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Technical Specification

3rd Generation Partnership Project;

Technical Specification Group Radio Access Network;

Evolved Universal Terrestrial Radio Access (E-UTRA);

User Equipment (UE) conformance specification;

Radio transmission and reception;

Part 2: Implementation Conformance Statement (ICS)

(Release 18)



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Contents

Foreword 4

Introduction 4

1 Scope 5

2 References 5

3 Definitions, symbols and abbreviations 6

3.1 Definitions 6

3.2 Symbols 7

3.3 Abbreviations 7

4 Recommended test case applicability 7

4.1 RF conformance test cases 9

4.2 RRM conformance test cases 233

4.3 RF and RRM conformance test cases for NB-IoT/eMTC NTN 330

4.3.1 RF conformance test cases for NB-IoT/eMTC NTN 330

4.3.2 Performance conformance test cases for NB-IoT/eMTC NTN 330

4.3.3 RRM conformance test cases for NB-IoT/eMTC NTN 331

Annex A (normative):ICS proforma for E-UTRA User Equipment 332

A.1 Guidance for completing the ICS proforma 332

A.1.1 Purposes and structure 332

A.1.2 Abbreviations and conventions 332

A.1.3 Instructions for completing the ICS proforma 333

A.2 Identification of the User Equipment 333

A.2.1 Date of the statement 333

A.2.2 User Equipment Under Test (UEUT) identification 333

A.2.3 Product supplier 334

A.2.4 Client 334

A.2.5 ICS contact person 335

A.3 Identification of the protocol 335

A.4 ICS proforma tables 335

A.4.1 UE Implementation Types 335

A.4.2 UE Service Capabilities 336

A.4.3 Baseline Implementation Capabilities 336

A.4.4 Feature group indicators 348

A.4.5 Additional information 394

A.4.6 CA Physical Layer Baseline Implementation Capabilities 403

A.4.6.1 Intra-band contiguous CA Physical Layer Baseline Implementation Capabilities 404

A.4.6.2 Intra-band non-contiguous CA Physical Layer Baseline Implementation Capabilities 409

A.4.6.3 Inter-band CA Physical Layer Baseline Implementation Capabilities 412

A.4.7 Category M1 UE Centre Frequency Implementation 432

Annex B (informative): Status of CA configurations in 3GPP UE conformance test specifications 432

Annex C (informative): Change history 433

# 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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where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

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

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

# Introduction

The present document is part 2 of a multi-parts TS:

3GPP TS 36.521-1 [1]: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 1: Conformance testing.

**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).**

3GPP TS 36.521-3 [2]: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 3: Radio Resource Management (RRM) Conformance Testing.

# 1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3G Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-1 [3] and ISO/IEC 9646-7 [4]

The present document specifies the recommended applicability statement for the test cases included in 3GPP TS 36.521-1 [1], 3GPP TS 36.521-3 [2] and 3GPP TS 36.521-4 [20]. These applicability statements are based on the features implemented in the UE.

Special conformance testing functions can be found in 3GPP TS 36.509 [5] and the common test environments are included in 3GPP TS 36.508 [6].

The present document is valid for UE implemented according to 3GPP releases starting from Release 8 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.

1. References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.
2. For a specific reference, subsequent revisions do not apply.
3. 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 36.521-1: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 1: Conformance testing ".

[2] 3GPP TS 36.521-3: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 3: Radio Resource Management Conformance Testing ".

[3] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[4] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[5] 3GPP TS 36.509: " Evolved Universal Terrestrial Radio Access (E-UTRA); Special conformance testing functions for User Equipment ".

[6] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA); Common Test Environments for User Equipment (UE) Conformance Testing".

[7] Void

[8] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[9] 3GPP TS 36.201: " LTE Physical Layer - General Description"

[10] 3GPP TS 36.302: " Evolved Universal Terrestrial Radio Access (E-UTRA); Services provided by the physical layer for E-UTRA".

[11] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification".

[12] 3GPP TS 36.322: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Link Control (RLC) protocol specification".

[13] 3GPP TS 36.323: "Evolved Universal Terrestrial Radio Access (E-UTRA); Packet Data Convergence Protocol (PDCP) specification".

[14] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) Protocol Specification".

[15] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3"

[16] 3GPP TS 36.307: "Requirements on User Equipments (UEs) Supporting a release-independent frequency band".

[17] 3GPP TS 36.306: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio access capabilities".

[18] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".

[19] 3GPP TS 36.101: "E-UTRA UE radio transmission and reception".

[20] 3GPP TS 36.521-4: "Evolved Universal Terrestrial Radio Access (E-UTRA);User Equipment (UE) conformance specification; Radio transmission and reception; Part 4: Satellite access Radio Frequency (RF) and performance Conformance Testing"

# 3 Definitions, symbols and abbreviations

For the purposes of the present document, the following terms, definitions, symbols and abbreviations apply:

- such given in TR 21.905 [8]

- such given in ISO/IEC 9646-1 [3] and ISO/IEC 9646-7 [4]

NOTE: Some terms and abbreviations defined in [3] and [4] are explicitly included below with small modification to reflect the terminology used in 3GPP.

## 3.1 Definitions

**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

**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)

## 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 [1] 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 [8].

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

ICS Implementation Conformance Statement

IXIT Implementation eXtra Information for Testing

PICS Protocol Implementation Conformance Statement

PIXIT Protocol Implementation eXtra Information for Testing

RRM Radio Resource Management

SCS System Conformance Statement

TC Test Case

UEUT User Equipment Under Test

# 4 Recommended test case applicability

The applicability of each individual test is identified in the tables 4.1-1 or 4.2-1. 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 expression that are based on parameters (ICS) included in annex A of the present document.

Selection criteria of tested bands / CA-Configurations for each applicable test is formally expressed using group theory based on parameters (ICS) included in annex A of the present document.

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 / 4.2-1 have the following meaning:

Clause

The clause column indicates the clause number in TS 36.521-1 [1] or respectively TS 36.521-3 [2] that contains the test body.

Title

The title column describes the name of the test and contains the clause title of the clause in TS 36.521-1 [1] or TS 36.521-3 [2] 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 E-UTRA

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 an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." is used to avoid ambiguities.

Applicability - Comments

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

Tested Bands / CA-Configurations Selection

This column defines a set of bands / CA 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 4.1-1b.

Ei Derive the set based on CA Configurations Selection Criteria Ei defined in table 4.1-1c.

TBD Band selection not defined at this time, in the meantime test all Bands / CA Configurations

Text For more complex selection criteria, or if the criteria are already specified somewhere else in the spec, text reference to the section is given.

Branch

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

NOTE 1: To meet the validation requirements from certification bodies then there is a need to uniquely reference the FDD and TDD branch (i.e. different behaviour within one and the same TC) of common FDD and TDD RF test cases in table 4.1-1. The FDD and TDD branches of common FDD and TDD test cases can be referenced by amending a "FDD" or "TDD" suffix to the test case clause number. For example for test case 6.2.2 the FDD and TDD branches can be identified by "6.2.2 FDD" and "6.2.2 TDD".

NOTE 2: To meet the validation requirements from certification bodies then there is a need to uniquely reference the 2Rx (UE supports 2 Rx antenna ports in the tested band) and 4Rx (UE supports 4 Rx antenna ports in the tested band) branch of common 2Rx and 4Rx RRM test cases in table 4.2-1. The 2Rx and 4Rx branches of common 2Rx and 4Rx test cases can be referenced by amending a "2Rx" or "4Rx" suffix to the test case clause number. For example for test case 4.2.1 the 2Rx and 4Rx branches can be identified by "4.2.1\_2Rx" and "4.2.1\_4Rx". When the branch is “2RX, 4RX” or “xxx\_2RX, xxx\_4RX”, requirements of 2RX are tested for 2RX capability UE and requirements of 4RX are tested for 4RX capability UE.

NOTE 3: To meet the validation requirements from certification bodies then there is a need to uniquely reference the PC3 (UE supports Power Class 3 in the tested band) and HPUE (UE supports Power Class 1 or Power Class 2 in the tested band) branch of common PC3 and HPUE test cases in Table 4.1-1. The PC3 and HPUE branches of common PC3 and HPUE test cases can be referenced by amending a "PC3" or "HPUE" suffix to the test case clause number. For example for test case 6.6.2.1 the PC3 and HPUE branches can be identified by "6.6.2.11\_PC3" and "6.6.2.1\_HPUE". When the branch is "PC3, HPUE" or "xxx\_PC3, xxx\_HPUE", requirements of PC3 are tested for PC3 capability UE and requirements of HPUE are tested for HPUE capability UE.

Additional Information

This column contains additional information

## 4.1 RF conformance test cases

NOTE: To determine applicability of a test case, FGI support in combined or *fdd-Add-UE-EUTRA-Capabilities* or *tdd-Add-UE-EUTRA-Capabilities* is taken into account.

Table 4.1-1: Applicability of RF conformance test cases, ref. TS 36.521-1 [1]

