.3.3.1 if UE supports SA and TS 38.521-1 TC 6.5.2.4.1 has been executed.
6.5B.2.3.3.2	UTRA-Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.2.3.3.2 if UE supports SA and TS 38.521-1 TC 6.5.2.4.2 has been executed.
6.5B.2.4.1	Spectrum emissions mask for Inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.5B.2.4.1 if UE supports SA and TS 38.521-2 TC 6.5.2.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.2.4.1_1	**Spectrum emissions mask for Inter-band EN-DC including FR2 (>1 NR CC)**						
6.5B.2.4.1_1.1	Spectrum emissions mask for Inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	C012b	UEs supporting Inter-Band EN-DC including FR2 with 2 NR UL CCs	E011		NOTE 5 Skip TC 6.5B.2.4.1_1.1 if UE supports SA and TS 38.521-2 TC 6.5A.2.1.1 has been executed.
6.5B.2.4.1_1.2	Spectrum emissions mask for Inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	C012c	UEs supporting Inter-Band EN-DC including FR2 with 3 NR UL CCs	E012		NOTE 5 Skip TC 6.5B.2.4.1_1.2 if UE supports SA and TS 38.521-2 TC 6.5A.2.1.2 has been executed.
6.5B.2.4.1_1.3	Spectrum emissions mask for Inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	C012d	UEs supporting Inter-Band EN-DC including FR2 with 4 NR UL CCs	E013		NOTE 5 Skip TC 6.5B.2.4.1_1.3 if UE supports SA and TS 38.521-2 TC 6.5A.2.1.3 has been executed.
6.5B.2.4.3	Adjacent channel leakage ratio for Inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.5B.2.4.3 if UE supports SA and TS 38.521-2 TC 6.5.2.3 has been executed.
6.5B.2.4.3_1	**Adjacent channel leakage ratio for Inter-band EN-DC including FR2 (>1 NR CC)**						
6.5B.2.4.3_1.1	Adjacent channel leakage ratio for Inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.2.4.3_1.1 if UE supports SA and TS 38.521-2 TC 6.5A.2.2.1 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.2.4.3_1.2	Adjacent channel leakage ratio for Inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.2.4.3_1.2 if UE supports SA and TS 38.521-2 TC 6.5A.2.2.2 has been executed.
6.5B.2.4.3_1.3	Adjacent channel leakage ratio for Inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 6.5B.2.4.3_1.3 if UE supports SA and TS 38.521-2 TC 6.5A.2.2.3 has been executed.
6.5B.2.4D.3	Adjacent channel leakage ratio for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.5B.3.1.1	General spurious emissions for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		NOTE 5 Skip TC 6.5B.3.1.1 if UE supports SA and TS 38.521-1 TC 6.5.3.1 has been executed.
6.5B.3.1.2	Spurious emission band UE co-existence for intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.5B.3.2.1	General spurious emissions for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 5 Skip TC 6.5B.3.2.1 if UE supports SA and TS 38.521-1 TC 6.5.3.1 has been executed.
6.5B.3.2.2	Spurious emission band UE co-existence for intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		
6.5B.3.3.1	General spurious emissions for Inter-band EN-DC within FR1	Rel-15	C011	UEs supporting Inter-band EN-DC within FR1 (2UL CCs)	E005		
6.5B.3.3.2	Spurious emission band UE co-existence for Inter-band within FR1	Rel-15	C011	UEs supporting Inter-band EN-DC within FR1 (2UL CCs)	E005		

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.3.4.1	General Spurious Emissions for Inter-band including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.5B.3.4.1 if UE supports SA and TS 38.521-2 TC 6.5.3.1 has been executed.
6.5B.3.4.1_1	**General Spurious emissions for Inter-band EN-DC including FR2 (>1 NR CC)**						
6.5B.3.4.1_1.1	General Spurious Emissions for Inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	C012b	UEs supporting Inter-Band EN-DC including FR2 with 2 NR UL CCs	E011		NOTE 5 Skip TC 6.5B.3.4.1_1.1 if UE supports SA and TS 38.521-2 TC 6.5A.3.1.1 has been executed.
6.5B.3.4.1_1.2	General Spurious Emissions for Inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	C012c	UEs supporting Inter-Band EN-DC including FR2 with 3 NR UL CCs	E012		NOTE 5 Skip TC 6.5B.3.4.1_1.2 if UE supports SA and TS 38.521-2 TC 6.5A.3.1.2 has been executed.
6.5B.3.4.1_1.3	General Spurious Emissions for Inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	C012d	UEs supporting Inter-Band EN-DC including FR2 with 4 NR UL CCs	E013		NOTE 5 Skip TC 6.5B.3.4.1_1.3 if UE supports SA and TS 38.521-2 TC 6.5A.3.1.3 has been executed.
6.5B.3.4.1D	General Spurious Emissions for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
6.5B.3.4.2	Spurious emission band UE co-existence for Inter-band including FR2 (1 NR CC)	Rel-15	C012	UEs supporting Inter-band including FR2 with 1 NR UL CC	E010		NOTE 5 Skip TC 6.5B.3.4.2 if UE supports SA and TS 38.521-2 TC 6.5.3.2 has been executed.
6.5B.3.4.2_1	**Spurious emission band UE co-existence for Inter-band including FR2 (>1 NR CC)**						

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
6.5B.3.4.2_1.1	Spurious emission band UE co-existence for Inter-band EN-DC including FR2 (2NR CCs)	Rel-15	C012b	UEs supporting Inter-Band EN-DC including FR2 with 2 NR UL CCs	E011		NOTE 5 Skip TC 6.5B.3.4.2_1.1 if UE supports SA and TS 38.521-2 TC 6.5A.3.2.1 has been executed.
6.5B.3.4.2_1.2	Spurious emission band UE co-existence for Inter-band EN-DC including FR2 (3NR CCs)	Rel-15	C012c	UEs supporting Inter-Band EN-DC including FR2 with 3 NR UL CCs	E012		NOTE 5 Skip TC 6.5B.3.4.2_1.2 if UE supports SA and TS 38.521-2 TC 6.5A.3.2.2 has been executed.
6.5B.3.4.2_1.3	Spurious emission band UE co-existence for Inter-band EN-DC including FR2 (4NR CCs)	Rel-15	C012d	UEs supporting Inter-Band EN-DC including FR2 with 4 NR UL CCs	E013		NOTE 5 Skip TC 6.5B.3.4.2_1.3 if UE supports SA and TS 38.521-2 TC 6.5A.3.2.3 has been executed.
6.5B.4.1	Additional Spurious Emissions for Intra-band contiguous EN-DC	Rel-15	C009	UEs supporting intra-band contiguous EN-DC (2UL CCs)	E003		
6.5B.4.2	Additional Spurious Emissions for Intra-band non-contiguous EN-DC	Rel-15	C010	UEs supporting intra-band non-contiguous EN-DC (2UL CCs)	E004		NOTE 1
6.5B.4.3	Additional Spurious Emissions for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.4.3 if UE supports SA and TS 38.521-1 TC 6.5.3.3 has been executed.
6.5B.5.3	Transmit Intermodulation for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 5 Skip TC 6.5B.5.3 if UE supports SA and TS 38.521-1 TC 6.5.4 has been executed.
6.6B.4	Beam Correspondence for inter-band EN-DC including FR2 (1 NR CC) - EIRP	Rel-15	C011b	UEs supporting Inter-band EN-DC within FR1 with 1 NR UL CC	E005b		NOTE 1 NOTE 5 Skip TC 6.6B.4 if UE supports SA and TS 38.521-1 TC 6.6.1 has been executed.
7	**Receiver Characteristics**						

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.3B	**Reference sensitivity level for DC**						
7.3B.2.1	Reference sensitivity for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting intra-band contiguous EN-DC (2DL CCs)	E003a		
7.3B.2.2	Reference sensitivity for Intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting intra-band non-contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.3B.2.2 if UE supports SA and TS 38.521-1 TC 7.3.2 has been executed.
7.3B.2.3	Reference sensitivity for Inter-band EN-DC within FR1 (2 CCs)	Rel-15	C011a	UEs supporting inter-band EN-DC within FR1 (2DL CCs)	E005a E005d	PC2 PC3	
7.3B.2.3_1	**Reference sensitivity for EN-DC within FR1 (>2 CCs)**						
7.3B.2.3_1.1	Reference sensitivity for EN-DC within FR1 (3 CCs)	Rel-15	C045	UEs supporting EN-DC within FR1 (3DL CCs)	E006		
7.3B.2.3_1.2	Reference sensitivity for EN-DC within FR1 (4 CCs)	Rel-15	C046	UEs supporting EN-DC within FR1 (4DL CCs)	E007		
7.3B.2.3_1.3	Reference sensitivity for EN-DC within FR1 (5 CCs)	Rel-15	C047	UEs supporting EN-DC within FR1 (5DL CCs)	E008		
7.3B.2.4	Reference sensitivity for Inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012a	UEs supporting inter-band EN-DC including FR2 with 1 NR DL CC	E010a		NOTE 5 Skip TC 7.3B.2.4 if UE supports SA and TS 38.521-2 TC 7.3.2 has been executed.
7.3B.2.4_1	**Reference sensitivity for Inter-band EN-DC including FR2 (>1 NR CC)**						
7.3B.2.4_1.1	Reference sensitivity for Inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	C012e	UEs supporting inter-band EN-DC including FR2 with 2 NR DL CCs	E011a		NOTE 5 Skip TC 7.3B.2.4_1.1 if UE supports SA and TS 38.521-2 TC 7.3A.2.1 has been executed.
7.3B.2.4_1.2	Reference sensitivity for Inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	C012g	UEs supporting inter-band EN-DC including FR2 with 3 NR DL CCs	E012a		NOTE 5 Skip TC 7.3B.2.4_1.2 if UE supports SA and TS 38.521-2 TC 7.3A.2.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.3B.2.4_1.3	Reference sensitivity for Inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	C012h	UEs supporting inter-band EN-DC including FR2 with 4 NR DL CCs	E013a		NOTE 5 Skip TC 7.3B.2.4_1.3 if UE supports SA and TS 38.521-2 TC 7.3A.2.3 has been executed.
7.3B.2.4_1.4	Reference sensitivity for Inter-band EN-DC including FR2 (5 NR CCs)	Rel-15	FFS	UEs supporting inter-band EN-DC including FR2 with 5 NR DL CCs	FFS		NOTE 1 NOTE 5 Skip TC 7.3B.2.4_1.4 if UE supports SA and TS 38.521-2 TC 7.3A.2.4 has been executed.
7.3B.2.4_1.5	Reference sensitivity for Inter-band EN-DC including FR2 (6 NR CCs)	Rel-15	FFS	UEs supporting inter-band EN-DC including FR2 with 6 NR DL CCs	FFS		NOTE 1 NOTE 5 Skip TC 7.3B.2.4_1.5 if UE supports SA and TS 38.521-2 TC 7.3A.2.5 has been executed.
7.3B.2.4_1.6	Reference sensitivity for Inter-band EN-DC including FR2 (7 NR CCs)	Rel-15	FFS	UEs supporting inter-band EN-DC including FR2 with 7 NR DL CCs	FFS		NOTE 1 NOTE 5 Skip TC 7.3B.2.4_1.6 if UE supports SA and TS 38.521-2 TC 7.3A.2.6 has been executed.
7.3B.2.4_1.7	Reference sensitivity for Inter-band EN-DC including FR2 (8 NR CCs)	Rel-15	FFS	UEs supporting inter-band EN-DC including FR2 with 8 NR DL CCs	FFS		NOTE 1 NOTE 5 Skip TC 7.3B.2.4_1.7 if UE supports SA and TS 38.521-2 TC 7.3A.2.7 has been executed.
7.3B.2.4D	Reference sensitivity for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
7.3B.4	EIS Spherical Coverage for Inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012a	UEs supporting inter-band EN-DC including FR2 with 1 NR DL CC	E010a		NOTE 5 Skip TC 7.3B.4 if UE supports SA and TS 38.521-2 TC 7.3.4 has been executed.
7.4B	**Maximum Input Level for DC**						

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.4B.1	Maximum Input Level for Intra-Band Contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		
7.4B.2	Maximum Input Level for Intra-Band Non-Contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band Non-Contiguous EN-DC (2DL CCs)	E004a		
7.4B.3	Maximum Input Level for Inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011c	UEs supporting Inter-band EN-DC within FR1 with 1 NR DL CC	E005c		NOTE 5 Skip TC 7.4B.3 if UE supports SA and TS 38.521-1 TC 7.4 has been executed.
7.4B.3_1	**Maximum Input Level for EN-DC within FR1 (>2 CCs)**						
7.4B.3_1.1	Maximum Input Level for EN-DC within FR1 (3 CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.3_1.2	Maximum Input Level for EN-DC within FR1 (4 CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.3_1.3	Maximum Input Level for EN-DC within FR1 (5 CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.3_1.4	Maximum Input Level for EN-DC within FR1 (6 CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.4	Maximum Input Level for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012a	UEs supporting Inter-band including FR2 with 1 NR DL CC	E010a		NOTE 1 NOTE 5 Skip TC 7.4B.4 if UE supports SA and TS 38.521-1 TC 7.4 has been executed.
7.4B.4_1	**Maximum Input Level for inter-band EN-DC including FR2 (>1 NR CC)**						
7.4B.4_1.1	Maximum Input Level for inter-band EN-DC including FR2 (2 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.4_1.2	Maximum Input Level for inter-band EN-DC including FR2 (3 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.4_1.3	Maximum Input Level for inter-band EN-DC including FR2 (4 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.4_1.4	Maximum Input Level for inter-band EN-DC including FR2 (5 NR CCs)	FFS	FFS	FFS	FFS		NOTE 1
7.4B.4D	Maximum Input Level for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
7.5B	**Adjacent channel selectivity for DC**						
7.5B.1	Adjacent Channel Selectivity for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting intra-band contiguous EN-DC (2DL CCs)	E003a		NOTE 1