| Clause | Title | Release | Applicability | | Tested Bands / CA-Configurations Selection | Branch | Additional Information |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Condition | Comments |  |  |
| **Transmitter Characteristics** | | | | | | | |
| 6.2.2 | UE Maximum Output Power | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.2.2\_1 | UE Maximum Output Power for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class 1 | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.2.2A.1 | UE Maximum Output Power for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.2.2A.1\_3 | UE Maximum Output Power for CA and HPUE (intra-band contiguous DL CA and UL CA) | Rel-10 | C39b | UE supporting intraband contiguous CA and Power Class 2 | E01 | TDD |  |
| 6.2.2A.2 | UE Maximum Output Power for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.2.2A.3 | UE Maximum Output Power for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.2.2A.4 | UE Maximum Output Power for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.2.2B | UE Maximum Output Power for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA Power Class 3 and UL-MIMO | D05 | FDD, TDD |  |
| 6.2.2B\_1 | HPUE Maximum Output Power for UL-MIMO | Rel-10 | C202 | UE supporting E-UTRA Power Class 2 and UL-MIMO | D05 | TDD |  |
| 6.2.2E | UE Maximum Output Power for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 6.2.2EA | UE Maximum Output Power for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.2.2EB | UE Maximum Output Power for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.2.2EC | UE Maximum Output Power for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.2.2F | UE Maximum Output Power for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D11, D18 | HD-FDD, TDD |  |
| 6.2.2FA | UE Maximum Output Power for category NB1 and NB2/Power Class 6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D11, D18 | HD-FDD, TDD |  |
| 6.2.2G.2 | UE Maximum Output Power for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmission | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.2.2G.4.1 | UE Maximum Output Power for V2X Communication / Power class 2 / Non-concurrent with E-UTRA uplink transmissions | Rel14 | C335 | UE supporting V2X Sidelink communication and Power Class 2 | D14 | TDD |  |
| 6.2.2\_s | UE Maximum Output Power for subslot/slot TTI | Rel-15 | C352 | UE supporting E-UTRA FDD and Power Class 3 and subslot/slot TTI | D02 | FDD |  |
|  |  |  | C352a | UE supporting E-UTRA TDD and Power Class 3 and slot TTI | D03 | TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.2.5 | Configured UE transmitted Output Power | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.2.5\_s | Configured UE transmitted Output Power for subslot/slot TTI | Rel-15 | C352 | UE supporting E-UTRA FDD and Power Class 3 and subslot/slot TTI | D02 | FDD |  |
|  |  |  | C352a | UE supporting E-UTRA TDD and Power Class 3 and slot TTI | D03 | TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.2.5\_1 | Configured UE transmitted Output Power for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class 1 | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.2.5A.1 | Configured UE transmitted Output Power for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.2.5A.3 | Configured UE transmitted Output Power for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.2.5A.4 | Configured UE transmitted Output Power for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.2.5A.5 | Configured UE transmitted Output Power for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.2.5B | Configured transmitted power for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.2.5E | Configured transmitted power for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 6.2.5EA | Configured UE transmitted Power for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.2.5EB | Configured UE transmitted Power for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.2.5EC | Configured UE transmitted Power for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.2.5F | Configured UE transmitted Output Power for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.2.5FA | Configured UE transmitted Output Power for category NB1 and NB2/Power Class 6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D11, D18 | HD-FDD, TDD |  |
| 6.2.5G.1 | Configured UE transmitted Output Power for V2X Communication / Non-concurrent with E-UTRA uplink transmission | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.2.5G.2 | Configured UE transmitted Output Power for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmission | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.2.5G.3 | Configured UE transmitted Output Power for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.3.1 | Void |  |  |  |  |  |  |
| 6.3.2 | Minimum Output Power | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.3.2A.1 | Minimum Output Power for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.2A.2 | Minimum Output Power for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.3.2A.3 | Minimum Output Power for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and inter-band DL CA and UL CA | E02 | FDD |  |
| 6.3.2A.4 | Minimum Output Power for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.3.2B | Minimum Output Power for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.2E | Minimum Output Power for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.2EA | Minimum Output Power for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.2EB | Minimum Output Power for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.2EC | Minimum Output Power for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.2F | Minimum Output Power for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.2G.1 | Minimum output power for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.3.2G.2 | Minimum output power for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.3.2G.3 | Minimum output power for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.3.3 | Transmit OFF Power | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.3.3A.1 | Transmit OFF Power for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.3A.2 | UE Transmit OFF power for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.3.3A.3 | Transmit OFF Power for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.3.3B | UE Transmit OFF power for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.3E | UE Transmit OFF power for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.3EA | UE Transmit OFF power for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.3EB | UE Transmit OFF power for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.3EC | UE Transmit OFF power for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.3F | Transmit OFF power for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.3G.1 | UE Transmit OFF power for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.3.3G.2 | UE Transmit OFF power for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.3.3G.3 | UE Transmit OFF power for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.3.4.1 | General ON/OFF time mask | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.3.4.1\_s | General ON/OFF time mask for subslot/slot TTI | Rel-15 | C353 | UE supporting E-UTRA FDD and subslot/slot TTI | D02 | FDD |  |
|  |  |  | C353a | UE supporting E-UTRA TDD and slot TTI | D03 | TDD |  |
| 6.3.4.2.1 | PRACH time mask | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.3.4.2.2 | SRS time mask | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.3.4A.1.1 | General ON/OFF time mask for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.4A.1.2 | General ON/OFF time mask for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.3.4A.1.3 | General ON/OFF time mask for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.3.4A.1.4 | General ON/OFF time mask for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA |  | FDD, TDD |  |
| 6.3.4A.1.5 | General ON/OFF time mask for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | TDD |  |
| 6.3.4B.1 | ON/OFF time mask for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.4C.1 | General ON/OFF time mask for Dual Connectivity | Rel-12 | C224 | UE supporting Dual Connectivity | E03 | FDD, TDD |  |
| 6.3.4C.1\_1 | General ON/OFF time mask for asynchronous Dual Connectivity | Rel-12 | C225 | UE supporting asynchronous Dual Connectivity | E03 | FDD, TDD |  |
| 6.3.4E.1 | General ON/OFF time mask for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4E.2 | Prach and SRC ON/OFF time mask for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EA.1 | General ON/OFF time mask for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EA.2.1 | PRACH time mask for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EA.2.2 | SRS time mask for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EB.1 | General ON/OFF time mask for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.4EB.2.1 | PRACH time mask for UE category 1bis | Rel13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.4EB.2.2 | SRS time mask for UE category 1bis | Rel13 | C112c | UE supporting E-UTRA and UE category 1bis |  |  |  |
| 6.3.4EC.1 | General ON/OFF time mask for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EC.2.1 | PRACH time mask for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4EC.2.2 | SRS time mask for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.4F.1 | General ON/OFF time mask for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.4F.2 | NPRACH time mask for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.4G.1 | General ON/OFF time mask for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.3.4G.2 | General ON/OFF time mask for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.3.4G.3 | General ON/OFF time mask for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.3.4G.4 | PSSS/SSSS time mask for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.3.5.1 | Power Control Absolute Power Tolerance | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.3.5.2 | Power Control Relative Power Tolerance | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.3.5.3 | Aggregate Power Control Tolerance | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.3.5A.1.1 | Power Control Absolute Power Tolerance for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.5A.1.2 | Power Control Absolute Power Tolerance for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.3.5A.1.3 | Power Control Absolute Power Tolerance for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.3.5A.1.4 | Power Control Absolute power tolerance for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
| 6.3.5A.1.6 | Power control absolute power tolerance for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and intra-band contiguous 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| C336 | UE supporting E-UTRA and inter-band 4DL CA and 4UL CA |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.3.5A.2.1 | Power Control Relative Power Tolerance for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.5A.2.2 | Power Control Relative Power Tolerance for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.3.5A.2.3 | Power Control Relative Power Tolerance for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.3.5A.2.4 | Power Control Relative power tolerance for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.3.5A.3.1 | Aggregate Power Control Tolerance for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.3.5A.3.2 | Aggregate Power Control Tolerance for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.3.5A.3.3 | Aggregate Power Control Tolerance for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.3.5A.3.4 | Aggregate Power Control Tolerance for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.3.5A.3.5 | Aggregate power control tolerance for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and intra-band contiguous 4DL CA and 4UL CA | E20 | FDD, TDD |  |
|  |  |  | C336 | UE supporting E-UTRA and inter-band 4DL CA and 4UL CA |  |  |  |
| 6.3.5B.1 | Power Control Absolute power tolerance for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.5B.2 | Power Control Relative power tolerance for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.5B.3 | Aggregate power control tolerance for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.3.5C.2 | Power Control Relative power tolerance for Dual Connectivity | Rel-12 | C224 | UE supporting Dual Connectivity | E03 | FDD, TDD |  |
| 6.3.5C.2\_1 | Power Control Relative power tolerance for asynchronous Dual Connectivity | Rel-12 | C225 | UE supporting asynchronous Dual Connectivity | E03 | FDD, TDD |  |
| 6.3.5E.1 | Power Control Absolute power tolerance for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5E.2 | Power Control Relative power tolerance for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5E.3 | Aggregate power control tolerance for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EA.1 | Power control for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EA.2 | Power Control Relative power tolerance for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EA.3 | Aggregate power control tolerance for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EA.3\_1 | Aggregate power control tolerance for UE category M1 (CE Mode B) | Rel-13 | C156c | UE supporting E-UTRA and (UE category M1 and CEModeB) | D02 | HD-FDD |  |
| 6.3.5EB.1 | Power Control Absolute power tolerance for UE category 1bis | Rel13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.5EB.2 | Power Control Relative power tolerance for UE category 1bis | Rel13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.5EB.3 | Aggregate power control tolerance for UE category 1bis | Rel13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  |  |
| 6.3.5EC.1 | Power Control Absolute power tolerance for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EC.2 | Power Control Relative power tolerance for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EC.3 | Aggregate power control tolerance for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.3.5EC.3\_1 | Aggregate power control tolerance for UE category M2 (CE Mode B) | Rel-14 | C156j | UE supporting E-UTRA FDD and (UE category M2 and CEModeB) | D02 | HD-FDD |  |
| 6.3.5F.1 | Power Control Absolute power tolerance for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5F.2 | Power Control Relative power tolerance for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5F.3 | Aggregate power control tolerance for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5FA.1 | Power Control Absolute power tolerance for category NB1 and NB2/Power Class6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5FA.2 | Power Control Relative power tolerance for category NB1 and NB2/Power Class 6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5FA.3 | Aggregate power control tolerance for category NB1 and NB2/Power Class 6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D12, D13, D18 | HD-FDD, TDD |  |
| 6.3.5\_1.1 | Power Control Absolute Power Tolerance for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class 1 | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.3.5\_1.2 | Power Control Relative Power Tolerance for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class 1 | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.3.5\_1.3 | Aggregate Power Control Tolerance for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.3.5G.1 | Power Control Absolute power tolerance for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.3.5G.2 | Power Control Absolute power tolerance for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.3.5G.3 | Power Control Absolute power tolerance for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.5.1 | Frequency Error | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.1A.1 | Frequency Error for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.5.1A.2 | Frequency error for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.5.1A.3 | Frequency Error for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.5.1A.4 | Frequency error for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.5.1A.5 | Frequency error for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.5.1B | Frequency Error for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.5.1D.1 | Frequency error for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 6.5.1D.2 | Frequency error for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 6.5.1E | Frequency Error for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.1EA | Frequency Error for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.1EA\_1 | Frequency Error for UE category M1 (CEmodeB) | Rel-13 | C156c | UE supporting E-UTRA FDD and (UE category M1 and CEModeB) | D02 | FDD, HD-FDD, TDD |  |
| 6.5.1EB | Frequency Error for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.5.1EC | Frequency Error for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.1EC\_1 | Frequency Error for UE category M2 (CEmodeB) | Rel-14 | C156j | UE supporting E-UTRA FDD and (UE category M2 and CEModeB) | D02 | HD-FDD |  |
| 6.5.1F | Frequency Error for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.5.1G.1 | Frequency Error for V2X Communication / Non-concurrent with E-UTRA uplink transmission | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.5.1G.2 | Frequency error for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.5.2.1 | Error Vector Magnitude (EVM) | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.2.1\_1 | Error Vector Magnitude (EVM) for UL 64QAM | Rel-13 | C147 | UE supporting E-UTRA and UL 64QAM | D01 | FDD, TDD | Note 1 |
| 6.5.2.1\_2 | Error Vector Magnitude (EVM) for UL 256QAM | Rel-14 | C301 | UE supporting E-UTRA and UL 256QAM | D01 | FDD, TDD |  |
| 6.5.2.1A | PUSCH-EVM with exclusion period | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.2.1E.1 | Error Vector Magnitude for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1E.2 | PUSCH-EVM with exclusion period for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1EA.1 | Error Vector Magnitude (EVM) for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1EA.2 | PUSCH-EVM with exclusion period for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1EB | Error Vector Magnitude (EVM) for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.5.2.1EC.1 | Error Vector Magnitude (EVM) for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1EC.2 | PUSCH-EVMwith exclusion period for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.1F.1 | Error Vector Magnitude (EVM) for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.5.2.1G.1 | Error Vector Magnitude (EVM) for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.5.2.1G.2 | Error Vector Magnitude (EVM) for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.5.2.1G.3 | Error Vector Magnitude (EVM) for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.5.2.1\_s | Error Vector Magnitude for subslot/slot TTI | Rel-15 | C353 | UE supporting E-UTRA FDD and subslot/slot TTI | D02 | FDD |  |
|  |  | Rel-15 | C353a | UE supporting E-UTRA TDD and slot TTI | D03 | TDD |  |
| 6.5.2.2 | Carrier leakage | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.2.2E | Carrier leakage for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.2EA | Carrier leakage for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.2EB | Carrier leakage for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.5.2.2EC | Carrier leakage for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.2F | Carrier leakage for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.5.2.2G.1 | Carrier leakage for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.5.2.2G.2 | Carrier leakage for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmission | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.5.2.2G.3 | Carrier leakage for V2X Communication / Intra-band contiguous MCC operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.5.2.3 | In-band emissions for non allocated RB | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.2.3E | In-band emissions for non allocated RB for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.3EA | In-band emissions for non allocated RB for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.3EB | In-band emissions for non allocated RB for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.5.2.3EC | In-band emissions for non allocated RB for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.3F | In-band emissions for non allocated RB for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.5.2.3G.1 | In-band emissions for non-allocated RB for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.5.2.3G.2 | Introduction of In-band emissions for non-allocated RB for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.5.2.3G.3 | In-band emissions for non-allocated RB for V2X Communication / Intra-band contiguous MCC operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.5.2.4 | EVM equalizer spectrum flatness | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.5.2.4E | EVM equalizer spectrum flatness for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.4EA | EVM equalizer spectrum flatness for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.4EB | EVM equalizer spectrum flatness for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.5.2.4EC | EVM equalizer spectrum flatness for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.5.2.4G.1 | EVM equalizer spectrum flatness for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.5.2.4G.3 | EVM equalizer spectrum flatness for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.5.2A.1.1 | Error Vector Magnitude (EVM) for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.5.2A.1.1\_1 | EVM for CA (intra-band contiguous DL CA and UL CA) with UL 64QAM | Rel-13 | C148 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 64QAM. | E01 | FDD, TDD | Note 1 |
| 6.5.2A.1.1\_2 | EVM for CA (intra-band contiguous DL CA and UL CA) with UL 256QAM | Rel-14 | C302 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 256QAM. | E01 | FDD, TDD |  |
| 6.5.2A.1.2 | Error Vector Magnitude (EVM) for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.5.2A.1.2\_1 | Error Vector Magnitude (EVM) for CA (inter-band DL CA and UL CA) for UL 64QAM | Rel-13 | C160 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 64QAM | E03 | FDD, TDD | Note 1 |
| 6.5.2A.1.2\_2 | Error Vector Magnitude (EVM) for CA (inter-band DL CA and UL CA) for UL 256QAM | Rel-14 | C303 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 256QAM. | E03 | FDD, TDD |  |
| 6.5.2A.1.3 | Error Vector Magnitude (EVM) for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.5.2A.1.3\_1 | Error Vector Magnitude (EVM) for CA (intra-band non-contiguous DL CA and UL CA) for UL 64QAM | Rel-13 | C185 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA and UL 64QAM | E02 | FDD, TDD |  |
| 6.5.2A.1.3\_2 | Error Vector Magnitude (EVM) for CA (intra-band non-contiguous DL CA and UL CA) for UL 256QAM | Rel-14 | C304 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA and UL 256QAM | E02 | FDD, TDD |  |
| 6.5.2A.1.4 | Error Vector Magnitude (EVM) for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.5.2A.1.5 | Error Vector Magnitude (EVM) for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.5.2A.2.1 | Carrier leakage for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.5.2A.2.2 | Carrier leakage for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.5.2A.2.4 | Carrier leakage for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.5.2A.2.5 | Carrier leakage for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.5.2A.2.3 | Carrier leakage for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.5.2A.3.1 | In-band emissions for non allocated RB for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.5.2A.3.2 | In-band emissions for non allocated RB for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.5.2A.3.4 | In-band emissions for non allocated RB for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.5.2A.3.3 | In-band emissions for non allocated RB for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.5.2A.3.5 | In-band emissions for non allocated RB for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.5.2B.1 | Error Vector Magnitude for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.5.2B.2 | Carrier leakage for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.5.2B.3 | In-band emissions for non allocated RB for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.5.2B.4 | EVM equalizer spectrum flatness for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.1 | Occupied bandwidth | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.6.1A.1 | Occupied bandwidth for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.1A.2 | 6.6.1A.2 Occupied bandwidth for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.6.1A.3 | Occupied bandwidth for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.1A.4 | Occupied bandwidth for CA (3DL CA and 3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.1A.5 | Occupied bandwidth for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.1B | Occupied bandwidth for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.1E | Occupied bandwidth for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.1EA | Occupied bandwidth for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.1EB | Occupied bandwidth for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.1EC | Occupied bandwidth for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, TDD |  |
| 6.6.1F | Occupied bandwidth for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.1G.1 | Occupied bandwidth for V2X Communication / Non-concurrent with E-UTRA uplink transmission | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.1G.2 | Occupied bandwidth for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.1G.3 | Occupied bandwidth for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.6.2.1 | Spectrum Emission Mask | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
|  |  | Rel-10 | C39c | UE supporting E-UTRA Power Class 1 or Power Class 2 | D17a | FDD, TDD |  |
| 6.6.2.1\_1 | Spectrum Emission Mask for Multi-cluster PUSCH | Rel-10 | C100 | UE supporting E-UTRA and Multi-Cluster PUSCH | D07 | FDD, TDD |  |
| 6.6.2.1A.1 | Spectrum Emission Mask for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.2.1A.2 | Spectrum Emission Mask for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.6.2.1A.3 | Spectrum Emission Mask for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.2.1A.4 | Spectrum Emission Mask for CA (3UL) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.2.1A.5 | Spectrum Emission Mask for CA (4UL) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.2.1B | Spectrum Emission Mask for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.2.1E | Spectrum Emission Mask for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.1EA | Spectrum Emission Mask for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.1EB | Spectrum Emission Mask for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.2.1EC | Spectrum Emission Mask for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.1F | Spectrum Emission Mask for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.2.1G.1 | Spectrum Emission Mask for V2X Communication Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.2.1G.2 | Introduction of Spectrum Emission Mask for V2X Communication /Sidelink simultaneous with E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.2.1G.3 | Spectrum Emission Mask for V2X Communication / Intra-band contiguous MCC operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.6.2.2 | Additional Spectrum Emission Mask | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
|  |  | Rel-10 | C39c | UE supporting E-UTRA Power Class 1 or Power Class 2 | D17a | FDD, TDD |  |
| 6.6.2.2\_1 | Additional Spectrum Emission Mask for UL 64QAM | Rel-13 | C147 | UE supporting E-UTRA and UL 64QAM | D01 | FDD, TDD | Note 1 |
| 6.6.2.2\_2 | Additional Spectrum Emission Mask for UL 256QAM | Rel-14 | C301 | UE supporting E-UTRA and UL 256QAM | D01 | FDD, TDD |  |
| 6.6.2.2A.1 | Additional Spectrum Emission Mask for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C319 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.2.2A.1\_1 | Additional Spectrum Emission Mask for CA (intra-band contiguous DL CA and UL CA) for UL 64QAM | Rel-13 | C326 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 64QAM. | E01 | FDD, TDD | Note 1, Note 4 |
| 6.6.2.2A.1\_2 | Additional Spectrum Emission Mask for CA (intra-band contiguous DL CA and UL CA) for UL 256QAM | Rel-14 | C302 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 256QAM. | E01 | FDD, TDD |  |
| 6.6.2.2A.2 | Additional Spectrum Emission Mask for CA (inter-band DL CA and UL CA) | Rel-11 | C116b | UE supporting E-UTRA and inter-band DL CA and UL CA but do not support UL 64QAM or UL 256QAM | E03 | FDD, TDD |  |
| 6.6.2.2A.2\_1 | Additional Spectrum Emission Mask for CA (inter-band DL CA and UL CA) for UL 64QAM | Rel-13 | C327 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 64QAM | E03 | FDD, TDD | Note 1, Note 4 |
| 6.6.2.2A.2\_2 | Additional Spectrum Emission Mask for CA (inter-band DL CA and UL CA) for UL 256QAM | Rel-14 | C303 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 256QAM | E03 | FDD, TDD |  |
| 6.6.2.2A.3 | Additional Spectrum Emission Mask for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.2.2A.4 | Additional Spectrum Emission Mask for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.2.2A.5 | Additional Spectrum Emission Mask for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.2.2B | Additional Spectrum Emission Mask for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.2.2E | Additional Spectrum Emission Mask for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.2EA | Additional Spectrum Emission Mask for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.2EB | Additional Spectrum Emission Mask for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.2.2EC | Additional Spectrum Emission Mask for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD |  |
| 6.6.2.2G.1 | Additional Spectrum Emission Mask for V2X Communication / Non-concurrent with E-UTRA uplink transmission | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.2.2G.2 | Additional Spectrum Emission Mask for V2X Communication / Sidelink simultaneous with E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.2.3 | Adjacent Channel Leakage power Ratio | Rel-8 | C186 | UE supporting E-UTRA Power Class 3 | D01 | FDD, TDD | Not required to be tested in Band 41 for Power Class 2 UE |
| 6.6.2.3\_1 | Adjacent Channel Leakage power Ratio for HPUE | Rel-10 | C39a | UE supporting E-UTRA Power Class 1 | D16 |  |  |
| C39b | UE supporting E-UTRA Power Class 2 | D17 |  |  |
| 6.6.2.3\_2 | Adjacent Channel Leakage power Ratio for Multi-Cluster PUSCH | Rel-10 | C159 (Note 2) | UE supporting E-UTRA and Multi-Cluster PUSCH | D07 | FDD, TDD |  |
| 6.6.2.3\_3 | Adjacent Channel Leakage power Ratio for UL 64QAM | Rel-13 | C147 | UE supporting E-UTRA and UL 64QAM | D01 | FDD, TDD | Note 1 |
| 6.6.2.3\_4 | Adjacent Channel Leakage power Ratio for Multi-Cluster PUSCH with UL 64QAM | Rel-13 | C149 | UE supporting E-UTRA and Multi-Cluster PUSCH and UL 64QAM | D07 | FDD, TDD | Note 1, Note 4 |
| 6.6.2.3\_5 | Adjacent Channel Leakage power Ratio for UL 256QAM | Rel-14 | C301 | UE supporting E-UTRA and UL 64QAM | D01 | FDD, TDD |  |
| 6.6.2.3\_6 | Adjacent Channel Leakage power Ratio for Multi-Cluster PUSCH with UL 256QAM | Rel-14 | C318 | UE supporting E-UTRA and Multi-Cluster PUSCH and UL 256QAM | D07 | FDD, TDD |  |
| 6.6.2.3A.1 | Adjacent Channel Leakage power Ratio for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.2.3A.1\_1 | Adjacent Channel Leakage power Ratio for CA (intra-band contiguous DL CA and UL CA) for UL 64QAM | Rel-13 | C148 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 64QAM | E01 | FDD, TDD | Note 1 |
| 6.6.2.3A.1\_2 | Adjacent Channel Leakage power Ratio for CA (intra-band contiguous DL CA and UL CA) for UL 256QAM | Rel-14 | C302 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 256QAM | E01 | FDD, TDD |  |
| 6.6.2.3A.1\_3 | Adjacent Channel Leakage power Ratio for CA (intra-band contiguous DL CA and UL CA) for HPUE | Rel-10 | C39b | UE supporting intraband contiguous CA and Power Class 2 | E01 | TDD |  |
| 6.6.2.3A.2 | Adjacent Channel Leakage power Ratio for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.6.2.3A.2\_1 | Adjacent Channel Leakage power Ratio for CA (inter-band DL CA and UL CA) for UL 64QAM | Rel-13 | C160 | UE supporting E-UTRA and inter band DL CA and UL CA and UL 64QAM | E03 | FDD, TDD | Note 1 |
| 6.6.2.3A.2\_2 | Adjacent Channel Leakage power Ratio for CA (inter-band DL CA and UL CA) for UL 256QAM | Rel-13 | C303 | UE supporting E-UTRA and inter band DL CA and UL CA and UL 256QAM | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.6.2.3A.3 | Adjacent Channel Leakage power Ratio for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.2.3A.3\_1 | Adjacent Channel Leakage power Ratio for CA (intra-band non-contiguous DL CA and UL CA) for UL 64QAM | Rel-13 | C161 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA and UL 64QAM | E02 | FDD, TDD | Note 1 |
| 6.6.2.3A.3\_2 | Adjacent Channel Leakage power Ratio for CA (intra-band non-contiguous DL CA and UL CA) for UL 256QAM | Rel-14 | C304 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA and UL 256QAM | E02 | FDD, TDD |  |
| 6.6.2.3A.4 | Adjacent Channel Leakage power Ratio for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.2.3A.5 | Adjacent Channel Leakage power Ratio for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.2.3B | Adjacent Channel Leakage power Ratio for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.2.3E | Adjacent Channel Leakage power Ratio for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.3EA | Adjacent Channel Leakage power Ratio for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.3EB | Adjacent Channel Leakage power Ratio for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.2.3EC | Adjacent Channel Leakage power Ratio for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.2.3F | Adjacent Channel Leakage power Ratio for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.2.3FA | Adjacent Channel Leakage power Ratio for category NB1 and NB2/Power Class 6 | Rel-14 | C325 | UE supporting NB-IoT and Power Class 6 | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.2.3G.1 | Adjacent Channel Leakage power Ratio for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.2.3G.2 | Adjacent Channel Leakage power Ratio for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.2.3G.3 | Adjacent Channel Leakage power Ratio for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.6.2.4 | Void |  |  |  |  |  |  |
| 6.6.3.1 | Transmitter Spurious emissions | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.6.3.1\_1 | Transmitter Spurious emissions for Multi-Cluster PUSCH | Rel-10 | C100 | UE supporting E-UTRA and Multi-Cluster PUSCH | D07 | FDD, TDD |  |
| 6.6.3.1A.1 | Transmitter Spurious emissions for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.3.1A.2 | Transmitter Spurious emissions for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.6.3.1A.3 | Transmitter Spurious emissions for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.3.1A.4 | Transmitter Spurious emissions for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA |  | FDD, TDD |  |
| 6.6.3.1A.5 | Transmitter Spurious emissions for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.3F.1 | Transmitter Spurious emissions for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.3F.2 | Spurious emission band UE co-existence for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.6.3.2 | Spurious emission band UE co-existence | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.6.3.2A.1 | Spurious emission band UE co-existence for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.3.2A.2 | Spurious emission band UE co-existence for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.6.3.2A.3 | Spurious emission band UE co-existence for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.3.2A.4 | Spurious emission band UE co-existence for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
| C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.3.2A.5 | Spurious emission band UE co-existence for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.3.3 | Additional spurious emissions | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.6.3.3\_1 | Additional spurious emissions for UL 64QAM | Rel-13 | C147 | UE supporting E-UTRA and UL 64QAM | D01 | FDD, TDD | Note 1 |
| 6.6.3.3\_2 | Additional spurious emissions for UL 256QAM | Rel-14 | C301 | UE supporting E-UTRA and UL 256QAM | D01 | FDD, TDD |  |
| 6.6.3.3A.1 | Additional spurious emissions for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C319 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.6.3.3A.1\_1 | Additional spurious emissions for CA (intra-band contiguous DL CA and UL CA) for UL 64QAM | Rel-13 | C326 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 64QAM | E01 | FDD, TDD | Note 1, Note 4 |
| 6.6.3.3A.1\_2 | Additional spurious emissions for CA (intra-band contiguous DL CA and UL CA) for UL 256QAM | Rel-14 | C302 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and UL 256QAM. | E01 | FDD, TDD |  |
| 6.6.3.3A.2 | Additional spurious emissions for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
|  |  | Rel-14 | C305 | UE supporting E-UTRA and eLAA |  |  |  |
| 6.6.3.3A.2\_1 | Additional spurious emissions for CA (inter-band DL CA and UL CA) for UL 64QAM | Rel-13 | C327 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 64QAM | E03 | FDD, TDD | Note 1, Note 4 |
| 6.6.3.3A.2\_2 | Additional spurious emissions for CA (inter-band DL CA and UL CA) for UL 256QAM | Rel-14 | C303 | UE supporting E-UTRA and inter-band DL CA and UL CA and UL 256QAM | E03 | FDD, TDD |  |
| 6.6.3.3A.3 | Additional spurious emissions for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD, TDD |  |
| 6.6.3.3A.4 | Additional spurious emissions for CA (3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
| C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.6.3.3A.5 | Additional spurious emissions for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| 6.6.3B.2 | Spurious emission band UE co-existence for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.6.3E.1 | Transmitter Spurious emissions for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3E.2 | Transmitter Spurious Band UE co-existence for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3E.3 | Additional spurious emissions for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EA.1 | Transmitter Spurious emissions for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EA.2 | Spurious emission band UE co-existence for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EA.3 | Additional spurious emissions for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EB.1 | Transmitter Spurious emissions for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.3EB.2 | Spurious emission band UE co-existence for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.3EB.3 | Additional spurious emissions for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.6.3EC.1 | Transmitter Spurious emissions for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EC.2 | Spurious emission band UE co-existence for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.6.3EC.3 | Additional spurious emissions for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD |  |
| 6.6.3G.1 | Transmitter Spurious emissions for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.3G.1\_1 | Spurious emission band UE co-existence for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.6.3G.2 | Spurious emission for V2X Communication / Sidelink simultaneous with E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.3G.2\_1 | Spurious emission band UE co-existence for V2X Communication / Sidelink simultaneous with E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.6.3G.3 | Spurious emission for V2X Communication / Intra-band contiguous MCC operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.6.3G.3\_1 | Spurious emission band UE co-existence for V2X Communication / Intra-band contiguous MCC operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.7 | Transmit intermodulation | Rel-8 | C113 | UE supporting E-UTRA | D01 | FDD, TDD |  |
| 6.7A.1 | Transmit intermodulation for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD, TDD |  |
| 6.7A.2 | Transmit intermodulation for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD, TDD |  |
| 6.7A.4 | Transmit intermodulation for CA (3DL CA and 3UL CA) | Rel-13 | C19a | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E18 | TDD |  |
|  |  |  | C116a | UE supporting E-UTRA and inter-band DL CA and UL CA | E18 | FDD, TDD |  |
| 6.7A.5 | Transmit intermodulation for CA (4UL CA) | Rel-11 | C334 | UE supporting E-UTRA and intra-band contiguous 4DL CA and 4UL CA | E20 | FDD, TDD |  |
| C336 | UE supporting E-UTRA and inter-band 4DL CA and 4UL CA |  |
| 6.7B | Transmit intermodulation for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 6.7E | Transmit intermodulation for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0 | D01 | FDD, HD-FDD, TDD |  |
| 6.7EA | Transmit intermodulation for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 6.7EB | Transmit intermodulation for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 6.7EC | Transmit intermodulation for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 6.7F | Transmit intermodulation for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 6.7G.1 | Transmit intermodulation for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 6.7G.2 | Transmit intermodulation for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 6.7G.3 | Transmit intermodulation for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 6.8B | Time alignment between transmitter branches for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| **Receiver Characteristics** | | | | | | | |
| 7.3 | Reference sensitivity level | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.3\_1 | Reference sensitivity level with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.3A.1 | Reference sensitivity level for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.3A.2 | Reference sensitivity level for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.3A.3 | Reference sensitivity level for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 |  |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD-TDD inter-band CA under FS3 |  |  |  |
| 7.3A.4 | Reference sensitivity level for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.3A.5 | Reference sensitivity level for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E19 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.3A.6 | Reference sensitivity level for CA (inter-band DL CA and UL CA) | Rel-11 | C116 | UE supporting E-UTRA and inter-band DL CA and UL CA | E03 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.3A.7 | Reference sensitivity level for CA (intra-band non-contiguous DL CA and UL CA) | Rel-11 | C115 | UE supporting E-UTRA and intra-band non-contiguous DL CA and UL CA | E02 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.3A.9 | Reference sensitivity level for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E21 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.3A.10 | Reference sensitivity level for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  |  | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.3E | Reference sensitivity level for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.3EA | Reference sensitivity level for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.3EB | Reference sensitivity level for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, HD-FDD, TDD |  |
| 7.3EC | Reference sensitivity level for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.3B | Reference sensitivity level for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.3F.1 | Reference sensitivity level without repetitions for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.3G.1 | Reference sensitivity level for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.3G.2 | Reference sensitivity level for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.3G.3 | Reference sensitivity level for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.4 | Maximum input level | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.4\_1 | Maximum input level with 4 Rx antenna ports | Rel-10 | C168 | UE supporting E-UTRA with 4Rx antenna ports but not 256QAM in DL | D09 | FDD, TDD |  |
| 7.4\_H | Maximum input level for 256QAM in DL | Rel-12 | C113h | UE supporting E-UTRA and 256QAM in DL | D01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.1 | Maximum input level for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.1\_H | Maximum input level for CA (intra-band contiguous DL CA and UL CA) for 256QAM in DL | Rel-12 | C19h | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA and 256QAM in DL | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx |  |
| 7.4A.2 | Maximum input level for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.2\_H | Maximum input level for CA (intra-band contiguous DL CA without UL CA) for 256QAM in DL | Rel-12 | C20h | UE supporting E-UTRA and intra-band contiguous DL CA and 256QAM in DL | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.3 | Maximum input level for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 |  |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD-TDD inter-band CA under FS3 |  |  |  |
| 7.4A.3\_H | Maximum input level for CA (inter-band DL CA without UL CA) for 256QAM in DL | Rel-12 | C21h | UE supporting E-UTRA and inter-band DL CA and 256QAM in DL | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.4 | Maximum input level for CA (intra band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.4\_H | Maximum input level for CA (intra band non-contiguous DL CA without UL CA) for 256QAM in DL | Rel-12 | C43h | UE supporting E-UTRA and intra-band non-contiguous DL CA and 256QAM in DL | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.4A.5 | Maximum input level for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E22 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.4A.5\_H | Maximum input level for 3DL CA for 256QAM in DL | Rel-12 | C122h | UE supporting E-UTRA and 3DL CA and 256QAM in DL | E22 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with FDD-TDD CA under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with TDD-TDD CA under FS3 |  |  |  |
| 7.4A.7 | Maximum input level for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E23 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.4A.7\_H | Maximum input level for 4DL CA for 256QAM in DL | Rel-13 | C187h | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 and 256QAM in DL | E23 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.4A.8 | Maximum input level for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.4A.8\_H | Maximum input level for 5DL CA for 256QAM in DL | Rel-13 | C221h | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 and 256QAM in DL | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.4A.9 | Maximum input level for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.4A.9\_H | Maximum input level for 6DL CA for 256QAM in DL | Rel-14 | C342h | UE supporting E-UTRA and 6DL with CA configurations in Table 4.1-6 and 256QAM in DL | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.4B | Maximum input level for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.4D.1 | Maximum input level for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.4D.2 | Maximum input level for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.4E | Maximum input level for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.4EA | Maximum input level for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.4EB | Maximum input level for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.4EC | Maximum input level for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.4F | Maximum input level for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.4G.1 | Maximum input level for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.4G.2 | Maximum input level for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.4G.3 | Maximum input level for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.5 | Adjacent Channel Selectivity (ACS) | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.5\_1 | Adjacent Channel Selectivity (ACS) with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.5A.1 | Adjacent Channel Selectivity (ACS) for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.5A.2 | Adjacent Channel Selectivity (ACS) for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.5A.3 | Adjacent Channel Selectivity (ACS) for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 |  |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD-TDD inter-band CA under FS3 |  |  |  |
| 7.5A.4 | Adjacent Channel Selectivity (ACS) for CA (intra band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.5A.5 | Adjacent Channel Selectivity (ACS) for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E24 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.5A.7 | Adjacent Channel Selectivity (ACS) for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E25 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.5A.8 | Adjacent Channel Selectivity (ACS) for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.5A.9 | Adjacent Channel Selectivity (ACS) for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.5B | Adjacent Channel Selectivity (ACS)for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.5D.1 | Adjacent Channel Selectivity (ACS) for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.5D.2 | Adjacent Channel Selectivity (ACS) for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.5E | Adjacent Channel Selectivity (ACS) for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.5EA | Adjacent Channel Selectivity (ACS) for category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.5EB | Adjacent Channel Selectivity (ACS) for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 |  | FDD, TDD |
| 7.5EC | Adjacent Channel Selectivity (ACS)for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.5F | Adjacent Channel Selectivity (ACS) for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.5G.1 | Adjacent channel selectivity (ACS) for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.5G.2 | Adjacent channel selectivity (ACS) for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.5G.3 | Adjacent channel selectivity (ACS) for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.6.1 | In-band blocking | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.6.1\_1 | In-band blocking with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.6.1A.1 | In-band blocking for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.1A.2 | In-band blocking for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.1A.3 | In-band blocking for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 |  |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD-TDD inter-band CA under FS3 |  |  |  |