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.5B.2	Adjacent Channel Selectivity for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting intra-band non-contiguous EN-DC (2DL CCs)	E004a		NOTE 1 NOTE 5 Skip TC 7.5B.2 if UE supports SA and TS 38.521-1 TC 7.5 has been executed.
7.5B.3	Adjacent Channel Selectivity for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011c	UEs supporting inter-band EN-DC within FR1 with 1 NR DL CCs and one or more LTE DL CC(s)	E005c		NOTE 5 Skip TC 7.5B.3 if UE supports SA and TS 38.521-1 TC 7.5 has been executed.
7.5B.3_1	**Adjacent Channel Selectivity for EN-DC within FR1 (>2 CCs)**						
7.5B.3_1.1	Adjacent Channel Selectivity for EN-DC within FR1 (2 NR CCs)	Rel-15	C063	UEs supporting inter-band or intra-band non-contiguous EN-DC within FR1 with 2 NR DL CCs	E027 E029		NOTE 5 Skip TC 7.5B.3_1.1 if UE supports SA and TS 38.521-1 TC 7.5A.1 has been executed.
7.5B.3_1.2	Adjacent Channel Selectivity for EN-DC within FR1 (3 NR CCs)	Rel-15	C064	UEs supporting inter-band or intra-band non-contiguous EN-DC within FR1 with 3 NR DL CCs	E028 E030		NOTE 5 Skip TC 7.5B.3_1.2 if UE supports SA and TS 38.521-1 TC 7.5A.2 has been executed.
7.5B.3_1.3	Adjacent Channel Selectivity for EN-DC within FR1 (4 NR CCs)	Rel-15	C064a	UEs supporting intra-band non-contiguous EN-DC within FR1 with 4 NR DL CCs	E028a E030a		NOTE 5 Skip TC 7.5B.3_1.3 if UE supports SA and TS 38.521-1 TC 7.5A.3 has been executed.
7.5B.3_1.4	Adjacent Channel Selectivity for EN-DC within FR1 (5 NR CCs)	Rel-15	C064b	UEs supporting intra-band non-contiguous EN-DC within FR1 with 5 NR DL CCs	E028b E030b		NOTE 1 NOTE 5 Skip TC 7.5B.3_1.4 if UE supports SA and TS 38.521-1 TC 7.5A.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.5B.4	Adjacent Channel Selectivity for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.5B.4 if UE supports SA and TS 38.521-2 TC 7.5 has been executed.
7.5B.4_1	**Adjacent Channel Selectivity for inter-band EN-DC including FR2 (>1 NR CC)**						
7.5B.4_1.1	Adjacent Channel Selectivity for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.5B.4_1.1 if UE supports SA and TS 38.521-2 TC 7.5A.1 has been executed.
7.5B.4_1.2	Adjacent Channel Selectivity for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.5B.4_1.2 if UE supports SA and TS 38.521-2 TC 7.5A.2 has been executed.
7.5B.4_1.3	Adjacent Channel Selectivity for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.5B.4_1.3 if UE supports SA and TS 38.521-2 TC 7.5A.3 has been executed.
7.5B.4_1.4	Adjacent Channel Selectivity for inter-band EN-DC including FR2 (5 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.5B.4_1.4 if UE supports SA and TS 38.521-2 TC 7.5A.4 has been executed.
7.5B.4D	Adjacent Channel Selectivity for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
7.6B	**Blocking characteristics for DC**						
7.6B.2.1	Inband blocking for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.6B.2.2	Inband blocking for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band Non-Contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.6B.2.2 if UE supports SA and TS 38.521-1 TC 7.6.2 has been executed.
7.6B.2.3	Inband blocking for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011c	UEs supporting Inter-band EN-DC within FR1 with 1 NR DL CC	E005c		NOTE 5 Skip TC 7.6B.2.3 if UE supports SA and TS 38.521-1 TC 7.6. 2 has been executed.
7.6B.2.3_1	**Inband blocking for EN-DC within FR1 (>2 CCs)**						
7.6B.2.3_1.1	Inband blocking for EN-DC within FR1 (3 CCs)	Rel-15	C045	UEs supporting EN-DC within FR1 (3DL CCs)	E006		
7.6B.2.3_1.2	Inband blocking for EN-DC within FR1 (4 CCs)	Rel-16	C046	UEs supporting EN-DC within FR1 (4DL CCs)	E007		
7.6B.2.3_1.3	Inband blocking for EN-DC within FR1 (5 CCs)	Rel-16	C047	UEs supporting EN-DC within FR1 (5DL CCs)	E008		Skip TC 7.6B.2.3_1.3 if UE supports SA and TS 38.521-1 TC 7.6A.2.3 has been executed.
7.6B.2.4	Inband blocking for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C011c	UEs supporting Inter-band EN-DC within FR1 with 1 NR DL CC	E005c		NOTE 5 Skip TC 7.6B.2.4 if UE supports SA and TS 38.521-2 TC 7.6.2 has been executed.
7.6B.2.4_1	**Inband blocking for inter-band EN-DC including FR2 (>1 NR CC)**						
7.6B.2.4_1.1	Inband blocking for inter-band EN-DC including FR2 (2 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.6B.2.4_1.1 if UE supports SA and TS 38.521-2 TC 7.6A.2.1 has been executed.
7.6B.2.4_1.2	Inband blocking for inter-band EN-DC including FR2 (3 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.6B.2.4_1.2 if UE supports SA and TS 38.521-2 TC 7.6A.2.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.6B.2.4_1.3	Inband blocking for inter-band EN-DC including FR2 (4 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.6B.2.4_1.3 if UE supports SA and TS 38.521-2 TC 7.6A.2.3 has been executed.
7.6B.2.4_1.4	Inband blocking for inter-band EN-DC including FR2 (5 NR CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.6B.2.4_1.4 if UE supports SA and TS 38.521-2 TC 7.6A.2.4 has been executed.
7.6B.2.4D	Inband blocking for inter-band EN-DC including FR2 for UL MIMO	FFS	FFS	FFS	FFS		NOTE 1
7.6B.3.1	Out-of-band blocking for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		
7.6B.3.2	Out-of-band blocking for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band Non-Contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.6B.3.2 if UE supports SA and TS 38.521-1 TC 7.6.3 has been executed.
7.6B.3.3	Out-of-band blocking for inter-band EN-DC within FR1 (2 CCs)	Rel-15	C011a	UEs supporting Inter-band EN-DC within FR1 (2DL CCs)	E005a		
7.6B.3.3_1	**Out-of-band blocking for EN-DC within FR1 (>2 CCs)**						
7.6B.3.3_1.1	Out-of-band blocking for EN-DC within FR1 (3 CCs)	Rel-15	C048	UEs supporting intra-band contiguous EN-DC within FR1 with 3 DL CCs	E006		
7.6B.3.3_1.2	Out-of-band blocking for EN-DC within FR1 (4 CCs)	Rel-16	C049	UEs supporting intra-band contiguous EN-DC within FR1 with 4 DL CCs	E007		
7.6B.4.1	Narrow band blocking for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		
7.6B.4.2	Narrow band blocking for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band Non-Contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.6B.4.2 if UE supports SA and TS 38.521-1 TC 7.6.4 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.6B.4.3	Narrow band blocking for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011c	UEs supporting Inter-band EN-DC within FR1 with 1 NR DL CC	E005c		NOTE 5 Skip TC 7.6B.4.3 if UE supports SA and TS 38.521-1 TC 7.6.4 has been executed.
7.6B.4.3_1	**Narrow band blocking for EN-DC within FR1 (>2 CCs)**						
7.6B.4.3_1.1	Narrow band blocking for EN-DC within FR1 (3 CCs)	Rel-15	C045	UEs supporting EN-DC within FR1 (3DL CCs)	E006		
7.6B.4.3_1.2	Narrow band blocking for EN-DC within FR1 (4 CCs)	Rel-16	C046	UEs supporting EN-DC within FR1 (4DL CCs)	E007		
7.6B.4.3_1.3	Narrow band blocking for EN-DC within FR1 (5 CCs)	Rel-16	C047	UEs supporting EN-DC within FR1 (5DL CCs)	E008		Skip TC 7.6B.4.3_1.3 if UE supports SA and TS 38.521-1 TC 7.6A.4.3 has been executed.
7.7B	**Spurious response for DC**						
7.7B.1	Spurious Response for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		
7.7B.2	Spurious Response for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band Non-Contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.7B.2 if UE supports SA and TS 38.521-1 TC 7.7 has been executed.
7.7B.3	Spurious Response for inter-band EN-DC within FR1 (2 CCs)	Rel-15	C011a	UEs supporting Inter-band EN-DC within FR1 (2DL CCs)	E005a		
7.7B.3_1	**Spurious Response for EN-DC within FR1 (>2 CCs)**						
7.7B.3_1.1	Spurious Response for EN-DC within FR1 (3 CCs)	Rel-15	C048	UEs supporting intra-band contiguous EN-DC within FR1 with 3 DL CCs	E006		
7.7B.3_1.2	Spurious Response for EN-DC within FR1 (4 CCs)	Rel-16	C049	UEs supporting intra-band contiguous EN-DC within FR1 with 4 DL CCs	E007		
7.8B	**Intermodulation characteristics for DC**						
7.8B.2.1	Wideband Intermodulation for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		NOTE 1
7.8B.2.2	Wideband Intermodulation for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band non-contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.8B.2.2 if UE supports SA and TS 38.521-1 TC 7.8.2 has been executed.

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.8B.2.3	Wideband Intermodulation for inter-band EN-DC within FR1 (2 CCs)	Rel-15	C011a	UEs supporting inter-band EN-DC within FR1 (2DL CCs)	E005c		NOTE 5 Skip TC 7.8B.2.3 if UE supports SA and TS 38.521-1 TC 7.8.2 has been executed.
7.8B.2.3_1	**Wideband Intermodulation for EN-DC within FR1 (>2 CCs)**						
7.8B.2.3_1.1	Wideband Intermodulation for EN-DC within FR1 (3 CCs)	Rel-15	FFS	FFS	FFS		NOTE 1 NOTE 5 Skip TC 7.8B.2.3_1.1 if UE supports SA and TS 38.521-1 TC 7.8A.2.1 has been executed.
7.8B.2.3_1.2	Wideband Intermodulation for EN-DC within FR1 (4 CCs)	Rel-15	FFS	FFS	FFS		NOTE 1
7.8B.2.3_1.3	Wideband Intermodulation for EN-DC within FR1 (5 CCs)	Rel-15	FFS	FFS	FFS		NOTE 1
7.9B	**Spurious emissions for DC**						
7.9B.1	Spurious Emissions for intra-band contiguous EN-DC (2 CCs)	Rel-15	C009a	UEs supporting Intra-Band Contiguous EN-DC (2DL CCs)	E003a		NOTE 5 Skip TC 7.9B.1 if UE supports SA and TS 38.521-1 TC 7.9 has been executed.
7.9B.2	Spurious Emissions for intra-band non-contiguous EN-DC (2 CCs)	Rel-15	C010a	UEs supporting Intra-Band non-contiguous EN-DC (2DL CCs)	E004a		NOTE 5 Skip TC 7.9B.2 if UE supports SA and TS 38.521-1 TC 7.9 has been executed.
7.9B.3	Spurious Emissions for inter-band EN-DC within FR1 (1 NR CC)	Rel-15	C011c	UEs supporting inter-band EN-DC within FR1 with 1 NR DL CC	E005c		NOTE 5 Skip TC 7.9B.3 if UE supports SA and TS 38.521-1 TC 7.9 has been executed.
7.9B.3_1	**Spurious Emissions for EN-DC within FR1 (>2 CCs)**						
7.9B.3_1.1	Spurious Emissions for EN-DC within FR1 (3 CCs)	Rel-15	C048	UEs supporting EN-DC within FR1 with 1 LTE DL CC and 2 inter-band NR DL CCs with DL-only NR band	E006		

Clause	TC Title	Release	Applicability		Tested Bands/CA/DC-Configurations Selection	Branch	Additional Information
			Condition	Comment			
7.9B.4	Spurious Emissions for inter-band EN-DC including FR2 (1 NR CC)	Rel-15	C012a	UEs supporting Inter-band including FR2 with 1 NR DL CC and one or more LTE DL CC(s)	E010a		NOTE5 Skip TC 7.9B.4 if UE supports SA and TS 38.521-2 TC 7.9 has been executed.

NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.521-3.
NOTE 2: Void.
NOTE 3: Void.
NOTE 4: Void.
NOTE 5: Test only one EN-DC combination per 5G NR band as LTE anchor agnostic approach is applied.

Table 4.1.3-1a: Void

Table 4.1.3-1b: Void

Table 4.1.3-1c: Void

4.1.4 Performance conformance test cases

Table 4.1.4-1: Applicability of performance test cases, ref. TS 38.521-4 [4]

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5	**Demodulation performance requirements (Conducted requirements)**					
5.2	**PDSCH demodulation requirements**					
5.2.2.1.1_1	2Rx FDD FR1 PDSCH mapping Type A performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.1_2	2Rx FDD FR1 PDSCH mapping Type A performance - 2x2 MIMO with enhanced receiver type 1 for both SA and NSA	Rel-15	C015x	UEs supporting 5GS FDD FR1 and Enhanced Receiver Type 1 but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.2_1	2Rx FDD FR1 PDSCH mapping Type A and CSI-RS overlapped with PDSCH performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.3_1	2Rx FDD FR1 PDSCH mapping Type B performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C015b	UEs supporting 5GS FDD FR1 and PDSCH mapping Type B but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.4_1	2Rx FDD FR1 PDSCH Mapping Type A and LTE-NR coexistence performance - 4x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C015y	UEs supporting 5GS FDD FR1 and additional DMRS for coexistence with LTE CRS but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.5_1	2Rx FDD FR1 PDSCH 0.001% BLER performance - 1x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C074	UEs supporting 5GS FDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.6_1	2Rx FDD FR1 PDSCH repetitions over multiple slots performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C120	UEs supporting 5GS FDD FR1 and aggregationFactorDL > 1 for PDSCH repetition multislots but not supporting FDD bands with 4Rx UE capability	D008	NOTE 1
5.2.2.1.7_1	2Rx FDD FR1 PDSCH Mapping Type B and UE processing capability 2 performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C116	UEs supporting 5GS FDD FR1 and PDSCH processing capability 2 and PDSCH mapping type B, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.8_1	2Rx FDD FR1 PDSCH pre-emption performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C121	UEs supporting 5GS FDD FR1 and PDSCH pre-emption indication but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.9_1	2Rx FDD FR1 HST-SFN performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C099	UEs supporting 5GS FDD FR1 and enhanced demodulation processing for HST-SFN joint transmission scheme but not supporting FDD bands with 4Rx UE capability	D008	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.2.2.1.10_1	2Rx FDD FR1 HST-DPS performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C152	UEs supporting 5GS FDD FR1 and number of active TCI states per BWP per CC but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.11_1	2Rx FDD FR1 PDSCH Single-DCI based SDM scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C070	UEs supporting 5GS FDD FR1 and single DCI based spatial division multiplexing scheme, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.12_1	2Rx FDD FR1 PDSCH Multiple-DCI based transmission scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C113	UEs supporting 5GS FDD FR1 and multi-DCI based multi-TRP, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.13_1	2Rx FDD FR1 PDSCH Single-DCI based FDM scheme A performance - 2x2 MIMO for both SA and NSA	Rel-16	C114	UEs supporting 5GS FDD FR1 and single DCI based FDMSchemeA, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.1.14_1	2Rx FDD FR1 PDSCH Single-DCI based Inter-slot TDM scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C115	UEs supporting 5GS FDD FR1 and single-DCI based inter-slot TDM, but not supporting FDD bands with 4Rx UE capability	D008	
5.2.2.2.1_1	2Rx TDD FR1 PDSCH mapping Type A performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D009 D010	
5.2.2.2.1_2	2Rx TDD FR1 PDSCH mapping Type A performance - 2x2 MIMO with enhanced receiver type 1 for both SA and NSA	Rel-15	C016x	UEs supporting 5GS TDD FR1 and Enhanced Receiver Type 1 but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.2_1	2Rx TDD FR1 PDSCH mapping Type A and CSI-RS overlapped with PDSCH performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.3_1	2Rx TDD FR1 PDSCH mapping Type B performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C016b	UEs supporting 5GS TDD FR1 and PDSCH mapping Type B but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.4_1	2Rx TDD FR1 PDSCH Mapping Type A and LTE-NR coexistence performance - 4x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C016y	UEs supporting 5GS TDD FR1 and additional DMRS for coexistence with LTE CRS but not supporting TDD bands with 4Rx UE capability	D019	
5.2.2.2.5_1	2Rx TDD FR1 PDSCH 0.001% BLER performance - 1x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C075	UEs supporting 5GS TDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5, but not supporting TDD bands with 4Rx UE capability	D009	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.2.2.2.6_1	2Rx TDD FR1 PDSCH repetitions over multiple slots performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C122	UEs supporting 5GS TDD FR1 and aggregationFactorDL > 1 for PDSCH repetition multislots but not supporting TDD bands with 4Rx UE capability	D010	NOTE 1
5.2.2.2.7_1	2Rx TDD FR1 PDSCH Mapping Type B and UE processing capability 2 performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C117	UEs supporting 5GS TDD FR1 and PDSCH processing capability 2 and PDSCH mapping type B, but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.8_1	2Rx TDD FR1 PDSCH pre-emption performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-16	C123	UEs supporting 5GS TDD FR1 and PDSCH pre-emption indication but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.9_1	2Rx TDD FR1 HST-SFN performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.10_1	2Rx TDD FR1 HST DPS performance - 2x2 MIMO with baseline receiver for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
5.2.2.2.11_1	2Rx TDD FR1 PDSCH Single-DCI based SDM scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C071	UEs supporting 5GS TDD FR1 and single DCI based spatial division multiplexing scheme, but not supporting TDD bands with 4Rx UE capability	D009	
5.2.2.2.12_1	2Rx TDD FR1 PDSCH Multiple-DCI based transmission scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C113a	UEs supporting 5GS TDD FR1 and multi-DCI based multi-TRP, but not supporting TDD bands with 4Rx UE capability	D009	
5.2.2.2.13_1	2Rx TDD FR1 PDSCH Single-DCI based FDM scheme A performance - 2x2 MIMO for both SA and NSA	Rel-16	C114a	UEs supporting 5GS TDD FR1 and single DCI based FDMSchemeA, but not supporting TDD bands with 4Rx UE capability	D009	
5.2.2.2.14_1	2Rx TDD FR1 PDSCH Single-DCI based Inter-slot TDM scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C115a	UEs supporting 5GS TDD FR1 and single-DCI based inter-slot TDM, but not supporting TDD bands with 4Rx UE capability	D009	
5.2.3.1.1_1	4Rx FDD FR1 PDSCH mapping Type A performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
5.2.3.1.1_2	4Rx FDD FR1 PDSCH mapping Type A performance - 4x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
5.2.3.1.1_4	4Rx FDD FR1 PDSCH mapping Type A performance - 4x4 MIMO with enhanced receiver type 1 for both SA and NSA	Rel-15	C017x	UEs supporting 5GS FDD FR1 and 4Rx antenna ports and Enhanced Receiver Type 1	D008	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.2.3.1.2_1	4Rx FDD FR1 PDSCH mapping Type A and CSI-RS overlapped with PDSCH performance - 4x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
5.2.3.1.3_1	4Rx FDD FR1 PDSCH mapping Type B performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017b	UEs supporting 5GS FDD FR1 and 4Rx antenna ports and PDSCH mapping Type B	D008 D011	
5.2.3.1.4_1	4Rx FDD FR1 PDSCH Mapping Type A and LTE-NR coexistence performance - 4x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017y	UEs supporting 5GS FDD FR1 and 4Rx antenna ports and LTE-NR coexistence	D008	
5.2.3.1.5_1	4Rx FDD FR1 PDSCH 0.001% BLER performance - 1x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C076	UEs supporting 5GS FDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5 and 4Rx antenna ports	D008	
5.2.3.1.6_1	4Rx FDD FR1 PDSCH repetitions over multiple slots performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C124	UEs supporting 5GS FDD FR1 and aggregationFactorDL > 1 for PDSCH repetition multislots and 4Rx antenna ports	D008	NOTE 1
5.2.3.1.7_1	4Rx FDD FR1 PDSCH Mapping Type B and UE processing capability 2 performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C118	UEs supporting 5GS FDD FR1 and PDSCH processing capability 2 and PDSCH mapping type B and 4Rx antenna ports	D008	
5.2.3.1.8_1	4Rx FDD FR1 PDSCH pre-emption performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C169	UEs supporting 5GS FDD FR1 and PDSCH pre-emption indication and 4Rx antenna ports	D008	
5.2.3.1.9_1	4Rx FDD FR1 HST-SFN performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C127	UEs supporting 5GS FDD FR1 and enhanced demodulation processing for HST-SFN joint transmission scheme and 4Rx antenna ports	D008	
5.2.3.1.10_1	4Rx FDD FR1 HST-DPS performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C154	UEs supporting 5GS FDD FR1 and number of active TCI states per BWP per CC and 4Rx antenna ports	D008	
5.2.3.1.11_1	4Rx FDD FR1 PDSCH Single-DCI based SDM scheme performance - 2x4 MIMO for both SA and NSA	Rel-16	C072	UEs supporting 5GS FDD FR1 and single DCI based spatial division multiplexing scheme and 4Rx antenna ports	D008	
5.2.3.1.12_1	4Rx FDD FR1 PDSCH Multiple-DCI based transmission scheme performance - 2x4 MIMO for both SA and NSA	Rel-16	C113b	UEs supporting 5GS FDD FR1 and multi-DCI based multi-TRP and 4Rx antenna ports	D008	
5.2.3.1.13_1	4Rx FDD FR1 PDSCH Single-DCI based FDM scheme A performance - 2x4 MIMO for both SA and NSA	Rel-16	C114b	UEs supporting 5GS FDD FR1 and single DCI based FDMSchemeA and 4Rx antenna ports	D008	
5.2.3.1.14_1	4Rx FDD FR1 PDSCH Single-DCI based Inter-slot TDM scheme performance - 2x4 MIMO for both SA and NSA	Rel-16	C115b	UEs supporting 5GS FDD FR1 and single-DCI based inter-slot TDM and 4Rx antenna ports	D008	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.2.3.2.1_1	4Rx TDD FR1 PDSCH mapping Type A performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D009 D010	
5.2.3.2.1_2	4Rx TDD FR1 PDSCH mapping Type A performance - 4x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
5.2.3.2.1_4	4Rx TDD FR1 PDSCH mapping Type A performance - 4x4 MIMO with enhanced receiver type 1 for both SA and NSA	Rel-15	C019x	UEs supporting 5GS TDD FR1 and Enhanced Receiver Type 1 and 4Rx antenna ports	D010	
5.2.3.2.2_1	4Rx TDD FR1 PDSCH mapping Type A and CSI-RS overlapped with PDSCH performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D009 D010	
5.2.3.2.3_1	4Rx TDD FR1 PDSCH mapping Type B performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019b	UEs supporting 5GS TDD FR1 and 4Rx antenna ports and PDSCH mapping Type B	D009 D011	
5.2.3.2.4_1	4Rx TDD FR1 PDSCH Mapping Type A and LTE-NR coexistence performance - 4x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C017z	UEs supporting 5GS TDD FR1 and 4Rx antenna ports and LTE-NR coexistence	D009	
5.2.3.2.5_1	4Rx TDD FR1 PDSCH 0.001% BLER performance - 1x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C077	UEs supporting 5GS TDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5 and 4Rx antenna ports	D009	
5.2.3.2.6_1	4Rx TDD FR1 PDSCH repetitions over multiple slots performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C125	UEs supporting 5GS TDD FR1 and aggregationFactorDL > 1 for PDSCH repetition multislots and 4Rx antenna ports	D010	NOTE 1
5.2.3.2.7_1	4Rx TDD FR1 PDSCH Mapping Type B and UE processing capability 2 performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C119	UEs supporting 5GS TDD FR1 and PDSCH processing capability 2 and PDSCH mapping type B and 4Rx antenna ports	D010	
5.2.3.2.8_1	4Rx TDD FR1 PDSCH pre-emption performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-16	C170	UEs supporting 5GS TDD FR1 and PDSCH pre-emption indication and 4Rx antenna ports	D010	
5.2.3.2.9_1	4Rx TDD FR1 HST-SFN performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010 D011	
5.2.3.2.10_1	4Rx TDD FR1 HST DPS performance - 2x4 MIMO with baseline receiver for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010 D011	NOTE 1
5.2.3.2.11_1	4Rx TDD FR1 PDSCH Single-DCI based SDM scheme performance - 2x2 MIMO for both SA and NSA	Rel-16	C073	UEs supporting 5GS TDD FR1 and single DCI based spatial division multiplexing scheme and 4Rx antenna ports	D009	
5.2.3.2.12_1	4Rx TDD FR1 PDSCH Multiple-DCI based transmission scheme performance - 2x4 MIMO for both SA and NSA	Rel-16	C113c	UEs supporting 5GS TDD FR1 and multi-DCI based multi-TRP and 4Rx antenna ports	D009	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.2.3.2.13_1	4Rx TDD FR1 PDSCH Single-DCI based FDM scheme A performance - 2x4 MIMO for both SA and NSA	Rel-16	C114c	UEs supporting 5GS TDD FR1 and single DCI based FDMSchemeA and 4Rx antenna ports	D009	
5.2.3.2.14_1	4Rx TDD FR1 PDSCH Single-DCI based Inter-slot TDM scheme performance - 2x4 MIMO for both SA and NSA	Rel-16	C115c	UEs supporting 5GS TDD FR1 and single-DCI based inter-slot TDM and 4Rx antenna ports	D009	
5.2A.2.1.1	2Rx Normal PDSCH Demodulation Performance for CA (2DL CA)	Rel-15	C017g	UEs supporting 5GS FR1 AND 2DLCA but not supporting 4Rx UE capability on any CCs	E016	
5.2A.2.1.2	2Rx Normal PDSCH Demodulation Performance for CA (3DL CA)	Rel-15	C017h	UEs supporting 5GS FR1 AND 3DLCA but not supporting 4Rx UE capability on any CCs	E017	
5.2A.2.1.3	2Rx Normal PDSCH Demodulation Performance for CA (4DL CA)	Rel-15	C017i	UEs supporting 5GS FR1 AND 4DLCA but not supporting 4Rx UE capability on any CCs	E018	
5.2A.2.2.1	2Rx PDSCH Demodulation Performance for CA with power imbalance (2DL CA)	Rel-15	C017j	UEs supporting 5GS FR1 AND 2DLCA but not supporting 4Rx UE capability on any CCs	E003a	
5.2A.2.2.2	2Rx PDSCH Demodulation Performance for CA with power imbalance (3DL CA)	Rel-15	FFS	UEs supporting 5GS FR1 AND 3DLCA but not supporting 4Rx UE capability on any CCs	E033	NOTE 1
5.2A.2.2.3	2Rx PDSCH Demodulation Performance for CA with power imbalance (4DL CA)	Rel-15	FFS	UEs supporting 5GS FR1 and 4DLCA but not supporting 4Rx UE capability on any 4CCs	E034	NOTE 1
5.2A.3.1.1	4Rx Normal PDSCH Demodulation Performance for CA (2DL CA)	Rel-15	C017g	UEs supporting 5GS FR1 AND 2DLCA AND supporting 4Rx antenna ports on all CCs	E0016	
5.2A.3.1.2	4Rx Normal PDSCH Demodulation Performance for CA (3DL CA)	Rel-15	C017h	UEs supporting 5GS FR1 AND 3DLCA AND supporting 4Rx antenna ports on all CCs	E017	
5.2A.3.1.3	4Rx Normal PDSCH Demodulation Performance for CA (4DL CA)	Rel-15	C017i	UEs supporting 5GS FR1 AND 4DLCA AND supporting 4Rx antenna ports on all CCs	E018	
5.2A.3A.1.1	2Rx-4Rx Normal PDSCH Demodulation Performance for CA (2DL CA)	Rel-15	C017g	UEs supporting 5GS FR1 and 2DLCA AND supporting 4Rx UE capability on some of the CCs	E016	
5.2A.3A.1.2	2Rx-4Rx Normal PDSCH Demodulation Performance for CA (3DL CA)	Rel-15	C017h	UEs supporting 5GS FR1 and 3DLCA AND supporting 4Rx UE capability on some of the CCs	E017	
5.2A.3A.1.3	2Rx-4Rx Normal PDSCH Demodulation Performance for CA (4DL CA)	Rel-15	C017i	UEs supporting 5GS FR1 and 4DLCA AND supporting 4Rx UE capability on some of the CCs	E018	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
5.3.2.1.1	2Rx FDD FR1 PDCCH 1 Tx antenna performance for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
5.3.2.1.2	2Rx FDD FR1 PDCCH 2 Tx antenna performance for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
5.3.2.1.3	2Rx FDD FR1 PDCCH 1 Tx antenna performance for power saving	Rel-16	C088	UEs supporting 5GS FDD FR1 and Long DRX Cycle and DRX adaptation but not supporting FDD bands with 4Rx UE capability	D008	
5.3.2.2.1	2Rx TDD FR1 PDCCH 1 Tx antenna performance for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
5.3.2.2.2	2Rx TDD FR1 PDCCH 2 Tx antenna performance for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
5.3.2.2.3	2Rx TDD FR1 PDCCH 1 Tx antenna performance for power saving	Rel-16	C089	UEs supporting 5GS TDD FR1 and Long DRX Cycle and DRX adaptation but not supporting TDD bands with 4Rx UE capability	D010	
5.3.3.1.1	4Rx FDD FR1 PDCCH 1 Tx antenna performance for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
5.3.3.1.2	4Rx FDD FR1 PDCCH 2 Tx antenna performance for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
5.3.3.1.3	4Rx FDD FR1 PDCCH 1 Tx antenna performance for power saving	Rel-16	C090	UEs supporting 5GS FDD FR1 and 4Rx antenna ports and Long DRX Cycle and DRX adaptation	D008	
5.3.3.2.1	4Rx TDD FR1 PDCCH 1 Tx antenna performance for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
5.3.3.2.2	4Rx TDD FR1 PDCCH 2 Tx antenna performance for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
5.3.3.2.3	4Rx TDD FR1 PDCCH 1 Tx antenna performance for power saving	Rel-16	C091	UEs supporting 5GS TDD FR1 and 4Rx antenna ports and Long DRX Cycle and DRX adaptation	D010	
5.5.1	FR1 Sustained downlink data rate performance for single carrier	Rel-15	C001	UEs supporting 5GS FDD FR1 or TDD FR1 (SA)	D008 D009 D010	
5.5A.1.1	FR1 Sustained downlink data rate performance for CA (2DLCA)	Rel-15	C001e	UEs supporting 5GS FDD FR1 or TDD FR1 (SA) and supporting 2DLCA	E016	
6	**CSI reporting requirements (Conducted requirements)**					
6.2.2.1.1.1	2Rx FDD FR1 periodic CQI reporting under AWGN conditions for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
6.2.2.1.1.2	2Rx FDD FR1 periodic CQI reporting with Table 3 under AWGN conditions for both SA and NSA	Rel-16	C074	UEs supporting 5GS FDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5, but not supporting FDD bands with 4Rx UE capability	D008	
6.2.2.1.2.1	2Rx FDD FR1 periodic wideband CQI reporting under fading conditions for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.2.2.1.2.2	2Rx FDD FR1 aperiodic subband CQI reporting under fading conditions for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.2.2.2.1.1	2Rx TDD FR1 periodic CQI reporting under AWGN conditions for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.2.2.2.1.2	2Rx TDD FR1 periodic CQI reporting with Table 3 under AWGN conditions for both SA and NSA	Rel-16	C075	UEs supporting 5GS TDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5, but not supporting TDD bands with 4Rx UE capability	D010	
6.2.2.2.2.1	2Rx TDD FR1 periodic wideband CQI reporting under fading conditions for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.2.2.2.2.2	2Rx TDD FR1 aperiodic subband CQI reporting under fading conditions for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.2.3.1.1.1	4Rx FDD FR1 periodic CQI reporting under AWGN conditions for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
6.2.3.1.1.2	4Rx FDD FR1 periodic CQI reporting with Table 3 under AWGN conditions for both SA and NSA	Rel-16	C076	UEs supporting 5GS FDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5 and 4Rx antenna ports	D008	
6.2.3.1.2.1	4Rx FDD FR1 periodic wideband CQI reporting under fading conditions for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
6.2.3.1.2.2	4Rx FDD FR1 aperiodic subband CQI reporting under fading conditions for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008	
6.2.3.2.1.1	4Rx TDD FR1 periodic CQI reporting under AWGN conditions for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
6.2.3.2.1.2	4Rx TDD FR1 periodic CQI reporting with Table 3 under AWGN conditions for both SA and NSA	Rel-16	C077	UEs supporting 5GS TDD FR1 and alternative 64QAM MCS table for PDSCH and CQI table with target BLER of 10^-5 and 4Rx antenna ports	D010	
6.2.3.2.2.1	4Rx TDD FR1 periodic wideband CQI reporting under fading conditions for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
6.2.3.2.2.2	4Rx TDD FR1 aperiodic subband CQI reporting under fading conditions for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
6.2A.3.1.1	2Rx CQI reporting accuracy under AWGN conditions for CA (2DL CA)	Rel-15	C031	UEs supporting 5GS FR1 and CA (2DL CA)	E016	Test execution not necessary if 6.2A.3.1.2 is executed.
6.2A.3.1.2	2Rx CQI reporting accuracy under AWGN conditions for CA (3DL CA)	Rel-15	C033	UEs supporting 5GS FR1 and CA (3DL CA)	E017	Test execution not necessary if 6.2A.3.1.3 is executed.
6.2A.3.1.3	2Rx CQI reporting accuracy under AWGN conditions for CA (4DL CA)	Rel-15	C036	UEs supporting 5GS FR1 and CA (4DL CA)	E018	
6.3.2.1.1	2Rx FDD FR1 Single PMI with 4TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.1.2	2Rx FDD FR1 Single PMI with 8TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.1.3	2Rx FDD FR1 Multiple PMI with 16Tx Type I – SinglePanel Codebook for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.1.4	2Rx FDD FR1 Single PMI with 32Tx Type I – SinglePanel Codebook for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.1.5	2Rx FDD FR1 Multiple PMI with 16Tx TypeII codebook for both SA and NSA	Rel-15	C015c	UEs supporting 5GS FDD FR1 and supporting Type II codebook but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.1.6	2Rx FDD FR1 Multiple PMI with 16Tx Enhanced TypeII codebook for both SA and NSA	Rel-16	C128	UEs supporting 5GS FDD FR1 and Enhanced Type II codebook with at least 16 ports per CSI-RS resource, but not supporting FDD bands with 4Rx UE capability	D008	
6.3.2.2.1	2Rx TDD FR1 Single PMI with 4TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.3.2.2.2	2Rx TDD FR1 Single PMI with 8TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.3.2.2.3	2Rx TDD FR1 Multiple PMI with 16Tx Type1 - SinglePanel codebook for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.3.2.2.4	2Rx TDD FR1 Single PMI with 32Tx Type1 - SinglePanel codebook for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
6.3.2.2.5	2Rx TDD FR1 Multiple PMI with 16Tx TypeII codebook for both SA and NSA	Rel-15	C016c	UEs supporting 5GS TDD FR1 and supporting Type II codebook but not supporting TDD bands with 4Rx UE capability	D010	
6.3.2.2.6	2Rx TDD FR1 Multiple PMI with 16Tx Enhanced TypeII codebook for both SA and NSA	Rel-16	C129	UEs supporting 5GS TDD FR1 and Enhanced Type II codebook with at least 16 ports per CSI-RS resource, but not supporting TDD bands with 4Rx UE capability	D010	
6.3.3.1.1	4Rx FDD FR1 Single PMI with 4TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008 D011	
6.3.3.1.2	4Rx FDD FR1 Single PMI with 8TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008 D011	
6.3.3.1.3	4Rx FDD FR1 Multiple PMI with 16Tx Type I – SinglePanel Codebook for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008 D011	
6.3.3.1.4	4Rx FDD FR1 Single PMI with 32Tx Type I – SinglePanel Codebook for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008 D011	
6.3.3.1.5	4Rx FDD FR1 Multiple PMI with 16Tx TypeII codebook for both SA and NSA	Rel-15	C017c	UEs supporting 5GS FDD FR1 and supporting Type II codebook and 4Rx antenna ports	D008 D011	
6.3.3.1.6	4Rx FDD FR1 Multiple PMI with 16Tx Enhanced TypeII codebook for both SA and NSA	Rel-16	C130	UEs supporting 5GS FDD FR1 and Enhanced Type II codebook with at least 16 ports per CSI-RS resource, and 4Rx antenna ports	D008 D011	
6.3.3.2.1	4Rx TDD FR1 Single PMI with 4TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C019	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D010 D011	
6.3.3.2.2	4Rx TDD FR1 Single PMI with 8TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C019	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D010 D011	
6.3.3.2.3	4Rx TDD FR1 Multiple PMI with 16Tx Type1 - SinglePanel codebook for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
6.3.3.2.4	4Rx TDD FR1 Single PMI with 32Tx Type1 - SinglePanel codebook for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010	
6.3.3.2.5	4Rx TDD FR1 Multiple PMI with 16Tx TypeII codebook for both SA and NSA	Rel-15	C019c	UEs supporting 5GS TDD FR1 and supporting Type II codebook and 4Rx antenna ports	D010	
6.3.3.2.6	4Rx TDD FR1 Multiple PMI with 16Tx Enhanced TypeII codebook for both SA and NSA	Rel-16	C131	UEs supporting 5GS TDD FR1 and Enhanced Type II codebook with at least 16 ports per CSI-RS resource, and 4Rx antenna ports	D010	
6.4.2.1_1	2Rx FDD FR1 RI reporting for both SA and NSA	Rel-15	C015	UEs supporting 5GS FDD FR1 but not supporting FDD bands with 4Rx UE capability	D008	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
6.4.2.2_1	2Rx TDD FR1 RI reporting for both SA and NSA	Rel-15	C016	UEs supporting 5GS TDD FR1 but not supporting TDD bands with 4Rx UE capability	D010	
6.4.3.1_1	4Rx FDD FR1 RI reporting for both SA and NSA	Rel-15	C017	UEs supporting 5GS FDD FR1 and 4Rx antenna ports	D008 D011	
6.4.3.2_1	4Rx TDD FR1 RI reporting for both SA and NSA	Rel-15	C019	UEs supporting 5GS TDD FR1 and 4Rx antenna ports	D010 D011	
7	**Demodulation performance requirements (Radiated requirements)**					
7.2.2.2.1_1	2Rx TDD FR2 PDSCH mapping Type A performance - 2x2 MIMO with baseline receiver for SA and NSA	Rel-15	C061	UEs supporting 5GS TDD FR2	D013 D014 D015	
7.2.2.2.1_2	2Rx TDD FR2 PDSCH mapping Type A performance - 2x2 MIMO with enhanced type 1 receiver for SA and NSA	Rel-15	C062	UEs supporting 5GS TDD FR2 and Enhanced Receiver Type 1	D014	
7.2.2.2.1_3	2Rx TDD FR2 PDSCH mapping Type A performance - 2x2 MIMO with 256QAM for SA and NSA (Rel-16 and forward)	Rel-16	C126	UEs supporting 5GS TDD FR2 and PDSCH 256QAM for FR2	D013	NOTE 1
7.2.2.2.2_1	2Rx TDD FR2 PDSCH repetitions over multiple slots - 2x2 MIMO with baseline receiver for SA and NSA	Rel-16	C171	UEs supporting 5GS TDD FR2 and aggregationFactorDL > 1 for PDSCH repetition multislots	D014	NOTE 1
7.2.2.2.3_1	2Rx TDD FR2 PDSCH mapping Type B performance - 2x2 MIMO with baseline receiver for SA and NSA	Rel-16	C172	UEs supporting 5GS TDD FR2 and aggregationFactorDL > 1 for PDSCH repetition multislots	D014	
7.2A.2.1	2Rx TDD FR2 CA requirements for normal PDSCH Demodulation Performance for both SA and NSA (2DLCA)	Rel-15	C061a	UEs supporting 5GS TDD FR2 AND 2DLCA	E032	
7.2A.2.2	2Rx TDD FR2 CA requirements for normal PDSCH Demodulation Performance for both SA and NSA (3DLCA)	Rel-15	C061b	UEs supporting 5GS TDD FR2 AND 3DLCA	E033	
7.3.2.2.1	2Rx TDD FR2 PDCCH 1 Tx antenna performance for both SA and NSA	Rel-15	C061	UEs supporting 5GS TDD FR2	D014	
7.3.2.2.2	2Rx TDD FR2 PDCCH 2 Tx antenna performance for both SA and NSA	Rel-15	C061	UEs supporting 5GS TDD FR2	D014	
7.3.2.2.3	2Rx TDD FR2 PDCCH 1 Tx antenna performance for power saving	Rel-16	C092	UEs supporting 5GS TDD FR2 and Long DRX Cycle and DRX adaptation	D014	
8	**CSI reporting requirements (Radiated requirements)**					
8.2.2.2.1.1	2Rx TDD FR2 periodic CQI reporting under AWGN performance for both SA and NSA	Rel-15	C061	UEs supporting 5GS TDD FR2	D014	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
8.2.2.2.2.1	2Rx TDD FR2 aperiodic wideband CQI reporting under fading performance for both SA and NSA	Rel-15	C061F	UEs supporting 5GS TDD FR2	D014	Skip TC 8.2.2.2.2.1 if TS 38.521-4 TC 8.2.2.2.2.1_1 has been executed and passed.
8.2.2.2.2.1_1	2Rx TDD FR2 aperiodic CQI reporting under fading performance for both SA and NSA – 256QAM	Rel-16	C126	UEs supporting 5GS TDD FR2 and DL 256QAM	D013	NOTE 1
8.2A.3.1.1	2Rx CQI reporting accuracy under AWGN conditions for CA (2DL CA)	Rel-15	C006c	UEs supporting 5GS FR2 and CA (2DL CA)	E032	Test execution not necessary if 8.2A.3.1.2 is executed.
8.2A.3.1.2	2Rx CQI reporting accuracy under AWGN conditions for CA (3DL CA)	Rel-15	C006d	UEs supporting 5GS FR2 and CA (3DL CA)	E033	Test execution not necessary if 8.2A.3.1.3 is executed.
8.2A.3.1.3	2Rx CQI reporting accuracy under AWGN conditions for CA (4DL CA)	Rel-15	C006e	UEs supporting 5GS FR2 and CA (4DL CA)	E034	
8.3.2.2.1	2Rx TDD FR2 Single PMI with 2TX TypeI-SinglePanel codebook for both SA and NSA	Rel-15	C061	UEs supporting 5GS TDD FR2	D014	
8.4.2.2.1	2Rx TDD FR2 RI reporting for both SA and NSA	FFS	FFS	FFS	FFS	NOTE 1
9	**Demodulation performance requirements for interworking**					
9.4B.1.1	Sustained downlink data rate performance for EN-DC within FR1	Rel-15	C020	UEs supporting 5GS FDD FR1 or TDD FR1 (NSA)	D008 D009 D010	
9.4B.1.2	Sustained downlink data rate performance for EN-DC including FR2 NR carrier	FFS	FFS	FFS	FFS	NOTE 1
10	**CSI reporting requirements for interworking**					
11	**V2X requirements**					
11.1.2	PSSCH demodulation requirements	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.3	PSCCH demodulation requirements	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.5	PSFCH demodulation requirements	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.6	Power imbalance performance with two links	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.7	HARQ buffer soft combining	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.8	PSCCH decoding capability	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	
11.1.9	PSFCH decoding capability	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	D016	