| 7.6.1A.4 | In-band blocking for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.1A.5 | In-band blocking for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E24 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3under FS3 |  |  |  |
| 7.6.1A.7 | In-band blocking for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E25 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.6.1A.8 | In-band blocking for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx |  |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.6.1A.9 | In-band blocking for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.1A.10 | In-band blocking for 7DL CA | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | TBD | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.1B | In-band blocking for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.6.1D.1 | In-band blocking for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.6.1D.2 | In-band blocking for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.6.1E | In-band blocking for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.6.1EA | In-band blocking for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.6.1EB | In-band blocking for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.6.1EC | In-band blocking for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.6.1F | In-band blocking for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.6.1G.1 | In-band blocking for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.6.1G.2 | In-band blocking for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.6.1G.3 | In-band blocking for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.6.2 | Out of-band blocking | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.6.2\_1 | Out of-band blocking with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.6.2A.1 | Out of-band blocking for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.2A.2 | Out of-band blocking for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.2A.3 | Out of-band blocking for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 | E12 |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD inter-band CA under FS3 |  |  |  |
| 7.6.2A.4 | Out of-band blocking for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.2A.5 | Out-of-band blocking for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E19 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.6.2A.7 | Out-of-band blocking for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E21 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.6.2A.8 | Out-of-band blocking for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx |  |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.6.2A.9 | Out-of-band blocking for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.2A.10 | Out-of-band blocking for 7DL CA | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | TBD | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.2B | Out-of-band blocking for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.6.2D.1 | Out-of-band blocking for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.6.2D.2 | Out-of-band blocking for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.6.2E | Out of-band blocking for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.6.2EA | Out of-band blocking for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.6.2EB | Out-of-band blocking for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.6.2EC | Out of-band blocking for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.6.2F | Out-of-band blocking for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.6.2G.1 | Out-of-band blocking for V2X Communication/ Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.6.2G.2 | Out-of-band blocking for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.6.2G.3 | Out-of-band blocking for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.6.3 | Narrow band blocking | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.6.3\_1 | Out of-band blocking with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.6.3A.1 | Narrow band blocking for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.3A.2 | Narrow band blocking for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.3A.3 | Narrow band blocking for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx. FDD\_4Rx. TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band DL CA |  |  |  |
| 7.6.3A.4 | Narrow band blocking for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.6.3A.5 | Narrow band blocking for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E19 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
| 7.6.3A.7 | Narrow band blocking for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E21 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | TBD | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.6.3A.8 | Narrow band blocking for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.6.3A.9 | Narrow band blocking for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.3A.10 | Narrow band blocking for 7DL CA | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | TBD | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.6.3B | Narrow band blocking for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.6.3D.1 | Narrow band blocking for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.6.3D.2 | Narrow band blocking for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.6.3E | Narrow band blocking for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.6.3EA | Narrow band blocking for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.6.3EB | Narrow band blocking for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.6.3EC | Narrow band blocking for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.7 | Spurious response | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.7\_1 | Spurious response with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.7A.1 | Spurious response for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.7A.2 | Spurious response for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.7A.3 | Spurious response for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
| Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 | E12 |  |  |
| Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD inter-band CA under FS3 |  |  |  |
| 7.7A.4 | Spurious response for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.7A.5 | Spurious response for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E19 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.7A.7 | Spurious response for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E21 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.7A.8 | Spurious response for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.7A.9 | Spurious response for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.7A.10 | Spurious response for 7DL CA | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | TBD | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.7B | Spurious response for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.7D.1 | Spurious response for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.7D.2 | Spurious response for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.7E | Spurious response for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.7EA | Spurious response for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.7EB | Spurious response for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.7EC | Spurious response for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.7F | Spurious response for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.7G.1 | Spurious response for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.7G.2 | Spurious response for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.7G.3 | Spurious response for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.8.1 | Wide band Intermodulation | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.8.1\_1 | Wide band Intermodulation with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.8.1A.1 | Wide band Intermodulation for CA (intra-band contiguous DL CA and UL CA) | Rel-10 | C19 | UE supporting E-UTRA and intra-band contiguous DL CA and UL CA | E01 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.8.1A.2 | Wide band Intermodulation for CA (intra-band contiguous DL CA without UL CA) | Rel-10 | C20 | UE supporting E-UTRA and intra-band contiguous DL CA | E08 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.8.1A.3 | Wide band Intermodulation for CA (inter-band DL CA without UL CA) | Rel-10 | C21 | UE supporting E-UTRA and inter-band DL CA | E10 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C146 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA |  |  |  |
|  |  | Rel-13 | C207 | UE supporting E-UTRA and 2DL CA with FDD-TDD inter-band CA under FS3 |  |  |  |
|  |  | Rel-13 | C208 | UE supporting E-UTRA and 2DL CA with TDD-TDD inter-band CA under FS3 |  |  |  |
| 7.8.1A.4 | Wide band Intermodulation for CA (intra-band non-contiguous DL CA without UL CA) | Rel-11 | C43 | UE supporting E-UTRA and intra-band non-contiguous DL CA | E09 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.8.1A.5 | Wideband intermodulation for 3DL CA | Rel-10 | C121 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 | E24 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C122 | UE supporting E-UTRA and 3DL with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-12 | C123 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 |  |  |  |
|  |  | Rel-13 | C268 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
|  |  | Rel-13 | C269 | UE supporting E-UTRA and 3DL CA with CA configurations in Table 4.1-3 under FS3 |  |  |  |
| 7.8.1A.7 | Wideband intermodulation for 4DL CA | Rel-11 | C187 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 | E25 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-11 | C211 | UE supporting E-UTRA and 4DL with CA configurations in Table 4.1-4 |  |  |  |
|  |  | Rel-12 | C188 | UE supporting E-UTRA and 4DL CA with CA configurations in Table 4.1-4 |  |  |  |
| 7.8.1A.8 | Wideband intermodulation for 5DL CA | Rel-11 | C221 | UE supporting E-UTRA and 5DL with CA configurations in Table 4.1-5 | E15 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
|  |  | Rel-12 | C222 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
|  |  | Rel-12 | C223 | UE supporting E-UTRA and 5DL CA with CA configurations in Table 4.1-5 |  |  |  |
| 7.8.1A.9 | Wideband intermodulation for 6DL CA | Rel-14 | C342 | UE supporting E-UTRA and 6DL CA with CA configurations in Table 4.1-6 | E26 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx, FDD-TDD\_2Rx, FDD-TDD\_4Rx | Note 7 |
| 7.8.1B | Wide band intermodulation for UL-MIMO | Rel-10 | C07 | UE supporting E-UTRA and UL\_MIMO | D05 | FDD, TDD |  |
| 7.8.1D.1 | Wide band Intermodulation for ProSe Direct Discovery | Rel-12 | C163 | UE supporting E-UTRA and ProSe direct discovery | D10 | FDD, TDD |  |
| 7.8.1D.2 | Wide band Intermodulation for ProSe Direct Communication | Rel-12 | C162 | UE supporting E-UTRA and ProSe direct communication | D10 | FDD, TDD |  |
| 7.8.1E | Wide band Intermodulation for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.8.1EA | Wide band Intermodulation for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.8.1EB | Wide band Intermodulation for UE category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.8.1EC | Wide band intermodulation for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.8.1F | Wide band Intermodulation for category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.8.1G.1 | Wide band Intermodulation for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 7.8.1G.2 | Wide band Intermodulation for V2X Communication / Simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 7.8.1G.3 | Wide band Intermodulation for V2X Communication / Intra-band contiguous multi-carrier operation | Rel-14 | C333 | UE supporting V2X Sidelink communication and multi-carrier configurations | E17 | TDD |  |
| 7.9 | Spurious emissions | Rel-8 | C113 | UE supporting E-UTRA | D15 | FDD, TDD |  |
| 7.9\_1 | Spurious emissions with 4 Rx antenna ports | Rel-10 | C113a | UE supporting E-UTRA with 4Rx antenna ports | D09 | FDD, TDD |  |
| 7.9A | Spurious emissions for CA | Rel-10 | C120 | UE supporting E-UTRA and inter-band DL CA with a DL-only band | E13 | FDD\_2Rx, FDD\_4Rx, TDD\_2Rx, TDD\_4Rx | Note 7 |
| 7.9E | Spurious emissions for UE category 0 | Rel-12 | C112 | UE supporting E-UTRA (UE category 0) | D01 | FDD, HD-FDD, TDD |  |
| 7.9EA | Spurious emissions for UE category M1 | Rel-13 | C112a | UE supporting E-UTRA and UE category M1 | D01 | FDD, HD-FDD, TDD |  |
| 7.9EB | Spurious emissions for UE Category 1bis | Rel-13 | C112c | UE supporting E-UTRA and UE category 1bis | D01 | FDD, TDD |  |
| 7.9EC | Spurious emissions for UE category M2 | Rel-14 | C112d | UE supporting E-UTRA and UE category M2 | D01 | FDD, HD-FDD, TDD |  |
| 7.9F | Spurious emissions for Category NB1 and NB2 | Rel-13 | C112b | UE supporting NB-IoT | D12, D13, D18 | HD-FDD, TDD |  |
| 7.9G.1 | Spurious emissions for V2X Communication / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| **Performance Requirement** | | | | | | | |
| 8.2.1.1.1 | FDD PDSCH Single Antenna Port Performance | Rel-8 | C01 | UE supporting E-UTRA FDD | Each ""Test Number"" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Test execution not necessary if 8.2.1.1.1\_A.1 or 8.2.1.1.1\_A.2 is executed.  Note 7 |
| 8.2.1.1.1\_1 | FDD PDSCH Single Antenna Port Performance (Release 9 and forward) | Rel-9 | C31 | UE supporting E-UTRA FDD  (UE categories 1, 2) | Each ""Test Number"" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.1.1.1\_A.1 or 8.2.1.1.1\_A.2 is executed. |
| 8.2.1.1.1\_A.1 | FDD PDSCH Single Antenna Port Performance for CA (2 DL CA) | Rel-10 | C102 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 2) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.1.1\_A.2 or 8.2.1.1.1\_A.4 or 8.2.1.1.1\_A.5 or 8.13.1.2.2 or 8.13.1.2.3 or 8.13.1.2.4 or 8.13.1.2.5 is executed.  Note 7 |
| Rel-11 | C103 | UE supporting E-UTRA FDD and Downlink Intra-band non-contiguous CA (UE Category >= 2) |  |  |  |
| 8.2.1.1.1\_A.2 | FDD PDSCH Single Antenna Port Performance for CA (3DL CA) | Rel-10 | C124 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.1.1\_A.4 or 8.2.1.1.1\_A.5 or 8.13.1.2.3 or 8.13.1.2.4 or 8.13.1.2.5 is executed. |
|  |  | Rel-11 | C125 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  | Note 7 |
| 8.2.1.1.1\_A.4 | FDD PDSCH Single Antenna Port Performance for CA (4DL CA) | Rel-11 | C214 | UE supporting E-UTRA FDD and 4DL CA configurations in Table 4.1-4 (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.1.1\_A.5 or 8.13.1.2.4 or 8.13.1.2.5 is executed.  Note 7 |
| 8.2.1.1.1\_A.5 | FDD PDSCH Single Antenna Port Performance for CA (5DL CA) | Rel-11 | C215 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.13.1.2.5 is executed.  Note 7 |
|  |  | Rel-12 | C216 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.1.1.1\_A.6 | FDD PDSCH Single Antenna Port Performance for CA (6DL CA) | Rel-14 | C349 | UE supporting E-UTRA FDD and 6DL with CA configurations in Table 4.1-6 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.1.1.2 | FDD PDSCH Single Antenna Port Performance with 1 PRB in presence of MBSFN | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.1 | FDD PDSCH Transmit Diversity 2x2 | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.1\_1 | FDD PDSCH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C15 | UE supporting E-UTRA FDD  (UE category 1) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.2 | FDD PDSCH Transmit Diversity 4x2 | Rel-8 | C09 | UE supporting E-UTRA FDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.2\_1 | FDD PDSCH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.3\_C.1 | FDD PDSCH Transmit diversity 2x2 for eICIC (non-MBFSN ABS) | Rel-10 | C29 | UEs supporting E-UTRA FDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.3\_E.1 | FDD PDSCH Transmit diversity 2x2 for feICIC (non-MBFSN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.4 | FDD PDSCH Transmit Diversity 2x2 with TM3 Interference Model -- Enhanced Performance Requirement Type A | Rel-11 | C44 | UE supporting E-UTRA FDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.5 | FDD PDSCH Transmit Diversity 2x2 with TM2 Interference Model -- Enhanced Performance Requirement Type B | Rel-12 | C150 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.2.6 | FDD PDSCH Transmit Diversity 2x2 with TM9 Interference Model -- Enhanced Performance Requirement Type B | Rel-12 | C150 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.1 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 | Rel-8 | C13b | UE supporting E-UTRA FDD (UE categories >=2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.1.3.1\_A.1 or 8.2.1.3.1\_A.2 is executed. |
| 8.2.1.3.1\_1 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 (Release 11 and forward) | Rel-11 | C13b | UE supporting E-UTRA FDD (UE categories >=2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.1.3.1\_A.1 or 8.2.1.3.1\_A.2 is executed. |
| 8.2.1.3.1\_A.1 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (2 DL CA) | Rel-10 | C101 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >=2) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | If 8.2.1.3.1\_A.2 is executed for a CA capability, test execution is not necessary for that CA capability. |
| Rel-11 | C103 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA (UE Category >= 2) |  |  | Note 7 |
| 8.2.1.3.1\_A.2 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (3DL CA) | Rel-10 | C124 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | If 8.2.1.3.1\_A.3 is executed for a CA capability, test execution is not necessary for that CA capability.  Note 7 |
|  |  | Rel-11 | C125 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  |  |
| 8.2.1.3.1\_A.3 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (4DL CA) | Rel-11 | C214 | UE supporting E-UTRA FDD and 4DL CA configurations in Table 4.1-4 (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | If 8.2.1.3.1\_A.4 is executed for a CA capability, test execution is not necessary for that CA capability.  Note 7 |
| 8.2.1.3.1\_A.4 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (5DL CA) | Rel-11 | C215 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | If 8.2.1.3.1\_A.5 is executed for a CA capability, test execution is not necessary for that CA capability.  Note 7 |
|  |  | Rel-12 | C216 | UE supporting E-UTRA FDD and 5DL CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.1.3.1\_A.5 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (6DL CA) | Rel-14 | C349 | UE supporting E-UTRA FDD and 6DL CA configurations in Table 4.1-6 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.1.3.1A\_A.1 | FDD Soft buffer management test for CA (2 DL CA) | Rel-10 | C104 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE category 3 and 4) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| Rel-11 | C106 | UE supporting E-UTRA FDD and Downlink Intra-band non-contiguous CA (UE categories 3 and 4) |  |  |  |
| 8.2.1.3.1B | FDD PDSCH Open Loop Spatial Multiplexing 2x2 -- Enhanced Performance Requirement Type C | Rel-12 | C142 | UE supporting E-UTRA FDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each ""Test Number"" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.1C | FDD PDSCH Open Loop Spatial Multiplexing 2x2 with TM1 Interference -- Enhanced Performance Requirement Type C | Rel-12 | C142 | UE supporting E-UTRA FDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each ""Test Number"" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.2 | FDD PDSCH Open Loop Spatial Multiplexing 4x2 | Rel-8 | C13 b | UE supporting E-UTRA FDD (UE categories >=2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.3\_C.1 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C29 | UEs supporting E-UTRA FDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.3\_C.2 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for eICIC (MBSFN ABS) | Rel-10 | C29 | UEs supporting E-UTRA FDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.3.3\_E.1 | FDD PDSCH Open Loop Spatial Multiplexing 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.1 | FDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 2x2 | Rel-8 only | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.1\_1 | FDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 2x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.1\_E.1 | FDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.1\_H | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 2x2 for 256QAM in DL | Rel-12 | C01h | UE supporting E-UTRA FDD and 256QAM in DL |  |  |  |
| 8.2.1.4.2 | FDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 4x2 | Rel-8 only | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.1.4.2\_A.1 or 8.2.1.4.2\_A.2 is executed. |
| 8.2.1.4.2\_1 | FDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 4x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.1.4.2\_A.1 or 8.2.1.4.2\_A.2 is executed. |
| 8.2.1.4.2\_A.1 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (2 DL CA) | Rel-10 | C102 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 2) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.4.2\_A.2 or 8.2.1.4.2\_A.3 or 8.2.1.4.2\_A.4 or 8.13.1.1.1.2 or 8.13.1.1.1.3 or 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed. |
| Rel-11 | C103 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA (UE Category >= 2) |  |  | Note 7 |
| 8.2.1.4.2\_A.2 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (3DL CA) | Rel-10 | C124 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.4.2\_A.3 or 8.2.1.4.2\_A.4 or 8.13.1.1.1.2 or 8.13.1.1.1.3 or 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed.  Note 7 |
|  |  | Rel-11 | C125 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  |  |
| 8.2.1.4.2\_A.3 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (4DL CA) | Rel-11 | C212 | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.1.4.2\_A.4 or 8.13.1.1.1.2 or 8.13.1.1.1.3 or 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed.  Note 7 |
| 8.2.1.4.2\_A.4 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (5DL CA) | Rel-11 | C212a | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.13.1.1.1.2 or 8.13.1.1.1.3 or 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed.  Note 7 |
|  |  | Rel-12 | C212b | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.1.4.2\_A.5 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (6DL CA) | Rel-14 | C349 | UE supporting E-UTRA FDD and 6DL with CA configurations in Table 4.1-6 (UE Category 8, >= ≥ 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.1.4.2A | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 2x2 - Enhanced Performance Requirement Type C | Rel-12 | C142 | UE supporting E-UTRA FDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.3 | FDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x2 with TM4 Interference model - Enhanced Performance Requirement Type A | Rel-11 | C44 | UE supporting E-UTRA FDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.4.3A | FDD PDCSH Closed Loop Multi-Layer Spatial Multiplexing 4X2 for Dual Connectivity | Rel-12 | C169 | UE supporting E-UTRA FDD and Dual Connectivity (UE Category >= 3) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.2.1.4.4 | FDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x2 with TM4 Interference Model - Enhanced Performance Requirement Type B | Rel-12 | C150 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.1.7\_A.1 | FDD Carrier aggregation with power imbalance (intra-band contiguous DL CA) | Rel-10 | C22 | UE supporting E-UTRA FDD and intra-band contiguous DL CA | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.1.9 | FDD PDSCH in HST-SFN scenario | Rel-14 | C299 | UEs supporting E-UTRA FDD and high speed enhancement for measurement |  |  |  |
| 8.2.1.10 | FDD PDSCH minimum channel spacing for intra-band contiguous CA | Rel-15 | C125a | UE supporting E-UTRA FDD and intra-band contiguous DL CA (UE Category >= 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.2.2.1 | Void |  |  |  |  |  |  |
| 8.2.2.1.1 | TDD PDSCH Single Antenna Port Performance | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.1.1\_A.1 or 8.2.2.1.1\_A.2 is executed. |
| 8.2.2.1.1\_1 | TDD PDSCH Single Antenna Port Performance (Release 9 and forward) | Rel-9 | C54 | UE supporting E-UTRA TDD (UE categories 1, 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.1.1\_A.1 or 8.2.2.1.1\_A.2 is executed. |
| 8.2.2.1.1\_A.1 | TDD PDSCH Single Antenna Port Performance for CA (2DL CA) | Rel-10 | C110 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or interband DL CA (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.2.1.1\_A.2 is executed.  Note 7 |
| Rel-11 | C109 | UE supporting E-UTRA TDD and Intra-band non-contiguous DL CA(UE Category >= 5) |  |  |  |
| 8.2.2.1.1\_A.2 | TDD PDSCH Single Antenna Port Performance for CA (3DL CA) | Rel-10 | C128 | UE supporting E-UTRA TDD and 3DL with i CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
|  |  | Rel-11 | C129 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  |  |
| 8.2.2.1.1\_A.3 | TDD PDSCH Single Antenna Port Performance for CA (4DL CA) | Rel-11 | C194 | CA configurations in Table 4.1-4 (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.2.1.1\_A.4 | TDD PDSCH Single Antenna Port Performance for CA (5DL CA) | Rel-11 | C194a | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
|  |  | Rel-12 | C194b | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.2.1.2 | TDD PDSCH Single Antenna Port Performance with 1PRB in the presence of MBSFN | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2 | Void |  |  |  |  |  |  |
| 8.2.2.2.1 | TDD PDSCH Transmit Diversity 2x2 | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.1\_1 | TDD PDSCH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C16 | UE supporting E-UTRA TDD (UE category 1) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.2 | TDD PDSCH Transmit Diversity 4x2 | Rel-8 | C10 | UE supporting E-UTRA TDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.2\_1 | TDD PDSCH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.3\_C.1 | TDD PDSCH Transmit diversity 2x2 for eICIC (non-MBFSN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.3\_E.1 | TDD PDSCH Transmit diversity 2x2 for feICIC (non-MBFSN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.4 | TDD PDSCH Transmit Diversity 2x2 with TM3 Interference Model - Enhanced Performance Requirement Type A | Rel-11 | C45 | UE supporting E-UTRA TDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.5 | TDD PDSCH Transmit Diversity 2x2 for eIMTA (when EIMTA-MainConfigServCell-r12 is configured) | Rel-12 | C274 | UE supporting E-UTRA TDD and eIMTA TDD UL-DL reconfiguration |  |  |  |
| 8.2.2.2.6 | TDD PDSCH Transmit Diversity 2x2 with TM2 Interference Model - Enhanced Performance Requirement Type B | Rel-12 | C151 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.2.7 | TDD PDSCH Transmit Diversity 2x2 with TM9 Interference Model - Enhanced Performance Requirement Type B | Rel-12 | C151 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3 | Void |  |  |  |  |  |  |
| 8.2.2.3.1 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.3.1\_A.1 or .2 is executed. |
| 8.2.2.3.1\_1 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 (Release 11 and forward) | Rel-11 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.3.1\_A.1 or .2 is executed. |
| 8.2.2.3.1\_A.1 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (2DL CA) | Rel-10 | C110 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or interband DL CA (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | If 8.2.2.3.1\_A.2 is executed for a CA capability, test execution is not necessary for that CA capability |
| Rel-11 | C109 | UE supporting E-UTRA TDD and intra-band non-contiguous DL CA  (UE Category >= 5) |  |  | Note 7 |
| 8.2.2.3.1\_A.2 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (**3**DL CA) | Rel-10 | C128 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
|  |  | Rel-11 | C129 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  |  |
| 8.2.2.3.1\_A.3 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA(4DL CA) | Rel-11 | C194 | UE supporting 4DL CA configurations in Table 4.1-4.(UE category >=8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.2.3.1\_A.4 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for CA (5DL CA) | Rel-11 | C194a | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
|  |  | Rel-12 | C194b | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.2.3.1A\_A.1 | TDD Soft buffer management for CA (2 DL CA) | Rel-10 | C105 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or inter-band DL CA  (UE category 3 and 4) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | TBD |
| Rel-11 | C72 | UE supporting E-UTRA TDD and intra-band non-contiguous DL CA  (UE category 3 and 4) |  |  | Note 7 |
| 8.2.2.3.1B | TDD PDSCH Open Loop Spatial Multiplexing 2x2 - Enhanced Performance Requirement Type C | Rel-12 | C143 | UE supporting E-UTRA TDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3.1C | TDD PDSCH Open Loop Spatial Multiplexing 2x2 with TM1 Interference - Enhanced Performance Requirement Type C | Rel-12 | C143 | UE supporting E-UTRA TDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3.2 | TDD PDSCH Open Loop Spatial Multiplexing 4x2 | Rel-8 | C02 | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3.3\_C.1 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3.3\_C.2 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for eICIC (MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.3.3\_E.1 | TDD PDSCH Open Loop Spatial Multiplexing 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 (UE Category >= 2) | TBD |  |  |
| 8.2.2.4 | Void |  |  |  |  |  |  |
| 8.2.2.4.1 | TDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 2x2 | Rel-8 only | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.4.1\_1 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 2x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.4.1\_E.1 | TDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.4.1\_H | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 2x2 for 256QAM in DL | Rel-12 | C02h | UE supporting E-UTRA TDD and 256QAM in DL |  |  |  |
| 8.2.2.4.2 | TDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 4x2 | Rel-8 only | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.4.2\_A.1 or 8.2.2.4.2\_A.2 is executed. |
| 8.2.2.4.2\_1 | TDD PDSCH Closed Loop Single/Multi Layer Spatial Multiplexing 4x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | Test execution not necessary if 8.2.2.4.2\_A.1 or 8.2.2.4.2\_A.2 is executed. |
| 8.2.2.4.2\_A.1 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (2DL CA) | Rel-10 | C110 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.2.4.2\_A.2 or 8.2.2.4.2\_A.3 or 8.13.2.1.1.2 or 8.13.2.1.1.3 or 8.13.2.1.1.4 or 8.13.2.1.1.5 is executed. |
| Rel-11 | C109 | UE supporting E-UTRA TDD and Intra-band non-contiguous DL CA(UE Category >= 5) |  |  | Note 7 |
| 8.2.2.4.2\_A.2 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (3DL CA) | Rel-10 | C128 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.2.2.4.2\_A.3 or 8.13.2.1.1.2 or 8.13.2.1.1.3 or 8.13.2.1.1.4 or 8.13.2.1.1.5 is executed.  Note 7 |
|  |  | Rel-11 | C129 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) |  |  |  |
| 8.2.2.4.2\_A.3 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (4DL CA) | Rel-11 | C194 | UE supporting E-UTRA TDD and 4DL CA configurations in Table 4.1-4 (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.13.2.1.1.2 or 8.13.2.1.1.3 or 8.13.2.1.1.4 or 8.13.2.1.1.5 is executed.  Note 7 |
| 8.2.2.4.2\_A.4 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for CA (5DL CA) | Rel-11 | C194a | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
|  |  | Rel-12 | C194b | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) |  |  |  |
| 8.2.2.4.2A | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 2x2 - Enhanced Performance Requirement Type C | Rel-12 | C143 | UE supporting E-UTRA TDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.4.3 | TDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x2 with TM4 Interference Model - Enhanced Performance Requirement Type A | Rel-11 | C45 | UE supporting E-UTRA TDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.4.4 | TDD PDSCH Closed Loop Multi-Layer Spatial Multiplexing 4x2 for Dual Connectivity | Rel-12 | C170 | UE supporting E-UTRA TDD and Dual Connectivity (UE Category >= 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.2.2.4.5 | TDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x2 with TM4 Interference Model - Enhanced Performance Requirement Type B | Rel-12 | C151 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.2.7\_A.1 | TDD Carrier aggregation with power imbalance (intra-band contiguous DL CA) | Rel-10 | C24 | UE supporting E-UTRA TDD and intra-band contiguous DL CA | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.2.8.1 | Intra-band contiguous carrier aggregation with minimum channel spacing (2DL CA) | Rel-12 | C24 | UE supporting E-UTRA TDD and intra-band contiguous DL CA | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.2.8.2 | Intra-band contiguous carrier aggregation with minimum channel spacing (3DL CA) | Rel-12 | C24 | UE supporting E-UTRA TDD and intra-band contiguous DL CA | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.2.9 | TDD PDSCH in HST-SFN scenario | Rel-14 | C300 | UEs supporting E-UTRA TDD and high speed enhancement for measurement |  |  |  |
| 8.2.3.1.1.1 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD Pcell (2DL CA) | Rel-12 | C154 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.13.3.2.3 or 8.13.3.2.4 or 8.13.3.2.5 or 8.13.3.2.6 is executed.  Note 7 |
| 8.2.3.1.1.2 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD PCell (3DL CA) | Rel-12 | C133 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.13.3.2.3 or 8.13.3.2.4 or 8.13.3.2.5 or 8.13.3.2.6 is executed.  Note 7 |
| 8.2.3.1.1.3 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD PCell (4DL CA) | Rel-12 | C133a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) | TBD |  | Test execution not necessary if 8.13.3.2.3 or 8.13.3.2.4 or 8.13.3.2.5 or 8.13.3.2.6 is executed. |
| 8.2.3.1.1.4 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD PCell (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.3 or 8.13.3.2.4 or 8.13.3.2.5 or 8.13.3.2.6 is executed. |
| 8.2.3.1.1.5 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD PCell (6DL CA) | Rel-14 | C350 | UE supporting E-UTRA FDD and TDD and 6DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.1.1.6 | TDD FDD CA PDSCH Single Antenna Port Performance for FDD PCell (7DL CA) | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.1.2.1 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell(2DL CA) | Rel-12 | C155 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.13.3.2.7 or 8.13.3.2.8 or 8.13.3.2.9 or 8.13.3.2.10 is executed.  Note 7 |
| 8.2.3.1.2.2 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell (3DL CA) | Rel-12 | C135 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.13.3.2.7 or 8.13.3.2.8 or 8.13.3.2.9 or 8.13.3.2.10 is executed.  Note 7 |
| 8.2.3.1.2.3 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell (4DL CA) | Rel-12 | C135a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | TBD |  | Test execution not necessary if 8.13.3.2.7 or 8.13.3.2.8 or 8.13.3.2.9 or 8.13.3.2.10 is executed. |
| 8.2.3.1.2.4 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell (5DL CA) | Rel-12 | C135b | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell (UE Category 8, and Category11 and onwards) | TBD |  | Test execution not necessary if 8.13.3.2.7 or 8.13.3.2.8 or 8.13.3.2.9 or 8.13.3.2.10 is executed. |
| 8.2.3.1.2.5 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell (6DL CA) | Rel-14 | C351 | UE supporting E-UTRA FDD and TDD and 6DL CA with TDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.1.2.6 | TDD FDD CA PDSCH Single Antenna Port Performance for TDD PCell (7DL CA) | Rel-14 | C359 | UE supporting E-UTRA FDD and TDD and 7DL CA with TDD as PCell (UE Category8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.1.1 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (2DL CA) | Rel-12 | C154 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.1.2 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (3DL CA) | Rel-12 | C133 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.1.3 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (4DL CA) | Rel-12 | C133a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.2.3.2.1.4 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.2.3.2.1.5 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (6DL CA) | Rel-14 | C350 | UE supporting E-UTRA FDD and TDD and 6DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.1.6 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for FDD PCell (7DL CA) | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.1A | TDD FDD CA PDSCH Soft buffer management test for FDD PCell (2DL CA) | Rel-12 | C136 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE categories 3 and 4) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.2.1 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell (2DL CA) | Rel-12 | C155 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.2.2 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell (3DL CA) | Rel-12 | C135 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD PCell (UE Category >= 5) | TBD | 2Rx, 4Rx |  |
| 8.2.3.2.2.3 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell(4DL CA) | Rel-12 | C135a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.2.3.2.2.4 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell(5DL CA) | Rel-12 | C135b | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell (UE Category 8, and Category11 and onwards) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.2.3.2.2.5 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell(6DL CA) | Rel-14 | C351 | UE supporting E-UTRA FDD and TDD and 6DL CA with TDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.2.6 | TDD FDD CA PDSCH Open Loop Spatial Multiplexing 2x2 for TDD PCell(7DL CA) | Rel-14 | C359 | UE supporting E-UTRA FDD and TDD and 7DL CA with TDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.2.2A | TDD FDD CA PDSCH Soft buffer management test for TDD PCell (2DL CA) | Rel-12 | C137 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD PCell (UE categories 3 and 4) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.1.1 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (2DL CA) | Rel-12 | C154 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.1.2 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (3DL CA) | Rel-12 | C133 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) | TBD |  |  |
| 8.2.3.3.1.3 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (4DL CA) | Rel-12 | C133a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.1.4 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.1.5 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (6DL CA) | Rel-14 | C350 | UE supporting E-UTRA FDD and TDD and 6DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.1.6 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for FDD PCell (7DL CA) | Rel-14 | C358 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.1 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (2DL CA) | Rel-12 | C155 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >=5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.2 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (3DL CA) | Rel-12 | C135 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.3 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (4DL CA) | Rel-12 | C135a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.4 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (5DL CA) | Rel-12 | C135b | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell (UE Category 8, and Category11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.5 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (6DL CA) | Rel-14 | C351 | UE supporting E-UTRA FDD and TDD and 6DL CA with TDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.3.3.2.6 | TDD FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 for TDD PCell (7DL CA) | Rel-14 | C359 | UE supporting E-UTRA FDD and TDD and 7DL CA with TDD as PCell (UE Category 8, and Category 11 and onwards) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Note 7 |
| 8.2.4.1.1 | LAA PDSCH CA Closed Loop Spatial Multiplexing Performance-4 Tx Antenna port with FDD as Pcell | Rel-13 | C209 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell | Each “Test Number” to be performed once, in a chosen band supporting tested BW |  |  |
| 8.2.4.1.2 | LAA PDSCH CA Closed Loop Spatial Multiplexing Performance-4 Tx Antenna port with TDD as Pcell | Rel-13 | C210 | UE supporting E-UTRA TDD and downlink LAA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1 | Void |  |  |  |  |  |  |
| 8.3.1.1.1\_D | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eDL-MIMO | Rel-10 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.1\_H | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eDL-MIMO for 256QAM in DL | Rel-12 to Rel-14 | C25h | UE supporting E-UTRA FDD and eDL-MIMO and 256QAM in DL and Feature Group Indicator 103 |  |  |  |
|  |  | Rel-15 | C25hm | UE supporting E-UTRA FDD and eDL-MIMO and 256QAM in DL and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and eDL-MIMO and 256QAM in DL and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.2\_D | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 with a simultaneous transmission for eDL-MIMO | Rel-10 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.3 | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A | Rel-11 to Rel-14 | C40 | UE supporting E-UTRA FDD and Feature Group Indictor 103 and supporting the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C40m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and supporting the enhanced performance requirements type A for LTE and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and supporting the enhanced performance requirements type A for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.4 | FDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type B | Rel-12 to Rel-14 | C262 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C262m | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.6 | FDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM3 interference model - Enhanced Performance Requirement Type B | Rel-12 | C150 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1.1.7 | FDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM10 serving cell configuration and TM9 interference model - Enhanced Performance Requirement Type B | Rel-12 | C175 | UE supporting E-UTRA FDD, enhanced performance requirements type B and PDSCH Transmission mode 10 for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1.1.9 | FDD PDSCH Single-layer Spatial Multiplexing for FD-MIMO | Rel-13 to Rel-14 | C323 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and dmrs-Enhancements-r13 |  |  |  |
|  |  | Rel-15 | C323m | UE supporting E-UTRA FDD and Feature Group Indictor 103 and dmrs-Enhancements-r13 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and dmrs-Enhancements-r13 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.1.10 | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eFD-MIMO | Rel-14 | C361 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and aperiodic ZP-CSI-RS reporting |  |  |  |
| 8.3.1.2.1\_D | FDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO | Rel-10 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1.2.1\_D\_1 | FDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO (Release 11 and forward) | Rel-11 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.2.2 | FDD PDSCH Dual-layer Spatial Multiplexing - Enhanced Performance Requirement Type C | Rel-12 to Rel-14 | C144 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C144m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and Enhanced Performance Requirement TypeC for LTE and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and Enhanced Performance Requirement TypeC for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.1.3.1\_F | FDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Same Cell ID and single NZP CSI-RS resource for CoMP | Rel-11 | C50 | UE supporting E-UTRA FDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1.3.2\_F | FDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Same Cell ID and multiple NZP CSI-RS resources for CoMP | Rel-11 | C52 | UE supporting E-UTRA FDD and Maximum CSI processes of Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.1.3.3\_F | FDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Different Cell ID, Colliding CRS and single NZP CSI-RS resource for CoMP | Rel-11 | C117 | UE supporting E-UTRA FDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.1 | TDD PDSCH Single-layer Spatial Multiplexing on antenna port 5 (Release 8 and forward) | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.1\_1 | TDD PDSCH Single-layer Spatial Multiplexing on antenna port 5 (Release 9 and forward) | Rel-9 | C16 | UE supporting E-UTRA TDD (UE category 1) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.2 | TDD PDSCH Single-layer Spatial Multiplexing on antenna port 7 or 8 without a simultaneous transmission | Rel-9 only | C34 | UE supporting E-UTRA TDD and supporting enhanced dual layer TDD. | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-10 | C02 | UE supporting E-UTRA TDD. | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.2\_D | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eDL-MIMO | Rel-10 to Rel-14 | C26 | UE supporting E-UTRA TDD and Feature Group Indicator 104 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C26m | UE supporting E-UTRA TDD and Feature Group Indicator 104 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.2\_H | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eDL-MIMO for 256QAM in DL | Rel-12 to Rel-14 | C26h | UE supporting E-UTRA TDD and 256QAM in DL and Feature Group Indicator 104 |  |  |  |
|  |  | Rel-15 | C26hm | UE supporting E-UTRA TDD and 256QAM in DL and Feature Group Indicator 104 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and 256QAM in DL and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.3 | TDD PDSCH Single-layer Spatial Multiplexing on antenna port 7 or 8 with a simultaneous transmission | Rel-9 only | C34 | UE supporting E-UTRA TDD and supporting enhanced dual layer TDD. | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-10 | C02 | UE supporting E-UTRA TDD. | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.3\_D | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 with a simultaneous transmission for eDL-MIMO | Rel-10 to Rel-14 | C26 | UE supporting E-UTRA TDD and Feature Group Indicator 104 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C26m | UE supporting E-UTRA TDD and Feature Group Indicator 104 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.4 | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A | Rel-11 to Rel-14 | C41 | UE supporting E-UTRA TDD and Feature Group Indictor 103 and supporting the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C41m | UE supporting E-UTRA TDD and Feature Group Indicator 103 and supporting the enhanced performance requirements type A for LTE and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and supporting the enhanced performance requirements type A for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.5 | TDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type B | Rel-12 to Rel-14 | C263 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C263m | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.7 | TDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM3 interference model - Enhanced Performance Requirement Type B | Rel-12 | C151 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.8 | TDD PDSCH Closed Loop Single-layer Spatial Multiplexing on antenna ports 7 or 8 with TM10 serving cell configuration and TM9 interference model - Enhanced Performance Requirement Type B | Rel-12 | C176 | UE supporting E-UTRA TDD, enhanced performance requirements type B and PDSCH Transmission mode 10 for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.1.10 | TDD PDSCH Single-layer Spatial Multiplexing for FD-MIMO | Rel-13 to Rel-14 | C324 | UE supporting E-UTRA TDD and Feature Group Indicator 103 and dmrs-Enhancements-r13 |  |  |  |
|  |  | Rel-15 | C324m | UE supporting E-UTRA TDD and Feature Group Indictor 103 and dmrs-Enhancements-r13 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and dmrs-Enhancements-r13 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.1.11 | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 without a simultaneous transmission for eFD-MIMO | Rel-14 | C362 | UE supporting E-UTRA TDD and Feature Group Indicator 104 and aperiodic ZP-CSI-RS reporting |  |  |  |
| 8.3.2.2.1 | TDD PDSCH Dual-layer Spatial Multiplexing | Rel-9 only | C34 | UE supporting E-UTRA TDD and supporting enhanced dual layer TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-10 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.2.1\_D | TDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO | Rel-10 | C25a | UE supporting E-UTRA TDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.2.1\_D\_1 | TDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO (Release 11 and forward) | Rel-11 to Rel-14 | C25a | UE supporting E-UTRA TDD and Feature Group Indicator 103 | TBD |  |  |
|  |  | Rel-15 | C25am | UE supporting E-UTRA TDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.3.2.2.2 | TDD PDSCH Dual-layer Spatial Multiplexing - Enhanced Performance Requirement Type C | Rel-12 | C143 | UE supporting E-UTRA TDD and Enhanced Performance Requirement TypeC for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.4.1\_F | TDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Same Cell ID and single NZP CSI-RS resource for CoMP | Rel-11 | C51 | UE supporting E-UTRA TDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.4.2\_F | TDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Same Cell ID and multiple NZP CSI-RS resources for CoMP | Rel-11 | C53 | UE supporting E-UTRA TDD and Maximum CSI processes of Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.2.4.3\_F | TDD PDSCH Performance with DCI format 2D, non Quasi Co-located Antenna Ports, Different Cell ID, Colliding CRS and single NZP CSI-RS resource for CoMP | Rel-11 | C118 | UE supporting E-UTRA TDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.3.1.1 | LAA Dual-Layer Spatial Multiplexing with DM-RS with FDD as PCell | Rel-13 | C264 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and TM9 on LAA cells | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.3.3.1.2 | LAA Dual-Layer Spatial Multiplexing with DM-RS with TDD as Pcell | Rel-13 | C265 | UE supporting E-UTRA TDD and downlink LAA and TM9 on LAA cells | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.1 | FDD PCFICH/PDCCH Single-antenna Port Performance | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2 | Void |  |  |  |  |  |  |