Clause	TC Title	Release	Applicability		Tested Bands Selection	Additional Information
			Condition	Comment		
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.521-4. NOTE 2: Void. NOTE 3: Void.						

Table 4.1.4-1a: Void

Table 4.1.4-1b: Void

Table 4.1.4-1c: Void

4.2 RRM conformance test cases

Table 4.2-1: Applicability of RRM EN-DC FR1 conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.3	**RRC_CONNECTED state mobility**					
4.3.2	**RRC connection mobility control**					
4.3.2.2	**Random access**					
4.3.2.2.1	EN-DC FR1 contention based random access	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.3.2.2.2	EN-DC FR1 non-contention based random access	Rel-15	C030	UEs supporting EN-DC FR1 and CSI-RS based PRACH		2Rx 4Rx
4.3.2.2.3	EN-DC FR1 2-step contention based random access	Rel-16	C157	UEs supporting EN-DC FR1 and 2-step RACH	NOTE 1	2Rx 4Rx
4.3.2.2.4	EN-DC FR1 2-step non-contention based random access	Rel-16	C158	UEs supporting EN-DC FR1 and 2-step RACH	NOTE 1	2Rx 4Rx
4.4	**Timing**					
4.4.1	**UE Transmit Timing**					
4.4.1.1	EN-DC FR1 UE transmit timing accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.4.2	**UE timer accuracy**					
4.4.3	**Timing Advance**					
4.4.3.1	EN-DC FR1 timing advance adjustment accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.5	**Signalling characteristics**					
4.5.1	**Radio link monitoring**					
4.5.1.1	EN-DC FR1 radio link monitoring out-of-sync test for PSCell configured with SSB-based RLM RS in non-DRX mode	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.5.1.2	EN-DC FR1 radio link monitoring in-sync test for PSCell configured with SSB-based RLM RS in non-DRX mode	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.5.1.3	EN-DC FR1 radio link monitoring out-of-sync test for PSCell configured with SSB-based RLM RS in DRX mode	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.5.1.4	EN-DC FR1 radio link monitoring in-sync test for PSCell configured with SSB-based RLM RS in DRX mode	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.5.1.5	EN-DC FR1 radio link monitoring out-of-sync test for PSCell configured with CSI-RS-based RLM RS in non-DRX mode	Rel-15	C038	UEs supporting EN-DC FR1 and CSI-RS-based RLM		2Rx 4Rx
4.5.1.6	EN-DC FR1 radio link monitoring in-sync test for PSCell configured with CSI-RS-based RLM RS in non-DRX mode	Rel-15	C038	UEs supporting EN-DC FR1 and CSI-RS-based RLM		2Rx 4Rx
4.5.1.7	EN-DC FR1 radio link monitoring out-of-sync test for PSCell configured with CSI-RS-based RLM RS in DRX mode	Rel-15	C038a	UEs supporting EN-DC FR1, CSI-RS-based RLM and long DRX cycle		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.5.1.8	EN-DC FR1 radio link monitoring in-sync test for PSCell configured with CSI-RS-based RLM RS in DRX mode	Rel-15	C038a	UEs supporting EN-DC FR1, CSI-RS-based RLM and long DRX cycle		2Rx 4Rx
4.5.2	**Interruption**					
4.5.2.1	EN-DC FR1 interruptions at transitions between active and non-active during DRX in synchronous EN-DC	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.5.2.2	EN-DC FR1 interruptions at transitions between active and non-active during DRX in asynchronous EN-DC	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.5.2.3	EN-DC FR1 interruptions during measurements on deactivated NR SCC in synchronous EN-DC	Rel-15	C067	UEs supporting EN-DC FR1 and 2DL CA in NR		2Rx 4Rx
4.5.2.4	EN-DC FR1 interruptions during measurements on deactivated NR SCC in asynchronous EN-DC	Rel-15	C067	UEs supporting EN-DC FR1 and 2DL CA in NR		2Rx 4Rx
4.5.2.5	EN-DC FR1 interruptions during measurements on deactivated E-UTRAN SCC in synchronous EN-DC	Rel-15	C068	UEs supporting EN-DC FR1 and 2DL CA in E-UTRA		2Rx 4Rx
4.5.2.6	EN-DC FR1 interruptions during measurements on deactivated E-UTRAN SCC in asynchronous EN-DC	Rel-15	C068	UEs supporting EN-DC FR1 and 2DL CA in E-UTRA		2Rx 4Rx
4.5.3	**SCell activation and deactivation delay**					
4.5.3.1	EN-DC FR1 SCell activation and deactivation of known SCell in non-DRX for 160ms SCell measurement cycle	Rel-15	C067	UEs supporting EN-DC FR1 and 2DL CA in NR		2Rx 4Rx
4.5.3.2	EN-DC FR1 SCell activation and deactivation of known SCell in non-DRX for 640ms SCell measurement cycle	Rel-15	C067	UEs supporting EN-DC FR1 and 2DL CA in NR		2Rx 4Rx
4.5.3.3	EN-DC FR1 SCell activation and deactivation of unknown SCell in non-DRX	Rel-15	C067	UEs supporting EN-DC FR1 and 2DL CA in NR		2Rx 4Rx
4.5.4	**UE UL carrier RRC reconfiguration delay**					
4.5.4.1	EN-DC FR1 UE UL carrier RRC reconfiguration delay	Rel-15	C032	UEs supporting EN-DC FR1 and SUL		2Rx 4Rx
4.5.5	**Beam failure detection and link recovery procedures**					
4.5.5.1	EN-DC FR1 SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C082	UEs supporting EN-DC FR1 and link recovery		2Rx 4Rx
4.5.5.2	EN-DC FR1 SSB-based beam failure detection and link recovery in DRX	Rel-15	C082a	UEs supporting EN-DC FR1 and long DRX cycle and link recovery		2Rx 4Rx
4.5.5.3	EN-DC FR1 CSI-RS-based beam failure detection and link recovery in non-DRX	Rel-15	C083	UEs supporting EN-DC FR1 and CSI-RS-based RLM and link recovery		2Rx 4Rx
4.5.5.4	EN-DC FR1 CSI-RS-based beam failure detection and link recovery in DRX	Rel-15	C083a	UEs supporting EN-DC FR1 and long DRX cycle and CSI-RS-based RLM and link recovery		2Rx 4Rx
4.5.5.5	EN-DC FR1 Scell CSI-RS-based beam failure detection and SSB-based link recovery in non-DRX	Rel-16	C175	UEs supporting EN-DC FR1 and CSI-RS-based RLM and SSB link recovery		2Rx 4Rx
4.5.5.6	EN-DC FR1 Scell CSI-RS-based beam failure detection and SSB-based link recovery in DRX	Rel-16	C176	UEs supporting EN-DC FR1 and long DRX cycle and CSI-RS-based RLM and SSB link recovery		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.5.6	**Active BWP switch delay**					
4.5.6.1	**DCI-based and timer-based active BWP switch**					
4.5.6.1.1	EN-DC FR1 DCI-based DL active BWP switch in non-DRX in synchronous EN-DC	Rel-15	C065	UEs supporting EN-DC FR1 and (DCI and timer based active BWP switching delay Type1 or Type2) and (Support of BWP adaptation upto2 or upto4)		2Rx 4Rx
4.5.6.1.2	EN-DC FR1 DCI-based DL active BWP switch with SCell in non-DRX in synchronous EN-DC	Rel-15	C065a	UEs supporting EN-DC FR1 and (DCI and timer based active BWP switching delay Type1 or Type2) and (Support of BWP adaptation upto2 or upto4) and 2DL CA		2Rx 4Rx
4.5.6.2	**RRC-based active BWP switch**					
4.5.6.2.1	EN-DC FR1 RRC-based DL active BWP switch in non-DRX in synchronous EN-DC	Rel-15	C065b	UEs supporting EN-DC FR1 and (Support of BWP adaptation upto2 or upto4)		2Rx 4Rx
4.5.7	**PSCell addition and release delay**					
4.5.7.1	EN-DC FR1 addition and release delay of known PSCell	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.5.8	UL switching					
4.5.8.1	EN-DC FR1 interruptions at switching between two uplink carriers	Rel-16	C126a	UEs supporting EN-DC and dynamic UL Tx switching in case of inter-band EN-DC		2Rx 4Rx
4.6	**Measurement procedures**					
4.6.1	**Intra-frequency measurements**					
4.6.1.1	EN-DC FR1 event-triggered reporting without gap in non-DRX	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.6.1.2	EN-DC FR1 event-triggered reporting without gap in DRX	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.6.1.3	EN-DC FR1 event-triggered reporting with gap in non-DRX	Rel-15	C042	UEs supporting EN-DC FR1 and CSI-RS-based RLM and BWP operation without bandwidth restriction		2Rx 4Rx
4.6.1.4	EN-DC FR1 event-triggered reporting with gap in DRX	Rel-15	C042a	UEs supporting EN-DC FR1, CSI-RS-based RLM, BWP operation without bandwidth restriction and long DRX cycle		2Rx 4Rx
4.6.1.5	EN-DC FR1 event-triggered reporting without gap in non-DRX with SSB time index detection	Rel-15	C021b	UEs supporting EN-DC FDD FR1		2Rx 4Rx
4.6.1.6	EN-DC FR1 event-triggered reporting with gap in non-DRX with SSB time index detection	Rel-15	C042b	UEs supporting EN-DC FDD FR1 and CSI-RS based RLM and BWP operation without bandwidth restriction		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.6.1.7	EN-DC FR1 event-triggered reporting without gap in DRX for UE configured with highSpeedMeasFlag-r16	Rel-15	C097	UEs supporting EN-DC FR1 and long DRX cycle and measurement enhancements in HST		2Rx 4Rx
4.6.2	**Inter-frequency measurements**					
4.6.2.1	EN-DC FR1-FR1 event-triggered reporting in non-DRX	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.6.2.2	EN-DC FR1-FR1 event-triggered reporting in DRX	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.6.2.5	EN-DC FR1-FR1 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.6.2.6	EN-DC FR1-FR1 event-triggered reporting in DRX with SSB time index detection	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.6.4	**L1-RSRP for beam reporting**					
4.6.4.1	EN-DC FR1 SSB-based L1-RSRP measurement in non-DRX	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.6.4.2	EN-DC FR1 SSB-based L1-RSRP measurement in DRX	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.6.4.3	EN-DC FR1 CSI-RS-based L1-RSRP measurement in non-DRX	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.6.4.4	EN-DC FR1 CSI-RS-based L1-RSRP measurement in DRX	Rel-15	C021a	UEs supporting EN-DC FR1 and long DRX cycle		2Rx 4Rx
4.6.4.5	EN-DC FR1 SSB-based L1-RSRP measurement in DRX for UE configured with highSpeedMeasFlag-r16	Rel-15	C098	UEs supporting EN-DC FR1, long DRX cycle and intra-NR measurement enhancement in HST		2Rx 4Rx
4.6.7	**L1-SINR for beam reporting**					
4.6.7.1	EN-DC FR1 CSI-RS based CMR and no dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C141	UEs supporting EN-DC FR1 and L1-SINR measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx
4.6.7.2	EN-DC FR1 SSB based CMR and dedicated IMR L1-SINR measurement in DRX	Rel-16	C142	UEs supporting EN-DC FR1 and long DRX cycle and L1-SINR measurement based on SSB as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
4.6.7.3	EN-DC FR1 CSI-RS based CMR and dedicated IMR L1-SINR measurement in DRX	Rel-16	C143	UEs supporting EN-DC FR1 and long DRX cycle and L1-SINR measurement based on CSI-RS as CMR and dedicated CSI-RS as IMR		2Rx 4Rx
4.7	**Measurement performance requirements**					
4.7.1	**SS-RSRP**					
4.7.1.1	**Intra-frequency measurements**					
4.7.1.1.1	EN-DC FR1 SS-RSRP absolute measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.1.1.2	EN-DC FR1 SS-RSRP relative measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.7.1.2	**Inter-frequency measurements**					
4.7.1.2.1	EN-DC FR1-FR1 SS-RSRP absolute measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.1.2.2	EN-DC FR1-FR1 SS-RSRP relative measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.2	**SS-RSRQ**					
4.7.2.1	EN-DC FR1 SS-RSRQ measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.2.2.1	EN-DC FR1-FR1 SS-RSRQ absolute measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.2.2.2	EN-DC FR1-FR1 SS-RSRQ relative measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.3	**SS-SINR**					
4.7.3.1	EN-DC FR1 SS-SINR measurement accuracy	Rel-15	C035	UEs supporting EN-DC FR1 and SS-SINR-meas		2Rx 4Rx
4.7.3.2.1	EN-DC FR1-FR1 SS-SINR absolute measurement accuracy	Rel-15	C035	UEs supporting EN-DC FR1 and SS-SINR-meas		2Rx 4Rx
4.7.3.2.2	EN-DC FR1-FR1 SS-SINR relative measurement accuracy	Rel-15	C035	UEs supporting EN-DC FR1 and SS-SINR-meas		2Rx 4Rx
4.7.4	**L1-RSRP**					
4.7.4.1.1	EN-DC FR1 SSB-based L1-RSRP absolute measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.4.1.2	EN-DC FR1 SSB-based L1-RSRP relative measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.4.2.1	EN-DC FR1 CSI-RS-based L1-RSRP absolute measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.4.2.2	EN-DC FR1 CSI-RS-based L1-RSRP relative measurement accuracy	Rel-15	C021	UEs supporting EN-DC FR1		2Rx 4Rx
4.7.5	**SFTD**					
4.7.5.1	EN-DC FR1 SFTD measurement accuracy	Rel-15	C043	UEs supporting EN-DC FR1 and SFTD measurements between E-UTRA PCell and NR PSCell		2Rx 4Rx
4.7.7	**L1-SINR**					
4.7.7.1	EN-DC FR1 CSI-RS based CMR and no dedicated IMR configured and CSI-RS resource set with repetition off L1-SINR measurement accuracy	Rel-16	C135	UEs supporting EN-DC FR1 and L1-SINR-measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx
4.7.7.2	EN-DC FR1 SSB based CMR and dedicated IMR L1-SINR absolute measurement accuracy	Rel-16	C136	UEs supporting EN-DC FR1 and L1-SINR-measurement based on SSB as CMR and dedicated CSI-IM as IMR		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
4.7.7.3	EN-DC FR1 CSI-RS based CMR and dedicated IMR L1-SINR measurement accuracy	Rel-16	C137	UEs supporting 5GS NR SA FR1 and L1-SINR-measurement based on CSI-RS as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
4A	**NE-DC with all NR cells in FR1**					
4A.1	**Signalling characteristics**					
4A.1.1	**E-UTRA PSCell addition**					
4A.1.1.1	NE-DC FR1 addition and release delay of known PSCell	Rel-15	FFS	FFS	NOTE 1	2Rx 4Rx
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.533. NOTE 2: Test X refers to the corresponding Sub-Test as defined in TS 38.533 [5].						

Table 4.2-1a: Void

Table 4.2-2: Applicability of RRM EN-DC FR2 conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
5.3	**RRC_CONNECTED state mobility**					
5.3.2	**RRC connection mobility control**					
5.3.2.2	**Random access**					
5.3.2.2.1	EN-DC FR2 contention based random access	Rel-16	C022	UEs supporting EN-DC FR2		2Rx 4Rx
5.3.2.2.2	EN-DC FR2 non-contention based random access	Rel-16	C030a	UEs supporting EN-DC FR2 and CSI-RS based PRACH		2Rx 4Rx
5.3.2.2.3	EN-DC FR2 2-step contention based random access	Rel-16	C158	UEs supporting EN-DC FR2 and 2-step RACH	NOTE 1	2Rx 4Rx
5.3.2.2.4	EN-DC FR2 2-step non-contention based random access	Rel-16	C158	UEs supporting EN-DC FR2 and 2-step RACH	NOTE 1	2Rx 4Rx
5.4	**Timing**					
5.4.1	**UE transmit timing**					
5.4.1.1	EN-DC FR2 UE transmit timing accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.4.2	**UE timer accuracy**					
5.4.3	**Timing advance**					
5.4.3.1	EN-DC FR2 timing advance adjustment accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.5	**Signalling characteristics**					
5.5.1	**Radio link monitoring**					
5.5.1.1	EN-DC FR2 radio link monitoring out-of-sync test for PSCell configured with SSB-based RLM RS in non-DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.2	EN-DC FR2 radio link monitoring in-sync test for PSCell configured with SSB-based RLM RS in non-DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.3	EN-DC FR2 radio link monitoring out-of-sync test for PSCell configured with SSB-based RLM RS in DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.4	EN-DC FR2 radio link monitoring in-sync test for PSCell configured with SSB-based RLM RS in DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.5	EN-DC FR2 radio link monitoring out-of-sync test for PSCell configured with CSI-RS-based RLM RS in non-DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.6	EN-DC FR2 radio link monitoring in-sync test for PSCell configured with CSI-RS-based RLM RS in non-DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.7	EN-DC FR2 radio link monitoring out-of-sync test for PSCell configured with CSI-RS-based RLM RS in DRX mode	FFS	FFS	FFS	NOTE 1	2Rx
5.5.1.8	EN-DC FR2 radio link monitoring in-sync test for PSCell configured with CSI-RS-based RLM RS in DRX mode	FFS	FFS	FFS	NOTE 1	2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
5.5.1.9	EN-DC FR2 radio link monitoring UE scheduling restrictions	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2	**Interruption**					
5.5.2.1	EN-DC FR2 interruptions at transitions between active and non-active during DRX in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2.2	EN-DC FR2 interruptions at transitions between active and non-active during DRX in asynchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2.3	EN-DC FR2 interruptions during measurements on deactivated NR SCC in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2.4	EN-DC FR2 interruptions during measurements on deactivated NR SCC in asynchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2.5	EN-DC FR2 interruptions during measurements on deactivated E-UTRAN SCC in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.2.6	EN-DC FR2 interruptions during measurements on deactivated E-UTRAN SCC in asynchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.3	**SCell activation and deactivation delay**					
5.5.3.1	EN-DC FR2 SCell activation and deactivation intra-band in non-DRX	FFS	FFS	FFS	NOTE 1	2Rx
5.5.4	**UE UL carrier RRC reconfiguration delay**					
5.5.5	**Beam failure detection and link recovery procedures**					
5.5.5.1	EN-DC FR2 SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.5.5.2	EN-DC FR2 SSB-based beam failure detection and link recovery in DRX	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle	NOTE 1	2Rx
5.5.5.3	EN-DC FR2 CSI-RS-based beam failure detection and link recovery in non-DRX	Rel-15	C161	UEs supporting EN-DC FR2 and CSI-RS-based RLM	NOTE 1	2Rx
5.5.5.4	EN-DC FR2 CSI-RS-based beam failure detection and link recovery in DRX	Rel-15		UEs supporting EN-DC FR2 and long DRX cycle and CSI-RS-based RLM	NOTE 1	2Rx
5.5.5.5	EN-DC FR2 scheduling available restriction during SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.5.5.6	EN-DC FR2 CSI-RS-based BFD and LR for SCell in non-DRX	Rel-16	C149	UEs supporting EN-DC FR2 and CSI-RS based BFR on SCell		
5.5.5.7	EN-DC FR2 SCell CSI-RS-based beam failure detection and link recovery in DRX	Rel-16	C150	UEs supporting EN-DC FR2 and long DRX cycle and CSI-RS based BFR on SCell		
5.5.6	**Active BWP switch delay**					
5.5.6.1	**DCI-based and timer-based active BWP switch**					
5.5.6.1.1	EN-DC FR2 DCI-based DL active BWP switch in non-DRX in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.6.1.2	EN-DC FR2 DCI-based DL active BWP switch with SCell in non-DRX in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
5.5.6.2	**RRC-based active BWP switch**					
5.5.6.2.1	EN-DC FR2 RRC-based DL active BWP switch in non-DRX in synchronous EN-DC	FFS	FFS	FFS	NOTE 1	2Rx
5.5.7	**PSCell addition and release delay**					
5.5.7.1	Void					
5.5.8	**Active TCI state switch delay**					
5.5.8.1	EN-DC FR2 MAC-CE based active TCI state switch	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.5.8.2	EN-DC FR2 RRC based active TCI state switch	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.6	**Measurement procedures**					
5.6.1	**Intra-frequency measurements**					
5.6.1.1	EN-DC FR2 event-triggered reporting without gap in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.6.1.2	EN-DC FR2 event-triggered reporting without gap in DRX	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle		2Rx
5.6.1.3	EN-DC FR2 event-triggered reporting with gap in non-DRX	Rel-15	C163	UEs supporting EN-DC FR2, CSI-RS-based RLM and BWP operation without bandwidth restriction	NOTE 1	2Rx
5.6.1.4	EN-DC FR2 event-triggered reporting with gap in DRX	Rel-15	C043a	UEs supporting EN-DC FR2, long DRX cycle, CSI-RS based RLM and BWP operation without BW restriction		2Rx
5.6.2	**Inter-frequency measurements**					
5.6.2.1	EN-DC FR2-FR2 event-triggered reporting in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.6.2.2	EN-DC FR2-FR2 event-triggered reporting in DRX	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle		2Rx
5.6.2.3	EN-DC FR2-FR2 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.6.2.4	EN-DC FR2-FR2 event-triggered reporting in DRX with SSB time index detection	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle		2Rx
5.6.2.5	EN-DC FR1-FR2 event-triggered reporting in non-DRX	Rel-15	C023	UEs supporting EN-DC FR1 and FR2		2Rx
5.6.2.6	EN-DC FR1-FR2 event-triggered reporting in DRX	Rel-15	C023a	UEs supporting EN-DC FR1 and FR2 and long DRX cycle		2Rx
5.6.2.7	EN-DC FR1-FR2 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C023	UEs supporting EN-DC FR1 and FR2		2Rx
5.6.2.8	EN-DC FR1-FR2 event-triggered reporting in DRX with SSB time index detection	Rel-15	C023a	UEs supporting EN-DC FR1 and FR2 and long DRX cycle		2Rx
5.6.3	**L1-RSRP for beam reporting**					
5.6.3.1	EN-DC FR2 SSB-based L1-RSRP measurement in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.6.3.2	EN-DC FR2 SSB-based L1-RSRP measurement in DRX	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle		2Rx
5.6.3.3	EN-DC FR2 CSI-RS-based L1-RSRP measurement in non-DRX	Rel-15	C022	UEs supporting EN-DC FR2		2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
5.6.3.4	EN-DC FR2 CSI-RS-based L1-RSRP measurement in DRX	Rel-15	C022a	UEs supporting EN-DC FR2 and long DRX cycle		2Rx
5.6.3	**L1-SINR measurement for beam reporting**					
5.6.6.1	EN-DC FR2 CSI-RS based CMR and no dedicated IMR L1-SINR measurement in DRX	Rel-16	C141a	UEs supporting EN-DC FR2 and long DRX cycle and L1-SINR measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx
5.6.6.2	EN-DC FR2 SSB based CMR and dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C142a	UEs supporting EN-DC FR2 and L1-SINR measurement based on SSB as CMR and dedicated CSI-RS as IMR		2Rx 4Rx
5.6.6.3	EN-DC FR2 CSI-RS based CMR and dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C143a	UEs supporting EN-DC FR2 and L1-SINR measurement based on CSI-RS as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
5.7	**Measurement performance requirements**					
5.7.1	**SS-RSRP**					
5.7.1.1	EN-DC FR2 SS-RSRP measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.7.1.2	EN-DC FR2-FR2 SS-RSRP measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.7.1.3	EN-DC FR1-FR2 SS-RSRP measurement accuracy	FFS	FFS	FFS	NOTE 1	2Rx
5.7.2	**SS-RSRQ**					
5.7.2.1	EN-DC FR2 SS-RSRQ measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.7.2.2	EN-DC FR2-FR2 SS-RSRQ measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2	NOTE 1	2Rx
5.7.3	**SS-SINR**					
5.7.3.1	EN-DC FR2 SS-SINR measurement accuracy	Rel-15	C069	UEs supporting EN-DC FR2 and SS-SINR-meas		2Rx
5.7.3.2	EN-DC FR2-FR2 SS-SINR measurement accuracy	Rel-15	C069	UEs supporting EN-DC FR2 and SS-SINR-meas	NOTE 1	2Rx
5.7.4	**L1-RSRP**					
5.7.4.1	EN-DC FR2 SSB based L1-RSRP measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx
5.7.4.2	EN-DC FR2 CSI-RS based L1-RSRP measurement accuracy	Rel-15	C022	UEs supporting EN-DC FR2		2Rx

NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.533.
NOTE 2: Void.
NOTE 3: Void.

Table 4.2-2a: Void

Table 4.2-3: Applicability of RRM NR SA FR1 conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.1	**RRC_IDLE state mobility**					
6.1.1	**NR cell re-selection**					
6.1.1.1	NR SA FR1 cell re-selection	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.1.1.2	NR SA FR1-FR1 cell re-selection	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.1.1.3	NR SA FR1 cell re-selection for UE fulfilling low mobility relaxed measurement criterion	Rel-16	C093	UEs supporting 5GS NR SA FR1 and relaxed RRM measurement		2Rx 4Rx
6.1.1.4	NR SA FR1 cell re-selection for UE fulfilling not-at-cell edge relaxed measurement criterion	Rel-16	C093	UEs supporting 5GS NR SA FR1 and relaxed RRM measurement		2Rx 4Rx
6.1.1.5	NR SA FR1-FR1 cell re-selection for UE fulfilling low mobility relaxed measurement criterion	Rel-16	C093	UEs supporting 5GS NR SA FR1 and relaxed RRM measurement		2Rx 4Rx
6.1.1.6	NR SA FR1-FR1 cell re-selection for UE fulfilling not-at-cell edge relaxed measurement criterion	Rel-16	C093	UEs supporting 5GS NR SA FR1 and relaxed RRM measurement		2Rx 4Rx
6.1.1.7	NR SA FR1 cell re-selection for UE configured with highSpeedMeasFlag-r16	Rel-15	C052	UEs supporting 5GS NR SA FR1 and measurement enhancements in HST		2Rx 4Rx
6.1.2	**NR – E-UTRA cell re-selection**					
6.1.2.1	NR SA FR1 – E-UTRA cell re-selection to higher priority E-UTRA	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
6.1.2.2	NR SA FR1 – E-UTRA cell re-selection to lower priority E-UTRA	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
6.1.2.3	NR SA FR1 – E-UTRA cell re-selection to lower priority E-UTRAN for UE fulfilling low mobility relaxed measurement criterion	Rel-16	C094	UEs supporting 5GS NR SA FR1 and E-UTRA and relaxed RRM measurement		2Rx 4Rx
6.1.2.4	NR SA FR1 – E-UTRA cell re-selection to lower priority E-UTRAN for UE fulfilling not-at-cell edge relaxed measurement criterion	Rel-16	C094	UEs supporting 5GS NR SA FR1 and E-UTRA and relaxed RRM measurement		2Rx 4Rx
6.1.2.5	NR SA FR1 – E-UTRA cell re-selection to lower priority E-UTRA for UE configured with highSpeedMeasFlag-r16	Rel-15	C025b	UEs supporting 5GS NR SA FR1 and E-UTRA and E-UTRA inter-RAT measurement enhancements in HST		2Rx 4Rx
6.2	**RRC_INACTIVE state mobility**					
6.3	**RRC_CONNECTED state mobility**					
6.3.1	**Handover**					
6.3.1.1	NR SA FR1 handover with known target cell	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.1.2	NR SA FR1 handover with unknown target cell	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.1.3	NR SA FR1-FR1 handover with unknown target cell	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.1.4	NR SA FR1 – E-UTRA handover with known target cell	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
6.3.1.5	NR SA FR1 – E-UTRA handover with unknown target cell	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.3.1.6	NR SA FR1 – UTRAN FDD handover with known target cell	Rel-16	C096	UEs supporting 5GS NR SA FR1 and UTRAN FDD		2Rx 4Rx
6.3.1.7	NR SA FR1 synchronous DAPS handover	Rel-16	C101	UEs supporting 5GS NR SA FR1 and intra-frequency DAPS handover		2Rx 4Rx
6.3.1.8	NR SA FR1 asynchronous DAPS handover	Rel-16	C102	UEs supporting 5GS NR SA FR1 and intra-frequency async DAPS handover		2Rx 4Rx
6.3.1.9	NR SA FR1 Intra-band inter-frequency synchronous DAPS handover	Rel-16	C107	UEs supporting 5GS NR SA FR1 and inter-frequency DAPS handover		2Rx 4Rx
6.3.1.10	NR SA FR1 Intra-band inter-frequency asynchronous DAPS handover	Rel-16	C108	UEs supporting 5GS NR SA FR1 and inter-frequency async DAPS handover		2Rx 4Rx
6.3.1.11	NR SA FR1 Inter-band inter-frequency synchronous DAPS handover	Rel-16	C107	UEs supporting 5GS NR SA FR1 and inter-frequency DAPS handover	For test configuration 1, 2, 4, 5, 9	2Rx 4Rx
			C109	UEs supporting 5GS NR SA FR1 and inter-frequency DAPS handover and supporting different SCSs in source PCell and inter-frequency target PCell	For test configuration 3, 6, 7, 8	2Rx 4Rx
6.3.1.12	NR SA FR1 Inter-band inter-frequency asynchronous DAPS handover	Rel-16	C108	UEs supporting 5GS NR SA FR1 and inter-frequency async DAPS handover	For test configuration 1, 2, 4, 5, 9	2Rx 4Rx
			C110	UEs supporting 5GS NR SA FR1 and inter-frequency async DAPS handover and supporting different SCSs in source PCell and inter-frequency target PCell	For test configuration 3, 6, 7, 8	2Rx 4Rx
6.3.2	**RRC connection mobility control**					
6.3.2.1	**RRC re-establishment**					
6.3.2.1.1	NR SA FR1 RRC re-establishment	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.2.1.2	NR SA FR1 - FR1 RRC re-establishment	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.2.1.3	NR SA FR1 RRC re-establishment without serving cell timing	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.2.2	**Random access**					
6.3.2.2.1	NR SA FR1 contention based random access	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.2.2.2	NR SA FR1 non-contention based random access	Rel-15	C029	UEs supporting 5GS NR SA FR1 and CSI-RS based PRACH		2Rx 4Rx
6.3.2.2.3	NR SA FR2 2-step contention based random access	Rel-16	C159	UEs supporting 5GS NR SA FR1and 2-step RACH	NOTE 1	2Rx 4Rx
6.3.2.2.4	NR SA FR2 2-step non-contention based random access	Rel-16	C159	UEs supporting 5GS NR SA FR1and 2-step RACH	NOTE 1	2Rx 4Rx
6.3.2.3	**RRC connection release with redirection**					