| 8.4.1.2.1 | FDD PCFICH/PDCCH Transmit Diversity 2x2 | Rel-8 only | C09 | UE supporting E-UTRA FDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.1\_1 | FDD PCFICH/PDCCH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.2 | FDD PCFICH/PDCCH Transmit Diversity 4x2 | Rel-8 only | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.3\_E.1 | FDD PCFICH/PDCCH Transmit Diversity 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.3\_E.2 | FDD PCFICH/PDCCH Transmit Diversity 2x2 for feICIC (MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.2\_1 | FDD PCFICH/PDCCH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.3\_C.1 | FDD PCFICH/PDCCH Transmit Diversity 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C29 | UE supporting E-UTRA FDD and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.3\_C.2 | FDD PCFICH/PDCCH Transmit Diversity 2x2 for eICIC (MBSFN ABS) | Rel-10 | C29 | UEs supporting E-UTRA FDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.1.2.5 | FDD Enhanced Downlink Control Channel Performance Type A for PCFICH/PDCCH, 2 Tx Antenna Port under Asynchronous Network | Rel-13 | C285 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.4.1.2.6 | FDD Enhanced Downlink Control Channel Performance Type A for PCFICH/PDCCH, 2 Tx Antenna Port with Non-Colliding CRS Dominant Interferer | Rel-13 | C285 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.4.1.2.7 | FDD Enhanced Downlink Control Channel Performance Type B for PCFICH/PDCCH, 2 Tx Antenna Port with Colliding CRS Dominant Interferer | Rel-13 | C286 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.4.1.2.8 | FDD Enhanced Downlink Control Channel Performance Type B for PCFICH/PDCCH, 2 Tx Antenna Port with Non-Colliding CRS Dominant Interferer | Rel-13 | C286 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.4.2.1 | TDD PCFICH/PDCCH Single-antenna Port Performance | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2 | Void |  |  |  |  |  |  |
| 8.4.2.2.1 | TDD PCFICH/PDCCH Transmit Diversity 2x2 | Rel-8 only | C10 | UE supporting E-UTRA TDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.1\_1 | TDD PCFICH/PDCCH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.2 | TDD PCFICH/PDCCH Transmit Diversity 4x2 | Rel-8 only | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.2\_1 | TDD PCFICH/PDCCH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.3\_C.1 | TDD PCFICH/PDCCH Transmit Diversity 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.3\_C.2 | TDD PCFICH/PDCCH Transmit Diversity 2x2 for eICIC (MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.3\_E.1 | TDD PCFICH/PDCCH Transmit Diversity 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115(UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.3\_E.2 | TDD PCFICH/PDCCH Transmit Diversity 2x2 for feICIC (MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115(UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.2.2.5 | TDD Enhanced Downlink Control Channel Performance Type A for PCFICH/PDCCH, 2 Tx Antenna Port with Colliding CRS Dominant Interferer | Rel-13 | C287 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.4.2.2.6 | DD Enhanced Downlink Control Channel Performance Type A for PCFICH/PDCCH, 2 Tx Antenna Port with Non-Colliding CRS Dominant Interferer | Rel-13 | C287 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.4.2.2.7 | TDD Enhanced Downlink Control Channel Performance Type B for PCFICH/PDCCH, 2 Tx Antenna Port with Colliding CRS Dominant Interferer | Rel-13 | C288 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.4.2.2.8 | TDD Enhanced Downlink Control Channel Performance Type B for PCFICH/PDCCH, 2 Tx Antenna Port with Non-Colliding CRS Dominant Interferer | Rel-13 | C288 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.4.3.1.1 | LAA PCFICH/PDCCH Transmit Diversity 2x2 with FDD as Pcell | Rel-13 | C209 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.4.3.1.2 | LAA PCFICH/PDCCH Transmit Diversity 2x2 with TDD as Pcell | Rel-13 | C217 | UE supporting E-UTRA TDD and downlink LAA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.1 | FDD PHICH Single-antenna Port Performance | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2 | Void |  |  |  |  |  |  |
| 8.5.1.2.1 | FDD PHICH Transmit Diversity 2x2 | Rel-8 only | C09 | UE supporting E-UTRA FDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.1\_1 | FDD PHICH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.2 | FDD PHICH Transmit Diversity 4x2 | Rel-8 only | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.2\_1 | FDD PHICH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.3\_C.1 | FDD PHICH Transmit Diversity 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C29 | UE supporting E-UTRA FDD and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.3\_E.1 | FDD PHICH Transmit Diversity 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.1.2.5 | FDD Enhanced Downlink Control Channel Performance Requirement Type A for PHICH- 2 Tx Antenna Ports under Asynchronous Network | Rel-13 | C285 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.5.1.2.6 | FDD Enhanced Downlink Control Channel Performance Requirement Type A for PHICH - 2 Tx Antenna Ports with Non-Colliding CRS Dominant Interferer | Rel-13 | C285 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.5.1.2.7 | FDD Enhanced Downlink Control Channel Performance Requirement Type B for PHICH - 2 Tx Antenna Ports with Colliding CRS Dominant Interferer | Rel-13 | C286 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.5.1.2.8 | FDD Enhanced Downlink Control Channel Performance Requirement Type B for PHICH - 2 Tx Antenna Ports with Non-Colliding CRS Dominant Interferer | Rel-13 | C286 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.5.2.1 | TDD PHICH Single-antenna Port Performance | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2 | Void |  |  |  |  |  |  |
| 8.5.2.2.1 | TDD PHICH Transmit Diversity 2x2 | Rel-8 only | C10 | UE supporting E-UTRA TDD and operating bands supporting 1.4 MHz Bandwidth | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.1\_1 | TDD PHICH Transmit Diversity 2x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.2 | TDD PHICH Transmit Diversity 4x2 | Rel-8 only | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.2\_1 | TDD PHICH Transmit Diversity 4x2 (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.3\_C.1 | TDD PHICH Transmit Diversity 2x2 for eICIC (non-MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.3\_E.1 | TDD PHICH Transmit Diversity 2x2 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115(UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.5.2.2.5 | TDD Enhanced Downlink Control Channel Performance Requirement Type A for PHICH- 2 Tx Antenna Ports with Colliding CRS Dominant Interfere | Rel-13 | C287 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.5.2.2.6 | TDD Enhanced Downlink Control Channel Performance Requirement Type A for PHICH - 2 Tx Antenna Ports with Non-Colliding CRS Dominant Interferer | Rel-13 | C287 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.5.2.2.7 | TDD Enhanced Downlink Control Channel Performance Requirement Type B for PHICH- 2 Tx Antenna Ports with Colliding CRS Dominant Interferer | Rel-13 | C288 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.5.2.2.8 | TDD Enhanced Downlink Control Channel Performance Requirement Type B for PHICH- 2 Tx Antenna Ports with Non-Colliding CRS Dominant Interferer | Rel-13 | C288 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type B |  |  |  |
| 8.7.1.1 | FDD sustained data rate performance (Rel-9 and forward) | Rel-9 | C76 | UE supporting E-UTRA FDD and not supporting 256QAM in DL (UE categories from1 to 4) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | It is not necessary for CA UEs and EPDCCH UEs to be tested in this test if 8.7.1.1\_A.1 or 8.7.3.1 is executed. |
| 8.7.1.1\_1 | FDD sustained data rate performance (Rel-10 and forward) | Rel-10 | C42 | UE supporting E-UTRA FDD and not supporting 256QAM in DL (UE categories 6, 7) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | It is not necessary for CA UEs and EPDCCH UEs to be tested in this test if 8.7.1.1\_A.1or 8.7.3.1 is executed. |
| 8.7.1.1\_2 | FDD sustained data rate performance for UE category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.7.1.1\_A.1 | FDD Sustained data rate performance for CA (2 DL CA ) | Rel-10 | C107 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA and not supporting 256QAM in DL (UE category 3, 4, 6, 7, 9 and 10) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_A.2 is executed.  Note 7 |
| Rel-11 | C93 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA and not supporting 256QAM in DL (UE category 3, 4, 6, 7, 9 and 10) |  |  |  |
| 8.7.1.1\_A.2 | FDD Sustained data rate performance for CA (3DL CA) | Rel-10 | C126 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_A.4 is executed  Note 7 |
|  |  | Rel-10 | C126a | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 and supporting at most 40MHz aggregated bandwidth and not supporting 256QAM in DL (UE category 6 and 7) | Refer to 36.521-1 8.1.2.3 |  |  |
|  |  | Rel-11 | C127 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) | TBD |  |  |
|  |  | Rel-11 | C127a | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 and supporting at most 40MHz aggregated bandwidth and not supporting 256QAM in DL (UE category 6 and 7) | TBD |  |  |
| 8.7.1.1\_A.4 | FDD Sustained data rate performance for CA (4DL CA) | Rel-11 | C189 | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 and not supporting 256QAM in DL (UE category 11 and 12) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_A.5 is executed.  Note 7 |
|  |  | Rel-11 | C189a | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 and supporting at most 60MHz aggregated bandwidth and not supporting 256QAM in DL (UE category 9 and 10) |  |  |  |
| 8.7.1.1\_A.5 | FDD Sustained data rate performance for CA (5DL CA) | Rel-11 | C266 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 and not supporting 256QAM in DL (UE DL category 11,12) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_A.6 is executed.  Note 7 |
|  |  | Rel-12 | C267 | UE supporting E-UTRA FDD and 5DL CA configurations in Table 4.1-5 and not supporting 256QAM in DL (UE DL category 11,12,15) |  |  |  |
| 8.7.1.1\_A.6 | FDD Sustained data rate performance for CA (6DL CA) | Rel-11 | C330 | UE supporting E-UTRA FDD and 6DL with CA configurations in Table 4.1-6 and not supporting 256QAM in DL (UE DL category 11,12) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_A.7 is executed.  Note 7 |
| Rel-12 | C331 | UE supporting E-UTRA FDD and 6DL CA configurations in Table 4.1-6 and not supporting 256QAM in DL (UE DL category 11,12,15) |  |  |  |
| 8.7.1.1\_A.7 | FDD Sustained data rate performance for CA (7DL CA) | Rel-15 | C343 | UE supporting E-UTRA FDD and 7DL CA and not supporting 256QAM in DL (UE DL category 11,12,15) |  | 2Rx, 4Rx | Note 7 |
| -8.7.1.1\_H.1 | FDD sustained data rate performance (Single Carrier) for 256QAM in DL | Rel-12 | C42h | UE supporting E-UTRA FDD and 256QAM and UE DL category 13 |  |  | Test execution not necessary if 8.7.1.1\_H.2 is executed |
| 8.7.1.1\_H.2 | FDD Sustained data rate performance for CA (2DL CA) for 256QAM in DL | Rel-12 | C107h | UE supporting E-UTRA FDD and 2DL CA and 256QAM in DL (UE DL category 11, 12 and 13) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_H.3 is executed  Note 7 |
| 8.7.1.1\_H.3 | FDD Sustained data rate performance for CA (3DL CA) for 256QAM in DL | Rel-12 | C126h | UE supporting E-UTRA FDD and 3DL CA ,and supporting 256QAM in DL (UE DL category 11, 12 and 15) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.1.1\_H.4 is executed  Note 7 |
|  |  | Rel-12 | C126ha | UE supporting E-UTRA FDD and 3DL CA ,and supporting 256QAM in DL and supporting at most 40MHz aggregated bandwidth (UE DL category 13) |  |  |  |
| 8.7.1.1\_H.4 | FDD Sustained data rate performance for CA (4DL CA) for 256QAM in DL | Rel-13 | C189h | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 and supporting 256QAM in DL |  |  | Test execution not necessary if 8.7.1.1\_H.5 is executed. |
| 8.7.1.1\_H.5 | FDD Sustained data rate performance for CA (5DL CA) for 256QAM in DL | Rel-13 | C267h | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 and supporting 256QAM in DL |  |  |  |
| 8.7.1.1\_H.6 | FDD Sustained data rate performance for CA (6DL CA) for 256QAM in DL | Rel-13 | C331h | UE supporting E-UTRA FDD and 6DL with CA configurations in Table 4.1-6 and supporting 256QAM in DL |  |  |  |
| 8.7.1.1\_H.7 | FDD Sustained data rate performance for CA (7DL CA) for 256QAM in DL | Rel-15 | C344 | UE supporting E-UTRA FDD and 7DL and supporting 256QAM in DL |  |  | Test execution not necessary if 8.7.1.1\_H.8 is executed |
| 8.7.2.1 | TDD sustained data rate performance (Rel-9 and forward) | Rel-9 | C111 | UE supporting E-UTRA TDD and not supporting 256QAM in DL (UE categories from 1 to 4) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | It is not necessary for CA UEs and EPDCCH UEs to be tested in this test if 8.7.2.1\_A.1 or 8.7.4.1 is executed. |
| 8.7.2.1\_1 | TDD sustained data rate performance (Rel-10 and forward) | Rel-10 | C73 | UE supporting E-UTRA TDD and not supporting 256QAM in DL (UE category 6 and 7) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  | It is not necessary for CA UEs and EPDCCH UEs to be tested in this test if 8.7.2.1\_A.1or 8.7.4.1 is executed. |
| 8.7.2.1\_2 | TDD sustained data rate performance for UE category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.7.2.1\_A.1 | TDD sustained data rate performance for CA (2DL CA) | Rel-10 | C74 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or inter-band DL CA and not supporting 256QAM in DL (UE category 6, 7, 9 and 10) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.2 is executed. |
|  |  | Rel-11 | C75 | UE supporting E-UTRA TDD and intra-band non-contiguous DL CA and not supporting 256QAM in DL (UE category 6, 7, 9 and 10) |  |  | Note 7 |
| 8.7.2.1\_A.2 | TDD Sustained data rate performance for CA (3DL CA) | Rel-10 | C130 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.3 is executed.  Note 7 |
|  |  | Rel-11 | C131 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) |  |  |  |
| 8.7.2.1\_A.3 | TDD Sustained data rate performance for CA (4DL CA) | Rel-11 | C213 | UE supporting E-UTRA TDD and 4DL CA configurations in Table 4.1-3 (UE DL category 11, 12 and 15) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.4 is executed.  Note 7 |
| 8.7.2.1\_A.5 | TDD Sustained data rate performance for CA (5DL CA) | Rel-11 | C360 | UE supporting E-UTRA TDD and 5DL CA configurations in Table 4.1-3 (UE DL category 11, 12 and 15) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.6 is executed.  Note 7 |
| 8.7.2.1\_A.6 | TDD Sustained data rate performance for CA (6DL CA) | Rel-15 | C331a | UE supporting E-UTRA TDD and 6DL CA configurations in Table 4.1-3 (UE DL category 11, 12 and 15) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.7 is executed.  Note 7 |
| 8.7.2.1\_A.7 | TDD Sustained data rate performance for CA (7DL CA) | Rel-15 | C345 | UE supporting E-UTRA TDD and 7DL CA (UE DL category 11, 12 and 15) | Refer to 36.521-1 8.1.2.3 | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_A.8 is executed.  Note 7 |
| 8.7.2.1\_H.1 | TDD sustained data rate performance (Single Carrier) for 256QAM in DL | Rel-12 | C73h | UE supporting E-UTRA TDD and 256QAM in DL and UE DL category 13 |  |  | Test execution not necessary if 8.7.2.1\_H.2 is executed. |
| 8.7.2.1\_H.2 | TDD sustained data rate performance for CA (2DL CA) for 256QAM in DL | Rel-12 | C74h | UE supporting E-UTRA TDD and 2DL CA, and supporting 256QAM in DL (UE DL category 11, 12 and 13) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_H.3 is executed.  Note 7 |
| 8.7.2.1\_H.3 | TDD Sustained data rate performance for CA (3DL CA) for 256QAM in DL | Rel-12 | C130h | UE supporting E-UTRA TDD and 3DL CA and supporting 256QAM in DL (UE DL Category 11, 12 and 15) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_H.4 is executed.  Note 7 |
| 8.7.2.1\_H.4 | TDD Sustained data rate performance for CA (4DL CA) for 256QAM in DL | Rel-13 | C213h | UE supporting E-UTRA TDD and 4DL CA and supporting 256QAM in DL (UE DL Category 11, 12,15 and 16) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_H.5 is executed.  Note 7 |
| 8.7.2.1\_H.5 | TDD Sustained data rate performance for CA (5DL CA) for 256QAM in DL | Rel-14 | C332 | UE supporting E-UTRA TDD and 5DL CA and supporting 256QAM in DL (UE DL Category 16) |  | 2Rx, 4Rx | Note 7 |
| 8.7.2.1\_H.6 | TDD Sustained data rate performance for CA (6DL CA) for 256QAM in DL | Rel-15 | C331ha | UE supporting E-UTRA TDD and 6DL CA and supporting 256QAM in DL (UE DL Category 16) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_H.7 is executed.  Note 7 |
| 8.7.2.1\_H.7 | TDD Sustained data rate performance for CA (7DL CA) for 256QAM in DL | Rel-15 | C346 | UE supporting E-UTRA TDD and 7DL CA and supporting 256QAM in DL (UE DL Category 16) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.2.1\_H.8 is executed.  Note 7 |
| 8.7.3.1 | FDD sustained data rate performance for EPDCCH scheduling | Rel-11 | C55 | UE supporting E-UTRA FDD and EPDCCH | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.7.4.1 | TDD sustained data rate performance for EPDCCH scheduling | Rel-11 | C56 | UE supporting E-UTRA TDD and EPDCCH | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.7.5.1.1 | TDD FDD CA Sustained data rate performance for FDD PCell (2DL CA) | Rel-12 | C138 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell and not supporting 256QAM in DL (UE category 3, 4, 6, 7, 9 and 10) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.1.2 is executed.  Note 7 |
| 8.7.5.1.2 | TDD FDD CA Sustained data rate performance for FDD PCell (3DL CA) | Rel-12 | C139 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.1.3 is executed.  Note 7 |
| 8.7.5.1.3 | TDD FDD CA Sustained data rate performance for FDD PCell (4DL CA) | Rel-12 | C139a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell and not supporting 256QAM in DL (UE category 11 and 12) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.1.4 is executed.  Note 7 |
| 8.7.5.1.4 | TDD FDD CA Sustained data rate performance for FDD PCell (5DL CA) | Rel-12 | C139b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell and not supporting 256QAM in DL (UE DL category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.1.5 | TDD FDD CA Sustained data rate performance for FDD PCell (6DL CA) | Rel-12 | C139c | UE supporting E-UTRA FDD and TDD and 6DL CA with FDD as PCell and not supporting 256QAM in DL (UE DL category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.1.6 | TDD FDD CA Sustained data rate performance for FDD PCell (7DL CA) | Rel-12 | C369 | UE supporting E-UTRA FDD and TDD and 7DL CA with FDD as PCell and not supporting 256QAM in DL (UE DL category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.1\_H.1 | TDD FDD CA Sustained data rate performance for FDD PCell (2DL CA) for 256QAM in DL | Rel-12 | C138h | UE supporting E-UTRA FDD and TDD and 2DL TDD-FDD CA with FDD as PCell and supporting 256QAM in DL (UE DL category 11, 12 and 13) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.5.1\_H.2 is executed.  Note 7 |
| 8.7.5.1\_H.2 | TDD FDD CA Sustained data rate performance for FDD PCell (3DL CA) for 256QAM in DL | Rel-12 | C139h | UE supporting E-UTRA FDD and TDD and 3DL TDD-FDD CA with FDD as PCell and supporting 256QAM in DL (UE DL Category 11, 12 and 15) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.5.1\_H.3 is executed.  Note 7 |
| 8.7.5.1\_H.3 | TDD FDD CA Sustained data rate performance for FDD PCell (4DL CA) for 256QAM in DL | Rel-12 | C139ha | UE supporting E-UTRA FDD and TDD and 4DL TDD-FDD CA with FDD as PCell and supporting 256QAM in DL |  |  | Test execution not necessary if 8.7.5.1\_H.4 is executed. |
| 8.7.5.1\_H.4 | TDD FDD CA Sustained data rate performance for FDD PCell (5DL CA) for 256QAM in DL | Rel-12 | C139hb | UE supporting E-UTRA FDD and TDD and 5DL TDD-FDD CA with FDD as PCell and supporting 256QAM in DL |  |  |  |
| 8.7.5.1\_H.5 | TDD FDD CA Sustained data rate performance for FDD PCell (6DL CA) for 256QAM in DL | Rel-12 | C139hc | UE supporting E-UTRA FDD and TDD and 6DL TDD-FDD CA with FDD as PCell and supporting 256QAM in DL |  |  |  |
| 8.7.5.2.1 | TDD FDD CA Sustained data rate performance for TDD PCell (2DL CA) | Rel-12 | C140 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 3, 4, 6, 7, 9 and 10) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.2.2 is executed.  Note 7 |
| 8.7.5.2.2 | TDD FDD CA Sustained data rate performance for TDD PCell (3DL CA) | Rel-12 | C141 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 9, 10, 11 and 12) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.2.3 is executed.  Note 7 |
| 8.7.5.2.3 | TDD FDD CA Sustained data rate performance for TDD PCell (4DL CA) | Rel-12 | C141a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 11 and 12) | TBD | 2Rx, 4Rx | Test execution not necessary if 8.7.5.2.4 is executed.  Note 7 |
| 8.7.5.2.4 | TDD FDD CA Sustained data rate performance for TDD PCell (5DL CA) | Rel-12 | C141b | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.2.5 | TDD FDD CA Sustained data rate performance for TDD PCell (6DL CA) | Rel-12 | C141c | UE supporting E-UTRA FDD and TDD and 6DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.2.6 | TDD FDD CA Sustained data rate performance for TDD PCell (7DL CA) | Rel-12 | C370 | UE supporting E-UTRA FDD and TDD and 7DL CA with TDD as PCell and not supporting 256QAM in DL (UE category 15) | TBD | 2Rx, 4Rx | Note 7 |
| 8.7.5.2\_H.1 | TDD FDD CA Sustained data rate performance for TDD PCell (2DL CA) for 256QAM in DL | Rel-12 | C140h | UE supporting E-UTRA FDD and TDD and 2DL TDD-FDD CA with TDD as PCell and supporting 256QAM in DL (UE DL Category 11, 12 and 13) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.5.2\_H.2 is executed.  Note 7 |
| 8.7.5.2\_H.2 | TDD FDD CA Sustained data rate performance for TDD PCell (3DL CA) for 256QAM in DL | Rel-12 | C141h | UE supporting E-UTRA FDD and TDD and 3DL TDD-FDD CA with TDD as PCell and supporting 256QAM in DL (UE DL Category 11, 12 and 15) |  | 2Rx, 4Rx | Test execution not necessary if 8.7.5.2\_H.3 is executed.  Note 7 |
| 8.7.5.2\_H.4 | TDD FDD CA Sustained data rate performance for TDD PCell (5DL CA) for 256QAM in DL | Rel-12 | C141hb | UE supporting E-UTRA FDD and TDD and 5DL TDD-FDD CA with TDD as PCell and supporting 256QAM in DL (UE DL Category 16) |  | 2Rx, 4Rx | Note 7 |
| 8.7.5.2\_H.5 | TDD FDD CA Sustained data rate performance for TDD PCell (6DL CA) for 256QAM in DL | Rel-12 | C142h | UE supporting E-UTRA FDD and TDD and 6DL TDD-FDD CA with TDD as PCell and supporting 256QAM in DL (UE DL Category 16) |  | 2Rx, 4Rx | Note 7 |
| 8.7.6.1 | FDD sustained data rate performance for Dual Connectivity 64QAM | Rel-12 | C171 | UE supporting E-UTRA FDD and Dual Connectivity and not supporting 256QAM in DL (UE Category 3, 4, 6, 7, 9, and 10) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.7.6.2 | FDD sustained data rate performance for Dual Connectivity 256QAM | Rel-12 | C173 | UE supporting E-UTRA FDD and Dual Connectivity and supporting 256QAM in DL | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.7.7.1 | TDD sustained data rate performance for Dual Connectivity 64QAM | Rel-12 | C172 | UE supporting E-UTRA TDD and Dual Connectivity and not supporting 256QAM in DL (UE Category 6, 7, 9, and 10) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.7.7.2 | TDD sustained data rate performance for Dual Connectivity 256QAM | Rel-12 | C174 | UE supporting E-UTRA TDD and Dual Connectivity and supporting 256QAM in DL | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 8.7.9.2 | FDD sustained data rate performance for 4 layer MIMO (single carrier) | Rel-10 | C226 | UE supporting E-UTRA FDD with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category 6 and 7 and UE DL category 13) | One "Test Number" to be performed. The selected band shall lead to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.9 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.9.3 | FDD sustained data rate performance for 4 layer MIMO (2DL CA) | Rel-10 | C227 | UE supporting 2DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and intra-band contiguous DL CA or inter-band DL CA (UE Category 9, 10, 11 and 12 and UE DL category 9, 10, 11, 12 and 15) | One "Test Number" to be performed. The selected CA configuration shall lead to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.9 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-11 | C228 | UE supporting 2DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and intra-band non-contiguous DL CA (UE Category 9, 10, 11 and 12 and UE DL category 9, 10, 11, 12 and 15) |  |  |  |
| 8.7.9.4 | FDD sustained data rate performance for 4 layer MIMO (3DL CA) | Rel-10 | C229 | UE supporting 3DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 3DL with CA configurations in Table 4.1-3 (UE Category 11 and 12 and UE DL category 11, 12, 15, 16 and 18) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.9 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-11 | C230 | UE supporting 3DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 3DL with CA configurations in Table 4.1-3 and 4Rx antenna ports and 4-layer spatial multiplexing (UE Category 11 and 12 and UE DL category 11, 12, 15, 16 and 18) |  |  |  |
| 8.7.9.5 | FDD sustained data rate performance for 4 layer MIMO (4DL CA) | Rel-11 | C236 | UE supporting 4DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 4DL with CA configurations in Table 4.1-4 (UE DL category 15, 16, 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.9 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.9.6 | FDD sustained data rate performance for 4 layer MIMO (5DL CA) | Rel-11 | C237 | UE supporting 5DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 5DL with CA configurations in Table 4.1-5 (UE DL category 15, 16, 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.9 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-12 | C238 | UE supporting 5DL FDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 5DL with CA configurations in Table 4.1-5 (UE DL category 15, 16, 18 and 19) |  |  |  |
| 8.7.10.2 | TDD sustained data rate performance for 4 layer MIMO (single carrier) | Rel-10 | C239 | UE supporting E-UTRA TDD with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category 6 and 7 and UE DL category 13) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.10 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.10.3 | TDD sustained data rate performance for 4 layer MIMO (2DL CA) | Rel-10 | C240 | UE supporting 2DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and intra-band contiguous DL CA or inter-band DL CA (UE Category 9, 10, 11 and 12 and UE DL category 9, 10, 11, 12 and 15) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.10 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-11 | C241 | UE supporting 2DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and intra-band non-contiguous DL CA (UE Category 9, 10, 11 and 12 and UE DL category 9, 10, 11, 12 and 15) |  |  |  |
| 8.7.10.4 | TDD sustained data rate performance for 4 layer MIMO (3DL CA) | Rel-10 | C242 | UE supporting 3DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 3DL with CA configurations in Table 4.1-3 (UE Category 11 and 12 and UE DL category 11, 12, 15, 16 and 18) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.10 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-11 | C243 | UE supporting 3DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 3DL with CA configurations in Table 4.1-3 (UE Category 11 and 12 and UE DL category 11, 12, 15, 16 and 18) |  |  |  |
| 8.7.10.5 | TDD sustained data rate performance for 4 layer MIMO (4DL CA) | Rel-11 | C244 | UE supporting 4DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 4DL with CA configurations in Table 4.1-4 (UE DL category 16, 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.10 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.10.6 | TDD sustained data rate performance for 4 layer MIMO (5DL CA) | Rel-11 | C245 | UE supporting 5DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 5DL with CA configurations in Table 4.1-5 (UE DL category 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.10 is executed, where larger equivalent aggregated bandwidth can be achieved. |
|  |  | Rel-12 | C246 | UE supporting 5DL TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing and 5DL with CA configurations in Table 4.1-5 (UE DL category 18 and 19) |  |  |  |
| 8.7.11.2 | TDD FDD CA sustained data rate performance for 4 layer MIMO (2DL CA) | Rel-12 | C247 | UE supporting 2DL FDD-TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category 9, 10, 11 and 12 and UE DL category 9, 10, 11, 12 and 15) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.11 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.11.3 | TDD FDD CA sustained data rate performance for 4 layer MIMO (3DL CA) | Rel-12 | C248 | UE supporting 3DL FDD-TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category 11 and 12 and UE DL category 11, 12, 15, 16 and 18) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.11 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.11.4 | TDD FDD CA sustained data rate performance for 4 layer MIMO (4DL CA) | Rel-12 | C249 | UE supporting 4DL FDD-TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing (UE DL category 15, 16, 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.11 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.11.5 | TDD FDD CA sustained data rate performance for 4 layer MIMO (5DL CA) | Rel-12 | C250 | UE supporting 5DL FDD-TDD CA with 4Rx antenna ports and 4-layer spatial multiplexing (UE DL category 16, 18 and 19) | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest equivalent aggregated bandwidth Note 3 supported by UE. |  | Test execution not necessary if another test case in clause 8.7.11 is executed, where larger equivalent aggregated bandwidth can be achieved. |
| 8.7.12.1.2.1 | LAA sustained data rate performance with FDD PCell with 2DL CA (2Rx) | Rel-13 | C209 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest |  |  |
| 8.7.12.1.2.2 | LAA sustained data rate performance with FDD PCell for 4 Layer MIMO (2DL CA) | Rel-13 | C328 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell abd 4-layer spatial multiplexing | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest |  |  |
| 8.7.12.2.2.1 | LAA sustained data rate performance with TDD PCell with 2DL CA (2Rx) | Rel-13 | C210 | UE supporting E-UTRA TDD and downlink LAA | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest |  |  |
| 8.7.12.2.2.2 | LAA sustained data rate performance with TDD PCell for 4 Layer MIMO (2DL CA) | Rel-13 | C329 | UE supporting E-UTRA TDD and downlink LAA with FDD as Pcell abd 4-layer spatial multiplexing | One "Test Number" to be performed, in a chosen CA configuration, which leads to the largest |  |  |
| 8.8.1.1 | FDD distributed EPDCCH performance | Rel-11 | C55 | UE supporting E-UTRA FDD and EPDCCH | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.8.1.2 | TDD distributed EPDCCH performance | Rel-11 | C56 | UE supporting E-UTRA TDD and EPDCCH | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.8.2.1 | FDD localized EPDCCH performance with TM9 | Rel-11 to Rel-14 | C91 | UE supporting E-UTRA FDD and EPDCCH and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C91m | UE supporting E-UTRA FDD and EPDCCH and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and EPDCCH and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.8.2.2 | TDD localized EPDCCH performance with TM9 | Rel-11 to Rel-14 | C92 | UE supporting E-UTRA TDD and EPDCCH and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C92m | UE supporting E-UTRA TDD and EPDCCH and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and EPDCCH and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.8.3.1 | FDD localized EPDCCH transmission with TM10 Type B quasi co-location type | Rel-11 | C57 | UE supporting E-UTRA FDD and EPDCCH and Multiple CSI processes on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.8.3.2 | TDD localized EPDCCH transmission with TM10 Type B quasi co-location type | Rel-11 | C58 | UE supporting E-UTRA TDD and EPDCCH and Multiple CSI processes on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.8.4.1 | FDD Enhanced Downlink Control Channel Performance Requirements Type A for EDPCCH - Localized Transmission with CRS Interference Model | Rel-13 | C289 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.8.4.2 | TDD Enhanced Downlink Control Channel Performance Requirements Type A for EDPCCH - Localized Transmission with CRS Interference Model | Rel-13 | C290 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.8.5.1 | TDD Enhanced Downlink Control Channel Performance Requirements Type A for EDPCCH - Distributed Transmission with TM9 Interference Model | Rel-13 | C290 | E-UTRA TDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.8.6.1 | FDD Enhanced Downlink Control Channel Performance Type A for EDPCCH- Distributed Transmission with TM3 Interference Model | Rel-13 | C289 | E-UTRA FDD UEs supporting Enhanced downlink control channel performance requirements type A |  |  |  |
| 8.9.1.1.1 | Transmit diversity performance for UE category 0 (Cell-Specific Reference Symbols) | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.1.1\_1 | FDD PDSCH Transmit Diversity 4x1 for UE category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.1.2 | FDD closed-loop spatial multiplexing performance (Cell-Specific Reference Symbols) | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.1.2\_1 | FDD PDSCH Closed Loop Single Layer Spatial Multiplexing 4x1 for UE Category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.1.3 | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for UE category 0 | Rel-12 | C157 | UE supporting E-UTRA FDD (UE category 0) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.1.3\_1 | FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for UE category 1bis | Rel-13 | C157a | UE supporting E-UTRA FDD (UE category 1bis) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.1 | TDD PDSCH Transmit Diversity for UE category 0 | Rel-12 | C156 | UE supporting E-UTRA TDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.1\_1 | TDD PDSCH Transmit Diversity for UE category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.2 | TDD closed-loop spatial multiplexing performance (Cell-Specific Reference Symbols) | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.2\_1 | TDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x1 for UE Category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.3 | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for UE category 0 | Rel-12 | C158 | UE supporting E-UTRA TDD (UE category 0) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.1.2.3\_1 | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for UE category 1bis | Rel-13 | C158a | UE supporting E-UTRA TDD (UE category 1bis) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.2.1.1 | FDD PHICH Transmit Diversity for UE category 0 | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.2.1.1\_1 | FDD PHICH Transmit Diversity for UE category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.2.2.1 | TDD PHICH Transmit Diversity for UE category 0 | Rel-12 | C156 | UE supporting E-UTRA TDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.9.2.2.1\_1 | TDD PHICH Transmit Diversity for UE category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.10.1.1.1 | FDD PDSCH Transmit Diversity 2x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.2 | FDD PDSCH Open Loop Spatial Multiplexing 2x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.3 | FDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model – Enhanced Performance Requirement Type A | Rel-11 | C113d | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.4 | FDD PDSCH Closed Loop Spatial Multiplexing 4x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.5 | FDD PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 interference model – Enhanced Performance Requirement Type A | Rel-11 to Rel-14 | C113e | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C113em | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and Feature Group Indicator 103 and (UE Category < 8 and 8 < UE Category < 11 and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.10.1.1.6 | FDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) | Rel-10 to Rel-14 | C113c | UE supporting E-UTRA FDD and Feature Group Indicator 103 and 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C113cm | UE supporting E-UTRA FDD and Feature Group Indicator 103 and 4Rx antenna ports and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and 4Rx antenna ports (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.10.1.1.7 | FDD Open-loop spatial multiplexing, 3 Layer Multiplexing with 4 Tx Antenna Ports | Rel-10 | C220 | UE supporting E-UTRA FDD with 4Rx antenna ports and 3-layer spatial multiplexing | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.8 | FDD Closed-loop spatial multiplexing performance, 4 Layers spatial multiplexing 4 Tx antennas | Rel-10 | C220 | UE supporting E-UTRA FDD with 4Rx antenna ports and 4-layer spatial multiplexing | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.1.9 | FDD 4 Layer Spatial Multiplexing (User-Specific Reference Symbols) | Rel-10 to Rel-14 | C113c | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 and 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C113cm | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 and 4Rx antenna ports and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and eDL-MIMO and 4Rx antenna ports (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.10.1.2.1 | TDD PDSCH Transmit Diversity 2x4 | Rel-10 | C198 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.2 | TDD PDSCH Open Loop Spatial Multiplexing 2x4 | Rel-10 | C198 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.3 | TDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model – Enhanced Performance Requirement Type A | Rel-11 | C198 a | UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.4 | TDD PDSCH Closed Loop Spatial Multiplexing 4x4 | Rel-10 | C198 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.5 | TDD PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 interference model – Enhanced Performance Requirement Type A | Rel-11 | C198c | UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.6 | TDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) | Rel-10 | C198b | UE supporting E-UTRA TDD with 4Rx antenna ports and UE Category 2 or higher and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.7 | TDD Open-loop spatial multiplexing, 3 Layer Multiplexing with 4 Tx Antenna Ports | Rel-10 | C235 | UE supporting E-UTRA TDD with 4Rx antenna ports and 3-layer spatial multiplexing | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.8 | TDD Closed-loop spatial multiplexing performance, 4 Layers spatial multiplexing 4 Tx antennas | Rel-10 | C235 | UE supporting E-UTRA TDD with 4Rx antenna ports and 4-layer spatial multiplexing | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.1.2.9 | TDD 4 Layer Spatial Multiplexing (User-Specific Reference Symbols) | Rel-10 to Rel-14 | C183 | UE supporting E-UTRA TDD and UE Category ≥ 5 and Feature Group Indicator 103 and 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C183m | UE supporting E-UTRA TDD and Feature Group Indicator 103 with 4Rx antenna ports and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13)),  or UE supporting E-UTRA TDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.10.2.1.1 | FDD PCFICH/PDCCH Single-antenna Port Performance 1x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.2.1.2 | FDD PCFICH/PDCCH Transmit Diversity Performance 2x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.2.1.3 | FDD PCFICH/PDCCH Transmit Diversity Performance 4x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.2.2.1 | TDD PCFICH/PDCCH Single-antenna Port Performance 1x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.2.2.2 | TDD PCFICH/PDCCH Transmit Diversity Performance 2x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.2.2.3 | TDD PCFICH/PDCCH Transmit Diversity Performance 4x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.1.1 | FDD PHICH Single-antenna Port Performance 1x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.1.2 | FDD PHICH Transmit Diversity Performance 2x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.1.3 | FDD PHICH Transmit Diversity Performance 4x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.2.1 | TDD PHICH Single-antenna Port Performance 1x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.2.2 | TDD PHICH Transmit Diversity Performance 2x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.3.2.3 | TDD PHICH Transmit Diversity Performance 4x4 | Rel-10 | C184 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.4.1.1 | FDD distributed EPDCCH performance 2x4 | Rel-10 | C164 | UE supporting E-UTRA FDD and EPDCCH with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.4.1.2 | TDD distributed EPDCCH performance 2x4 | Rel-10 | C165 | UE supporting E-UTRA TDD and EPDCCH with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 8.10.4.2.1 | FDD localized EPDCCH performance with TM9 2x4 | Rel-10 to Rel-14 | C166 | UE supporting E-UTRA FDD and EPDCCH and Feature Group Indicator 103 with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C166m | UE supporting E-UTRA FDD and EPDCCH and Feature Group Indicator 103 with 4Rx antenna ports and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and EPDCCH with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.10.4.2.2 | TDD localized EPDCCH performance with TM9 2x4 | Rel-10 to Rel-14 | C167 | UE supporting E-UTRA TDD and EPDCCH and Feature Group Indicator 103 with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C167m | UE supporting E-UTRA TDD and EPDCCH and Feature Group Indicator 103 with 4Rx antenna ports and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and EPDCCH with 4Rx antenna ports (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.11.1.1.1 | FDD and half-duplex FDD Closed-loop spatial multiplexing performance for UE supporting CE | Rel-13 | C145e | UE supporting E-UTRA FDD and UE category M1 and TM6 in CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| Rel-14 | C145f | UE supporting E-UTRA FDD and UE category M2 and TM6 in CEModeA |
| 8.11.1.1.2 | FDD and half-duplex FDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for UE supporting CE | Rel-13 | C145g | UE supporting E-UTRA FDD and UE category M1 and TM9 in CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| Rel-14 | C145h | UE supporting E-UTRA FDD and UE category M2 and TM9 in CEModeA |
| 8.11.1.1.3.1 | FDD and half-duplex FDD PDSCH Transmit Diversity 2x1 for UE category M1 | Rel-13 | C145a | UE supporting E-UTRA FDD and UE category M1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.1.1.3.1\_1 | FDD and half-duplex FDD PDSCH Transmit Diversity 2x1 for UE category M1 (CEmodeB) | Rel-13 | C156c | UE supporting E-UTRA FDD and (UE category M1 and CEModeB) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.1.2.1 | TDD Closed-loop spatial multiplexing performance for CE UE in CE Mode A (Cell-Specific Reference Symbols) | Rel-13 | C156q | UE supporting E-UTRA TDD and UE category M1 and TM6 in CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| Rel-14 | C156h | UE supporting E-UTRA TDD and UE category M2 and TM6 in CEModeA |  |  |
| 8.11.1.2.2 | TDD PDSCH Single-layer Spatial Multiplexing on antenna ports 7 or 8 for CE UE in CE Mode A | Rel-13 | C156e | UE supporting E-UTRA TDD and UE category M1 and TM9 in CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| Rel-14 | C156i | UE supporting E-UTRA TDD and UE category M2 and TM9 in CEModeA |  |  |
| 8.11.1.2.3.1 | TDD PDSCH Transmit Diversity for UE category M1 | Rel-13 | C156b | UE supporting E-UTRA TDD and UE category M1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.1.2.3.1\_1 | TDD PDSCH Transmit Diversity for UE category M1 (CEModeB) | Rel-13 | C156d | UE supporting E-UTRA TDD and UE category M1 and CEModeB | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.1.2.3.2 | TDD PDSCH 2 Tx Antenna Port supporting wideband transmission for UE category M2 | Rel-14 | C316a | UE supporting E-UTRA TDD and UE category M2 and CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.1.2.3.2\_1, | TDD PDSCH 2 Tx Antenna Port supporting wideband transmission for UE category M2 (CEModeB) | Rel-14 | C316b | UE supporting E-UTRA TDD and UE category M2 and CEModeB | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.11.2.1.1 | FDD demodulation of MPDCCH in CE Mode A | Rel-13 | C145b | UE supporting E-UTRA FDD and (UE category M1 or CEModeA) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-14 | C314 | UE supporting E-UTRA FDD and (UE category M2 or CEModeA) |  |  |  |
| 8.11.2.1.2 | FDD and half-duplex FDD demodulation of MPDCCH in CE Mode B | Rel-13 | C156c | UE supporting E-UTRA FDD and (UE category M1 and CEModeB) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-14 | C315 | UE supporting E-UTRA FDD and (UE category M1 and CEModeB) |  |  |  |
| 8.11.2.2.1 | TDD demodulation of MPDCCH in CE Mode A | Rel-13 | C156b | UE supporting E-UTRA TDD and (UE category M1 or UE category M2 or CEModeA) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-14 | C316 | UE supporting E-UTRA TDD and (UE category M2 or CEModeA) |  |  |  |
| 8.11.2.2.2 | TDD demodulation of MPDCCH in CE Mode B | Rel-13 | C156d | UE supporting E-UTRA TDD and (UE category M1 or UE category M2 and CEModeB) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-14 | C317 | UE supporting E-UTRA TDD and (UE category M1 and CEModeB) |  |  |  |
| 8.12.1.1.1 | Demodulation of NPDSCH (Cell-Specific Reference Symbols) in In-band mode for Category NB1 and NB2 | Rel-13 | C347 | UE supporting NB-IoT FDD | Each "Test Number" to be performed once, in a chosen band |  |  |
| 8.12.1.1.2 | Demodulation of NPDSCH (Cell-Specific Reference Symbols) in standalone and Guard-band mode for category NB1 and NB2 | Rel-13 | C347 | UE supporting NB-IoT FDD | Each "Test Number" to be performed once, in a chosen band |  |  |
| 8.12.1.1.3 | Demodulation of NPDSCH (Cell-Specific Reference Symbols) in standalone for NB2 | Rel-14 | C298 | UE supporting E-UTRA FDD and category NB2 | Each “Test Number” to be performed once, in a chosen band |  |  |
| 8.12.2.1.1 | Demodulation of NPDCCH single-antenna performance for category NB1 and NB2 | Rel-13 | C347 | UE supporting NB-IoT FDD | Each "Test Number" to be performed once, in a chosen band |  |  |
| 8.12.2.1.2 | Demodulation of NPDCCH in In-band mode Transmit Diversity performance for Category NB1 and NB2 | Rel-13 | C347 | UE supporting NB-IoT FDD | Each "Test Number" to be performed once, in a chosen band |  |  |
| 8.13.1.1.3 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 with 256QAM (2DL CA) | Rel-10 | C278 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA and 4 Rx antenna ports and 256QAM in DL (UE Category >= 5) |  |  |  |
| Rel-11 | C279 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA and 4 Rx antenna ports and 256QAM in DL (UE Category >= 5) |
| 8.13.1.1.4 | FDD PDSCH Closed Loop Four-Layer Spatial Multiplexing for CA (2DL CA) | Rel-11 | C280 | UE supporting E-UTRA FDD and 2DL CA with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category >= 5) |  |  |  |
| 8.13.1.1.1.2 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (2DL CA) | Rel-10 | C253 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.1.1.1.3 or 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed. |
| Rel-11 | C254 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.1.1.1.3 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (3DL CA) | Rel-10 | C255 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.1.1.1.4 or 8.13.1.1.1.5 is executed. |
| Rel-11 | C256 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.1.1.1.4 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (4DL CA) | Rel-11 | C257 | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.1.1.1.5 is executed. |
| 8.13.1.1.1.5 | FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (5DL CA) | Rel-11 | C258 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  |  |
| Rel-12 | C259 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports |  |  |  |
| 8.13.1.2.2 | FDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (2DL CA) | Rel-10 | C253 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.1.2.3 or 8.13.1.2.4 or 8.13.1.2.5 is executed. |
|  |  | Rel-11 | C254 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.1.2.3 | FDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (3DL CA) | Rel-10 | C255 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.1.2.4 or 8.13.1.2.5 is executed. |
|  |  | Rel-11 | C256 | UE supporting E-UTRA FDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.1.2.4 | FDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (4DL CA) | Rel-11 | C257 | UE supporting E-UTRA FDD and 4DL with CA configurations in Table 4.1-4 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.1.2.5 is executed. |
| 8.13.1.2.5 | FDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (5DL CA) | Rel-11 | C258 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  |  |
|  |  | Rel-12 | C259 | UE supporting E-UTRA FDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports |  |  |  |
| 8.13.1.3.1 | FDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model – Enhanced Performance Requirement Type A (2DL CA) | Rel-11 | C281 | UE supporting E-UTRA FDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A (UE Category >= 5) |  |  |  |
| 8.13.1.4.1 | FDD PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A (2DL CA) | Rel-11to Rel-14 | C282 | UE supporting E-UTRA FDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and Feature Group Indictor 103 (UE Category >= 5) |  |  |  |
|  |  | Rel-15 | C282m | UE supporting E-UTRA FDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and Feature Group Indictor 103 and ((5 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.13.2.1.1.2 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (2DL CA) | Rel-10 | C291 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.2.1.1.3 or 8.13.2.1.1.4 or 8.13.2.1.1.5 is executed. |
| Rel-11 | C292 | UE supporting E-UTRA TDD and intra-band non-contiguous DL CA (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.2.1.1.3 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (3DL CA) | Rel-10 | C293 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.2.1.1.4 or 8.13.2.1.1.5 is executed. |
|  |  | Rel-11 | C294 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.2.1.1.4 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (4DL CA) | Rel-11 | C295 | UE supporting E-UTRA TDD and 4DL with CA configurations in Table 4.1-4 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.2.1.1.5 is executed. |
| 8.13.2.1.1.5 | TDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 (5DL CA) | Rel-11 | C296 | UE supporting E-UTRA TDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  |  |
|  |  | Rel-12 | C297 | UE supporting E-UTRA TDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports |  |  |  |
| 8.13.2.2.2 | TDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (2DL CA) | Rel-10 | C291 | UE supporting E-UTRA TDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.2.2.3 or 8.13.2.2.4 or 8.13.2.2.5 is executed. |