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.3.2.3.1	NR SA FR1 RRC connection release with redirection	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.3.2.3.2	NR SA FR1 - E-UTRA RRC connection release with redirection	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
6.3.3	**Conditional handover**					
6.3.3.1	NR SA FR1 conditional handover	Rel-16	C105	UEs supporting 5GS NR SA FR1 and Conditional handover		2Rx 4Rx
6.3.3.2	NR SA FR1-FR1 conditional handover	Rel-16	C105	UEs supporting 5GS NR SA FR1 and Conditional handover		2Rx 4Rx
6.4	**Timing**					
6.4.1	**UE transmit timing**					
6.4.1.1	NR SA FR1 UE transmit timing accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.4.2	**UE timer accuracy**					
6.4.3	**Timing advance**					
6.4.3.1	NR SA FR1 timing advance adjustment accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.5	**Signalling characteristics**					
6.5.1	**Radio Link Monitoring**					
6.5.1.1	NR SA FR1 radio link monitoring out-of-sync test for PCell configured with SSB-based RLM RS in non-DRX mode	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.5.1.2	NR SA FR1 radio link monitoring in-sync test for PCell configured with SSB-based RLM RS in non-DRX mode	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.5.1.3	NR SA FR1 radio link monitoring out-of-sync test for PCell configured with SSB-based RLM RS in DRX mode	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.5.1.4	NR SA FR1 radio link monitoring in-sync test for PCell configured with SSB-based RLM RS in DRX mode	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.5.1.5	NR SA FR1 radio link monitoring out-of-sync test for PCell configured with CSI-RS-based RLM RS in non-DRX mode	Rel-15	C037	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM		2Rx 4Rx
6.5.1.6	NR SA FR1 radio link monitoring in-sync test for PCell configured with CSI-RS-based RLM RS in non-DRX mode	Rel-15	C037	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM		2Rx 4Rx
6.5.1.7	NR SA FR1 radio link monitoring out-of-sync test for PCell configured with CSI-RS-based RLM RS in DRX mode	Rel-15	C037a	UEs supporting 5GS NR SA FR1, CSI-RS-based RLM and long DRX cycle		2Rx 4Rx
6.5.1.8	NR SA FR1 radio link monitoring in-sync test for PCell configured with CSI-RS-based RLM RS in DRX mode	Rel-15	C037a	UEs supporting 5GS NR SA FR1, CSI-RS-based RLM and long DRX cycle		2Rx 4Rx
6.5.2	**Interruption**					
6.5.2.1	NR SA FR1 interruptions during measurements on deactivated NR SCC	Rel-15	C031	UEs supporting 5GS NR SA FR1 and CA (2DL CA)		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.5.3	**Scell activation and deactivation delay**					
6.5.3.1	NR SA FR1 SCell activation and deactivation of known SCell in non-DRX for 160ms SCell measurement cycle	Rel-15	C031	UEs supporting 5GS NR SA FR1 and CA (2DL CA)		2Rx 4Rx
6.5.3.2	NR SA FR1 SCell activation and deactivation of known SCell in non-DRX for 640ms SCell measurement cycle	Rel-15	C031	UEs supporting 5GS NR SA FR1 and CA (2DL CA)		2Rx 4Rx
6.5.3.3	NR SA FR1 SCell activation and deactivation of unknown SCell in non-DRX	Rel-15	C031	UEs supporting 5GS NR SA FR1 and CA (2DL CA)		2Rx 4Rx
6.5.4	**UE UL carrier RRC reconfiguration delay**					
6.5.4.1	NR SA FR1 UE UL carrier RRC reconfiguration delay	Rel-15	C002	UEs supporting 5GS NR SA FR1 and SUL		2Rx 4Rx
6.5.5	**Link recovery procedures**					
6.5.5.1	NR SA FR1 SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C084	UEs supporting 5GS NR SA FR1 and link recovery		2Rx 4Rx
6.5.5.2	NR SA FR1 SSB-based beam failure detection and link recovery in DRX	Rel-15	C084a	UEs supporting 5GS NR SA FR1 and long DRX cycle and link recovery		2Rx 4Rx
6.5.5.3	NR SA FR1 CSI-RS-based beam failure detection and link recovery in non-DRX	Rel-15	C085	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM and link recovery		2Rx 4Rx
6.5.5.4	NR SA FR1 CSI-RS-based beam failure detection and link recovery in DRX	Rel-15	C085a	UEs supporting 5GS NR SA FR1 and long DRX cycle and CSI-RS-based RLM and link recovery		2Rx 4Rx
6.5.5.5	NR SA FR1 Scell CSI-RS-based beam failure detection and SSB-based link recovery in non-DRX	Rel-16	C173	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM and SSB-based link recovery on SCell		2Rx 4Rx
6.5.5.6	NR SA FR1 Scell CSI-RS-based beam failure detection and SSB-based link recovery in DRX	Rel-16	C174	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM and SSB-based link recovery on SCell and long DRX cycle		2Rx 4Rx
6.5.6	**Active BWP switch delay**					
6.5.6.1	**DCI-based and timer-based active BWP switch**					
6.5.6.1.1	NR SA FR1-FR1 DCI-based DL active BWP switch in non-DRX	Rel-15	C066a	UEs supporting 5GS NR SA FR1 and (DCI and timer based active BWP switching delay type1 or type2) and (Support of BWP adaptation upto2 or upto4) and 2DL CA		2Rx 4Rx
6.5.6.1.2	NR SA FR1 DCI-based DL active BWP switch in non-DRX	Rel-15	C066	UEs supporting 5GS NR SA FR1 and (DCI and timer based active BWP switching delay type1 or type2) and (Support of BWP adaptation upto2 or upto4)		2Rx 4Rx
6.5.6.2	**RRC-based active BWP switch**					
6.5.6.2.1	NR SA FR1 RRC-based DL active BWP switch in non-DRX	Rel-15	C066b	UEs supporting 5GS NR SA FR1 and (Support of BWP adaptation upto2 or upto4)		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.5.7	**DL interruptions at switching between two uplink carriers**					
6.5.7.1	NR SA FR1 DL Interruptions at switching between two uplink carriers in FDD-TDD CA	Rel-16	C051	UEs supporting 5GS NR SA FR1 and Inter-band CA (2UL CA)and dynamic UL Tx switching		2Rx 4Rx
6.5.7.2	NR SA FR1 DL Interruptions at switching between two uplink carriers in TDD-TDD CA	Rel-16	C051	UEs supporting 5GS NR SA FR1 and Inter-band CA (2UL CA)and dynamic UL Tx switching		2Rx 4Rx
6.6	**Measurement procedures**					
6.6.1	**Intra-frequency measurements**					
6.6.1.1	NR SA FR1 event-triggered reporting without gap in non-DRX	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.6.1.2	NR SA FR1 event-triggered reporting without gap in DRX	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.6.1.3	NR SA FR1 event-triggered reporting with gap in non-DRX	Rel-15	C041	UEs supporting 5GS NR SA FR1 and CSI-RS-based RLM and BWP operation without bandwidth restriction		2Rx 4Rx
6.6.1.4	NR SA FR1 event-triggered reporting with gap in DRX	Rel-15	C041a	UEs supporting 5GS NR SA FR1, CSI-RS-based RLM, BWP operation without bandwidth restriction and long DRX cycle		2Rx 4Rx
6.6.1.5	NR SA FR1 event-triggered reporting without gap in non-DRX with SSB index reading	Rel-15	C024	UEs supporting 5GS NR FDD SA FR1		2Rx 4Rx
6.6.1.6	NR SA FR1 event-triggered reporting with gap in non-DRX with SSB index reading	Rel-15	C041b	UEs supporting 5GS NR FDD SA FR1 and CSI-RS-based RLM and BWP operation without bandwidth restriction		2Rx 4Rx
6.6.1.7	NR SA FR1 event-triggered reporting without gap in DRX for UE configured with highSpeedMeasFlag-r16	Rel-15	C052	UEs supporting 5GS NR SA FR1 and measurement enhancements in HST		2Rx 4Rx
6.6.2	**Inter-frequency measurements**					
6.6.2.1	NR SA FR1-FR1 event-triggered reporting in non-DRX	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.6.2.2	NR SA FR1-FR1 event-triggered reporting in DRX	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.6.2.5	NR SA FR1-FR1 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.6.2.6	NR SA FR1-FR1 event-triggered reporting in DRX with SSB time index detection	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.6.3	**Inter-RAT measurements**					
6.6.3.1	NR SA FR1 – E-UTRAN event-triggered reporting in non-DRX	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRAN		2Rx 4Rx
6.6.3.2	NR SA FR1 – E-UTRAN event-triggered reporting in DRX	Rel-15	C025a	UEs supporting 5GS NR SA FR1, E-UTRAN and long DRX cycle		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.6.3.3	NR SA FR1 – E-UTRAN event-triggered reporting in DRX for UE configured with highSpeedMeasFlag-r16	Rel-15	C025c	UEs supporting 5GS NR SA FR1 and E-UTRAN, long DRX cycle and E-UTRA inter-RAT measurement enhancements in HST		2Rx 4Rx
6.6.4	**L1-RSRP measurement for beam reporting**					
6.6.4.1	NR SA FR1 SSB-based L1-RSRP measurement in non-DRX	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.6.4.2	NR SA FR1 SSB-based L1-RSRP measurement in DRX	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.6.4.3	NR SA FR1 CSI-RS-based L1-RSRP measurement in non-DRX	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.6.4.4	NR SA FR1 CSI-RS-based L1-RSRP measurement in DRX	Rel-15	C001b	UEs supporting 5GS NR SA FR1 and long DRX cycle		2Rx 4Rx
6.6.4.5	NR SA FR1 SSB-based L1-RSRP measurement in DRX for UE configured with highSpeedMeasFlag-r16	Rel-15	C001f	UEs supporting 5GS NR SA FR1, long DRX cycle and intra-NR measurement enhancements in HST		2Rx 4Rx
6.6.5	**FFS**					
6.6.5.1	NR SA FR1 – UTRAN FDD event triggered reporting in non-DRX	Rel-16	C096	UEs supporting 5GS NR SA FR1 and UTRAN FDD		2Rx 4Rx
6.6.8	**L1-SINR measurement for beam reporting**					
6.6.8.1	NR SA FR1 CSI-RS based CMR and no dedicated IMR L1-SINR measurement in DRX	Rel-16	C144	UEs supporting 5GS NR SA FR1 and long DRX cycle and L1-SINR measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx
6.6.8.2	NR SA FR1 SSB based CMR and dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C145	UEs supporting 5GS NR SA FR1 and L1-SINR measurement based on SSB as CMR and dedicated CSI-RS as IMR		2Rx 4Rx
6.6.8.3	NR SA FR1 CSI-RS based CMR and dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C146	UEs supporting 5GS NR SA FR1 and L1-SINR measurement based on CSI-RS as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
6.6.9	**Idle Mode CA/DC Measurements**					
6.6.9.1	NR SA FR1 DL Interruptions at switching between two uplink carriers in FDD-TDD CA	Rel-16	TBD	TBD	NOTE 1	
6.6.9.1	**Idle Mode inter-RAT CA/DC Measurements**					
6.6.15.1	NR SA FR1 Idle Mode measurements of inter-RAT CA candidate cells for early reporting	Rel-16	TBD	TBD	NOTE 1	
6.7	**Measurement performance requirements**					
6.7.1	**SS-RSRP**					
6.7.1.1	**Intra-frequency measurements**					
6.7.1.1.1	NR SA FR1 SS-RSRP absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.7.1.1.2	NR SA FR1 SS-RSRP relative measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.1.2	**Inter-frequency measurements**					
6.7.1.2.1	NR SA FR1-FR1 SS-RSRP absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.1.2.2	NR SA FR1-FR1 SS-RSRP relative measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.2	**SS-RSRQ**					
6.7.2.1	NR SA FR1 SS-RSRQ measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.2.2.1	NR SA FR1-FR1 SS-RSRQ absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.2.2.2	NR SA FR1-FR1 SS-RSRQ relative measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.3	**SS-SINR**					
6.7.3.1	NR SA FR1 SS-SINR measurement accuracy	Rel-15	C034	UEs supporting 5GS NR SA FR1 and SS-SINR-meas		2Rx 4Rx
6.7.3.2.1	NR SA FR1-FR1 SS-SINR absolute measurement accuracy	Rel-15	C034	UEs supporting 5GS NR SA FR1 and SS-SINR-meas		2Rx 4Rx
6.7.3.2.2	NR SA FR1-FR1 SS-SINR relative measurement accuracy	Rel-15	C034	UEs supporting 5GS NR SA FR1 and SS-SINR-meas		2Rx 4Rx
6.7.4	**L1-RSRP for beam reporting**					
6.7.4.1.1	NR SA FR1 SSB-based L1-RSRP absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.4.1.2	NR SA FR1 SSB-based L1-RSRP relative measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.4.2.1	NR SA FR1 CSI-RS-based L1-RSRP absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.4.2.2	NR SA FR1 CSI-RS-based L1-RSRP relative measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.5	**E-UTRAN RSRP**					
6.7.5.1	NR SA FR1 – E-UTRAN RSRP absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.6	**E-UTRAN RSRQ**					
6.7.6.1	NR SA FR1 – E-UTRAN RSRQ absolute measurement accuracy	Rel-15	C001	UEs supporting 5GS NR SA FR1		2Rx 4Rx
6.7.7	**E-UTRAN RS-SINR**					
6.7.7.1	NR SA FR1 – E-UTRAN RS-SINR absolute measurement accuracy	Rel-15	C168	UEs supporting 5GS NR SA FR1 and E-UTRA RS-SINR measurements		2Rx 4Rx
6.7.9	**L1-SINR**					
6.7.9.1	NR SA FR1 CSI-RS based CMR and no dedicated IMR configured and CSI-RS resource set with repetition off L1-SINR measurement accuracy	Rel-16	C132	UEs supporting 5GS NR SA FR1 and L1-SINR-measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
6.7.9.2	NR SA FR1 SSB based CMR and dedicated IMR L1-SINR absolute measurement accuracy	Rel-16	C133	UEs supporting 5GS NR SA FR1 and L1-SINR-measurement based on SSB as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
6.7.9.3	NR SA FR1 CSI-RS based CMR and dedicated IMR L1-SINR measurement accuracy	Rel-16	C134	UEs supporting 5GS NR SA FR1 and L1-SINR-measurement based on CSI-RS as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.533. NOTE 2: Test X refers to the corresponding Sub-Test as defined in TS 38.533 [5].						

Table 4.2-3a: Void

Table 4.2-4: Applicability of RRM NR SA FR2 conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
7.1	**RRC_IDLE state mobility**					
7.1.1	**NR cell re-selection**					
7.1.1.1	NR SA FR2 cell re-selection	FFS	FFS	FFS	NOTE 1	2Rx
7.1.1.2	NR SA FR2-FR2 cell re-selection	FFS	FFS	FFS	NOTE 1	2Rx
7.1.1.3	NR SA FR2 cell re-selection for UE fulfilling low mobility relaxed measurement criterion	Rel-16	C095	UEs supporting 5GS NR SA FR2 and relaxed RRM measurement		2Rx
7.1.1.4	NR SA FR2 cell re-selection for UE fulfilling not-at-cell edge relaxed measurement criterion	Rel-16	C095	UEs supporting 5GS NR SA FR2 and relaxed RRM measurement		2Rx
7.1.1.5	NR SA FR2-FR2 cell re-selection for UE fulfilling low mobility relaxed measurement criterion	Rel-16	C095	UEs supporting 5GS NR SA FR2 and relaxed RRM measurement		2Rx
7.1.1.6	NR SA FR2-FR2 cell re-selection for UE fulfilling not-at-cell edge relaxed measurement criterion	Rel-16	C095	UEs supporting 5GS NR SA FR2 and relaxed RRM measurement		2Rx
7.2	**RRC_INACTIVE state mobility**					
7.3	**RRC_CONNECTED state mobility**					
7.3.1	**Handover**					
7.3.1.4	NR SA FR1-FR2 synchronous DAPS handover	Rel-16	C103	UEs supporting 5GS NR SA FR1 and 5GS NR SA FR2 and inter-frequency DAPS handover and supporting different SCSs in source PCell and inter-frequency target PCell	NOTE 1	2Rx
7.3.1.5	NR SA FR1-FR2 asynchronous DAPS handover	Rel-16	C104	UEs supporting 5GS NR SA FR1 and 5GS NR SA FR2 and inter-frequency async DAPS handover and supporting different SCSs in source PCell and inter-frequency target PCell	NOTE 1	2Rx
7.3.2	**RRC connection mobility control**					
7.3.2.1	**RRC re-establishment**					
7.3.2.1.1	NR SA FR2 RRC re-establishment	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.3.2.1.2	NR SA FR2 - FR2 RRC re-establishment	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.3.2.1.3	NR SA FR2 RRC re-establishment without serving cell timing	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.3.2.2	**Random access**					
7.3.2.2.1	NR SA FR2 contention based random access	FFS	FFS	FFS	NOTE 1	2Rx
7.3.2.2.2	NR SA FR2 non-contention based random access	FFS	FFS	FFS	NOTE 1	2Rx
7.3.2.2.4	NR SA FR2 2-step non-contention based random access	Rel-16	C160	UEs supporting 5GS NR SA FR2 and 2-step RACH	NOTE 1	2Rx
7.3.2.3	**RRC connection release with redirection**					
7.3.2.3.1	NR SA FR2 RRC connection release with redirection	FFS	FFS	FFS	NOTE 1	2Rx
7.3.3	**Conditional Handover**					
7.3.3.1	NR SA FR2 conditional handover	Rel-16	C106	UEs supporting 5GS NR SA FR2 and conditional handover	NOTE 1	2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
7.3.3.2	NR SA FR2-FR2 conditional handover	Rel-16	C106	UEs supporting 5GS NR SA FR2 and conditional handover	NOTE 1	2Rx
7.4	**Timing**					
7.4.1	**UE transmit timing**					
7.4.2	**UE timer accuracy**					
7.4.3	**Timing advance**					
7.5	**Signalling characteristics**					
7.5.1	**Radio Link Monitoring**					
7.5.1.9	NR SA FR2 radio link monitoring UE scheduling restrictions	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.5.2	**Interruption**					
7.5.3	**Scell activation and deactivation delay**					
7.5.3.1	NR SA FR2-FR2 intra-band SCell activation and deactivation delay	FFS	FFS	FFS	NOTE 1	2Rx
7.5.3.2	NR SA FR1-FR2 inter-band SCell activation and deactivation delay	FFS	FFS	FFS	NOTE 1	2Rx
7.5.4	**UE UL carrier RRC reconfiguration delay**					
7.5.5	**Beam failure detection and link recovery procedures**					
7.5.5.1	NR SA FR2 SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.5.5.2	NR SA FR2 SSB-based beam failure detection and link recovery in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle	NOTE 1	2Rx
7.5.5.3	NR SA FR2 CSI-RS-based beam failure detection and link recovery in non-DRX	Rel-15	C164	UEs supporting 5GS NR SA FR2 and CSI-RS based RLM	NOTE 1	2Rx
7.5.5.4	NR SA FR2 CSI-RS-based beam failure detection and link recovery in DRX	Rel-15	C165	UEs supporting 5GS NR SA FR2, long DRX cycle and CSI-RS based RLM	NOTE 1	2Rx
7.5.5.5	NR SA FR2 scheduling availability restriction during SSB-based beam failure detection and link recovery in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.5.5.6	NR SA FR2 Scell CSI-RS-based beam failure detection and link recovery in non-DRX	Rel-16	C147	UEs supporting 5GS NR SA FR2 and CSI-RS based BFR on SCell		2Rx
7.5.5.7	NR SA FR2 Scell CSI-RS-based beam failure detection and link recovery in DRX	Rel-16	C148	UEs supporting 5GS NR SA FR2 and long DRX cycle and CSI-RS based BFR on SCell		2Rx
7.5.6	**Active BWP switch delay**					
7.5.6.1	**Intra-frequency measurements**					
7.5.6.1.1	NR SA FR2 2DL CA DCI-based DL active BWP switch in non-DRX	FFS	FFS	FFS	NOTE 1	2Rx
7.5.6.1.2	NR SA FR1-FR2 DCI-based DL active BWP switch in non-DRX	FFS	FFS	FFS	NOTE 1	2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
7.5.6.1.3	NR SA FR2 DCI-based DL active BWP switch in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.5.6.2	**RRC-based active BWP switch**					
7.5.6.2.1	NR SA FR2 RRC-based DL active BWP switch in non-DRX	FFS	FFS	FFS	NOTE 1	2Rx
7.5.7	**PSCell addition and release delay**					
7.5.7.1	NR SA FR2 addition and release delay of known PSCell	FFS	FFS	FFS	NOTE 1	2Rx
7.5.7.2	NR SA FR2 addition and release delay of unknown PSCell	FFS	FFS	FFS	NOTE 1	2Rx
7.6	**Measurement procedures**					
7.6.1	**Intra-frequency measurements**					
7.6.1.1	NR SA FR2 event-triggered reporting without gap in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2	NOTE 1	2Rx
7.6.1.2	NR SA FR2 event-triggered reporting without gap in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle	NOTE 1	2Rx
7.6.1.3	NR SA FR2 event-triggered reporting with gap in non-DRX	Rel-15	C166	UEs supporting 5GS NR SA FR2, CSI-RS-based RLM and BWP operation without bandwidth restriction	NOTE 1	2Rx
7.6.1.4	NR SA FR2 event-triggered reporting with gap in DRX	Rel-15	C167	UEs supporting 5GS NR SA FR2 long DRX cycle, CSI-RS-based RLM and BWP operation without bandwidth restriction	NOTE 1	2Rx
7.6.2	**Inter-frequency measurements**					
7.6.2.1	NR SA FR2-FR2 event-triggered reporting in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.2.2	NR SA FR2-FR2 event-triggered reporting in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.2.3	NR SA FR2-FR2 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.2.4	NR SA FR2-FR2 event-triggered reporting in DRX with SSB time index detection	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.2.5	NR SA FR1-FR2 event-triggered reporting in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.2.6	NR SA FR1-FR2 event-triggered reporting in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.2.7	NR SA FR1-FR2 event-triggered reporting in non-DRX with SSB time index detection	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.2.8	NR SA FR1-FR2 event-triggered reporting in DRX with SSB time index detection	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.3	**L1-RSRP for beam reporting**					

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
7.6.3.1	NR SA FR2 SSB-based L1-RSRP measurement in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.3.2	NR SA FR2 SSB-based L1-RSRP measurement in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.3.3	NR SA FR2 CSI-RS-based L1-RSRP measurement in non-DRX	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.6.3.4	NR SA FR2 CSI-RS-based L1-RSRP measurement in DRX	Rel-15	C006a	UEs supporting 5GS NR SA FR2 and long DRX cycle		2Rx
7.6.6	**L1-SINR measurement for beam reporting**					
7.6.6.1	NR SA FR2 CSI-RS based CMR and no dedicated IMR L1-SINR measurement in non-DRX	Rel-16	C144a	UEs supporting 5GS NR SA FR2 and L1-SINR measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx 4Rx
7.6.6.2	NR SA FR2 SSB based CMR and dedicated IMR L1-SINR measurement in DRX	Rel-16	C145a	UEs supporting 5GS NR SA FR2 and long DRX cycle and L1-SINR measurement based on SSB as CMR and dedicated CSI-IM as IMR		2Rx 4Rx
7.6.6.3	NR SA FR2 CSI-RS based CMR and dedicated IMR L1-SINR measurement in DRX	Rel-16	C146a	UEs supporting 5GS NR SA FR2 and long DRX cycle and L1-SINR measurement based on CSI-RS as CMR and dedicated CSI-RS as IMR		2Rx 4Rx
7.7	**Measurement performance requirements**					
7.7.1	**SS-RSRP**					
7.7.1.1	NR SA FR2 SS-RSRP measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.1.2	NR SA FR2-FR2 SS-RSRP measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.1.3	**Inter-frequency measurements between FR1 and FR2**					
7.7.1.3.1	NR SA FR1-FR2 SS-RSRP measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.2	**SS-RSRQ**					
7.7.2.1	NR SA FR2 SS-RSRQ measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.2.2	NR SA FR2-FR2 SS-RSRQ measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.3	**SS-SINR**					
7.7.3.1	NR SA FR2 SS-SINR measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.3.2	NR SA FR2-FR2 SS-SINR measurement accuracy	Rel-16	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.4	**L1-RSRP for beam reporting**					
7.7.4.1	NR SA FR2 SSB based L1-RSRP measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.4.2	NR SA FR2 CSI-RS based L1-RSRP measurement accuracy	Rel-15	C006	UEs supporting 5GS NR SA FR2		2Rx
7.7.6	**L1-SINR**					

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
7.7.6.1	NR SA FR2 CSI-RS based CMR and no dedicated IMR configured and CSI-RS resource set with repetition off L1-SINR measurement accuracy	Rel-16	C138	UEs supporting 5GS NR SA FR2 and L1-SINR-measurement based on CSI-RS as CMR without dedicated IMR configured		2Rx
7.7.6.2	NR SA FR2 SSB based CMR and dedicated IMR L1-SINR measurement accuracy	Rel-16	C139	UEs supporting 5GS NR SA FR2 and L1-SINR-measurement based on SSB as CMR and dedicated CSI-IM as IMR		2Rx
7.7.6.3	NR SA FR2 CSI-RS based CMR and dedicated IMR L1-SINR measurement accuracy	Rel-16	C140	UEs supporting 5GS NR SA FR2 and L1-SINR-measurement based on CSI-RS as CMR and dedicated CSI-IM as IMR		2Rx
NOTE 1: The test case/branch is incomplete for any Band/CA/DC Configuration but has basic test configurations already. NOTE 1 can be removed only when the test case/branch is complete for at least one Band / CA/DC Configuration for at least one feature included in the test case/branch. Detailed completion status can be found in the corresponding test case section in 38.533. NOTE 2: Void. NOTE 3: Void.						

Table 4.2-4a: Void

Table 4.2-5: Applicability of E-UTRA – NR Inter-RAT conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
8.2	**RRC_IDLE state mobility**					
8.2.1	**Inter-RAT cell re-selection**					
8.2.1.1	E-UTRA – NR FR1 cell re-selection to higher priority NR target cell	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
8.2.1.2	E-UTRA – NR FR1 Cell reselection to lower priority NR target Cell in FR1 for UE configured with highSpeedInterRAT-NR-r16	Rel-15	C025d	UEs supporting 5GS NR SA FR1 and E-UTRAN and NR inter-RAT measurement enhancement in HST		2Rx 4Rx
8.3	**RRC_CONNECTED state mobility**					
8.3.1	**Inter-RAT cell handover**					
8.3.1.1	E-UTRA – NR FR1 handover with known target cell	Rel-15	C025	UEs supporting 5GS NR SA FR1 and E-UTRA		2Rx 4Rx
8.4	**Measurement procedures**					
8.4.1	**SFTD measurement delay**					
8.4.1.1	E-UTRA – NR FR1 SFTD measurement delay in non-DRX	Rel-15	C081	UEs supporting EN-DC and E-UTRA and SFTD measurements between E-UTRA PCell and NR neighbour cell		2Rx 4Rx
8.4.1.2	E-UTRA – NR FR1 SFTD measurement delay in DRX	Rel-15	C081a	UEs supporting EN-DC and E-UTRA and long DRX cycle and SFTD measurements between E-UTRA PCell and NR neighbour cell		2Rx 4Rx
8.4.2	**Inter-RAT measurements**					
8.4.2.1	E-UTRA event-triggered reporting of a NR FR1 neighbour cell without SSB time index detection in non-DRX	Rel-15	C086	UEs supporting E-UTRA and NR FR1 measurement		2Rx 4Rx
8.4.2.2	E-UTRA event-triggered reporting of a NR FR1 neighbour cell without SSB time index detection in DRX	Rel-15	C086a	UEs supporting E-UTRA and NR FR1 measurement and long DRX cycle		2Rx 4Rx
8.4.2.3	E-UTRA event-triggered reporting of a NR FR1 neighbour cell with SSB time index detection in non-DRX	Rel-15	C086	UEs supporting E-UTRA and NR FR1 measurement		2Rx 4Rx
8.4.2.4	E-UTRA event-triggered reporting of a NR FR1 neighbour cell with SSB time index detection in DRX	Rel-15	C086a	UEs supporting E-UTRA and NR FR1 measurement and long DRX cycle		2Rx 4Rx
8.4.2.5	E-UTRA event-triggered reporting of a NR FR2 neighbour cell without SSB time index detection in non-DRX	Rel-15	C080	UEs supporting E-UTRA and NR FR2 measurement	NOTE 1	2Rx
8.4.2.6	E-UTRA event-triggered reporting of a NR FR2 neighbour cell without SSB time index detection in DRX	Rel-15	C080a	UEs supporting E-UTRA and NR FR2 measurement and long DRX cycle	NOTE 1	2Rx
8.4.2.7	E-UTRA event-triggered reporting of a NR FR2 neighbour cell with SSB time index detection in non-DRX	Rel-15	C080	UEs supporting E-UTRA and NR FR2 measurement	NOTE 1	2Rx

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
8.4.2.8	E-UTRA event-triggered reporting of a NR FR2 neighbour cell with SSB time index detection in DRX	Rel-15	C080a	UEs supporting E-UTRA and NR FR2 measurement and long DRX cycle	NOTE 1	2Rx
8.4.2.9	E-UTRA – NR Inter-RAT event triggered reporting tests for FR1 with SSB time index detection in DRX for UE configured with highSpeedInterRAT-NR-r16	Rel-15	C025e	UEs supporting 5GS NR SA FR1 and E-UTRAN, long DRX cycle and NR inter-RAT measurement enhancement in HST		2Rx 4Rx
8.5	**Measurement performance requirements**					
8.5.1	**SFTD measurement accuracy**					
8.5.1.1	E-UTRA – NR FR1 SFTD measurement accuracy	Rel-15	C081	UEs supporting EN-DC and E-UTRA and SFTD measurements between E-UTRA PCell and NR neighbour cell	NOTE 1	2Rx 4Rx
8.5.2	**Inter-RAT**					
8.5.2.1	**SS-RSRP**					
8.5.2.1.1.1	E-UTRA SS-RSRP absolute measurement accuracy of a NR FR1 neighbour cell	Rel-15	C086	UEs supporting E-UTRA and NR FR1 measurement		2Rx 4Rx
8.5.2.1.2	E-UTRA SS-RSRP measurement accuracy of a NR FR2 neighbour cell	Rel-15	C080	UEs supporting E-UTRA and NR FR2 measurement		2Rx
8.5.2.2	**SS-RSRQ**					
8.5.2.2.1	E-UTRA SS-RSRQ measurement accuracy of a NR FR1 neighbour cell	Rel-15	C086	UEs supporting E-UTRA and NR FR1 measurement		2Rx 4Rx
8.5.2.2.2	E-UTRA SS-RSRQ measurement accuracy of a NR FR2 neighbour cell	Rel-15	C080	UEs supporting E-UTRA and NR FR2 measurement		2Rx
8.5.2.3	**SS-SINR**					
8.5.2.3.1	E-UTRA SS-SINR measurement accuracy of a NR FR1 neighbour cell	Rel-15	C086	UEs supporting E-UTRA and NR FR1 measurement		2Rx 4Rx
8.5.2.3.2	E-UTRA SS-SINR measurement accuracy of a NR FR2 neighbour cell	Rel-15	C080	UEs supporting E-UTRA and NR FR2 measurement		2Rx

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Table 4.2-6: Applicability of NR sidelink FR1 conformance test cases, ref. TS 38.533 [5]

Clause	TC Title	Release	Applicability		Additional Information	Branch
			Condition	Comment		
9.1.1	**UE transmit timing**					
9.1.1.1	NR SA FR1 UE transmit timing accuracy for GNSS as synchronization reference source	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.1.2	NR SA FR1 UE transmit timing accuracy for SyncRef UE as synchronization reference source	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.1.3	NR SA FR1 UE transmit timing accuracy for FR1 NR cell as synchronization reference source	Rel-16	C079a	UE supporting 5GS FR1 and NR Uu and NR sidelink.	NOTE 1	2Rx
9.1.2	**Initiation/Cease of S-SSB transmission**					
9.1.2.1	NR SA FR1 initiation/cease of S-SSB transmission for FR1 NR cell as synchronization reference source	Rel-16	C079a	UE supporting 5GS FR1 and NR Uu and NR sidelink.	NOTE 1	2Rx
9.1.2.2	NR SA FR1 initiation/cease of S-SSB transmission for SyncRef UE as synchronization reference source	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.3	**Synchronization reference selection/reselection**					
9.1.3.1	NR SA FR1 synchronization reference selection/reselection for GNSS configured as the highest priority synchronization reference source	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.3.2	NR SA FR1 synchronization reference selection/reselection for FR1 NR Cell configured as the highest priority synchronization reference source	Rel-16	C079a	UE supporting 5GS FR1 and NR Uu and NR sidelink.	NOTE 1	2Rx
9.1.4	**L1 SL-RSRP measurements**					
9.1.4.1	NR SA FR1 L1 SL-RSRP measurement for autonomous resource selection/reselection	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.4.2	NR SA FR1 L1 SL-RSRP measurement for resource pre-emption	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.4.3	NR SA FR1 L1 SL-RSRP measurement for resource re-evaluation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.5	**Congestion control measurement**					
9.1.5.1	NR SA FR1 congestion control measurement for concurrent operation	Rel-16	C079a	UE supporting 5GS FR1 and NR Uu and NR sidelink.	NOTE 1	2Rx
9.1.5.2	NR SA FR1 congestion control measurement for PC5-only operation	Rel-16	C079	UEs supporting 5GS FR1 and NR sidelink	NOTE 1	2Rx
9.1.6	**Interruption**					
9.1.6.1	NR SA FR1 interruption to WAN due to NR sidelink communication	Rel-16	C079a	UE supporting 5GS FR1 and NR Uu and NR sidelink.	NOTE 1	2Rx