|  |  | Rel-11 | C292 | UE supporting E-UTRA TDD and intra-band non-contiguous DL CA (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.2.2.3 | TDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (3DL CA) | Rel-10 | C293 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.2.2.4 or 8.13.2.2.5 is executed. |
|  |  | Rel-11 | C294 | UE supporting E-UTRA TDD and 3DL with CA configurations in Table 4.1-3 (UE Category >= 5) and 4Rx antenna ports |  |  |  |
| 8.13.2.2.4 | TDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (4DL CA) | Rel-11 | C295 | UE supporting E-UTRA TDD and 4DL with CA configurations in Table 4.1-4 (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  | Test execution not necessary if 8.13.2.2.5 is executed. |
| 8.13.2.2.5 | TDD Dual-Layer Spatial Multiplexing 2x4 (User-Specific Reference Symbols) (5DL CA) | Rel-11 | C296 | UE supporting E-UTRA TDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.6.5 |  |  |
|  |  | Rel-12 | C297 | UE supporting E-UTRA TDD and 5DL with CA configurations in Table 4.1-5 (UE Category 8, >= 11) and 4Rx antenna ports |  |  |  |
| 8.13.2.3.1 | TDD PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model – Enhanced Performance Requirement Type A (2DL CA) | Rel-11 | C283 | UE supporting E-UTRA TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A (UE Category >= 5) |  |  |  |
| 8.13.2.4.1 | TDD PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A (2DL CA) | Rel-11 to Rel-14 | C284 | UE supporting E-UTRA TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and Feature Group Indictor 103 (UE Category >= 5) |  |  |  |
|  |  | Rel-15 | C284m | UE supporting E-UTRA TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and Feature Group Indictor 103 and ((5 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.13.3.1.1.2 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for FDD PCell (2DL CA) | Rel-12 to Rel-14 | C306 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.1.3 or 8.13.3.1.1.4 or 8.13.3.1.1.5 is executed. |
|  |  | Rel-15 | C234m | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and Feature Group Indicator 103 and the enhanced performance requirements type A for LTE and TDD as PCell and ((5 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A for LTE and TDD as PCell and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 8.13.3.1.1.3 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for FDD PCell (3DL CA) | Rel-12 | C307 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.1.4 or 8.13.3.1.1.5 is executed. |
| 8.13.3.1.1.4 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for FDD PCell (4DL CA) | Rel-12 | C308 | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.1.5 is executed. |
| 8.13.3.1.1.5 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for FDD PCell (5DL CA) | Rel-12 | C309 | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category >= 8) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.13.3.1.2.2 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for TDD PCell (2DL CA) | Rel-12 | C310 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >=5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.2.3 or 8.13.3.1.2.4 or 8.13.3.1.2.5 is executed. |
| 8.13.3.1.2.3 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for TDD PCell (3DL CA) | Rel-12 | C311 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell (UE Category >= 5) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.2.4 or 8.13.3.1.2.5 is executed. |
| 8.13.3.1.2.4 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for TDD PCell (4DL CA) | Rel-12 | C312 | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.1.2.5 is executed. |
| 8.13.3.1.2.5 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 for TDD PCell (5DL CA) | Rel-12 | C322 | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell (UE Category 8, and Category11 and onwards) and 4Rx antenna ports | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.13.3.2.3 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for FDD PCell (User-Specific Reference Symbols) (2DL CA) | Rel-12 | C154 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.4 or 8.13.3.2.5 or 8.13.3.2.6 is executed. |
| 8.13.3.2.4 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for FDD PCell (User-Specific Reference Symbols) (3DL CA) | Rel-12 | C133 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.5 or 8.13.3.2.6 is executed. |
| 8.13.3.2.5 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for FDD PCell (User-Specific Reference Symbols) (4DL CA) | Rel-12 | C133a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.6 is executed. |
| 8.13.3.2.6 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for FDD PCell (User-Specific Reference Symbols) (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.13.3.2.7 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for TDD PCell (User-Specific Reference Symbols) (2DL CA) |  | C155 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >=5) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.8 or 8.13.3.2.9 or 8.13.3.2.10 is executed. |
| 8.13.3.2.8 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for TDD PCell (User-Specific Reference Symbols) (3DL CA) |  | C135 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell (UE Category >= 5) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.9 or 8.13.3.2.10 is executed. |
| 8.13.3.2.9 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for TDD PCell (User-Specific Reference Symbols) (4DL CA) |  | C135a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | Refer to 36.521-1 8.1.2.3 |  | Test execution not necessary if 8.13.3.2.10 is executed. |
| 8.13.3.2.10 | TDD-FDD CA Dual-Layer Spatial Multiplexing 2x4 for TDD PCell (User-Specific Reference Symbols) (5DL CA) |  | C135b | UE supporting E-UTRA FDD and TDD and 5DL CA with TDD as PCell (UE Category 8, and Category11 and onwards) | Refer to 36.521-1 8.1.2.3 |  |  |
| 8.13.3.3.1 | TDD-FDD CA PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model-Enhanced Performance Requirement Type A for FDD Pcell (2DL CA) | Rel-12 | C231 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A for LTE and FDD as PCell (UE Category >=5) |  |  |  |
| 8.13.3.3.2 | TDD-FDD CA PDSCH Closed Loop Single Layer Spatial Multiplexing 2x4 with TM4 Interference Model-Enhanced Performance Requirement Type A for TDD Pcell (2DL CA) | Rel-12 | C232 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and the enhanced performance requirements type A for LTE and TDD as PCell (UE Category >=5) |  |  |  |
| 8.13.3.4.1 | TDD-FDD CA PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A for FDD PCell (2DL CA) | Rel-12 | C233 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and Feature Group Indictor 103 and the enhanced performance requirements type A for LTE and FDD as PCell (UE Category >=5) |  |  |  |
| 8.13.3.4.2 | TDD-FDD CA PDSCH Single-layer Spatial Multiplexing 2x4 on antenna ports 7 or 8 with TM9 Interference Model - Enhanced Performance Requirement Type A for TDD PCell (2DL CA) | Rel-12 | C234 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and Feature Group Indictor 103 and the enhanced performance requirements type A for LTE and TDD as PCell (UE Category >=5) |  |  |  |
| 8.13.3.6.1 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 with 256QAM for FDD PCell (2DL CA) | Rel-12 | C251 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and 256QAM in DL and FDD as Pcell(UE Category >=5) |  |  |  |
| 8.13.3.6.2 | TDD-FDD CA PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x4 with 256QAM for TDD PCell (2DL CA) | Rel-12 | C252 | UE supporting E-UTRA FDD and TDD and 2DL CA with 4Rx antenna ports and 256QAM in DL and TDD as Pcell(UE Category >=5) |  |  |  |
| 8.14.1.1.1 | FDD slot/subslot-PDSCH Open Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols) | Rel-15 | C354 | UE supporting E-UTRA FDD and slot/subslot TTI (UE categories >=2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.14.1.1.2 | FDD slot/subslot-PDSCH Closed Loop Spatial Multiplexing Performance (User-Specific Reference Signals) | Rel-15 | C355 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and slot/subslot TTI | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.14.1.2.1 | TDD slot-PDSCH Open Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols) | Rel-15 | C356 | UE supporting E-UTRA TDD and slot TTI | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.14.1.2.2 | TDD slot-PDSCH Closed Loop Spatial Multiplexing Performance (User-Specific Reference Signals) | Rel-15 | C355a | UE supporting E-UTRA TDD and Feature Group Indicator 103 and slot TTI | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.14.2.1 | FDD SPDCCH Transmit diversity performance | Rel-15 | C355 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and slot/subslot TTI | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 8.14.2.2 | TDD SPDCCH Transmit diversity performance | Rel-15 | C355a | UE supporting E-UTRA TDD and Feature Group Indicator 103 and slot TTI | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| **Reporting of Channel State Information** | | | | | | | |
| 9.2.1.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.3\_C.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for eICIC (non-MBSFN ABS) | Rel-10 | C29 | UE supporting E-UTRA FDD and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.4\_C.1 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for eICIC (non-MBSFN ABS) | Rel-10 | C30 | UEs supporting E-UTRA TDD and Feature Group Indictor 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.5\_E.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.6\_E.1 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115(UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.1.7 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for 256QAM in DL | Rel-12 | C367 | UE supporting E-UTRA FDD and 256QAM in DL(UE category 11-12 and UE DL category >=11) |  | 2Rx, 4Rx | Note 7 |
| 9.2.1.8 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for 256QAM in DL | Rel-12 | C368 | UE supporting E-UTRA TDD and 256QAM in DL(UE category 11-12 and UE DL category >=11) |  | 2Rx, 4Rx | Note 7 |
| 9.2.2.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-1 | Rel-8 | C13 b | UE supporting E-UTRA FDD (UE categories >=2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.2.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-1 | Rel-8 to Rel-14 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6  Note 7 |
| 9.2.3.1A | FDD CQI Reporting under AWGN conditions – PUCCH 1-1 for FD-MIMO (With channelMeasRestriction configured) | Rel-13 | C337 | UE supporting E-UTRA FDD and Feature Group Indicator 103 and channeleMeasRestriction-r13 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.3.1\_D | FDD CQI Reporting under AWGN conditions - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C25a | UE supporting E-UTRA FDD and Feature Group Indicators 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.2.3.2A | TDD CQI Reporting under AWGN conditions – PUCCH 1-1 for FD-MIMO (With channelMeasRestriction configured) | Rel-13 | C338 | UE supporting E-UTRA TDD and Feature Group Indicator 103 and channeleMeasRestriction-r13 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.3.2\_D | TDD CQI Reporting under AWGN conditions - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C26a | UE supporting E-UTRA TDD and Feature Group Indicators 104 and 110 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C26am | UE supporting E-UTRA TDD and Feature Group Indicators 104 and 110 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and Feature Group Indicator 110 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.2.4.1A | FDD CQI Reporting under AWGN conditions - Single CSI Process With interferenceMeasRestriction configured | Rel-13 | C339 | UE supporting E-UTRA FDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 and interferenceMeasRestriction-13 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.4.1\_F | FDD CQI Reporting under AWGN conditions - Single CSI Process for CoMP | Rel-11 | C117 | UE supporting E-UTRA FDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.4.2A | TDD CQI Reporting under AWGN conditions - Single CSI Process With interferenceMeasRestriction configured | Rel-13 | C340 | UE supporting E-UTRA TDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 and interferenceMeasRestriction-13 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.4.2\_F | TDD CQI Reporting under AWGN conditions - Single CSI Process for CoMP | Rel-11 | C118 | UE supporting E-UTRA TDD and Maximum CSI processes of One, Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.2.5 | TDD CQI Reporting under AWGN conditions – PUCCH 1-1 (when csi-SubframeSet –r12 and EIMTA-MainConfigServCell-r12 are configured) | Rel-12 | C275 | UE supporting E-UTRA TDD and eIMTA TDD UL-DL reconfiguration and Rel-12 CSI subframe sets (UE Category >= 2) |  |  |  |
| 9.2.6.1 | LAA CQI Reporting under AWGN Conditions with Frame Structure Type 3 with FDD as Pcell (PUSCH 3-0) | Rel-13 | C209 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.6.2 | LAA CQI Reporting under AWGN Conditions with Frame Structure Type 3 with TDD as Pcell (PUSCH 3-0) | Rel-13 | C217 | UE supporting E-UTRA TDD and downlink LAA with TDD as Pcell | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.7.1 | LAA CQI Reporting under AWGN Conditions with Frame Structure Type 3 with FDD as Pcell (PUSCH 3-1) | Rel-13 | C218 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and TM9 on LAA cells | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.2.7.2 | LAA CQI Reporting under AWGN Conditions with Frame Structure Type 3 with TDD as Pcell (PUSCH 3-1) | Rel-13 | C219 | UE supporting E-UTRA TDD and downlink LAA and TM9 on LAA cells | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.1.1.1 | FDD CQI Reporting under fading conditions - PUSCH 3-0 | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.1.1.2 | TDD CQI Reporting under fading conditions - PUSCH 3-0 | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.1.1.5 | TDD CQI Reporting under fading conditions – PUCCH 3-0 (when csi-SubframeSet –r12 is configured) | Rel-12 | C276 | UE supporting E-UTRA TDD and Rel-12 CSI subframe sets (UE category >= 1) |  |  |  |
| 9.3.1.2.1\_D | FDD CQI Reporting under fading conditions - PUSCH 3-1 for eDL-MIMO | Rel-10 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx |  |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6  Note 7 |
| 9.3.1.2.2\_D | TDD CQI Reporting under fading conditions - PUSCH 3-1 for eDL-MIMO | Rel-10 to Rel-14 | C25a | UE supporting E-UTRA TDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx |  |
|  |  | Rel-15 | C25am | UE supporting E-UTRA TDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6  Note 7 |
| 9.3.1.2.3 | FDD CQI Reporting under fading conditions - PUSCH 3-1 for 256QAM in DL | Rel-12 to Rel-14 | C260 | UE supporting E-UTRA FDD and 256QAM in DL(UE category 11-12 and UE DL category >=11) and Feature Group Indicator 103 |  | 2Rx, 4Rx |  |
|  |  | Rel-15 | C260m | UE supporting E-UTRA FDD and 256QAM in DL and Feature Group Indicator 103 and UE DL Category = 13,  or UE supporting E-UTRA FDD and 256QAM in DL and (UE category 11-12 and UE DL category 11, 12, 14 or higher) |  |  | Note 6  Note 7 |
| 9.3.1.2.4 | TDD CQI Reporting under fading conditions - PUSCH 3-1 for 256QAM in DL | Rel-12 to Rel-14 | C261 | UE supporting E-UTRA TDD and 256QAM in DL(UE category 11-12 and UE DL category >=11) and Feature Group Indicator 103 |  | 2Rx, 4Rx |  |
|  |  | Rel-15 | C261m | UE supporting E-UTRA TDD and 256QAM in DL and Feature Group Indicator 103 and UE DL Category = 13,  or UE supporting E-UTRA TDD and 256QAM in DL and (UE category 11-12 and UE DL category 11, 12, 14 or higher) |  |  | Note 6  Note 7 |
| 9.3.1.2.6 | TDD CQI Reporting under fading conditions – PUCCH 3-1 (when csi-SubframeSet –r12 is configured with one CSI process) | Rel-12 | C277 | UE supporting E-UTRA TDD and Rel-12 CSI subframe sets and TM10 ( UE Category >= 1). |  | 2Rx |  |
| 9.3.1.3.1\_E.1 | FDD CQI Reporting under fading conditions - PUSCH 3-0 for feICIC (non-MBSFN ABS) | Rel-11 | C79 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.1.3.2\_E.1 | TDD CQI Reporting under fading conditions - PUSCH 3-0 for feICIC (non-MBSFN ABS) | Rel-11 | C80 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.2.1.1 | FDD CQI Reporting under fading conditions - PUCCH 1-0 | Rel-8 | C13 b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.2.1.1\_1 | FDD CQI Reporting under fading conditions - PUCCH 1-0 (Release 9 and forward) | Rel-9 | C15 | UE supporting E-UTRA FDD (UE category 1) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.2.1.2 | TDD CQI Reporting under fading conditions - PUCCH 1-0 | Rel-8 | C14 | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.2.1.2\_1 | TDD CQI Reporting under fading conditions - PUCCH 1-0 (Release 9 and forward) | Rel-9 | C16 | UE supporting E-UTRA TDD (UE category 1) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.2.2.1\_D | FDD CQI Reporting under fading conditions - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C25x | UE supporting E-UTRA FDD and Feature Group Indicator 103 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25xm | UTRA FDD and Feature Group Indicator 103 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.3.2.2.2\_D | TDD CQI Reporting under fading conditions - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C28y | UE supporting E-UTRA TDD and Feature Group Indicators 104 and 110 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C28ym | UE supporting E-UTRA TDD and Feature Group Indicators 104 and 110 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and Feature Group Indicator 110 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.3.3.1.1 | FDD CQI Reporting under fading conditions and frequency-selective interference - PUSCH 3-0 | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.3.1.2 | TDD CQI Reporting under fading conditions and frequency-selective interference - PUSCH 3-0 | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.4.1.1 | FDD CQI Reporting under fading conditions - PUSCH 2-0 | Rel-9 | C32 | UE supporting E-UTRA FDD and Feature Group Indicator 1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.4.1.2 | TDD CQI Reporting under fading conditions - PUSCH 2-0 | Rel-9 | C37 | UE supporting E-UTRA TDD and Feature Group Indicator 1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.4.2.1 | FDD CQI Reporting under fading conditions - PUCCH 2-0 | Rel-9 | C36 | UE supporting E-UTRA FDD and Feature Group Indicator 2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.4.2.2 | TDD CQI Reporting under fading conditions - PUCCH 2-0 | Rel-9 | C38 | UE supporting E-UTRA TDD and Feature Group Indicator 2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.5.1.1 | FDD CQI Reporting under fading conditions - PUCCH 1-0 - Enhanced Performance Requirement Type A | Rel-11 | C44 | UE supporting E-UTRA FDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.5.1.2 | TDD CQI Reporting under fading conditions - PUCCH 1-0 - Enhanced Performance Requirement Type A | Rel-11 | C45 | UE supporting E-UTRA TDD and the enhanced performance requirements type A for LTE | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.5.2.1 | FDD CQI Reporting under fading conditions - PUCCH 1-1 - Enhanced Performance Requirement Type A | Rel-11 | C44z | UE supporting E-UTRA FDD and the enhanced performance requirements type A for LTE (UE Category >= 2) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.5.2.2 | TDD CQI Reporting under fading conditions - PUCCH 1-1 - Enhanced Performance Requirement Type A | Rel-11 | C45i | UE supporting E-UTRA TDD and the enhanced performance requirements type A for LTE (UE Category >= 2) and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.6.1\_F.1 | FDD CQI Reporting under fading conditions with Single CSI process for CoMP | Rel-11 | C50a | UE supporting E-UTRA FDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.6.1\_F.2 | FDD CQI Reporting under fading conditions with Three CSI processes for CoMP | Rel-11 | C96 | UE supporting E-UTRA FDD and Maximum CSI processes of Three on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.6.1\_F.3 | FDD CQI Reporting under fading conditions with Four CSI processes for CoMP | Rel-11 | C97 | UE supporting E-UTRA FDD and Maximum CSI processes of Four on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.6.2\_F.1 | TDD CQI Reporting under fading conditions with Single CSI process for CoMP | Rel-11 | C51a | UE supporting E-UTRA TDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.6.2\_F.2 | TDD CQI Reporting under fading conditions with Three CSI processes for CoMP | Rel-11 | C98 | UE supporting E-UTRA TDD and Maximum CSI processes of Three on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.6.2\_F.3 | TDD CQI Reporting under fading conditions with Four CSI processes for CoMP | Rel-11 | C99 | UE supporting E-UTRA TDD and Maximum CSI processes of Four on a component carrier within a band with PDSCH transmission mode 10 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.3.7.1 | FDD CQI Reporting under fading conditions - PUSCH 3-2 for eDL MIMO Enhancement | Rel-12 to Rel-14 | C25b | UE supporting E-UTRA FDD and Feature Group Indicator 103 and PUSCH feedback mode 3-2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25bm | UE supporting E-UTRA FDD and Feature Group Indicator 103 and PUSCH feedback mode 3-2 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and PUSCH feedback mode 3-2 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.3.7.2 | TDD CQI Reporting under fading conditions - PUSCH 3-2 for eDL MIMO Enhancement | Rel-12 to Rel-14 | C25c | UE supporting E-UTRA TDD and Feature Group Indicator 103 and PUSCH feedback mode 3-2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25cm | UE supporting E-UTRA TDD and Feature Group Indicator 103 and PUSCH feedback mode 3-2 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and PUSCH feedback mode 3-2 and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.3.8.1.1 | FDD CQI Reporting under fading conditions - PUCCH 1-1 (Cell-Specific Reference Symbols) TM4 - Enhanced Receiver Type B | Rel-12 | C152 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.8.1.2 | TDD CQI Reporting under fading conditions - PUCCH 1-1 (Cell-Specific Reference Symbols) TM4 - Enhanced Receiver Type B | Rel-12 | C153 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.8.2.1 | FDD CQI Reporting under fading conditions - PUCCH 1-1 (CSI Reference Symbol) TM9 - Enhanced Receiver Type B | Rel-12 | C152 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.8.2.2 | TDD CQI Reporting under fading conditions - PUCCH 1-1 (CSI Reference Symbol) TM9 - Enhanced Receiver Type B | Rel-12 | C153 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.8.3.1 | FDD CQI Reporting under fading conditions - PUCCH 1-1 (CSI Reference Symbol) TM10 with TM9 interference - Enhanced Receiver Type B | Rel-12 | C152 | UE supporting E-UTRA FDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.3.8.3.2 | TDD CQI Reporting under fading conditions - PUCCH 1-1 (CSI Reference Symbol) TM10 with TM9 interference - Enhanced Receiver Type B | Rel-12 | C153 | UE supporting E-UTRA TDD and the enhanced performance requirements type B for LTE (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.4.1.1.1 | FDD PMI Reporting - PUSCH 3-1 (Single PMI) | Rel-8 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.1.2 | TDD PMI Reporting - PUSCH 3-1 (Single PMI) | Rel-8 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.2.1 | FDD PMI Reporting - PUCCH 2-1 (Single PMI) | Rel-9 | C36 | UE supporting E-UTRA FDD and Feature Group Indicator 2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.2.2 | TDD PMI Reporting - PUCCH 2-1 (Single PMI) | Rel-9 | C38 | UE supporting E-UTRA TDD and Feature Group Indicator 2 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.3.1\_D | FDD PMI Reporting - PUSCH 3-1 (Single PMI) for eDL-MIMO | Rel-10 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.1.3.2\_D | TDD PMI Reporting - PUSCH 3-1 (Single PMI) for eDL-MIMO | Rel-10 to Rel-14 | C26 | UE supporting E-UTRA TDD and Feature Group Indicator 104 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C26m | UE supporting E-UTRA TDD and Feature Group Indicator 104 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.1.3.3 | FDD PMI Reporting with 12Tx Class A codebook – PUSCH 3-1 (Single PMI) for FD-MIMO | Rel-13 | C13b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.3.4 | TDD PMI Reporting with 12Tx Class A codebook – PUSCH 3-1 (Single PMI) for FD-MIMO | Rel-13 | C14b | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.4.1 | FDD PMI Reporting with 4Tx enhanced codebook - PUCCH 1-1 (Single PMI) for eDL MIMO Enhancement | Rel-12 to Rel-14 | C25d | UE supporting E-UTRA FDD and Feature Group Indicator 103 and enhanced 4Tx codebook | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.1.4.2 | TDD PMI Reporting with 4Tx enhanced codebook - PUCCH 1-1 (Single PMI) for eDL MIMO Enhancement | Rel-12 to Rel-14 | C25e | UE supporting E-UTRA TDD and Feature Group Indicator 103 and enhanced 4Tx codebook | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25em | UE supporting E-UTRA TDD and Feature Group Indicator 103 and enhanced 4Tx codebook and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and enhanced 4Tx codebook and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.1.4.3 | FDD PMI Reporting with Class B alternative codebook – PUCCH 1-1 for FD-MIMO | Rel-13 | C13b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.1.4.4 | TDD PMI Reporting with Class B alternative codebook – PUCCH 1-1 for FD-MIMO | Rel-13 | C14b | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.1.1 | FDD PMI Reporting - PUSCH 1-2 (Multiple PMI) | Rel-8 only | C11 | UE supporting E-UTRA FDD and operating bands supporting 20 MHz Bandwidth (UE categories 2, 3, 4, 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.1.1\_1 | FDD PMI Reporting - PUSCH 1-2 (Multiple PMI) (Release 9 and forward) | Rel-9 | C01 | UE supporting E-UTRA FDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.1.2 | TDD PMI Reporting - PUSCH 1-2 (Multiple PMI) | Rel-8 only | C12 | UE supporting E-UTRA TDD and operating bands supporting 20 MHz Bandwidth (UE categories 2, 3, 4, 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.1.2\_1 | TDD PMI Reporting - PUSCH 1-2 (Multiple PMI) (Release 9 and forward) | Rel-9 | C02 | UE supporting E-UTRA TDD | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.2.1 | FDD PMI Reporting - PUSCH 2-2 (Multiple PMI) | Rel-9 | C32 | UE supporting E-UTRA FDD and Feature Group Indicators 1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.2.2 | TDD PMI Reporting - PUSCH 2-2 (Multiple PMI) | Rel-9 | C33 | UE supporting E-UTRA TDD and Feature Group Indicators 1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.3.1\_D | FDD PMI Reporting - PUSCH 1-2 (Multiple PMI) for eDL-MIMO | Rel-10 to Rel-14 | C25 | UE supporting E-UTRA FDD and Feature Group Indicator 103 | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25m | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.2.3.2\_D | TDD PMI Reporting - PUSCH 1-2 (Multiple PMI) for eDL-MIMO | Rel-10 to Rel-14 | C26 | UE supporting E-UTRA TDD and Feature Group Indicator 104 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C26m | UE supporting E-UTRA TDD and Feature Group Indicator 104 and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.2.3.3 | FDD PMI Reporting with 4Tx enhanced codebook - PUSCH 1-2 (Multiple PMI) for eDL-MIMO Enhancement | Rel-12 to Rel-14 | C25d | UE supporting E-UTRA FDD and Feature Group Indicator 103 and enhanced 4Tx codebook | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
|  |  | Rel-15 | C25dm | UE supporting E-UTRA FDD and Feature Group Indicator 103 and enhanced 4Tx codebook and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and enhanced 4Tx codebook and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.2.3.4 | TDD PMI Reporting with 4Tx enhanced codebook - PUSCH 1-2 (Multiple PMI) for eDL-MIMO Enhancement | Rel-12 to Rel-14 | C25e | UE supporting E-UTRA TDD and eDL-MIMO Enhancement and Feature Group Indicator 103 and enhanced 4Tx codebook | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx |  |
|  |  | Rel-15 | C25em | UE supporting E-UTRA TDD and Feature Group Indicator 103 and enhanced 4Tx codebook and ((UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and enhanced 4Tx codebook and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.4.2.3.5 | FDD PMI Reporting with Class A 16Tx codebook - PUSCH 1-2 (Multiple PMI) for FD-MIMO | Rel-13 | C13b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.4.2.3.6 | TDD PMI Reporting with Class A 16Tx codebook - PUSCH 1-2 (Multiple PMI) for FD-MIMO | Rel-13 | C14b | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.5.1.1 | FDD RI Reporting - PUCCH 1-1 | Rel-8 and Rel-9 only | C13a | UE supporting E-UTRA FDD (UE Category 2-5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.1.1\_1 | FDD RI Reporting - PUCCH 1-1 (Release 10) | Rel-10 only | C13 | UE supporting E-UTRA FDD (UE Category 2-8) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.1.1\_2 | FDD RI Reporting- PUCCH 1-1 (Release 11) | Rel-11 | C13b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.1.2 | TDD RI Reporting - PUSCH 3-1 | Rel-8 and Rel-9 only | C14a | UE supporting E-UTRA TDD (UE Category 2-5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.1.2\_1 | TDD RI Reporting - PUSCH 3-1 (Release 10) | Rel-10 only | C14 | UE supporting E-UTRA TDD (UE Category 2-8) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.1.2\_2 | TDD RI Reporting- PUSCH 3-1 (Release 11) | Rel-11 | C14b | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.2.1\_D | FDD RI Reporting - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C25x | UE supporting E-UTRA FDD and Feature Group Indicators 103 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25xm | UE supporting E-UTRA FDD and Feature Group Indicator 103 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.5.2.2\_D | TDD RI Reporting - PUCCH 1-1 for eDL-MIMO | Rel-10 to Rel-14 | C25y | UE supporting E-UTRA TDD and Feature Group Indicator 103 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C25ym | UE supporting E-UTRA TDD and Feature Group Indicator 103 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.5.3.1\_C.1 | FDD RI Reporting - PUCCH 1-0 for eICIC (non-MBSFN ABS) | Rel-10 | C29 | UE supporting E-UTRA FDD and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.3.2\_C.1 | TDD RI Reporting - PUCCH 1-0 for eICIC (non-MBSFN ABS) | Rel-10 | C30 | UE supporting E-UTRA TDD and Feature Group Indicator 115 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.4.1\_E.1 | FDD RI Reporting - PUCCH 1-0 for feICIC (non-MBSFN ABS) | Rel-11 | C77 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.4.2\_E.1 | TDD RI Reporting - PUCCH 1-0 for feICIC (non-MBSFN ABS) | Rel-11 | C78 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115(UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.5.5.1\_F.1 | FDD RI Reporting with Single CSI processes for CoMP | Rel-11 | C50 | UE supporting E-UTRA FDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.5.5.1\_F.2 | FDD RI Reporting with Multiple CSI processes for CoMP | Rel-11 | C52 | UE supporting E-UTRA FDD and Maximum CSI processes of Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.5.5.2\_F.1 | TDD RI Reporting with Single CSI process for CoMP | Rel-11 | C51 | UE supporting E-UTRA TDD and Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.5.5.2\_F.2 | TDD RI Reporting with Multiple CSI processes for CoMP | Rel-11 | C53 | UE supporting E-UTRA TDD and Maximum CSI processes of Three or Four on a component carrier within a band with PDSCH transmission mode 10 (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.6.1.1\_A.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (2 DL CA) | Rel-10 | C108 | UE supporting E-UTRA FDD and intra-band contiguous DL CA or inter-band DL CA (UE Category >= 3) | Refer to 36.521-1 9.1.1.2 | 2Rx, 4Rx | Test execution not necessary if 9.6.1.1\_A.2 is executed.  Note 7 |
| Rel-11 | C103 | UE supporting E-UTRA FDD and intra-band non-contiguous DL CA(UE Category >= 3) |  |  |  |
| 9.6.1.1\_A.2 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (3 DL CA) | Rel-10 | C124 | UE supporting E-UTRA FDD and 3DL with intra-band contiguous CA, or 3DL with inter-band CA, or 3DL with intra-band contiguous and inter-band CA (UE Category >= 5) | Refer to 36.521-1 9.1.1.2 | 2Rx, 4Rx | Test execution not necessary if 9.6.1.1\_A.3 is executed.  Note 7 |
| Rel-11 | C125 | UE supporting E-UTRA FDD and 3DL with intra-band non-contiguous and inter-band CA, or 3DL with intra-band non-contiguous and intra-band contiguous CA (UE Category >= 5) | TBD |  |  |
| 9.6.1.1\_A.3 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (4DL CA) | Rel-11 | C192 | UE supporting E-UTRA FDD and 4DL with intra-band contiguous CA, or 4DL with inter-band CA, or 4DL with intra-band contiguous and inter-band CA (UE Category >= 8) |  | 2Rx, 4Rx | Test execution not necessary if 9.6.1.1\_A.4 is executed.  Note 7 |
| Rel-11 | C193 | UE supporting E-UTRA FDD and 4DL with intra-band non-contiguous and inter-band CA, or 4DL with intra-band non-contiguous and intra-band contiguous CA (UE Category >= 8) |  |  |  |
| 9.6.1.1\_A.4 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (5DL CA) | Rel-11 | C192a | UE supporting E-UTRA FDD and 5DL with Intra-band contiguous and Inter-band CA or 5DL with Intra-band non-contiguous and Inter-band CA or 5DL with Intra-band non-contiguous and Intra-band contiguous CA (UE Category 8 and >= 11) |  | 2Rx, 4Rx | Note 7 |
|  |  | Rel-12 | C193a | UE supporting E-UTRA FDD and 5DL Inter-band CA (UE Category 8 and>= 11) |  |  |  |
| 9.6.1.1\_A.5 | FDD CQI Reporting under AWGN conditions – PUCCH 1-0 for CA (6DL CA) | Rel-14 | C363 | UE supporting E-UTRA FDD and 6DL with Intra-band contiguous and Inter-band CA or 6DL with Intra-band non-contiguous and Inter-band CA or 6DL with Inter-band CA (UE Category 8 and >= 11) |  | 2Rx, 4Rx | Note 7 |
| 9.6.1.1\_A.6 | FDD CQI Reporting under AWGN conditions – PUCCH 1-0 for CA (7DL CA) | Rel-14 | C364 | UE supporting E-UTRA FDD and 7DL with Intra-band contiguous and Inter-band CA or 7DL with Intra-band non-contiguous and Inter-band CA (UE Category 8 and >= 11) |  | 2Rx, 4Rx | Note 7 |
| 9.6.1.2\_A.1 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (2DL CA) | Rel-10 | C114 | UE supporting E-UTRA TDD and intra-band contiguous DL CA (UE Category >= 3) | Refer to 36.521-1 9.1.1.2 | 2Rx, 4Rx | Test execution not necessary if 9.6.1.2\_A.2 is executed.  Note 7 |
| 9.6.1.2\_A .2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (3 DL CA) | Rel-10 | C128 | UE supporting E-UTRA TDD and 3DL with intra-band contiguous CA, or 3DL with inter-band CA, or 3DL with intra-band contiguous and inter-band CA (UE Category >= 5) | Refer to 36.521-1 9.1.1.2 | 2Rx, 4Rx | Test execution not necessary if 9.6.1.2\_A.3 is executed.  Note 7 |
| Rel-11 | C129 | UE supporting E-UTRA TDD and 3DL with intra-band non-contiguous and inter-band CA, or 3DL with intra-band non-contiguous and intra-band contiguous CA (UE Category >= 5) |  |  |  |
| 9.6.1.2\_A.3 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (4 DL CA) | Rel-11 | C270 | UE supporting E-UTRA TDD and 4DL with intra-band contiguous CA, or 4DL with inter-band CA, or 4DL with intra-band contiguous and inter-band CA (UE Category >= 8) |  |  | Test execution not necessary if 9.6.1.2\_A.4 is executed. |
|  |  | Rel-11 | C271 | UE supporting E-UTRA TDD and 4DL with intra-band non-contiguous and inter-band CA, or 4DL with intra-band non-contiguous and intra-band contiguous CA (UE Category >= 8) |  |  |  |
| 9.6.1.2\_A.4 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (5 DL CA) | Rel-11 | C272 | UE supporting E-UTRA TDD and 5DL with intra-band contiguous CA, or 5DL with inter-band CA, or 5DL with intra-band contiguous and inter-band CA (UE Category 8 and >=11) |  |  |  |
|  |  | Rel-11 | C273 | UE supporting E-UTRA TDD and 5DL with intra-band non-contiguous and inter-band CA, or 5DL with intra-band non-contiguous and intra-band contiguous CA (UE Category 8 and >=11) |  |  |  |
| 9.6.1.2\_A.5 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (6 DL CA) | Rel-14 | C365 | UE supporting E-UTRA TDD and 6DL with Intra-band contiguous and Inter-band CA or 6DL with Intra-band non-contiguous and Inter-band CA or 6DL with Inter-band CA (UE Category 8 and >= 11) |  | 2Rx, 4Rx | Note 7 |
| 9.6.1.2\_A.6 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 for CA (7 DL CA) | Rel-14 | C366 | UE supporting E-UTRA TDD and 7DL with Intra-band contiguous and Inter-band CA or 7DL with Intra-band non-contiguous and Inter-band CA (UE Category 8 and >= 11) |  | 2Rx, 4Rx | Note 7 |
| 9.6.1.3.1 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for FDD PCell (2DL CA) | Rel-12 | C132 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell (UE Category >= 3) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.3.2 is executed.  Note 7 |
| 9.6.1.3.2 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for FDD PCell (3DL CA) | Rel-12 | C133 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.3.3 is executed.  Note 7 |
| 9.6.1.3.3 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for FDD PCell (4DL CA) | Rel-12 | C133a | UE supporting E-UTRA FDD and TDD and 4DL CA with FDD as PCell (UE Category >= 8) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.3.4 is executed.  Note 7 |
| 9.6.1.3.4 | TDD FDD CQI Reporting under AWGN conditions – PUCCH 1-0 for FDD PCell (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | TBD | 2Rx, 4Rx | Note 7 |
| 9.6.1.4.1 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for TDD PCell (2DL CA) | Rel-12 | C134 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell (UE Category >= 3) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.4.2 is executed.  Note 7 |
| 9.6.1.4.2 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for TDD PCell (3DL CA) | Rel-12 | C135 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell (UE Category >= 5) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.4.3 is executed.  Note 7 |
| 9.6.1.4.3 | TDD FDD CA CQI Reporting under AWGN conditions - PUCCH 1-0 for TDD PCell (4DL CA) | Rel-12 | C135a | UE supporting E-UTRA FDD and TDD and 4DL CA with TDD as PCell (UE Category >= 8) | TBD | 2Rx, 4Rx | Test execution not necessary if 9.6.1.4.4 is executed.  Note 7 |
| 9.6.1.4.4 | TDD FDD CQI Reporting under AWGN conditions – PUCCH 1-0 for TDD PCell (5DL CA) | Rel-12 | C133b | UE supporting E-UTRA FDD and TDD and 5DL CA with FDD as PCell (UE Category 8, and Category 11 and onwards) | TBD | 2Rx, 4Rx | Note 7 |
| 9.7.1.1 | FDD and Half duplex FDD CQI reporting definition under AWGN conditions for UE category 0 | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.7\_1.1.1 | FDD CQI reporting under AWGN conditions – PUCCH 1-0 for UE category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting |  |  |
| 9.7\_1.1.2 | TDD CQI reporting under AWGN conditions - PUCCH 1-0 for UE category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting |  |  |
| 9.7\_1.1.3 | FDD CQI reporting under fading conditions - PUSCH 3-0 for UE category 1bis | Rel-13 | C145d | UE supporting E-UTRA FDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting |  |  |
| 9.7\_1.1.4 | TDD CQI reporting under fading conditions - PUSCH 3-0 for UE category 1bis | Rel-13 | C156f | UE supporting E-UTRA TDD (UE category 1bis) | Each "Test Number" to be performed once, in a chosen band supporting |  |  |
| 9.7.1.2 | TDD CQI reporting definition under AWGN conditions for UE category 0 | Rel-12 | C119 | UE supporting E-UTRA TDD (UE category 0) |  |  |  |
| 9.7.2.1 | FDD and Half duplex FDD CQI reporting definition under fading conditions for UE category 0 | Rel-12 | C145 | UE supporting E-UTRA FDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.7.2.2 | TDD CQI reporting definition under fading conditions for UE category 0 | Rel-12 | C156 | UE supporting E-UTRA TDD (UE category 0) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.1.1 | FDD and Half duplex FDD CQI reporting definition under AWGN conditions for UE supporting coverage enhancement | Rel-13 | C145k | UE supporting E-UTRA FDD or HD-FDD and CEModeA | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.1.2 | TDD CQI reporting definition under AWGN conditions for UE supporting coverage enhancement | Rel-13 | C156a | UE supporting E-UTRA TDD and UE category M1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.2.1 | FDD and Half-duplex FDD UE-selected subband CQI for UE supporting coverage enhancement | Rel-13 | C145a | UE supporting E-UTRA FDD and UE category M1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.2.2 | TDD UE-selected subband CQI for UE supporting coverage enhancement | Rel-13 | C156a | UE supporting E-UTRA TDD and UE category M1 | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.3.1 | FDD and half duplex FDD CQI reporting under AWGN conditions for UE supporting coverage enhancement and 64QAM | Rel-15 | C145i | UE supporting E-UTRA FDD and CEModeA and 64QAM | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.3.2 | TDD CQI reporting under AWGN conditions for UE supporting coverage enhancement and 64QAM | Rel-15 | C156k | UE supporting E-UTRA TDD and CEModeA and 64QAM | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.4.1 | FDD and half duplex FDD CQI reporting under AWGN conditions for UE supporting coverage enhancement alternative table | Rel-15 | C145j | UE supporting E-UTRA FDD and CEModeA and alternative table | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.8.4.2 | TDD CQI reporting under AWGN conditions for UE supporting coverage enhancement alternative table | Rel-15 | C156l | UE supporting E-UTRA TDD and CEModeA and alternative table | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.9.1.1.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-0 with Rank 1 1x4 | Rel-10 | C113b | UE supporting E-UTRA FDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.9.1.1.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-0 with Rank 1 1x4 | Rel-10 | C177 | UE supporting E-UTRA TDD with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.9.1.2.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 2 4x4 | Rel-10 to Rel-14 | C178 | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C178m | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.1.2.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 2 8x4 | Rel-10 to Rel-14 | C179 | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 104 with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C179m | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 104 with 4Rx antenna ports and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.1.3.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 4 4x4 | Rel-10 | C180 | UE supporting E-UTRA FDD with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category >= 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.9.1.3.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 4 4x4 | Rel-10 | C181 | UE supporting E-UTRA TDD with 4Rx antenna ports and 4-layer spatial multiplexing (UE Category >= 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 9.9.1.4.1 | FDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 3 4x4 | Rel-10 to Rel-14 | C182 | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports (UE Category >= 5) | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C182m | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports and ((5 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.1.4.2 | TDD CQI Reporting under AWGN conditions - PUCCH 1-1 with rank 3 4x4 | Rel-10 to Rel-14 | C183 | UE supporting E-UTRA TDD andUE Category ≥ 5 and Feature Group Indicator 103 with 4Rx antenna ports | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C183m | UE supporting E-UTRA TDD and Feature Group Indicator 103 with 4Rx antenna ports and ((5 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.2.1.1 | FDD CQI Reporting under fading conditions - PUCCH 1-0 - Enhanced Performance Requirement Type A 1x4 | Rel-11 | C197 | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE | Each" Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 9.9.2.1.2 | TDD CQI Reporting under fading conditions - PUCCH 1-0 - Enhanced Performance Requirement Type A 1x4 | Rel-11 | C198 | UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE | Each" Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 9.9.2.2.1 | FDD CQI Reporting under fading conditions - PUCCH 1-1 - Enhanced Performance Requirement Type A2 x4 | Rel-11 to Rel-14 | C199 | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE (UE Category >= 2) and Feature Group Indicator 103 | Each" Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C199m | UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and Feature Group Indicator 103 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.2.2.2 | TDD CQI Reporting under fading conditions - PUCCH 1-1 - Enhanced Performance Requirement Type A2 x4 | Rel-11 to Rel-14 | C200 | UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE (UE Category >= 2) and Feature Group Indicator 103 | Each" Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C200m | UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and Feature Group Indicator 103 and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD with 4Rx antenna ports and the enhanced performance requirements type A for LTE and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.3.1.1 | TDD PMI Reporting - PUSCH 3-1 (Single PMI) 8x4 | Rel-10 to Rel-14 | C179 | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 104 with 4Rx antenna ports (UE Category >= 2) | Each" Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
|  |  | Rel-15 | C179m | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 104 with 4Rx antenna ports and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD with 4Rx antenna ports and (UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.4.1.1 | FDD RI Reporting- PUCCH 1-1 4x4 | Rel-10 | C203 | UE supporting E-UTRA FDD with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 9.9.4.1.2 | TDD RI Reporting- PUSCH 3-1 4x4 | Rel-10 | C204 | UE supporting E-UTRA TDD with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
| 9.9.4.2.1 | FDD RI Reporting- PUCCH 1-1 for eDL-MIMO 4x4 | Rel-10 to Rel-14 | C205 | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C205m | UE supporting E-UTRA FDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA FDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.9.4.2.2 | TDD RI Reporting- PUCCH 1-1 for eDL-MIMO 4x4 | Rel-10 to Rel-14 | C206 | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW and 4Rx antenna ports |  |  |
|  |  | Rel-15 | C206m | UE supporting E-UTRA TDD and eDL-MIMO and Feature Group Indicator 103 with 4Rx antenna ports and ((2 <= UE Category < 8 or 8 < UE Category < 11) and (UE DL Category < 11 or UE DL Category = 13 )),  or UE supporting E-UTRA TDD with 4Rx antenna ports and (UE Category = 8 or UE Category >= 11 or UE DL Category = 11 or UE DL Category = 12 or UE DL Category >=14) |  |  | Note 6 |
| 9.10.1.1 | FDD CSI-RS Resource Indicator Reporting – PUSCH 3-1 | Rel-13 | C13b | UE supporting E-UTRA FDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.10.1.2 | TDD CSI-RS Resource Indicator Reporting – PUSCH 3-1 | Rel-13 | C341 | UE supporting E-UTRA TDD (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.12.1.1 | FDD CQI reporting under fading conditions for slot/subslot TTI (Cell-Specific Reference Symbol) | Rel-15 | C354 | UE supporting E-UTRA FDD and slot/subslot TTI (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.12.1.2 | TDD CQI reporting under fading conditions for slot/subslot TTI (Cell-Specific Reference Symbol) | Rel-15 | C354a | UE supporting E-UTRA TDD and slot TTI (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.12.2.1 | FDD CQI reporting under fading conditions for slot/subslot TTI (CSI Reference Symbol) | Rel-15 | C357 | UE supporting E-UTRA FDD and Feature Group Indicators 103 and slot/subslot TTI (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| 9.12.2.2 | TDD CQI reporting under fading conditions for slot/subslot TTI (CSI Reference Symbol) | Rel-15 | C357a | UE supporting E-UTRA TDD and Feature Group Indicators 103 slot TTI (UE Category >= 2) | Each "Test Number" to be performed once, in a chosen band supporting tested BW | 2Rx, 4Rx | Note 7 |
| **MBMS Performance Testing** | | | | | | | |
| 10.1 | FDD MBMS performance (Fixed Reference Channel) | Rel-9 | C03 | UE supporting E-UTRA FDD and MBMS | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 10.1\_1 | FDD MBMS performance (Fixed Reference Channel) (Release 13 and forward) | Rel-13 | C03 | UE supporting E-UTRA FDD and MBMS | Performed once |  |  |
| 10.2 | TDD MBMS performance (Fixed Reference Channel) | Rel-9 | C04 | UE supporting E-UTRA TDD and MBMS | Each "Test Number" to be performed once, in a chosen band supporting tested BW |  |  |
| 10.2\_1 | TDD MBMS performance (Fixed Reference Channel) (Release 13 and forward) | Rel-13 | C04 | UE supporting E-UTRA TDD and MBMS | Performed once |  |  |
| **V2X Sidelink Performance Testing** | | | | | | | |
| 14.2 | Demodulation of PSSCH / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication |  |  |  |
| 14.3 | Demodulation of PSCCH / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication |  |  |  |
| 14.4 | Power imbalance performance with two links / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C313 | UE supporting V2X Sidelink communication |  |  |  |
| 14.6 | Demodulation of PSSCH with eNB based synchronization | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| 14.7 | Soft buffer test | Rel-14 | C313 | UE supporting V2X Sidelink communication | D14 | TDD |  |
| 14.8 | PSCCH/PSSCH decoding capability test / Non-concurrent with E-UTRA uplink transmissions | Rel-14 | C321 | UE supporting V2X Sidelink communication |  |  |  |
| 14.9 | Sustained downlink data rate with active sidelink | Rel-14 | C320 | UE supporting E-UTRA and V2X Sidelink communication | E16 | FDD,TDD |  |
| Note 1: Due to UE capability signalling for UL 64QAM is introduced from Rel-12, this test case can optionally be executed with a Rel-12 UE.  Note 2: For a transition period until RAN5#72, this condition in version 13.0.0 of 36.521-2 shall be used. This is to ensure no test coverage is lost before the UL 64QAM test case becomes available.  Note 3: Equivalent aggregated bandwidth is defined as: . Where  is number of CCs,  and is MIMO layer and bandwidth of CC . The number of MIMO layer for CC  in each CA configuration is according to Table A.4.6.1-3, Table A.4.6.2-3, Table A.4.6.3-3, Table A.4.6.3-4 or Table A.4.6.3-5.  Note 4: For a transition period until RAN5#83, this condition in version 15.3.1 of 36.521-2 shall be used. This is to ensure no test coverage is lost before the UL 256QAM test cases become available.  Note 5: Void.  Note 6: The categories for which FGI 103/104 are mandated are (UE category >=11 OR UE DL Category = 11 OR UE DL Category = 12 OR UE DL Category >= 14) according to TS 36.331. The UE DL Categories higher than 14 are not explicitly listed in the corresponding expression in Table 4.1-1a because in this version of core specification UE DL Category > 14 requires supporting of UE Category 11 or 12.  Note 7: Skipping 2RX testing if UE is verified with four RX antenna ports in operating bands where it is equipped with four RX antenna port. | | | | | | | |

Table 4.1-1a: Applicability of RF conformance test cases Conditions

|  |
| --- |
| C01 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 THEN R ELSE N/A |
| C01h IF (A.4.1-1/1 AND A.4.5-1/18) THEN R ELSE N/A |
| C02 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 THEN R ELSE N/A |
| C02h IF (A.4.1-1/2 AND A.4.5-1/18) THEN R ELSE N/A |
| C03 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.2-1/1) THEN R ELSE N/A |
| C04 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/1) THEN R ELSE N/A |
| C05 Void |
| C06 Void |
| C07 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-3b/2 AND A.4.2-1/3) THEN R ELSE N/A |
| C08 Void |
| C09 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-3a/1) THEN R ELSE N/A |
| C10 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-3a/1) THEN R ELSE N/A |
| C11 IF A.4.1-1/1 AND A.4.3-3a/6 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5) THEN R ELSE N/A |
| C12 IF A.4.1-1/2 AND A.4.3-3a/6 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5) THEN R ELSE N/A |
| C13 IF ((A.4.1-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C13a IF ((A.4.1-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5)) THEN R ELSE N/A |
| C13b IF ((A.4.1-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 )) THEN R ELSE N/A |
| C14 IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C14a IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5)) THEN R ELSE N/A |
| C14b IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C15 IF (A.4.1-1/1 AND A.4.3-4/1) THEN R ELSE N/A |
| C16 IF (A.4.1-1/2 AND A.4.3-4/1) THEN R ELSE N/A |
| C17 Void |
| C18 Void |
| C19 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2) AND (A.4.6.1-2/1 OR A.4.6.1-2/2) THEN R ELSE N/A |
| C19a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/3 AND A.4.6.1-2/3) THEN R ELSE N/A |
| C19h IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/2 AND A.4.6.1-2/2 AND A.4.5-1/18) THEN R ELSE N/A |
| C20 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2)) THEN R ELSE N/A |
| C20h IF ((A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2) AND A.4.5-1/18) THEN R ELSE N/A |
| C21 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1) THEN R ELSE N/A |
| C21h IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1) AND A.4.5-1/18 THEN R ELSE N/A |
| C22 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.6.1-1/2) THEN R ELSE N/A |
| C23 Void |
| C24 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.6.1-1/2) THEN R ELSE N/A |
| C25 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.4-3a/103) THEN R ELSE N/A |
| C25m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.4-3b/103) THEN R ELSE N/A |
| C25am IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.5-1/81 AND A.4.4-3a/103) THEN R ELSE N/A |
| C25bm IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.5-1/81 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25c IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.5-1/81 AND A.4.4-3b/103) THEN R ELSE N/A |
| C25cm IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.5-1/81 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25d IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.5-1/80 AND A.4.4-3a/103) THEN R ELSE N/A |
| C25dm IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.5-1/80 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.5-1/80 AND A.4.4-3b/103) THEN R ELSE N/A |
| C25em IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.5-1/80 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25h IF (A.4.1-1/1 AND A.4.4-3a/103 AND A.4.5-1/18) THEN R ELSE N/A |
| C25hm IF (A.4.1-1/1 AND A.4.5-1/18 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C25x IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.4-3a/103) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C25xm IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND ((A.4.4-3a/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C25y IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3b/103) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C25ym IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND ((A.4.4-3b/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C26 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3b/104)) THEN R ELSE N/A |
| C26m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND ((A.4.4-3b/104 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C26a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-3b/104 AND A.4.4-3b/110) THEN R ELSE N/A |
| C26am IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-3b/110 AND ((A.4.4-3b/104 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C26h IF (((A.4.1-1/1 AND A.4.4-3a/104) OR (A.4.1-1/2 AND A.4.4-3b/104)) AND A.4.5-1/18) THEN R ELSE N/A |
| C26hm IF ((((A.4.1-1/1 AND A.4.4-3a/104) OR (A.4.1-1/2 AND A.4.4-3b/104)) AND A.4.5-1/18 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/18 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C27 Void |
| C28 Void |
| C28y IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3a/104 AND A.4.4-3a/110) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C28ym IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3a/110) AND ((A.4.4-3a/104 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C29 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.4-3a/115) THEN R ELSE N/A |
| C30 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-3b/115) THEN R ELSE N/A |
| C31 IF (A.4.1-1/1 AND (A.4.3-4/1 OR A.4.3-4/2)) THEN R ELSE N/A |
| C32 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.4-1a/1) THEN R ELSE N/A |
| C33 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-1b/1) THEN R ELSE N/A |
| C34 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/5) THEN R ELSE N/A |
| C35 Void |
| C36 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.4-1a/2 THEN R ELSE N/A |
| C37 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-1b/1 THEN R ELSE N/A |
| C38 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-1b/2 THEN R ELSE N/A |
| C39 IF(NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.3-3b/1 OR A.4.3-3b/4)) THEN R ELSE N/A |
| C39a IF(NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-3b/1) THEN R ELSE N/A |
| C39b IF(NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-3b/4) THEN R ELSE N/A |
| C39c IF(NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.3-3b/1 OR A.4.3-3b/4) THEN R ELSE N/A |
| C40 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.4-3a/103 AND A.4.3-7/1) THEN R ELSE N/A |
| C40m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/1 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C41 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.4-3b/103 AND A.4.3-7/1) THEN R ELSE N/A |
| C41m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/1 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C42 IF ((A.4.1-1/1) AND (NOT A.4.5-1/18) AND (A.4.3-4/6 OR A.4.3-4/7)) THEN R ELSE N/A |
| C42h IF ((A.4.1-1/1) AND (A.4.3-4/6 OR A.4.3-4/7) AND A.4.5-1/18 AND A.4.3-4a/8) THEN R ELSE N/A |
| C43 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1) THEN R ELSE N/A |
| C43h IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1 AND A.4.5-1/18) THEN R ELSE N/A |
| C44 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/1) THEN R ELSE N/A |
| C44z IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/1 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8) AND A.4.4-3a/103) THEN R ELSE N/A |
| C45 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/1) THEN R ELSE N/A |
| C45i IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/1 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8) AND A.4.4-3b/103) THEN R ELSE N/A |
| C46 Void |
| C47 Void |
| C48 Void |
| C49 Void |
| C50 IF (A.4.1-1/1 AND A.4.5-1/8 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C50a IF (A.4.1-1/1 AND A.4.5-1/8) THEN R ELSE N/A |
| C51 IF (A.4.1-1/2 AND A.4.5-1/8 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C51a IF (A.4.1-1/2 AND A.4.5-1/8) THEN R ELSE N/A |
| C52 IF (A.4.1-1/1 AND (A.4.5-1/11 OR A.4.5-1/12) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C53 IF (A.4.1-1/2 AND (A.4.5-1/11 OR A.4.5-1/12) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C54 IF (A.4.1-1/2 AND (A.4.3-4/1 OR A.4.3-4/2)) THEN R ELSE N/A |
| C55 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.2-1/6) THEN R ELSE N/A |
| C56 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/6) THEN R ELSE N/A |
| C57 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.2-1/6 AND (A.4.5-1/11 OR A.4.5-1/12)) THEN R ELSE N/A |
| C58 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/6 AND (A.4.5-1/11 OR A.4.5-1/12)) THEN R ELSE N/A |
| C59 Void |
| C60 Void |
| C61 Void |
| C62 Void |
| C63 Void |
| C64 Void |
| C65 Void |
| C66 Void |
| C67 Void |
| C68 Void |
| C69 Void |
| C70 Void |
| C71 Void |
| C72 IF ((A.4.1-1/2) AND (A.4.6.2-1/1) AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C73 IF ((A.4.1-1/2) AND (NOT A.4.5-1/18) AND (A.4.3-4/6 OR A.4.3-4/7)) THEN R ELSE N/A |
| C73h IF ((A.4.1-1/2) AND A.4.5-1/18 AND A.4.3-4a/8) THEN R ELSE N/A |
| C74 IF ((A.4.1-1/2) AND (NOT A.4.5-1/18) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) THEN R ELSE N/A |
| C74h IF ((A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C75 IF ((A.4.1-1/2) AND (NOT A.4.5-1/18) AND (A.4.6.2-1/1) AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) THEN R ELSE N/A |
| C76 IF A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.3-4/1 OR A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4) THEN R ELSE N/A |
| C77 IF (A.4.1-1/1 AND A.4.5-2/1 AND A.4.4-3a/115 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C78 IF (A.4.1-1/2 AND A.4.5-2/1 AND A.4.5-2/2 AND A.4.4-3b/115 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C79 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.5-2/1 AND A.4.4-3a/115) THEN R ELSE N/A |
| C80 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.5-2/1 AND A.4.5-2/2 AND A.4.4-3b/115) THEN R ELSE N/A |
| C81 void |
| C82 void |
| C83 IF ((A.4.1-1/2) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7) AND (A.4.6.3-1/1)) THEN R ELSE N/A |
| C84 Void |
| C85 Void |
| C86 Void |
| C87 Void |
| C88 Void |
| C89 Void |
| C90 IF ((A.4.1-1/1) AND (A.4.6.2-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C91 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.2-1/6 AND A.4.4-3a/103) THEN R ELSE N/A |
| C91m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.2-1/6 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C92 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/6 AND A.4.4-3b/103) THEN R ELSE N/A |
| C92m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.2-1/6 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C93 IF ((A.4.1-1/1) AND (NOT A.4.5-1/18) AND (A.4.6.2-1/1) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) THEN R ELSE N/A |
| C94 Void |
| C95 Void |
| C96 IF (A.4.1-1/1 AND A.4.5-1/11) THEN R ELSE N/A |
| C97 IF (A.4.1-1/1 AND A.4.5-1/12) THEN R ELSE N/A |
| C98 IF (A.4.1-1/2 AND A.4.5-1/11) THEN R ELSE N/A |
| C99 IF (A.4.1-1/2 AND A.4.5-1/12) THEN R ELSE N/A |
| C100 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/13) THEN R ELSE N/A |
| C101 IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 or A.4.6.3-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C102 IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C103 IF ((A.4.1-1/1) AND (A.4.6.2-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C104 IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C105 IF ((A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C106 IF ((A.4.1-1/1) AND (A.4.6.2-1/1) AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C107 IF ((A.4.1-1/1) AND (NOT A.4.5-1/18) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) THEN R ELSE N/A |
| C107h IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C108 IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C109 IF (A.4.1-1/2 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8) AND (A.4.6.2-1/1 OR A.4.6.3-1/1)) THEN R ELSE N/A |
| C110 IF (A.4.1-1/2 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8) AND (A.4.6.1-1/1 OR A.4.6.1-1/2)) THEN R ELSE N/A |
| C111 IF A.4.1-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/1 OR A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4) THEN R ELSE N/A |
| C112 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-4a/1) THEN R ELSE N/A |
| C112a IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-4aa/1) THEN R ELSE N/A |
| C112b IF (A.4.1-1/8 OR A.4.1-1/8a) THEN R ELSE N/A |
| C112c IF ((A.4.1-1/1 OR A.4.1-1/2) AND( A.4.3-4a/1a OR A.4.3-4b/1a)) THEN R ELSE N/A |
| C112d IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-4aa/1 AND A.4.3-4aa/2) THEN R ELSE N/A |
| C113 IF (A.4.1-1/1 OR A.4.1-1/2) AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) THEN R ELSE N/A |
| C113a IF (A.4.5-1/22) THEN R ELSE N/A |
| C113b IF (A.4.1-1/1 AND A.4.5-1/37) THEN R ELSE N/A |
| C113c IF (A.4.1-1/1 AND A.4.5-1/37 AND A.4.4-3a/103) THEN R ELSE N/A |
| C113cm IF (A.4.1-1/1 AND A.4.5-1/37 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C113d IF (A.4.1-1/1 AND A.4.5-1/37 AND A.4.3-7/1) THEN R ELSE N/A |
| C113e IF (A.4.1-1/1 AND A.4.5-1/37 AND A.4.3-7/1 AND A.4.4-3a/103) THEN R ELSE N/A |
| C113em IF (A.4.1-1/1 AND A.4.5-1/37 AND A.4.3-7/1 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C113h IF (A.4.5-1/18) THEN R ELSE N/A |
| C114 IF (A.4.1-1/2 AND A.4.6.1-1/2) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10) THEN R ELSE N/A |
| C115 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1 AND A.4.6.2-2/1) THEN R ELSE N/A |
| C116 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1) THEN R ELSE N/A |
| C116a IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/3 AND A.4.6.3-2/2) THEN R ELSE N/A |
| C116b IF (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1 AND NOT (A.4.5-1/17 OR A.4.5-1/58) THEN R ELSE N/A |
| C117 IF (A.4.1-1/1 AND (A.4.5-1/8 OR A.4.5-1/11 OR A.4.5-1/12) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C118 IF (A.4.1-1/2 AND (A.4.5-1/8 OR A.4.5-1/11 OR A.4.5-1/12) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8)) THEN R ELSE N/A |
| C119 IF A.4.1-1/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C120 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/5) THEN R ELSE N/A |
| C121 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4)) THEN R ELSE N/A |
| C122 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.3-1/2 OR A.4.6.2-1/2)) THEN R ELSE N/A |
| C122h IF ((A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4 OR A.4.6.3-1/2 OR A.4.6.2-1/2)) AND A.4.5-1/18 THEN R ELSE N/A |
| C123 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2) THEN R ELSE N/A |
| C124 IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C125 IF (A.4.1-1/1 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C125a IF (A.4.1-1/1 AND (A.4.6-1/2 OR A.4.6-1/3 OR A.4.6-1/4 OR A.4.6-1/5 OR A.4.6-1/6) AND A.4.6.1-1/2 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C126 IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C126a IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/6 OR A.4.3-4/7) AND A.4.3-3a/9) THEN R ELSE N/A |
| C126h IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C126ha IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.5-1/18 AND ( A.4.3-4a/8) AND A.4.3-3a/9) THEN R ELSE N/A |
| C127 IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C127a IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/6 OR A.4.3-4/7) AND A.4.3-3a/9) THEN R ELSE N/A |
| C128 IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C129 IF (A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C130 IF (A.4.1-1/2 AND (NOT A.4.5-1/18) AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C130h IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C131 IF (A.4.1-1/2 AND (NOT A.4.5-1/18) AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C132 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C133 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C133a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C133b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C134 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C135 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C135a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14 AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C135b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/14 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C136 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C137 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.3-4/3 OR A.4.3-4/4)) THEN R ELSE N/A |
| C138 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10) THEN R ELSE N/A |
| C138h IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C139 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) THEN R ELSE N/A |
| C139a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C139b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND A.4.3-4a/10) THEN R ELSE N/A |
| C139c IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND A.4.3-4a/10 AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) THEN R ELSE N/A |
| C139hc IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.3-4a/11) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) THEN R ELSE N/A |
| C139h IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C139ha IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C139hb IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.3-4a/11)) THEN R ELSE N/A |
| C140 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10) THEN R ELSE N/A |
| C140h IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C141 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) THEN R ELSE N/A |
| C141a IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12) THEN R ELSE N/A |
| C141b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND A.4.3-4a/10 THEN R ELSE N/A) |
| C141c IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND A.4.3-4a/10 AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) THEN R ELSE N/A) |
| C141h IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C141hb IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND A.4.5-1/18 AND A.4.3-4a/11) THEN R ELSE N/A |
| C142 IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/3) THEN R ELSE N/A |
| C142h IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.5-1/14 AND A.4.5-1/18 AND A.4.3-4a/11 AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) THEN R ELSE N/A |
| C143 IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/3) THEN R ELSE N/A |
| C144 IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/3 AND A.4.4-3a/103) THEN R ELSE N/A |
| C144m IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/3 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C145 IF A.4.1-1/1 AND A.4.3-4a/1 THEN R ELSE N/A |
| C145a IF A.4.1-1/1 AND A.4.3-4aa/1 THEN R ELSE N/A |
| C145b IF A.4.1-1/1 AND (A.4.3-4aa/1 OR A.4.5-1/25) THEN R ELSE N/A |
| C145c Void |
| C145d IF A.4.1-1/1 AND A.4.3-4a/1a THEN R ELSE N/A |
| C145e IF A.4.1-1/1 AND A.4.3-4aa/1 AND A.4.5-1/63 THEN R ELSE N/A |
| C145f IF A.4.1-1/1 AND A.4.3-4aa/2 AND A.4.5-1/63 THEN R ELSE N/A |
| C145g IF A.4.1-1/1 AND A.4.3-4aa/1 AND A.4.5-1/51 THEN R ELSE N/A |
| C145h IF A.4.1-1/1 AND A.4.3-4aa/2 AND A.4.5-1/51 THEN R ELSE N/A |
| C145i IF A.4.1-1/1 AND A.4.5-1/25 AND A.4.5-1/84 THEN R ELSE N/A |
| C145j IF A.4.1-1/1 AND A.4.5-1/25 AND A.4.5-1/85 THEN R ELSE N/A |
| C145k IF (A.4.1-1/1 or A.4.3-7/2) AND A.4.5-1/25 THEN R ELSE N/A |
| C146 IF (NOT(A.4.3-4a/1) AND (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6.3-1/1 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C147 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/17) THEN R ELSE N/A |
| C148 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/2 AND A.4.6.1-2/2 AND A.4.5-1/17) THEN R ELSE N/A |
| C149 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1 OR A.4.5-1/58) AND A.4.1-1/1 AND A.4.5-1/13 AND A.4.5-1/17) THEN R ELSE N/A |
| C150 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/4) THEN R ELSE N/A |
| C151 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/4) THEN R ELSE N/A |
| C152 IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/1 AND A.4.3-7/4) THEN R ELSE N/A |
| C153 IF (NOT(A.4.3-4/1 OR A.4.3-4a/1 OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.3-7/4) THEN R ELSE N/A |
| C154 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C155 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C156 IF A.4.1-1/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C156a IF A.4.1-1/2 AND A.4.3-4aa/1 THEN R ELSE N/A |
| C156b IF A.4.1-1/2 AND (A.4.3-4aa/1 OR A.4.5-1/25) THEN R ELSE N/A |
| C156c IF A.4.1-1/1 AND (A.4.3-4aa/1 AND A.4.5-1/26 THEN R ELSE N/A |
| C156d IF A.4.1-1/2 AND (A.4.3-4aa/1 AND A.4.5-1/26 THEN R ELSE N/A |
| C156e IF A.4.1-1/2 AND (A.4.3-4aa/1 OR A.4.5-1/25) AND A.4.5-1/51 THEN R ELSE N/A |
| C156f IF A.4.1-1/2 AND A.4.3-4a/1a THEN R ELSE N/A |
| C156q IF A.4.1-1/2 AND (A.4.3-4aa/1 OR A.4.5-1/25) AND A.4.5-1/63 THEN R ELSE N/A |
| C156h IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.5.1/63 THEN R ELSE N/A |
| C156i IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.5.1/51 THEN R ELSE N/A |
| C156j IF A.4.1-1/1 AND (A.4.3-4aa/1 AND A.4.3-4aa/2) AND A.4.5-1/26 THEN R ELSE N/A |
| C156k IF A.4.1-1/2 AND A.4.5-1/25 AND A.4.5-1/84 THEN R ELSE N/A |
| C156l IF A.4.1-1/2 AND A.4.5-1/25 AND A.4.5-1/85 THEN R ELSE N/A |
| C157 IF A.4.1-1/1 AND A.4.3-4a/1 AND A.4.4-3a/103 THEN R ELSE N/A |
| C157a IF A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-3a/103 THEN R ELSE N/A |
| C158 IF A.4.1-1/2 AND A.4.3-4a/1 AND A.4.4-3b/103 THEN R ELSE N/A |
| C158a IF A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-3b/103 THEN R ELSE N/A |
| C159 IF (NOT(A.4.3-4a/1 OR A.4.5-1/17 OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/13) THEN R ELSE N/A |
| C160 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1 AND A.4.5-1/17) THEN R ELSE N/A |
| C161 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1 AND A.4.6.2-2/1 AND A.4.5-1/17) THEN R ELSE N/A |
| C162 IF A.4.5-1/23 THEN R ELSE N/A |
| C163 IF A.4.5-1/24 THEN R ELSE N/A |
| C164 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.5-1/37) THEN R ELSE N/A |
| C165 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.5-1/38) THEN R ELSE N/A |
| C166 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.4-3a/103 AND A.4.5-1/37) THEN R ELSE N/A |
| C166m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.5-1/37 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C167 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.4-3a/103 AND A.4.5-1/38) THEN R ELSE N/A |
| C167m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.2-1/6 AND A.4.5-1/38 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C168 IF (A.4.5-1/22 AND NOT A.4.5-1/18) THEN R ELSE N/A |
| C169 IF A.4.1-1/1 AND A.4.2-1/8 AND NOT (A.4.3-4/1 OR A.4.3-4/2 OR A.4.3-4a/1) THEN R ELSE N/A |
| C170 IF A.4.1-1/2 AND A.4.2-1/8 AND NOT (A.4.3-4/1 OR A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4a/1) THEN R ELSE N/A |
| C171 IF A.4.1-1/1 AND A.4.2-1/8 AND (A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10) AND (NOT A.4.5-1/18) THEN R ELSE N/A |
| C172 IF A.4.1-1/2 AND A.4.2-1/8 AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10) AND (NOT A.4.5-1/18) THEN R ELSE N/A |
| C173 IF A.4.1-1/1 AND A.4.2-1/8 AND A.4.5-1/18 THEN R ELSE N/A |
| C174 IF A.4.1-1/2 AND A.4.2-1/8 AND A.4.5-1/18 THEN R ELSE N/A |
| C175 IF (NOT(A.4.3-4a/1) AND A.4.1-1/1 AND A.4.5-1/12 AND A.4.3-7/4) THEN R ELSE N/A |
| C176 IF (NOT(A.4.3-4a/1) AND A.4.1-1/2 AND A.4.5-1/12 AND A.4.3-7/4) THEN R ELSE N |
| C177 IF (A.4.5-1/38) THEN R ELSE N/A |
| C178 IF (A.4.4-3a/103 AND A.4.5-1/37 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C178m IF (A.4.5-1/37 AND ((A.4.4-3a/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C179 IF (A.4.4-3a/104 AND A.4.5-1/38 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C179m IF (A.4.5-1/38 AND ((A.4.4-3a/104 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C180 IF (A.4.5-1/37 AND A.4.5-1/46 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C181 IF (A.4.5-1/38 AND A A.4.5-1/46 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C182 IF (A.4.4-3a/103 AND A.4.5-1/37 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C182m IF (A.4.5-1/37 AND ((A.4.4-3a/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C183 IF (A.4.4-3b/103 AND A.4.5-1/38 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C183m IF (A.4.5-1/38 AND ((A.4.4-3b/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C184 IF (A.4.5-1/38) THEN R ELSE N/A |
| C185 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1 AND A.4.6.2-2/1 AND A.4.5-1/17) THEN R ELSE N/A |
| C186 IF A.4.3-3b/2 AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) THEN R ELSE N/A |
| C187 IF ((A.4.1-1/1 OR A.4.1-1/2) AND ((A.4.1-1/2 AND A.4.6.1-1/4) OR A.4.6.3-1/6 OR A.4.6.3-1/7)) THEN R ELSE N/A |
| C187h IF (A.4.1-1/1 OR A.4.1-1/2) AND ((A.4.1-1/2 AND A.4.6.1-1/4) OR ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3) OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND A.4.5-1/18 THEN R ELSE N/A |
| C188 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 THEN R ELSE N/A |
| C189 IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6-1/3) AND (A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C189a IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6-1/3) AND (A.4.3-4/9 OR A.4.3-4/10) AND A.4.3-3a/10) THEN R ELSE N/A |
| C189a2 Void |
| C189b Void |
| C189h IF A.4.1-1/1 AND A.4.5-1/18 AND (A.4.3-4a/10 OR A.4.3-4a/11) AND A.4.6-1/3 AND A.4.3-3a/10 AND (A.4.6.1-1/4 OR A.4.6.2-1/4 OR A.4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7) THEN R ELSE N/A |
| C190 Void |
| C191 Void |
| C192 IF (A.4.1-1/1 AND (A.4.6.1-1/4 OR A.4.6.3-1/6 OR A.4.6.3-1/7) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C192a IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND (A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17) AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C193 IF (A.4.1-1/1 AND (A.4.6.3-1/10 OR A4.6.3-1/11 OR A.4.6.3-1/12) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C193a IF (A.4.1-1/1 AND (NOT A.4.5-1/18) AND A.4.6.3-1/14 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C194 IF (A.4.1-1/2 AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.1-1/4 OR A.4.6.2-1/4 OR 4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12)) THEN R ELSE N/A |
| C194a IF (A.4.1-1/2 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.2-1/6 OR 4.6.2-1/7 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18)) THEN R ELSE N/A |
| C194b IF (A.4.1-1/2 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.1-1/5 OR A.4.6.3-1/14)) THEN R ELSE N/A |
| C195 Void |
| C196 Void |
| C197 IF (A.4.5-1/37 AND A.4.3-7/1) THEN R ELSE N/A |
| C198 IF (A.4.5-1/38 AND A.4.3-7/1) THEN R ELSE N/A |
| C198a IF A.4.1-1/2 AND A.4.5-1/38 AND A.4.3-7/1 THEN R ELSE N/A |
| C198b IF (A.4.4-3b/103 AND A.4.5-1/38 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C198c IF A.4.1-1/2 AND A.4.5-1/38 AND A.4.3-7/1 AND A.4.4-3b/103 THEN R ELSE N/A |
| C199 IF A.4.5-1/37 AND A.4.3-7/1 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.4-3a/103 THEN R ELSE N/A |
| C199m IF A.4.5-1/37 AND A.4.3-7/1 AND ((A.4.4-3a/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C200 IF A.4.5-1/38 AND A.4.3-7/1 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.4-3b/103 THEN R ELSE N/A |
| C200m IF A.4.5-1/38 AND A.4.3-7/1 AND ((A.4.4-3b/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C201 Void |
| C202 IF ((NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.3-3b/4 AND A.4.2-1/3) THEN R ELSE N/A |
| C203 IF ((A.4.5-1/37) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 )) THEN R ELSE N/A |
| C204 IF ((A.4.5-1/38) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 )) THEN R ELSE N/A |
| C205 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.4-3a/103 AND A.4.5-1/37) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C205m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.5-1/37) AND ((A.4.4-3a/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C206 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3b/103 AND A.4.5-1/38) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C206m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.5-1/38) AND ((A.4.4-3b/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C207 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6.3-1/1 AND (A.4.5-1/14 OR A.4.5-1/15) AND A.4.5-1/32) THEN R ELSE N/A |
| C208 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.5-1/32) THEN R ELSE N/A |
| C209 IF A.4.1-1/1 AND A.4.5-1/15 AND A.4.5-1/32 THEN R ELSE N/A |
| C210 IF A.4.1-1/2 AND A.4.5-1/14 AND A.4.5-1/32 THEN R ELSE N/A |
| C211 IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) THEN R ELSE N/A |
| C212 IF (A.4.1-1/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12)) THEN R ELSE N/A |
| C212a IF (A.4.1-1/1 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8)) THEN R ELSE N/A |
| C212b IF (A.4.1-1/1 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/14)) THEN R ELSE N/A |
| C213 IF (A.4.1-1/2 AND (NOT A.4.5-1/18) AND (A.4.6-1/3 OR A.4.6.1-1/4 OR A.4.6.2-1/4 OR A.4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND (A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C213h IF (A.4.1-1/2 AND A.4.5-1/18 AND (A.4.6-1/3 OR A.4.6.1-1/4 OR A.4.6.2-1/4 OR A.4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND (A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11)) THEN R ELSE N/A |
| C214 IF (A.4.1-1/1 AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/10 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C215 IF (A.4.1-1/1 AND (A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/15) AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C216 IF (A.4.1-1/1 AND A.4.6.3-1/14 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C217 IF A.4.1-1/2 AND A.4.5-1/15 AND A.4.5-1/32 THEN R ELSE N/A |
| C218 IF A.4.1-1/1 AND A.4.5-1/15 AND A.4.5-1/32 AND A.4.5-1/56 THEN R ELSE N/A |
| C219 IF A.4.1-1/2 AND A.4.5-1/32 AND A.4.5-1/56 THEN R ELSE N/A |
| C220 IF A.4.1-1/1 AND (A.4.5-1/37 AND A.4.5-1/46) THEN R ELSE N/A |
| C221 IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8) THEN R ELSE N/A |
| C221h IF (A.4.1-1/1 OR A.4.1-1/2) AND (A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR (A.4.1-1/2 AND A.4.6.1-1/5) OR ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4)) AND A.4.5-1/18 THEN R ELSE N/A |
| C222 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/14) OR (A.4.1-1/2 AND A.4.6.1-1/5) THEN R ELSE N/A |
| C223 IF (A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 THEN R ELSE N/A |
| C224 IF A.4.2-1/8 THEN R ELSE N/A |
| C225 IF (A.4.2-1/8 AND A.4.5-1/27) THEN R ELSE N/A |
| C226 IF (A.4.1-1/1 AND A.4.5-1/37 AND A.4.5-1/46 AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C227 IF (A.4.5-8/1 AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/4 OR A.4.3-4a/5 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C228 IF (A.4.5-8/1 AND A.4.6.2-1/1 AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/4 OR A.4.3-4a/5 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C229 IF (A.4.5-8/4 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13)) THEN R ELSE N/A |
| C230 IF (A.4.5-8/4 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13)) THEN R ELSE N/A |
| C231 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C232 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C233 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.4-3a/103 AND A.4.4-3b/103) AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C233m IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (((A.4.4-3a/103 AND A.4.4-3b/103) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C234 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.4-3a/103 AND A.4.4-3b/103) AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C234m IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND A.4.3-7/1 AND (((A.4.4-3a/103 AND A.4.4-3b/103) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C235 IF A.4.1-1/2 AND (A.4.5-1/38 AND A.4.5-1/46) THEN R ELSE N/A |
| C236 IF (A.4.5-8/7 AND (A.4.6.1-1/4 OR A.4.6.2-1/4 OR A.4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND (A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C237 IF (A.4.5-8/10 AND (A.4.6.1-1/5 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17) AND (A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C238 IF (A.4.5-8/10 AND A.4.6.3-1/14 AND (A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C239 IF (A.4.1-1/2 AND A.4.5-1/38 AND A.4.5-1/46 AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C240 IF (A.4.5-8/2 AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1 OR A.4.6.3-1/5) AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C241 IF (A.4.5-8/2 AND A.4.6.1-2/1 AND (A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4a/8)) THEN R ELSE N/A |
| C242 IF (A.4.5-8/5 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13)) THEN R ELSE N/A |
| C243 IF (A.4.5-8/5 AND (A.4.6. 2-1/2 OR A.4.6.3-1/2) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13)) THEN R ELSE N/A |
| C244 IF (A.4.5-8/8 AND (A.4.6.1-1/4 OR A.4.6.2-1/4 OR A.4.6.2-1/5 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND (A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C245 IF (A.4.5-8/11 AND (A.4.6.1-1/5 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17) AND (A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C246 IF (A.4.5-8/11 AND A.4.6.3-1/14 AND (A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C247 IF (A.4.5-8/3 AND (A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/4 OR A.4.3-4a/5 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10)) THEN R ELSE N/A |
| C248 IF (A.4.5-8/6 AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13)) THEN R ELSE N/A |
| C249 IF (A.4.5-8/9 AND (A.4.3-4a/10 OR A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C250 IF (A.4.5-8/12 AND (A.4.3-4a/11 OR A.4.3-4a/13 OR A.4.3-4a/14)) THEN R ELSE N/A |
| C251 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND A.4.5-1/18 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C252 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND A.4.5-1/18 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C253 IF ((A.4.1-1/1) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C254 IF ((A.4.1-1/1) AND (A.4.6.2-1/1) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C255 IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C256 IF (A.4.1-1/1 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C257 IF (A.4.1-1/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C258 IF (A.4.1-1/1 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) AND A.4.5-1/39) THEN R ELSE N/A |
| C259 IF (A.4.1-1/1 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/14) AND A.4.5-1/39) THEN R ELSE N/A |
| C260 IF (A.4.1-1/1 AND A.4.5-1/18 AND A.4.4-3a/103) THEN R ELSE N/A |
| C260m IF (A.4.1-1/1 AND A.4.5-1/18 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C261 IF (A.4.1-1/2 AND A.4.5-1/18 AND A.4.4-3b/103) THEN R ELSE N/A |
| C261m IF (A.4.1-1/2 AND A.4.5-1/18 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C262 IF (NOT(A.4.3-4a/1) AND A.4.1-1/1 AND A.4.3-7/4 AND A.4.4-3a/103) THEN R ELSE N/A |
| C262m IF (NOT(A.4.3-4a/1) AND A.4.1-1/1 AND A.4.3-7/4 AND ((A.4.4-3a/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C263 IF (NOT(A.4.3-4a/1) AND A.4.1-1/2 AND A.4.3-7/4 AND A.4.4-3b/103) THEN R ELSE N/A |
| C263m IF (NOT(A.4.3-4a/1) AND A.4.1-1/2 AND A.4.3-7/4 AND ((A.4.4-3b/103 AND NOT(A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/9))) THEN R ELSE N/A |
| C264 IF A.4.1-1/1 AND A.4.5-1/15 AND A.4.5-1/32 AND A.4.5-1/56 THEN R ELSE N/A |
| C265 IF A.4.1-1/2 AND A.4.5-1/14 AND A.4.5-1/32 AND A.4.5-1/56 THEN R ELSE N/A |
| C266 IF (A.4.1-1/1 AND A.4.2-1/2 AND NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.1-1/5 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) THEN R ELSE N/A |
| C267 IF A.4.1-1/1 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND (A.4.6.1-1/5 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) THEN R ELSE N/A |
| C267h IF A.4.1-1/1 AND A.4.2-1/2 AND (A.4.3-4a/10 OR A.4.3-4a/11) AND A.4.6-1/4 AND (A.4.6.1-1/5 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) AND A.4.5-1/18 THEN R ELSE N/A |
| C268 IF (NOT(A.4.3-4a/1) AND (A.4.1-1/1 AND A.4.1-1/2) AND (A.4.6.3-1/2 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.5-1/32) THEN R ELSE N/A |
| C269 IF (NOT(A.4.3-4a/1) AND A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.5-1/32) THEN R ELSE N/A |
| C270 IF (A.4.1-1/2 AND (A.4.6.1-1/4 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C271 IF (A.4.1-1/2 AND (A.4.6.3-1/10 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C272 IF (A.4.1-1/2 AND (A.4.6.1-1/5 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16) AND (A.4.3-4/8 AND (A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C273 IF (A.4.1-1/2 AND (A.4.6.3-1/17 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8) AND (A.4.3-4/8 AND (A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C274 IF A.4.1-1/2 AND A.4.5-1/54 THEN R ELSE N/A |
| C275 IF A.4.1-1/2 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) AND A.4.5-1/54 AND A.4.5-1/55 THEN R ELSE N/A |
| C276 IF A.4.1-1/2 AND A.4.5-1/55 THEN R ELSE N/A |
| C277 IF A.4.1-1/2 AND A.4.5-1/8 AND A.4.5-1/55 THEN R ELSE N/A |
| C278 IF (A.4.1-1/1 AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND A.4.5-1/18 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C279 IF (A.4.1-1/1 AND A.4.6.2-1/1 AND A.4.5-1/18 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C280 IF (A.4.1-1/1 AND A.4.6-1/1 AND A.4.5-1/37 AND A.4.5-1/46 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C281 IF (A.4.1-1/1 AND A.4.6-1/1 AND A.4.5-1/37 AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C282 IF (A.4.1-1/1 AND A.4.6-1/1 AND A.4.5-1/37 AND A.4.3-7/1 AND A.4.4-3a/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C282m IF (A.4.1-1/1 AND A.4.6-1/1 AND A.4.5-1/37 AND A.4.3-7/1 AND ((A.4.4-3a/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C283 IF (A.4.1-1/2 AND A.4.6-1/1 AND A.4.5-1/38 AND A.4.3-7/1 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C284 IF (A.4.1-1/2 AND A.4.6-1/1 AND A.4.5-1/38 AND A.4.3-7/1 AND A.4.4-3b/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C284m IF (A.4.1-1/2 AND A.4.6-1/1 AND A.4.5-1/38 AND A.4.3-7/1 AND ((A.4.4-3b/103 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C285 IF ((A.4.1-1/1) AND (A.4.3-7/6)) THEN R ELSE N/A |
| C286 IF ((A.4.1-1/1) AND (A.4.3-7/7)) THEN R ELSE N/A |
| C287 IF ((A.4.1-1/2) AND (A.4.3-7/6)) THEN R ELSE N/A |
| C288 IF ((A.4.1-1/2) AND (A.4.3-7/7)) THEN R ELSE N/A |
| C289 IF ((A.4.1-1/1) AND (A.4.3-7/6) AND (A.4.2-1/6)) THEN R ELSE N/A |
| C290 IF ((A.4.1-1/2) AND (A.4.3-7/6) AND (A.4.2-1/6)) THEN R ELSE N/A |
| C291 IF ((A.4.1-1/2) AND (A.4.6.1-1/1 OR A.4.6.1-1/2 OR A.4.6.3-1/1) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C292 IF ((A.4.1-1/2) AND (A.4.6.2-1/1) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C293 IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C294 IF (A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND A.4.5-1/39) THEN R ELSE N/A |
| C295 IF (A.4.1-1/2 AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/12 OR A.4.6.2-1/3 OR A.4.6.3-1/11) AND A.4.5-1/39) THEN R ELSE N/A |
| C296 IF (A.4.1-1/2 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18 AND A.4.5-1/39) THEN R ELSE N/A |
| C297 IF (A.4.1-1/2 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/14) AND A.4.5-1/39) THEN R ELSE N/A |
| C298 IF A.4.1-1/8 AND A.4.3-4c/2 THEN R ELSE N/A |
| C299 IF A.4.1-1/1 AND A.4.3-7/5 THEN R ELSE N/A |
| C300 IF A.4.1-1/2 AND A.4.3-7/5 THEN R ELSE N/A |
| C301 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/58) THEN R ELSE N/A |
| C302 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/2 AND A.4.6.1-2/2 AND A.4.5-1/58) THEN R ELSE N/A |
| C303 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1 AND A.4.5-1/58) THEN R ELSE N/A |
| C304 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.2-1/1 AND A.4.6.2-2/1 AND A.4.5-1/58) THEN R ELSE N/A |
| C305 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1 AND A.4.5-1/62) THEN R ELSE N/A |
| C306 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C307 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C308 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C309 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/14 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C310 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C311 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C312 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C313 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1) THEN R ELSE N/A |
| C314 IF A.4.1-1/1 AND (A.4.3-4aa/2 OR A.4.5-1/25) THEN R ELSE N/A |
| C315 IF A.4.1-1/1 AND A.4.3-4aa/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C316 IF A.4.1-1/2 AND (A.4.3-4aa/2 OR A.4.5-1/25) THEN R ELSE N/A |
| C316a IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.5-1/25 THEN R ELSE N/A |
| C316b IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C317 IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C318 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.5-1/13 AND A.4.5-1/58) THEN R ELSE N/A |
| C319 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/2 AND A.4.6.1-2/2 AND NOT(A.4.5-1/17)) THEN R ELSE N/A |
| C320 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-1/10 AND A.4.5-1/66 AND A.4.5-1/67) THEN R ELSE N/A |
| C321 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1 AND A.4.5-1/70) THEN R ELSE N/A |
| C322 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15 AND (A.4.5-1/37 OR A.4.5-1/38) AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C323 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.4-3a/103 AND A.4.3-7/8) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C323m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.3-7/8) AND ((A.4.4-3a/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C324 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3b/103 AND A.4.3-7/8) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C324m IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.3-7/8) AND ((A.4.4-3b/103 AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/9 OR A.4.3-4/10)) OR (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C325 IF (A.4.1-1/8 OR A.4.1-1/8a) AND A.4.3-3b/5 THEN R ELSE N/A |
| C326 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1 OR A.4.5-1/58) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.1-1/2 AND A.4.6.1-2/2 AND A.4.5-1/17) THEN R ELSE N/A |
| C327 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1 OR A.4.5-1/58) AND (A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/1 AND A.4.6.3-2/1 AND A.4.5-1/17) THEN R ELSE N/A |
| C328 IF A.4.1-1/1 AND A.4.5-1/15 AND A.4.5-1/32 AND A.4.5-8/1 THEN R ELSE N/A |
| C329 IF A.4.1-1/2 AND A.4.5-1/14 AND A.4.5-1/32 AND A.4.5-8/2 THEN R ELSE N/A |
| C330 IF (A.4.1-1/1 AND A.4.2-1/2 AND NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23) THEN R ELSE N/A |
| C331 IF A.4.1-1/1 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23) THEN R ELSE N/A |
| C331a IF A.4.1-1/2 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23) THEN R ELSE N/A |
| C331h IF A.4.1-1/1 AND A.4.2-1/2 AND A.4.3-4a/11 AND A.4.6-1/4 AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23) AND A.4.5-1/18 THEN R ELSE N/A |
| C331ha IF A.4.1-1/2 AND A.4.2-1/2 AND A.4.3-4a/11 AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23) AND A.4.5-1/18 THEN R ELSE N/A |
| C332 IF A.4.1-1/2 AND A.4.2-1/2 AND A.4.3-4a/11 AND A.4.6-1/4 AND (A.4.6.1-1/5 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8 OR A.4.6.3-1/8 OR A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) AND A.4.5-1/18 THEN R ELSE N/A |
| C333 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7b) THEN R ELSE N/A |
| C334 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/3 AND A.4.6-2/3) THEN R ELSE N/A |
| C335 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1 AND A.4.3-3b/4) THEN R ELSE N/A |
| C336 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6.3-1/6 AND A.4.6-2/3) THEN R ELSE N/A |
| C337 IF ((A.4.1-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.4-3a/103 AND A.4.5-1/82) THEN R ELSE N/A |
| C338 IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.4-3a/103 AND A.4.5-1/83) THEN R ELSE N/A |
| C339 IF (NOT((A.4.3-4a/1) or (A.4.3-4/1)) AND A.4.1-1/1 AND ( A.4.5-1/8 or A.5.-1/11 or A.4.5-1/12) AND A.4.5-1/83 ) THEN R ELSE N/A |
| C340 IF (NOT((A.4.3-4a/1) or (A.4.3-4/1)) AND A.4.1-1/2 AND ( A.4.5-1/8 or A.5.-1/11 or A.4.5-1/12) AND A.4.5-1/83 ) THEN R ELSE N/A |
| C341 IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 )) THEN R ELSE N/A |
| C342 IF( (A.4.1-1/1 AND A.4.2-1/2) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) OR ( (A.4.1-1/2 AND A.4.2-1/2) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) OR ( (A.4.1-1/1 AND A.4.1-1/2 AND A.4.2-1/7) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) THEN R ELSE N/A |
| C342h IF( (A.4.1-1/1 AND A.4.2-1/2) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) OR ( (A.4.1-1/2 AND A.4.2-1/2) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) OR ( (A.4.1-1/1 AND A.4.1-1/2 AND A.4.2-1/7) AND (A.4.6.3-1/19 OR A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23)) AND A.4.5-1/18 THEN R ELSE N/A |
| C343 IF A.4.1-1/1 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND A.4.6-1/6 THEN R ELSE N/A |
| C344 IF A.4.1-1/1 AND A.4.2-1/2 AND A.4.5-1/18 AND A.4.3-4a/11 AND A.4.6-1/6 THEN R ELSE N/A |
| C345 IF A.4.1-1/2 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND A.4.6-1/6 THEN R ELSE N/A |
| C346 IF A.4.1-1/2 AND A.4.2-1/2 AND A.4.5-1/18 AND A.4.3-4a/11 AND A.4.6-1/6 THEN R ELSE N/A |
| C347 IF A.4.1-1/8 AND (A.4.3-4c/1 or A.4.3-4c/2) THEN R ELSE N/A |
| C348 Void |
| C349 IF (A.4.1-1/1 AND A.4.6-1/5 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C350 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/5 AND A.4.5-1/15 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C351 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/5 AND A.4.5-1/14 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C352 IF A.4.3-3b/2 AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.5-1/94 AND (A.4.5-1/95 OR A.4.5-1/96 OR A.4.5-1/97) AND A.4.1-1/1THEN R ELSE N/A |
| C352a IF A.4.3-3b/2 AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.5-1/94 AND A.4.5-1/95 AND A.4.1-1/2 THEN R ELSE N/A |
| C353 IF A.4.1-1/1 AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.5-1/94 AND (A.4.5-1/95 OR A.4.5-1/96 OR A.4.5-1/97) THEN R ELSE N/A |
| C353a IF A.4.1-1/2 AND NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.5-1/94 AND A.4.5-1/95 THEN R ELSE N/A |
| C354 IF ((A.4.1-1/1) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.5-1/94 AND (A.4.5-1/95 OR A.4.5-1/96 OR A.4.5-1/97)) THEN R ELSE N/A |
| C354a IF ((A.4.1-1/2) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.5-1/88 AND A.4.5-1/89) THEN R ELSE N/A |
| C355 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.4-3a/103 AND A.4.5-1/88 AND (A.4.5-1/89 OR A.4.5-1/90 OR A.4.5-1/91)) THEN R ELSE N/A |
| C355a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2) AND A.4.4-3a/103 AND A.4.5-1/88 AND A.4.5-1/89) THEN R ELSE N/A |
| C356 IF NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND A.4.1-1/2 AND A.4.5-1/88 AND A.4.5-1/89 THEN R ELSE N/A |
| C357 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1 AND A.4.4-3a/103) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.5-1/88 AND (A.4.5-1/89 OR A.4.5-1/90 OR A.4.5-1/91)) THEN R ELSE N/A |
| C357a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3a/103) AND (A.4.3-4/2 OR A.4.3-4/3 OR A.4.3-4/4 OR A.4.3-4/5 OR A.4.3-4/6 OR A.4.3-4/7 OR A.4.3-4/8 OR A.4.3-4/9 OR A.4.3-4/10 OR A.4.3-4/11 OR A.4.3-4/12 ) AND A.4.5-1/88 AND A.4.5-1/89) THEN R ELSE N/A |
| C358 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/6 AND A.4.5-1/15 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C359 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/6 AND A.4.5-1/14 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C360 IF A.4.1-1/2 AND A.4.2-1/2 AND (NOT A.4.5-1/18) AND (A.4.3-4/11 OR A.4.3-4/12 OR A.4.3-4a/6 OR A.4.3-4a/7 OR A.4.3-4a/10) AND (A.4.6.3-1/13 OR A.4.6.3-1/14 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.3-1/18) THEN R ELSE N/A |
| C361 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/1) AND A.4.4-3a/103) AND A.4.3-7/9 THEN R ELSE N/A |
| C362 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1) AND (A.4.1-1/2 AND A.4.4-3b/104) AND A.4.3-7/9) THEN R ELSE N/A |
| C363 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.6-1/5 AND (NOT A.4.5-1/18) AND (A.4.6.3-1/20 OR A.4.6.3-1/21 OR A.4.6.3-1/22 OR A.4.6.3-1/23 OR A.4.6.3-1/24) AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C364 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.6-1/6 AND (NOT A.4.5-1/18) AND A.4.6.3-1/20 AND (A.4.3-4/8 OR A.4.3-4/11 OR A.4.3-4/12)) THEN R ELSE N/A |
| C365 IF (A.4.1-1/2 AND A.4.6-1/5 AND ((A.4.6.3-1/19) OR (A.4.6.3-1/20)) AND (A.4.3-4/8 AND (A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C366 IF (A.4.1-1/2 AND A.4.6-1/6 AND (A.4.6.3-1/19) AND (A.4.3-4/8 AND (A.4.3-4/11 OR A.4.3-4/12))) THEN R ELSE N/A |
| C367 IF (A.4.1-1/1 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12) AND NOT (A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4a/2 OR A.4.3-4a/3 OR A.4.3-4a/4 OR A.4.3-4a/5 OR A.4.3-4a/15)) THEN R ELSE N/A |
| C368 IF (A.4.1-1/2 AND A.4.5-1/18 AND (A.4.3-4/11 OR A.4.3-4/12) AND NOT (A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4a/2 OR A.4.3-4a/3 OR A.4.3-4a/4 OR A.4.3-4a/5 OR A.4.3-4a/15)) THEN R ELSE N/A |
| C369 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/6 AND A.4.5-1/15 AND (NOT A.4.5-1/18) AND A.4.3-4a/10 AND (A.4.6.3-1/26 OR A.4.6.3-1/27)) THEN R ELSE N/A |
| C370 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/6 AND A.4.5-1/14 AND (NOT A.4.5-1/18) AND A.4.3-4a/10 AND (A.4.6.3-1/26 OR A.4.6.3-1/27)) THEN R ELSE N/A |
| Note 1: Cxxxh applicability is defined for small cell enhancements for physical layer related test. |