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Annex A (informative): Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2017-08	RAN5#76	R5-173911	-	-	-	Draft skeleton	0.0.1
2018-01	RAN5#1-5G-NR Adhoc	R5-180107	-	-	-	Updated after RAN5#1-5G-NR Adhoc: - Foreword, scope, references, definitions, symbols and abbreviations, recommended test case applicability updated - clause 4.1.1, 4.1.2, 4.1.3 and 4.1.4 added - change history added	0.1.0
2018-03	RAN5 #78	R5-181687	-	-	-	TP for Clause 4.1.1 Range 1 standalone conformance test cases	0.2.0
2018-03	RAN5 #78	R5-181688	-	-	-	TP for Clause 4.1.2 Range 2 standalone conformance test cases	0.2.0
2018-03	RAN5 #78	R5-181689	-	-	-	TP for Clause 4.1.3 NR interworking between NR range1 and NR range2 and between NR and LTE conformance test cases	0.2.0
2018-04	RAN5#2-5G-NR Adhoc	R5-182013	-	-	-	TP for Clause 3 Definitions, symbols and abbreviations	0.3.0
2018-04	RAN5#2-5G-NR Adhoc	R5-182047	-	-	-	TP for Clause 4 Recommended test case applicability	0.3.0
2018-08	RAN5#80	R5-185209	-	-	-	TP for Clause 4.1.1 of TS 38.522	1.0.1
2018-08	RAN5#80	R5-185210	-	-	-	TP for Clause 4.1.2 of TS 38.522	1.0.1
2018-08	RAN5#80	R5-185211	-	-	-	TP for Clause 4.1.3 of TS 38.522	1.0.1
2018-09	RAN#81	-	-	-	-	raised to v15.0.0 with editorial changes only	15.0.0
2018-12	RAN#82	R5-186501	0013	-	F	Applicability rules implementation in 38.522	15.1.0
2018-12	RAN#82	R5-188223	0015	-	F	Applicability for RRM NR tests	15.1.0
2018-12	RAN#82	R5-187566	0016	-	F	Update note in section 4.1 to include CBW and SCS in RF test applicability	15.1.0
2018-12	RAN#82	R5-187849	0014	1	F	Adding applicability for new 38.521-1 CA TCs	15.1.0
2018-12	RAN#82	R5-187881	0008	1	F	Update Clause 1 Scope of TS 38.522	15.1.0
2018-12	RAN#82	R5-187884	0011	1	F	TP for Clause 4.1.2 of TS 38.522	15.1.0
2018-12	RAN#82	R5-187922	0017	-	F	Removing FR2 test case 7.4 from TS 38.522 due to testability issue	15.1.0
2019-01	RAN#82	R5-187882	0009	1	F	Update Clause 3 of TS 38.522	15.1.1
2019-01	RAN#82	R5-187883	0010	1	F	TP for Clause 4.1.1 of TS 38.522	15.1.1
2019-01	RAN#82	R5-187885	0012	1	F	TP for Clause 4.1.3 of TS 38.522	15.1.1
2019-03	RAN#83	R5-191722	0021	-	F	addition of applicability for BFD and measurement	15.2.0
2019-03	RAN#83	R5-192507	0020	1	F	TP for TS 38.522	15.2.0
2019-03	RAN#83	R5-192508	0022	1	F	Addition of RRM Test Cases Applicability	15.2.0
2019-06	RAN#84	R5-195444	0027	1	F	TP for TS 38.522	15.3.0
2019-06	RAN#84	-	-	-	-	Administrative release upgrade to match the release of 3GPP TS 38.508-1 and TS 38.521-1 which were upgraded at RAN#84 to Rel-16 due to Rel-16 relevant CR(s)	16.0.0
2019-06	RAN#84	-	-	-	-	Addition of missing Table part of R5-195444 and part of a note.	16.0.1
2019-06	RAN#84	-	-	-	-	Formatted big tables to landscape	16.0.2
2019-09	RAN#85	R5-197650	0030	1	-	TP for TS 38.522	16.1.0
2019-09	RAN#85	R5-197650	0030	1	-	Added missing changes of R5-197650	16.1.1
2019-12	RAN#86	R5-199089	0032	2	-	TP for TS 38.522	16.2.0
2020-03	RAN#87	R5-201036	0033	1	F	TP and format updated for TS 38.522	16.3.0
2020-06	RAN#88	R5-202958	0040	1	F	R16 TDD ENDC PC2 TP for TS 38.522	16.4.0
2020-06	RAN#88	R5-203114	0037	2	F	TP updated to applicability table	16.4.0
2020-09	RAN#89	R5-204098	0046	-	F	Correct applicability EN-DC event-triggered inter-frequency tests	16.5.0
2020-09	RAN#89	R5-204099	0047	-	F	Correct applicability NR SA event-triggered inter-frequency tests	16.5.0
2020-09	RAN#89	R5-204939	0043	1	F	TP for TS 38.522	16.5.0
2020-09	RAN#89	R5-204940	0044	1	F	Correction of 38.522	16.5.0
2020-12	RAN#90	R5-206905	0051	1	F	Update to applicability spec for 5G test cases	16.6.0
2021-03	RAN#91	R5-210506	0055	-	F	Correction of applicability definitions for long DRX cycle related test cases	16.7.0
2021-03	RAN#91	R5-210792	0058	-	F	Adding the test applicability of RF test cases for eMIMO	16.7.0
2021-03	RAN#91	R5-211158	0060	-	F	Addition of applicability new test case 6.3.2.1.3 in TS 38.521-4	16.7.0

2021-03	RAN#91	R5-211159	0061	-	F	Addition of applicability new test case 6.3.3.1.3 in TS 38.521-4	16.7.0
2021-03	RAN#91	R5-211610	0067	-	F	Applicability of Error Vector Magnitude for V2X for non-concurrent operation	16.7.0
2021-03	RAN#91	R5-211720	0054	1	F	Correction of applicability definitions for PUSCH HalfPi BPSK related test cases	16.7.0
2021-03	RAN#91	R5-211853	0059	1	F	Update to applicability spec for 5G test cases	16.7.0
2021-03	RAN#91	R5-211913	0057	1	F	Adding test applicability for switching test case	16.7.0
2021-03	RAN#91	R5-211917	0066	1	F	Addition of new RRM test cases to the applicability table in 4.2	16.7.0
2021-03	RAN#91	R5-211918	0068	1	F	Applicability for RRM NR HST test case 6.1.1.7 and 6.6.1.7	16.7.0
2021-03	RAN#91	-	-	-	-	Administrative release upgrade to match the release of TS 38.508-1, TS 38.508-2 and TS 38.521-1 which were upgraded at RAN#91 to Rel-17 due to Rel-17 relevant CRs	17.0.0
2021-06	RAN#92	R5-212078	0069	-	F	Addition of applicability for new test case 6.3.2.1.4 and 6.3.3.1.4 in TS 38.521-4	17.1.0
2021-06	RAN#92	R5-212932	0075	-	F	Addition of test applicability for V2X RF test cases	17.1.0
2021-06	RAN#92	R5-212939	0076	-	F	Adding test applicability for eMIMO demod test cases	17.1.0
2021-06	RAN#92	R5-212948	0077	-	F	Adding test applicability for URLLC demod test cases	17.1.0
2021-06	RAN#92	R5-213095	0078	-	F	Adding test applicability for new test cases introduced in R17	17.1.0
2021-06	RAN#92	R5-214006	0074	1	F	Addition of new V2X test cases to the applicability table in 4.1.1	17.1.0
2021-06	RAN#92	R5-214089	0073	1	F	Update to applicability spec for 5G test cases	17.1.0
2021-06	RAN#92	R5-214096	0071	1	F	Update of Applicability for Inter-band EN-DC Including FR2	17.1.0
2021-09	RAN#93	R5-214480	0081	-	F	38.522 Jumbo CR for R16 CADC configurations	17.2.0
2021-09	RAN#93	R5-214534	0082	-	F	Addition of applicability for FR2 DL 256QAM demodulation test case	17.2.0
2021-09	RAN#93	R5-214571	0083	-	F	Adding test applicability for UE power saving test cases	17.2.0
2021-09	RAN#93	R5-214609	0084	-	F	Correction of condition C30 C37 C37a C41 C41a and introduction of condition C37b and C37c	17.2.0
2021-09	RAN#93	R5-214834	0085	-	F	Applicability for 5G-SRVCC	17.2.0
2021-09	RAN#93	R5-215033	0092	-	F	Addition of applicability for NR HST TCs	17.2.0
2021-09	RAN#93	R5-215045	0093	-	F	Addition of R16 FDD-TDD PC2 inter-band EN-DC baseline implementation capabilities into 38.522	17.2.0
2021-09	RAN#93	R5-215079	0095	-	F	Addition of test applicability for V2X test cases	17.2.0
2021-09	RAN#93	R5-215245	0099	-	F	Addition of test applicability for RRM test case 6.6.4.5	17.2.0
2021-09	RAN#93	R5-215399	0102	-	F	Add 2-Step PRACH test cases to Applicability spec	17.2.0
2021-09	RAN#93	R5-215411	0103	-	F	Correction of RRM HST test cases applicability	17.2.0
2021-09	RAN#93	R5-215931	0090	1	F	Addition of applicability for Mob_Enh TCs	17.2.0
2021-09	RAN#93	R5-215935	0096	1	F	Adding test applicability for eMIMO test cases	17.2.0
2021-09	RAN#93	R5-215960	0098	1	F	Addition of applicability of URLLC demod test cases	17.2.0
2021-09	RAN#93	R5-215981	0086	1	F	FR2 standalone RF conformance test case applicability	17.2.0
2021-09	RAN#93	R5-216077	0097	1	F	Test applicability for FR2 256QAM CQI reporting	17.2.0
2021-09	RAN#93	R5-216097	0101	1	F	Update to applicability spec for 5G test cases	17.2.0
2021-12	RAN#94	R5-216539	0105	-	F	Addition of applicability for HST test case 5.2.3.1.9_1	17.3.0
2021-12	RAN#94	R5-216540	0106	-	F	Addition of applicability for HST test case 5.2.3.1.10_1	17.3.0
2021-12	RAN#94	R5-216784	0109	-	F	Correction to Test Bands Selection Criteria for performance test cases	17.3.0
2021-12	RAN#94	R5-216852	0110	-	F	Correction to applicability of RLM TCs	17.3.0

2021-12	RAN#94	R5-216870	0111	-	F	Correction to applicability of Mob_enh RRM TCs	17.3.0
2021-12	RAN#94	R5-216911	0112	-	F	Correction to applicability of HST TCs	17.3.0
2021-12	RAN#94	R5-217219	0114	-	F	Correct of condition for RRM Test Cases with BWP switch	17.3.0
2021-12	RAN#94	R5-217319	0116	-	F	Addition of applicability for new type II PMI repoering test cases	17.3.0
2021-12	RAN#94	R5-217349	0118	-	F	Update of 3.1 for definitions of CA and DC configurations	17.3.0
2021-12	RAN#94	R5-217381	0120	-	F	Addition of test applicability for URLLC test cases	17.3.0
2021-12	RAN#94	R5-217529	0122	-	F	Jumbo CR for updating applicability of NR perf enh WI test cases	17.3.0
2021-12	RAN#94	R5-217568	0123	-	F	Correction of RRM HST test cases applicability	17.3.0
2021-12	RAN#94	R5-217569	0124	-	F	Correction of RRM test cases applicability - Note 1 removal	17.3.0
2021-12	RAN#94	R5-217597	0125	-	F	Update applicability for Tx modulation quality test cases	17.3.0
2021-12	RAN#94	R5-217729	0129	-	F	38.522 applicability updates for Rel.16 FR2 RF enhancements	17.3.0
2021-12	RAN#94	R5-218249	0115	1	F	Update of MPR applicability for intra-band contiguous EN-DC	17.3.0
2021-12	RAN#94	R5-218370	0107	1	F	Addition of content for FR2 standalone RF conformance test case applicability	17.3.0
2021-12	RAN#94	R5-218371	0128	1	F	NR U test case applicability	17.3.0
2021-12	RAN#94	R5-218390	0108	1	F	Addition of Power Class 1.5 into applicability of RF SA FR1 conformance test cases	17.3.0
2021-12	RAN#94	R5-218437	0113	1	F	6.2B.2.2 MPR IBNC EN-DC applicability correction if 6.5B.2.2.3 ACLR IBNC EN-DC is executed	17.3.0
2021-12	RAN#94	R5-218438	0127	1	F	Update to applicability spec for 5G test cases	17.3.0
2021-12	RAN#94	R5-218460	0117	1	F	Adding test applicability for switching time mask for inter-band EN-DC	17.3.0
2021-12	RAN#94	R5-218463	0119	1	F	Addition of test applicability e-MIMO test cases	17.3.0
2022-03	RAN#95	R5-220041	0131	-	F	Addition of the TDD DSS NR bands n34, n39	17.4.0
2022-03	RAN#95	R5-220163	0133	-	F	Add 2-Step RACH test cases to Applicability spec	17.4.0
2022-03	RAN#95	R5-220166	0134	-	F	Update of RRM test case applicability - Note 1 removal	17.4.0
2022-03	RAN#95	R5-220663	0140	-	F	Update of HST Demod test case applicability - Note 1 removal	17.4.0
2022-03	RAN#95	R5-220673	0142	-	F	Correcting applicability of HST test cases in 38.522	17.4.0
2022-03	RAN#95	R5-220757	0143	-	F	Addition of new performance enhancement test case in 38.522	17.4.0
2022-03	RAN#95	R5-220787	0144	-	F	Update to test applicability for V2X test cases	17.4.0
2022-03	RAN#95	R5-220823	0145	-	F	Update to test applicability for URLLC test cases	17.4.0
2022-03	RAN#95	R5-220965	0147	-	F	Addition of applicability for test cases for EN-DC with 3 uplink	17.4.0
2022-03	RAN#95	R5-221004	0149	-	F	Correction to applicability of FR2 intra-frequency measurement without DRX and BFD TCs	17.4.0
2022-03	RAN#95	R5-221048	0150	-	F	Correction of 4.0 for tested DC configuration selection criteria	17.4.0
2022-03	RAN#95	R5-221213	0152	-	F	Addition of applicability for CADC MPR TC 6.2B.2.4_1.1	17.4.0
2022-03	RAN#95	R5-221295	0154	-	F	Correction of RRM test cases applicability - Note 1 removal	17.4.0
2022-03	RAN#95	R5-221296	0155	-	F	Addition of Idle Mode CA/DC Measurements test cases applicability	17.4.0
2022-03	RAN#95	R5-221371	0158	-	F	Adding new HST test cases	17.4.0
2022-03	RAN#95	R5-221711	0132	1	F	Correction of Additional Information for 6.2.2, 6.2.3 and 6.5.2.4.1 of 38.521-1 and 6.2B.2.3 and 6.2B.3.3 of 38.521-3	17.4.0
2022-03	RAN#95	R5-221712	0139	1	F	Correction to Applicability and Additional information for EN-DC TC and RRM TC	17.4.0
2022-03	RAN#95	R5-221797	0153	1	F	Addition of FR1 DL Interruptions test cases applicability	17.4.0

2022-03	RAN#95	R5-221831	0146	1	F	Addition of test applicability for UE Enhancements on MIMO	17.4.0
2022-03	RAN#95	R5-221832	0148	1	F	Addition of test applicability for L1-SINR measurement cases	17.4.0
2022-03	RAN#95	R5-221849	0130	1	F	Updated the Test case conditions and selection criteria for TDD DSS NR bands n38, n48, n90	17.4.0
2022-03	RAN#95	R5-221850	0137	1	F	Addition of FR1 CA CQI test cases applicability	17.4.0
2022-03	RAN#95	R5-221851	0138	1	F	Addition of FR2 CA CQI test cases applicability	17.4.0
2022-03	RAN#95	R5-221852	0151	1	F	Applicability of NR perf enh WI test cases	17.4.0
2022-03	RAN#95	R5-221858	0135	1	F	Correction of HST test case applicability	17.4.0
2022-03	RAN#95	R5-221891	0136	1	F	Correction of FR2 standalone Enhanced Beam correspondence - EIRP RF conformance test case applicability	17.4.0
2022-03	RAN#95	R5-221913	0156	1	F	New EVM test case applicability	17.4.0
2022-06	RAN#96	R5-222190	0159	-	F	Correction of test applicability for 6.4.2.5 of 38.521-1	17.5.0
2022-06	RAN#96	R5-222191	0160	-	F	Separation of 6.2B.1.4D of 38.521-3 into two test cases	17.5.0
2022-06	RAN#96	R5-222562	0162	-	F	Addition of applicability for CADC MOP TC	17.5.0
2022-06	RAN#96	R5-222631	0164	-	F	Addition of test applicability for NR SL Demod TCs	17.5.0
2022-06	RAN#96	R5-222632	0165	-	F	Addition of test applicability for NR SL RRM TCs	17.5.0
2022-06	RAN#96	R5-222736	0169	-	F	Add 7.5F.1 and 7.6F.2	17.5.0
2022-06	RAN#96	R5-222914	0172	-	F	Removing test case 6.5D.1_1 Occupied bandwidth for UL MIMO (Rel-16 onward) from 38.522	17.5.0
2022-06	RAN#96	R5-222992	0176	-	F	Removal of NOTE1 for test case 5.2.2.2.9_1, 5.2.2.2.10_1, 5.2.3.2.9_1	17.5.0
2022-06	RAN#96	R5-222994	0177	-	F	Update of applicability of FR2 performance test	17.5.0
2022-06	RAN#96	R5-223123	0181	-	F	Test case 6.3.2.2.3, 6.3.2.2.4 and 6.3.3.2.3 in 38.522	17.5.0
2022-06	RAN#96	R5-223701	0189	1	F	Correction of FR1 DL Interruptions test cases applicability	17.5.0
2022-06	RAN#96	R5-223706	0178	1	F	Addition of test applicability for eMIMO test cases	17.5.0
2022-06	RAN#96	R5-223720	0163	1	F	Applicability update for NR perf enh WI test cases	17.5.0
2022-06	RAN#96	R5-223725	0166	1	F	Correction to applicability of HST RRM TCs	17.5.0
2022-06	RAN#96	R5-223753	0179	1	F	38.522 applicability updates for Rel.16 FR2 RF enhancements	17.5.0
2022-06	RAN#96	R5-223783	0170	1	F	Jumbo Applicability CR for NR_RF_TxD WI	17.5.0
2022-06	RAN#96	R5-223791	0171	1	F	Addition of test applicability for RedCap test cases	17.5.0
2022-06	RAN#96	R5-223842	0161	1	F	Correction to applicability for 6.2D.1.1 and 6.2D.1.2 of 38.521-2	17.5.0
2022-06	RAN#96	R5-223843	0167	1	F	Correction to test bands selection criteria for UL MIMO capabilities	17.5.0
2022-06	RAN#96	R5-223844	0168	1	F	Correction to applicability of 5G test cases	17.5.0
2022-06	RAN#96	R5-223845	0180	1	F	Correction on test condition for FR2 DL 256QAM test cases	17.5.0
2022-06	RAN#96	R5-223846	0185	1	F	Addition to 3.3 for new abbreviations in TS 38.522	17.5.0
2022-06	RAN#96	R5-223847	0186	1	F	Correction to 4.0 on Tested CA DC configuration selection criteria for E005a, E010 and E010a	17.5.0
2022-06	RAN#96	R5-223848	0187	1	F	Editorial correction to A.4.0 for Tested bands selection criteria	17.5.0
2022-06	RAN#96	R5-223849	0188	1	F	Update of applicability of FR2 RF test cases	17.5.0

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