Table 4.1-1b: Tested Bands Selection Criteria

|  |  |  |
| --- | --- | --- |
| **Code** | **Selection** | **Comment** |
| D01 | A.4.3-3 | All supported Bands |
| D02 | A.4.3-3 AND FDD | All supported FDD Bands |
| D03 | A.4.3-3 AND TDD | All supported TDD Bands |
| D04 | A.4.3-3 AND {14, 31, 41, 72} | Band 14, 31, 41 or 72 if supported |
| D05 | A.4.3-3 AND A.4.5-3 | Bands supporting UL MIMO |
| D06 | A.4.3-3 AND NOT A.4.5-3 | Bands not supporting UL MIMO |
| D07 | A.4.3-3 AND A.4.5-4 | Bands supporting Multicluster PUSCH |
| D08 | A.4.3-3 AND NOT FALLBACK(A.4.6.1-3) | All supported Bands that are not part of contiguous CA configuration. |
| D09 | A.4.3-3 AND A.4.5-5 | Bands supporting 4 Rx antenna ports |
| D10 | A.4.3-3 AND A.4.5-6a | Bands supporting ProSe Direct |
| D11 | A.4.3-3 AND category NB1 and NB2 | All supported category NB1 and NB2 Bands |
| D12 | A.4.3-3 AND { category NB1 and NB2 Bands < 1GHz} | Lowest and highest category NB1 and NB2 Bands supported below 1GHz  (Note 2) |
| D13 | A.4.3-3 AND { category NB1 and NB2 Bands > 1GHz} | Lowest and highest category NB1 and NB2 Bands supported above 1GHz  (Note 3) |
| D14 | A.4.3-3 AND A.4.5-7 | Bands supporting V2X Sidelink Communication |
| D15 | A.4.3-3 AND NOT A.4.5-5 | Bands not supporting 4Rx antenna ports |
| D16 | A.4.3-3c | All supported Power Class 1 Bands |
| D17 | A.4.3-3d | All supported Power Class 2 Bands |
| D17a | A.4.3-3c OR A.4.3-3d | All supported Power Class 1 Bands or Power Class 2 Bands |
| D18 | A.4.3-3 AND { category NB1 and NB2 TDD Bands > 1GHz} | Category NB1 and NB2 TDD Bands supported above 1GHz  (Note 4) |
| 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 ( ). {1,2} AND {2,3} = {2}  OR: Set union ( ). {1,2} OR {2,3} = {1,2,3}  NOT: Set complement (\), full set being all bands. NOT{1} = {2 ...256}  Also note that this is set without repetitions so {1} AND {1} = {1}  The following basic sets are used:  FDD: All FDD bands, currently {1...32, 65…70}  TDD: All TDD bands, currently {33...64}  Category NB1: All Category NB1 bands, currently {1, 2, 3, 5, 8, 11, 12, 13, 17, 18, 19, 20, 21, 25,, 26, 28, 31, 66, 70}  {1,2}: Explicitly given band set  The following sets derived from pro-forma tables are also used:  A.4.X-Y: All bands supporting the feature defined in A.4.X-Y. For A.4.3-3, all supported bands.  FALLBACK(A.4.6.X-Y): Fallback bands of supported CA Combinations defined in Table A.4.6.X-Y  Note 2: Category NB1 Bands < 1GHz {5, 8, 12, 13, 17, 18, 19, 20, 26, 28, 31}  Note 3: Category NB1 Bands > 1GHz {1, 2, 3, 11, 21, 25, 66, 70}  Note 4: Category NB1 and NB2 Bands > 1GHz {41} | | |

Table 4.1-1c: Tested CA Configurations Selection Criteria

|  |  |  |
| --- | --- | --- |
| **Code** | **Selection** | **Comment** |
| E01 | UL(A.4.6.1-3) AND CARRIER\_NO(2) | All supported intra-band contiguous CA Configurations with 2 carriers in both UL and DL |
| E02 | UL(A.4.6.2-3) AND CARRIER\_NO(2) | All supported intra-band non-contiguous CA Configurations with 2 carriers in both UL and DL |
| E03 | UL(A.4.6.3-3) AND CARRIER\_NO(2) | All supported inter-band CA Configurations with 2 carriers in both UL and DL |
| E04 | A.4.6.1-3 AND CARRIER\_NO(2) AND NOT UL(A.4.6.1-3) | All supported intra-band contiguous CA Configurations with 2 carriers in DL but no CA in UL |
| E05 | A.4.6.2-3 AND CARRIER\_NO(2) AND NOT UL(A.4.6.2-3) | All supported intra-band non-contiguous CA Configurations with 2 carriers in DL but no CA in UL |
| E06 | A.4.6.3-3 AND CARRIER\_NO(2) AND NOT UL(A.4.6.3-3) | All supported inter-band CA Configurations with 2 carriers in DL but no CA in UL |
| E07 | ((A.4.6.1-3 AND NOT UL(A.4.6.1-3)) OR (A.4.6.2-3 AND NOT UL(A.4.6.2-3)) OR (A.4.6.3-3 AND NOT UL(A.4.6.3-3)) OR (A.4.6.3-4 AND NOT UL(A.4.6.3-4)) OR (A.4.6.3-5 AND NOT UL(A.4.6.3-5))) AND CARRIER\_NO(3) | All supported 3DL CA without UL |
| E08 | E04 AND NOT DL\_FALLBACKS | All supported intra-band contiguous CA Configurations with 2 carriers in DL but no CA in UL, that are not fallbacks of 3DL CA |
| E09 | E05 AND NOT DL\_FALLBACKS | All supported intra-band non-contiguous CA Configurations with 2 carriers in DL but no CA in UL that are not fallbacks of 3DL CA. |
| E10 | E06 AND NOT DL\_FALLBACKS | All supported inter-band CA Configurations with 2 carriers in DL but no CA in UL that are not fallbacks of 3DL CA |
| E11 | E04 AND NOT (FALLBACK(A.4.6.2-3) OR FALLBACK(A.4.6.3-3) OR FALLBACK(A.4.6.3-4) OR FALLBACK(A.4.6.3-5)) | All supported intra-band contiguous CA Configurations with 2 carriers in DL but no CA in UL, that are not fallbacks of 3DL CA, except of class D intra-band 3DL CA. |
| E12 | E06 AND NOT (FALLBACK(A.4.6. 1-3) OR FALLBACK(A.4.6.3-4) OR FALLBACK(A.4.6.3-5)) | All supported inter-band CA Configurations with 2 carriers in DL that are fallbacks of inter-band on inter-band + intra-band contiguous 3DL CA. |
| DL\_FALLBACKS | FALLBACK(A.4.6.1-3) OR FALLBACK(A.4.6.2-3) OR FALLBACK(A.4.6.3-3) OR FALLBACK(A.4.6.3-4) OR FALLBACK(A.4.6.3-5) | All DL Fallbacks of supported CA Configurations |
| DL\_FALLBACKS\_EtoD | FALLBACK\_EtoD(A.4.6.1-3) OR FALLBACK\_EtoD(A.4.6.2-3) OR FALLBACK\_EtoD(A.4.6.3-3) OR FALLBACK\_EtoD(A.4.6.3-4) OR FALLBACK\_EtoD(A.4.6.3-5) | All DL Fallbacks of supported CA Configurations where BW class for one sub-block has changed from class E to class D |
| DL\_FALLBACKS\_BtoA | FALLBACK\_BtoA(A.4.6.1-3) OR FALLBACK\_BtoA(A.4.6.2-3) OR FALLBACK\_BtoA(A.4.6.3-3) OR FALLBACK\_BtoA(A.4.6.3-4) OR FALLBACK\_BtoA(A.4.6.3-5) | All DL Fallbacks of supported CA Configurations where BW class for one sub-block has changed from class B to class A |
| DL\_FALLBACKS\_LAA | FALLBACK\_LAA(A.4.6.1-3) OR FALLBACK\_LAA(A.4.6.2-3) OR FALLBACK\_LAA(A.4.6.3-3) OR FALLBACK\_LAA(A.4.6.3-4) OR FALLBACK\_LAA(A.4.6.3-5) | All DL Fallbacks of supported CA Configurations where BW class for sub-block in LAA band has changed |
| E13 | E06 AND DL\_ONLY\_BAND | All supported inter-band CA Configurations with 2 carriers in DL where one of the bands is a DL-only band |
| E14 | ((A.4.6.1-3 AND NOT UL(A.4.6.1-3)) OR (A.4.6.2-3 AND NOT UL(A.4.6.2-3)) OR (A.4.6.3-3 AND NOT UL(A.4.6.3-3)) OR (A.4.6.3-4 AND NOT UL(A.4.6.3-4)) OR (A.4.6.3-5 AND NOT UL(A.4.6.3-5))) AND CARRIER\_NO(4) | All supported 4DL CA without UL |
| E15 | ((A.4.6.1-3 AND NOT UL(A.4.6.1-3)) OR (A.4.6.2-3 AND NOT UL(A.4.6.2-3)) OR (A.4.6.3-3 AND NOT UL(A.4.6.3-3)) OR (A.4.6.3-4 AND NOT UL(A.4.6.3-4)) OR (A.4.6.3-5 AND NOT UL(A.4.6.3-5))) AND CARRIER\_NO(5) | All supported 5DL CA without UL |
| E16 | A.4.5-7a | Bands supporting Inter-band con-current V2X configurations |
| E17 | A.4.5-7b | Bands supporting V2X Intra-band multi-carrier configurations |
| E18 | UL(A.4.6.1-3 OR A.4.6.2-3 OR A.4.6.3-3 OR A.4.6.3-4) AND CARRIER\_NO(3) | All support 3DL CA with UL CA |
| E19 | E07 AND NOT DL\_FALLBACKS OR E18 {AND DL\_FALLBACKS} | All support 3DL CA without UL CA, that are not fallbacks of 4DL CA. OR All support 3DL CA with UL CA |
| E20 | UL({A.4.6.1-3 OR A.4.6.2-3} OR A.4.6.3-3 OR A.4.6.3-4 OR A.4.6.3-5) AND CARRIER\_NO(4) | All support 4DL CA with UL CA |
| E21 | E14 AND NOT DL\_FALLBACKS OR E20 {AND DL\_FALLBACKS} | All support 4DL CA without UL CA, that are not fallbacks of 5DL CA. OR All support 4DL CA with UL CA |
| E22 | (E07 AND NOT DL\_FALLBACKS) OR  (E07 AND DL\_FALLBACKS\_EtoD) OR (E07 AND DL\_FALLBACKS\_BtoA) OR E18 | All supported 3DL CA without UL CA, that are not fallbacks of 4DL CA except class E to D and class B to A fallback. OR All supported 3DL CA with UL CA |
| E23 | (E14 AND NOT DL\_FALLBACKS) OR  (E14 AND DL\_FALLBACKS\_EtoD) OR (E14 AND DL\_FALLBACKS\_BtoA) OR E20 | All supported 4DL CA without UL CA, that are not fallbacks of 4DL CA except class E to D and class B to A fallback. OR All supported 4DL CA with UL CA |
| E24 | (E07 AND NOT DL\_FALLBACKS\_LAA) OR E18 | All supported 3DL CA without UL CA, that are not LAA fallbacks of 4DL CA. OR All supported 3DL CA with UL CA |
| E25 | (E14 AND NOT DL\_FALLBACKS\_LAA) OR E20 | All supported 4DL CA without UL CA, that are not LAA fallbacks of 5DL CA. OR All supported 4DL CA with UL CA |
| E26 | ((A.4.6.1-3 AND NOT UL(A.4.6.1-3)) OR (A.4.6.2-3 AND NOT UL(A.4.6.2-3)) OR (A.4.6.3-3 AND NOT UL(A.4.6.3-3)) OR (A.4.6.3-4 AND NOT UL(A.4.6.3-4)) OR (A.4.6.3-5 AND NOT UL(A.4.6.3-5))) AND CARRIER\_NO(6) | All supported 6DL CA without UL |
| Note: CA Configuration Selection is based on set theory. Each CA Configuration is designated by its name, including bands and BW classes, e.g. CA\_1A-5A. The following operators are used:  AND: Set intersection ( ). {CA\_1C,CA\_1A-5A} AND {CA\_1C, CA\_2A-4A } = CA\_1C  OR: Set union ( ). {CA\_1C,CA\_1A-5A} OR {CA\_1C, CA\_2A-4A } = {CA\_1C,CA\_1A-5A, CA\_2A-4A}  NOT: Set complement (\), full set being all possible CA Configurations  Also note that this is set without repetitions so {CA\_1C} AND {CA\_1C} = {CA\_1C}    The following basic sets are used:  FDD: All FDD-only CA Configurations  TDD: All TDD-only CA Configurations  FDD-TDD: All mixed CA Configurations  {CA\_1C}: Explicitly given CA Configurations  CARRIER\_NO(n): All CA Configurations with n Carriers, e.g. for n=2 CA\_1C and CA\_1A-5A would be a part of this set  BAND\_NO(n): All CA Configurations containing n Bands, e.g.. for n=2, CA\_1A-5A and CA\_1A-41C are part of this set  BWCLASS(x): All CA Configurations containing BW Class x, e.g.. for x=C, CA\_1C and CA\_1A-41C are part of this set  DL\_ONLY\_BAND: All CA configurations containing a DL-only band, e.g. CA\_20A-32A is part of this set  The following sets derived from pro-forma tables are also used:  A.4.6.X-Y: All supported DL CA Combinations defined in table A.4.6.X-Y  UL(A.4.6.X-Y): All DL CA Combinations that also support UL CA with any number of carriers >1, as per column  "Supported CA Bandwidth Class(es) in UL" defined in table A.4.6.X-Y.  UL\_2CC(A.4.6.X-Y): All DL CA Combinations that also support 2 Carrier UL CA, as per column  "Supported CA Bandwidth Class(es) in UL" defined in table A.4.6.X-Y. Note that DL might support a larger number of carriers than UL.  UL\_3CC(A.4.6.X-Y): All DL CA Combinations that also support 3 Carrier UL CA, as per column  "Supported CA Bandwidth Class(es) in UL" defined in table A.4.6.X-Y  FALLBACK(A.4.6.X-Y): Fallback DL CA Combinations of supported CA Combinations defined in Table A.4.6.X-Y  FALLBACK\_EtoD(A.4.6.X-Y): Fallback DL CA Combinations of supported CA Combinations defined in Table A.4.6.X-Y where BW class for one sub-block has changed from class E to class D  FALLBACK\_BtoA(A.4.6.X-Y): Fallback DL CA Combinations of supported CA Combinations defined in Table A.4.6.X-Y where BW class for one sub-block has changed from class B to class A  FALLBACK\_LAA(A.4.6.X-Y): Fallback DL CA Combinations of supported CA Combinations defined in Table A.4.6.X-Y where BW class for B46 or B49 band changed from class E to D, D to C or C to A  FALLBACK\_UL(A.4.6.X-Y): Fallback DL and UL CA Combinations of supported CA Combinations defined in Table A.4.6.X-Y. This set only includes Combinations with same CA Capability in UL and DL | | |

Table 4.1-2: Default Fallback Bands and Fallback CA Configurations

|  |  |  |
| --- | --- | --- |
| CA Configuration | Default Fallback Bands | Default Fallback CA Configurations (Note 3) |
| CA\_XC (2 carrier intra-band contiguous) | X | - |
| CA\_XB (2 carrier intra-band contiguous) | X | - |
| CA\_XA-YA (2 carrier inter-band) | X,Y | - |
| CA\_XA-XA (2 carrier intra-band non-contiguous) | X | - |
| CA\_XD (3 carrier intra-band contiguous) | X | CA\_XC |
| CA\_XA-YA-ZA (3 carrier inter-band) | X,Y,Z | CA\_XA-YA,  CA\_XA-ZA,  CA\_YA-ZA |
| CA\_XC-YA(3 carrier intra-band contiguous + inter-band)2 | X,Y | CA\_XC,  CA\_XA-YA |
| CA\_XB-YA(3 carrier intra-band contiguous + inter-band)2 | X,Y | CA\_XB,  CA\_XA-YA |
| CA\_XA-XA-YA(3 carrier intra-band non-contiguous + inter-band)2 | X,Y | CA\_XA-YA,  CA\_XA-XA |
| CA\_XC-XA(3 carrier intra-band non-contiguous + intra-band contiguous)2 | X | CA\_XC,  CA\_XA-XA |
| CA\_XE (4 carrier intra-band contiguous) | X | CA\_XD |
| CA\_XA-XD (4 carrier intra-band contiguous + inter-band with 2 bands)2 | X | CA\_XA-XC |
| CA\_XC-YC (4 carrier intra-band contiguous + inter-band with 2 bands)2 | X, Y | CA\_XA-YC,  CA\_XC-YA |
| CA\_XA-XA-YC (4 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) | X, Y | CA\_XA-XA-YA,  CA\_XA-YC |
| CA\_XA-YA-ZC (4 carrier intra-band contiguous + inter-band with 3 bands)2 | X, Y, Z | CA\_XA-YA-ZA,  CA\_XA-ZC  CA\_ YA-ZC |
| CA\_XA-YA-YA-ZA (4 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 3 bands) 2 | X, Y, Z | CA\_XA-YA-YA,  CA\_YA-YA-ZA,  CA\_XA-YA-ZA |
| CA\_XC-XC (4 carrier intra-band non-contiguous + intra-band contiguous) | X | CA\_XC-XA,  CA\_XA-XC |
| CA\_XA-YA-YC (4 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-YA-YA,  CA\_XA -YC,  CA YA-YC |
| CA\_XA-XA-YA-YA (4 carrier intra-band non-contiguous + inter-band with 2 bands)2 | X, Y | CA\_XA-XA-YA,  CA\_XA-YA-YA |
| CA\_XA-YA-ZA-RA (4 carrier inter-band with 4 bands) | X, Y, Z, R | CA\_XA-YA-ZA,  CA\_XA-YA-RA,  CA\_XA-ZA-RA,  CA\_YA-ZA-RA |
| CA\_XF (5 carrier intra-band contiguous) | X | CA\_XE |
| CA\_XA-XE (5 carrier intra-band non-contiguous + intra-band contiguous) | X | CA\_XE,  CA\_XA-XD |
| CA\_XC-XD (5 carrier intra-band non-contiguous + intra-band contiguous) | X | CA\_XC-XC,  CA\_XA-XD |
| CA\_XA-YE (5 carrier intra-band contiguous + inter-band with 2 bands)2 | X, Y | CA\_XA-YD,  CA\_YE |
| CA\_XC-YD (5 carrier intra-band contiguous + inter-band with 2 bands)2 | X, Y | CA\_XC-YC,  CA\_XA-YD |
| CA\_XA-YA-ZD (5 carrier intra-band contiguous + inter-band with 3 bands)2 | X, Y, Z | CA\_XA-YA-ZC,  CA\_XA-ZD,  CA\_YA-ZD |
| CA\_XA-YC-ZC (5 carrier intra-band contiguous + inter-band with 3 bands)2 | X, Y, Z | CA\_XA-YC-ZA,  CA\_XA-YA-ZC,  CA\_YC-ZC |
| CA\_XA-YA-ZA-RC (5 carrier intra-band contiguous + inter-band with 4 bands)2 | X, Y, Z, R | CA\_XA-YA-ZA,  CA\_XA-YA-RC,  CA\_XA-ZA-RC,  CA\_YA-ZA-RC |
| CA\_XA-YA-YD (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-YA-YC,  CA\_XA-YD,  CA\_YA-YD |
| CA\_XA-YC-YC (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-YC-YA,  CA\_XA-YA-YC,  CA\_YC-YC |
| CA\_XA-XA-YD (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-XA-YC,  CA\_XA-YD, |
| CA\_XA-XC-YC (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-XC-YA,  CA\_XA-XA-YC,  CA\_XC-YC |
| CA\_XA-XA-YA-YC (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 2 bands) 2 | X, Y | CA\_XA-XA-YA-YA,  CA\_XA-XA-YC,  CA\_XA-YA-YC |
| CA\_XA-YA-ZA-ZC (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 3 bands) 2 | X, Y, Z | CA\_XA-YA-ZA-ZA,  CA\_XA-YA-ZC,  CA\_XA-ZA-ZC,  CA\_YA-ZA-ZC |
| CA\_XA-YA-YA-ZA-ZA (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 3 bands) 2 | X, Y, Z | CA\_XA-YA-YA-ZA,  CA\_XA-YA-ZA-ZA,  CA\_YA-YA-ZA-ZA |
| CA\_XA-YA-ZA-RA-RA (5 carrier intra-band non-contiguous + intra-band contiguous + inter-band with 4 bands) 2 | X, Y, Z, R | CA\_XA-YA-ZA-RA,  CA\_XA-YA-RA-RA,  CA\_XA-ZA-RA-RA,  CA\_YA-ZA-RA-RA |
| CA\_XA-YA-ZA-RA-SA (5 carrier inter-band with 5 bands) | X, Y, R, S | CA\_XA-YA-ZA-RA,  CA\_XA-YA-ZA -SA,  CA\_XA-YA -RA-SA,  CA\_XA-ZA-RA-SA,  CA\_YA-ZA-RA-SA |
| Note 1: Table used for deriving default fallbacks in sections A.4.6.1,2 and 3.  Note 2: Also applicable for different band orderings (e.g.. YA-XC).  Note 3: Only the CA fallback configuration with 1 less CC indicated. To get the full list of fallback configurations, all fallback configurations down to 2 carrier are recursively generated. | | |

Table 4.1-3: 3DL CA Name/Release mapping

|  |  |  |  |
| --- | --- | --- | --- |
| Number of  Bands | 3CA Band Combinations | Release for test applicability | Name |
| 1 | CA\_XD | Rel-10 | 3DL CA with TDD CA\_XD |
| 2 | CA\_XA-YB | Rel-11 | 3DL CA with FDD CA\_XA-YB |
| CA\_XA-YB | Rel-11 | 3DL CA with TDD CA\_XA-YB |
| CA\_XA-YB | Rel-12 | 3DL CA with FDD-TDD CA\_XA-YB |
| 2 | CA\_XA-YC | Rel-11 | 3DL CA with FDD CA\_XA-YC |
| CA\_XA-YC | Rel-11 | 3DL CA with TDD CA\_XA-YC |
| CA\_XA-YC | Rel-12 | 3DL CA with FDD-TDD CA\_XA-YC |
| 3 | CA\_XA-YA-ZA | Rel-10 | 3DL CA with FDD CA\_XA-YA-ZA |
| Rel-10 | 3DL CA with TDD CA\_XA-YA-ZA |
| Rel-12 | 3DL CA with FDD-TDD CA\_XA-YA-ZA |
| 2 | CA\_XA-XA-YA | Rel-11 | 3DL CA with FDD CA\_XA-XA-YA |
| 1 | CA\_XA-XA-XA | Rel-11 | 3DL CA with FDD CA\_XA-XA-XA |

Table 4.1-4: 4DL CA Name/Release mapping

| Number of  Bands | 4CA Band Combinations | Release for test applicability | Name |
| --- | --- | --- | --- |
| 1 | CA\_XE | Rel-11 | 4DL CA with TDD CA\_XE |
| 2 | CA\_XA-XD | Rel-11 | 4DL CA with FDD CA\_XA-XD |
| Rel-11 | 4DL CA with TDD CA\_XA-XD |
| Rel-12 | 4DL CA with FDD-TDD CA\_XA-XD |
| 2 | CA\_XB-YB | Rel-10 | 4DL CA with FDD CA\_XB-YB |
| CA\_XC-YB | Rel-10 | 4DL CA with FDD CA\_XC-YB |
| Rel-12 | 4DL CA with FDD-TDD CA\_XC-YB |
| 2 | CA\_XC-YC | Rel-10 | 4DL CA with FDD CA\_XC-YC |
| Rel-10 | 4DL CA with TDD CA\_XC-YC |
| 1 | CA\_XC-XC | Rel-11 | 4DL CA with TDD CA\_XC-XC |
| 2 | CA\_XA-XA-YB | Rel-11 | 4DL CA with FDD CA\_XA-XA-YB |
| CA\_XA-YA-YB | Rel-11 | 4DL CA with FDD CA\_XA-YA-YB |
| 3 | CA\_XA-YA-ZB | Rel-11 | 4DL CA with FDD CA\_XA-YA-ZB |
| 3 | CA\_XA-YA-ZC | Rel-11 | 4DL CA with FDD CA\_XA-YA-ZC |
| Rel-12 | 4DL CA with FDD-TDD CA\_XA-YA-ZC |
| 2 | CA\_XA-YA-YC | Rel-11 | 4DL CA with FDD CA\_XA-YA-YC |
| Rel-12 | 4DL CA with FDD-TDD CA\_XA-YA-YC |
| 2 | CA\_XA-XC-YA | Rel-12 | 4DL CA with FDD-TDD CA\_XA-XC-YA |
| 3 | CA\_XA-YA-ZC | Rel-12 | 4DL CA with FDD-TDD\_XA-YA-ZC |
| 2 | CA\_XA-XA-YA-YA | Rel-11 | 4DL CA with FDD CA\_XA-XA-YA-YA |
| 3 | CA\_XA-YA-YA-ZA | Rel-11 | 4DL CA with FDD CA\_XA-YA-YA-ZA |
| Rel-12 | 4DL CA with FDD-TDD CA\_XA-YA-YA-ZA |
| 4 | CA\_XA-YA-ZA-RA | Rel-11 | 4DL CA with FDD CA\_XA-YA-ZA-RA |
| Rel-12 | 4DL CA with FDD-TDD CA\_XA-YA-ZA-RA |

Table 4.1-5: 5DL CA Name/Release mapping

| Number of  Bands | 5CA Band Combinations | Release for test applicability | Name |
| --- | --- | --- | --- |
| 1 | CA\_XF | Rel-12 | 5DL CA with TDD CA\_XF |
| 1 | CA\_XA-XE | Rel-11 | 5DL CA with TDD CA\_XA-XE |
| 1 | CA\_XC-XD | Rel-11 | 5DL CA with FDD CA\_XC-XD |
| Rel-11 | 5DL CA with TDD CA\_XC-XD |
| 1 | CA\_XA-XA-XD | FFS | 5DL CA with FDD CA\_XA-XA-XD |
| FFS | 5DL CA with TDD CA\_XA-XA-XD |
| 1 | CA\_XA-XC-XC | FFS | 5DL CA with FDD CA\_XA-XC-XC |
| FFS | 5DL CA with TDD CA\_XA-XC-XC |
| 2 | CA\_XA-YE | Rel-11 | 5DL CA with TDD CA\_XA-YE |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YE |
| 2 | CA\_XC-YD | Rel-11 | 5DL CA with FDD CA\_XC-YD |
| Rel-11 | 5DL CA with TDD CA\_XC-YD |
| Rel-12 | 5DL CA with FDD-TDD CA\_XC-YD |
| 2 | CA\_XA-YA-YD | Rel-11 | 5DL CA with TDD CA\_XA-YA-YD |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-YD |
| 2 | CA\_XA-YC-YC | Rel-11 | 5DL CA with FDD CA\_XA-YC-YC |
| Rel-11 | 5DL CA with TDD CA\_XA-YC-YC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YC-YC |
| 2 | CA\_XA-YA-YA-YC | FFS | 5DL CA with FDD CA\_XA-XA-XA-YC |
| FFS | 5DL CA with TDD CA\_XA-XA-XA-YC |
| FFS | 5DL CA with FDD-TDD CA\_XA-XA-XA-YC |
| 2 | CA\_XA-XA-YD | Rel-11 | 5DL CA with TDD CA\_XA-XA-YD |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-XA-YD |
| 2 | CA\_XA-XC-YC | Rel-10 | 5DL CA with FDD CA\_XA-XC-YC |
| Rel-10 | 5DL CA with TDD CA\_XA-XC-YC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-XC-YC |
| 2 | CA\_XA-XA-YA-YC | Rel-11 | 5DL CA with FDD CA\_XA-XA-YA-YC |
| Rel-11 | 5DL CA with TDD CA\_XA-XA-YA-YC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-XA-YA-YC |
| 2 | CA\_XA-XA-YA-YA-YA | FFS | 5DL CA with FDD CA\_XA-XA-YA-YA-YA |
| FFS | 5DL CA with TDD CA\_XA-XA-YA-YA-YA |
| FFS | 5DL CA with FDD-TDD CA\_XA-XA-YA-YA-YA |
| 2 | CA\_XA-XA-XA-YC | FFS | 5DL CA with FDD CA\_XA-XA-XA-YC |
| FFS | 5DL CA with TDD CA\_XA-XA-XA-YC |
| FFS | 5DL CA with FDD-TDD CA\_XA-XA-XA-YC |
| 3 | CA\_XA-YA-ZD | Rel-11 | 5DL CA with TDD CA\_XA-YA-ZD |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-ZD |
| 3 | CA\_XA-YC-ZC | Rel-11 | 5DL CA with FDD CA\_XA-YC-ZC |
| Rel-11 | 5DL CA with TDD CA\_XA-YC-ZC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YC-ZC |
| 3 | CA\_XA-YA-ZA-ZC | Rel-11 | 5DL CA with FDD CA\_XA-YA-ZA-ZC |
| Rel-11 | 5DL CA with TDD CA\_XA-YA-ZA-ZC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-ZA-ZC |
| 3 | CA\_XA-YA-ZA-ZA-ZA | FFS | 5DL CA with FDD CA\_XA-YA-ZA-ZA-ZA |
| FFS | 5DL CA with TDD CA\_XA-YA-ZA-ZA-ZA |
| FFS | 5DL CA with FDD-TDD CA\_XA-YA-ZA-ZA-ZA |
| 3 | CA\_XA-YA-YA-ZC | Rel-11 | 5DL CA with FDD CA\_XA-YA-YA-ZC |
| Rel-11 | 5DL CA with TDD CA\_XA-YA-YA-ZC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-YA-ZC |
| 3 | CA\_XA-YA-YA-ZA-ZA | Rel-11 | 5DL CA with FDD CA\_XA-YA-YA-ZA-ZA |
| Rel-11 | 5DL CA with TDD CA\_XA-YA-YA-ZA-ZA |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-YA-ZA-ZA |
| 4 | CA\_XA-YA-ZA-RC | Rel-11 | 5DL CA with FDD CA\_XA-YA-ZA-RC |
| Rel-11 | 5DL CA with TDD CA\_XA-YA-ZA-RC |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-ZA-RC |
| 4 | CA\_XA-YA-ZA-RA-RA | Rel-11 | 5DL CA with FDD CA\_XA-YA-ZA-RA-RA |
| Rel-11 | 5DL CA with TDD CA\_XA-YA-ZA-RA-RA |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-ZA-RA-RA |
| 5 | CA\_XA-YA-ZA-RA-SA | Rel-12 | 5DL CA with FDD CA\_XA-YA-ZA-RA-SA |
| Rel-12 | 5DL CA with TDD CA\_XA-YA-ZA-RA-SA |
| Rel-12 | 5DL CA with FDD-TDD CA\_XA-YA-ZA-RA-SA |
| Note 1: X, Y, Z, R and S in this table correspond to different bands i.e. X != Y != Z != R != S.  Note 2: The band combinations with difference appearance order of bands/sub-blocks in the band combination string are not distinguished. E.g. CA\_XA-YA-YD represents the set of CA\_XA-YD-YA, YD-YA-XA, YA-XA-YD and YA-YD-XA. | | | |

Table 4.1-6: 6DL CA Name/Release mapping

| Number of Bands | 6CA Band Combinations | Release for test applicability | Name |
| --- | --- | --- | --- |
| 2 | CA\_XA-YF | Rel-14 | 6DL CA with TDD CA\_XA-YF |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YF |
| 2 | CA\_XC-YE | Rel-14 | 6DL CA with TDD CA\_XC-YE |
| Rel-14 | 6DL CA with FDD-TDD CA\_XC-YE |
| 2 | CA\_XC-YE | Rel-14 | 6DL CA with TDD CA\_XD-YD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XD-YD |
| 2 | CA\_XA-XA-YE | Rel-14 | 6DL CA with FDD CA\_XA-XA-YE |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YE |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YE |
| 2 | CA\_XA-YA-YE | Rel-14 | 6DL CA with FDD CA\_XA-YA-YE |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-YE |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-YE |
| 2 | CA\_XA-XA-XA-YD | Rel-14 | 6DL CA with FDD CA\_XA-XA-XA-YD |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-XA-YD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-XA-YD |
| 2 | CA\_XA-XA-YA-YD | Rel-14 | 6DL CA with FDD CA\_XA-XA-YA-YD |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YA-YD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YA-YD |
| 2 | CA\_XA-YA-YA-YD | Rel-14 | 6DL CA with FDD CA\_XA-YA-YA-YD |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-YA-YD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-YA-YD |
| 2 | CA\_XA-XA-XA-XA-YC | Rel-14 | 6DL CA with FDD CA\_XA-XA-XA-XA-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-XA-XA-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-XA-XA-YC |
| 2 | CA\_XA-XA-XA-YA-YC | Rel-14 | 6DL CA with FDD CA\_XA-XA-XA-YA-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-XA-YA-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-XA-YA-YC |
| 2 | CA\_XA-XA-YA-YA-YC | Rel-14 | 6DL CA with FDD CA\_XA-XA-YA-YA-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YA-YA-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YA-YA-YC |
| 2 | CA\_XA-YA-YA-YA-YC | Rel-14 | 6DL CA with FDD CA\_XA-YA-YA-YA-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-YA-YA-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-YA-YA-YC |
| 2 | CA\_XC-YC-YC | Rel-14 | 6DL CA with FDD CA\_XC-YC-YC |
| Rel-14 | 6DL CA with TDD CA\_XC-YC-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XC-YC-YC |
| 2 | CA\_XA-XA-YC-YC | Rel-14 | 6DL CA with FDD CA\_XA-XA-YC-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YC-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YC-YC |
| 2 | CA\_XA-XC-YA-YC | Rel-14 | 6DL CA with FDD CA\_XA-XC-YA-YC |
| Rel-14 | 6DL CA with TDD CA\_XA-XC-YA-YC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XC-YA-YC |
| 3 | CA\_XA-YA-ZE | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZE |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZE |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZE |
| 3 | CA\_XA-YC-ZD | Rel-14 | 6DL CA with FDD CA\_XA-YC-ZD |
| Rel-14 | 6DL CA with TDD CA\_XA-YC-ZD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YC-ZD |
| 3 | CA\_XC-YC-ZC | Rel-14 | 6DL CA with FDD CA\_XC-YC-ZC |
| Rel-14 | 6DL CA with TDD CA\_XC-YC-ZC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XC-YC-ZC |
| 3 | CA\_XA-XA-YC-ZC | Rel-14 | 6DL CA with FDD CA\_XA-XA-YC-ZC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YC-ZC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YC-ZC |
| 3 | CA\_XA-XA-YA-ZD | Rel-14 | 6DL CA with FDD CA\_XA-XA-YA-ZD |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YA-ZD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YA-ZD |
| 3 | CA\_XA-XA-YA-YA-ZC | Rel-14 | 6DL CA with FDD CA\_XA-XA-YA-YA-ZC |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YA-YA-ZC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YA-YA-ZC |
| 3 | CA\_XA-XA-YA-YA-ZA-ZA | Rel-14 | 6DL CA with FDD CA\_XA-XA-YA-YA-ZA-ZA |
| Rel-14 | 6DL CA with TDD CA\_XA-XA-YA-YA-ZA-ZA |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-XA-YA-YA-ZA-ZA |
| 4 | CA\_XA-YA-ZA-RD | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-RD |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-RD |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-RD |
| 4 | CA\_XA-YA-ZC-RC | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZC-RC |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZC-RC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZC-RC |
| 4 | CA\_XA-YA-ZA-ZA-RC | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-ZA-RC |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-ZA-RC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-ZA-RC |
| 4 | CA\_XA-YA-ZA-ZA-RA-RA | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-ZA-RA-RA |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-ZA-RA-RA |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-ZA-RA-RA |
| 5 | CA\_XA-YA-ZA-RA-SC | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-RA-SC |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-RA-SC |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-RA-SC |
| 5 | CA\_XA-YA-ZA-RA-SA-SA | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-RA-SA-SA |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-RA-SA-SA |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-RA-SA-SA |
| 6 | CA\_XA-YA-ZA-RA-SA-UA | Rel-14 | 6DL CA with FDD CA\_XA-YA-ZA-RA-SA-UA |
| Rel-14 | 6DL CA with TDD CA\_XA-YA-ZA-RA-SA-UA |
| Rel-14 | 6DL CA with FDD-TDD CA\_XA-YA-ZA-RA-SA-UA |
| Note 1: X, Y, Z, R and S in this table correspond to different bands i.e. X != Y != Z != R != S.  Note 2: The band combinations with difference appearance order of bands/sub-blocks in the band combination string are not distinguished. E.g. CA\_XA-YA-YD represents the set of CA\_XA-YD-YA, YD-YA-XA, YA-XA-YD and YA-YD-XA. | | | |

Table 4.1-6: 7DL CA Name/Release mapping

|  |  |  |  |
| --- | --- | --- | --- |
| Number of Bands | 7CA Band Combinations | Release for test applicability | Name |
| 3 | CA\_XA-YC-ZE | Rel-14 | 7DL CA with FDD-TDD CA\_XA-YC-ZE |
| 4 | CA\_XA-YA-ZC-RD | Rel-14 | 7DL CA with FDD-TDD CA\_XA-YA-ZC-RD |
| Note 1: X, Y, Z and R in this table correspond to different bands i.e. X != Y != Z != R.  Note 2: The band combinations with difference appearance order of bands/sub-blocks in the band combination string are not distinguished. E.g. CA\_XA-YA-YD represents the set of CA\_XA-YD-YA, YD-YA-XA, YA-XA-YD and YA-YD-XA  Note 3: CA configurations involving downlink only operation in Band 46 are release independent from Rel-13 onwards (LAA was introduced in Rel-13). The 10 MHz channel bandwidth for Band 46 was introduced in TS 36.101 Rel-14 [2] and can be implemented in a release independent way from Rel-13. | | | |

## 4.2 RRM conformance test cases

Table 4.2-1: Applicability of RRM conformance test cases, ref. TS 36.521-3 [2]

NOTE: To determine applicability of a test case, FGI support in combined or fdd-Add-UE-EUTRA-Capabilities or tdd-Add-UE-EUTRA-Capabilities is taken into account.

| Clause | Title | Release | Applicability | | Additional Information | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Condition | Comments | Number of TC Executions | Release on other RAT | Branch |
| **E-UTRAN RRC\_IDLE State Mobility** | | | | | | |  |
| 4.2.1 | E-UTRAN FDD - FDD cell re-selection intra frequency case | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 4.2.2 | E-UTRAN TDD - TDD cell re-selection intra frequency case | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 4.2.3 | E-UTRAN FDD - FDD cell re-selection inter frequency case | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 4.2.4 | E-UTRAN FDD - TDD cell re-selection inter frequency case | Rel-9 | C03 | UE supporting E-UTRA FDD and E-UTRA TDD |  |  | 2Rx, 4Rx |
| 4.2.5 | E-UTRAN TDD - FDD cell re-selection inter frequency case | Rel-9 | C03 | UE supporting E-UTRA FDD and E-UTRA TDD |  |  | 2Rx, 4Rx |
| 4.2.6 | E-UTRAN TDD - TDD cell re-selection inter frequency case | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 4.2.7 | E-UTRAN FDD - FDD Inter frequency case in the existence of non-allowed CSG cell | Rel-9 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 4.2.8 | E-UTRAN TDD - TDD Inter frequency case in the existence of non-allowed CSG cell | Rel-9 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 4.2.9 | E-UTRAN FDD-FDD intra-frequency Cell Re-selection case for 5MHz bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 4.2.10 | E-UTRAN FDD – FDD reselection using an increased number of carriers | Rel-12 | C01s | UE supporting E-UTRA FDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.2.11 | E-UTRAN TDD – TDD reselection using an increased number of carriers | Rel-12 | C01t | UE supporting E-UTRA TDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.2.12 | E-UTRAN FDD - FDD Intra frequency case for CE UE in normal coverage | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 4.2.13 | E-UTRAN HD - FDD Intra frequency case for CE UE in normal coverage | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 4.2.14 | E-UTRAN TDD - TDD Intra frequency case for CE UE in normal coverage | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 4.2.15 | E-UTRAN FDD - FDD Intra frequency case for CE UE in enhanced coverage | Rel-13 | C94e | UE supporting E-UTRA FD-FDD and CEMode B |  |  |  |
| 4.2.16 | E-UTRAN HD - FDD Intra frequency case for CE UE in enhanced coverage | Rel-13 | C94f | UE supporting E-UTRA HD-FDD and CEModeB |  |  |  |
| 4.2.17 | E-UTRAN TDD - TDD Intra frequency case for CE UE in enhanced coverage | Rel-13 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 4.2.18 | HD-FDD Cel Re-selection Intra frequency case for Category NB1 UE In-Band mode under Normal Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 4.2.19 | HD-FDD Intra frequency case for UE Category NB1 In-Band mode in enhanced coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 4.2.20 | E-UTRAN FDD – FDD Intra frequency case for UE Category 1bis | Rel-13 | C194 | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 4.2.21 | E-UTRAN TDD – TDD Intra frequency case for UE Category 1bis | Rel-13 | C195 | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 4.2.22 | E-UTRAN FDD - FDD cell re-selection intra frequency case for UE configured with highSpeedEnhancedMeasFlag | Rel-14 | C196 | UEs supporting E-UTRA FDD and high speed enhancement for measurement |  |  |  |
| 4.2.23 | E-UTRAN TDD - TDD cell re-selection intra frequency case for UE configured with highSpeedEnhancedMeasFlag | Rel-14 | C197 | UEs supporting E-UTRA TDD and high speed enhancement for measurement |  |  |  |
| 4.2.24 | HD – FDD Inter frequency case for UE Category NB1 In-Band mode in normal coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 4.2.25 | E-UTRAN FDD – FDD Inter frequency case for CE UE in normal coverage | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 4.2.26 | E-UTRAN HD – FDD Inter frequency case for CE UE in normal coverage | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 4.2.27 | E-UTRAN TDD – TDD Inter frequency case for CE UE in normal coverage | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 4.2.28 | E-UTRAN FDD – FDD Inter frequency case for CE UE in enhanced coverage | Rel-14 | C94e | UE supporting E-UTRA FD-FDD and CEModeB |  |  |  |
| 4.2.29 | E-UTRAN HD – FDD Inter frequency case for CE UE in enhanced coverage | Rel-14 | C94f | UE supporting E-UTRA HD-FDD and CEModeB |  |  |  |
| 4.2.30 | E-UTRAN TDD Inter frequency case for CE UE in enhanced coverage | Rel-14 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 4.2.31 | E-UTRAN FDD – FDD Inter frequency case for UE Category 1bis | Rel-13 | C01m | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 4.2.32 | E-UTRAN FDD – TDD Inter frequency case for UE Category 1bis | Rel-13 | C03a | UE supporting E-UTRA FDD and E-UTRA TDD and UE Category 1bis |  |  |  |
| 4.2.33 | E-UTRAN TDD – FDD Inter frequency case for UE Category 1bis | Rel-13 | C03a | UE supporting E-UTRA FDD and E-UTRA TDD and UE Category 1bis |  |  |  |
| 4.2.34 | E-UTRAN TDD – TDD: Inter frequency case for UE Category 1bis | Rel-13 | C02m | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 4.2.35 | E-UTRAN TDD – TDD Intra frequency case for UE Category NB1 In-Band mode in normal coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 4.2.36 | E-UTRAN TDD – TDD Intra frequency case for UE Category NB1 In-Band mode in enhanced coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 4.2.37 | E-UTRAN TDD – TDD Inter frequency case for UE Category NB1 In-Band mode in enhanced coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 4.2.38 | HD – FDD Intra frequency case for UE Category NB1 In-Band mode in normal coverage with serving cell RRM measurement relaxation | Rel-15 | C236 | UE supporting NB-IoT HD-FDD and WUS |  |  |  |
| 4.3.1.1 | E-UTRA FDD - UTRAN FDD cell re-selection | Rel-8 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 4.3.1.2 | E-UTRA FDD - UTRAN FDD cell re-selection: UTRA FDD is of lower priority | Rel-8 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 4.3.1.3 | E-UTRAN FDD - UTRAN FDD cell re-selection in fading propagation conditions: UTRA FDD is of lower priority | Rel-8 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 4.3.1.4 | E-UTRAN FDD - UTRAN FDD cell re-selection: UTRA FDD is of lower priority for 5MHz bandwidth | Rel-8 | C53 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand UTRA FDD |  |  |  |
| 4.3.1.5 | Idle mode FDD to UTRA FDD interRAT reselection | Rel-12 | C04l | UE supporting E-UTRA FDD, UTRA FDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.3.2 | E-UTRAN FDD - UTRAN TDD cell re-selection | Rel-8 | C06 | UE supporting E-UTRA FDD and UTRA TDD |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 4.3.2A | E-UTRA FDD to UTRA TDD cell re-selection for IncMon | Rel-12 | C04i | UE supporting E-UTRA FDD, UTRA TDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.3.3 | E-UTRAN TDD - UTRAN FDD cell re-selection | Rel-8 | C07 | UE supporting E-UTRA TDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 4.3.3A | Idle mode TDD to UTRA FDD interRAT reselection | Rel-12 | C04j | UE supporting E-UTRA TDD, UTRA FDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.3.4.1 | E-UTRA TDD - UTRAN TDD cell re-selection | Rel-8 | C05 | UE supporting E-UTRA TDD and UTRA TDD |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 4.3.4.2 | E-UTRAN TDD - UTRAN TDD cell re-selection: UTRA is of lower priority | Rel-8 | C05 | UE supporting E-UTRA TDD and UTRA TDD |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 4.3.4.3 | EUTRA TDD-UTRA TDD cell reselection in fading propagation conditions: UTRA TDD is of lower priority | Rel-8 | C05 | UE supporting E-UTRA TDD and UTRA TDD |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 4.3.4.4 | E-UTRA TDD to UTRA TDD cell re-selection for IncMon | Rel-12 | C04k | UE supporting E-UTRA TDD, UTRA TDD and Increased Carrier Monitoring E-UTRA |  |  | 2Rx, 4Rx |
| 4.4.1 | E-UTRAN FDD - GSM cell re-selection | Rel-8 | C08 | UE supporting E-UTRA FDD and GSM |  |  | 2Rx, 4Rx |
| 4.4.2 | E-UTRAN TDD - GSM cell re-selection | Rel-8 | C09 | UE supporting E-UTRA TDD and GSM |  |  | 2Rx, 4Rx |
| 4.5.1.1 | E-UTRAN FDD - HRPD Cell re-selection: HRPD is of lower priority | Rel-8 | C10 | UE supporting E-UTRA FDD and cdma2000 HRPD |  |  | 2Rx, 4Rx |
| 4.5.2.1 | E-UTRAN TDD - HRPD Cell Reselection: HRPD is of Lower Priority | Rel-9 | C34 | UE supporting E-UTRA TDD and cdma2000 HRPD |  |  | 2Rx, 4Rx |
| 4.6.1.1 | E-UTRAN FDD - cdma2000 1xRTT Cell re-selection: cdma2000 1x is of lower priority | Rel-8 | C11 | UE supporting E-UTRA FDD and cdma2000 1xRTT |  |  | 2Rx, 4Rx |
| 4.6.2.1 | E-UTRAN TDD-cdma2000 1X Cell Reselection: cdma2000 1X is of Lower Priority | Rel-9 | C35 | UE supporting E-UTRA TDD and cdma2000 1xRTT |  |  | 2Rx, 4Rx |
| **E-UTRAN RRC\_CONNECTED State Mobility** | | | | | | |  |
| 5.1.1 | E-UTRAN FDD - FDD Handover intra frequency case | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 5.1.2 | E-UTRAN TDD - TDD Handover intra frequency case | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 5.1.3 | E-UTRAN FDD - FDD Handover inter frequency case | Rel-8 | C01d | UE supporting E-UTRA FDD and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.3\_2 | E-UTRAN FDD – FDD Inter frequency handover for UE Category 1bis | Rel-13 | C01dh | UE supporting E-UTRA FDD and UE Category 1bis and Feature Group Indicators 5, 13 and 25 |  |  |  |
| 5.1.4 | E-UTRAN TDD - TDD Handover inter frequency case | Rel-8 | C02d | UE supporting E-UTRA TDD and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.4\_2 | E-UTRAN TDD – TDD Inter frequency handover for UE Category 1bis | Rel-13 | C02dh | UE supporting E-UTRA TDD and UE Category 1bis and Feature Group Indicators 5, 13 and 25 |  |  |  |
| 5.1.5 | E-UTRAN FDD - FDD inter frequency handover: unknown target cell | Rel-8 | C01a | UE supporting E-UTRA FDD and Feature Group Indicators 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.5\_2 | E-UTRAN FDD – FDD Inter frequency handover: unknown target cell for UE Category 1bis | Rel-13 | C01ah | UE supporting E-UTRA FDD and UE Category 1bis and Feature Group Indicators 13 and 25 |  |  |  |
| 5.1.6 | E-UTRAN TDD-TDD inter frequency handover: unknown target cell | Rel-8 | C02a | UE supporting E-UTRA TDD and Feature Group Indicators 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.6\_2 | E-UTRAN TDD – TDD Inter frequency handover: unknown Target Cell for UE Category 1bis | Rel-13 | C02ah | UE supporting E-UTRA TDD and UE Category 1bis and Feature Group Indicators 13 and 25 |  |  |  |
| 5.1.7 | E-UTRAN FDD - TDD handover inter frequency case | Rel-9 | C21 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.7\_2 | E-UTRAN FDD – TDD Inter frequency handover for UE Category 1bis | Rel-13 | C21a | UE supporting E-UTRA FDD and E-UTRA TDD and UE Category 1bis and Feature Group Indicators 5, 25 and 30 |  |  |  |
| 5.1.8 | E-UTRAN TDD - FDD handover inter frequency case | Rel-9 | C21 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.8\_2 | E-UTRAN TDD – FDD Inter frequency handover for UE Category 1bis | Rel-13 | C21a | UE supporting E-UTRA FDD and E-UTRA TDD and UE Category 1bis and Feature Group Indicators 5, 25 and 30 |  |  |  |
| 5.1.9 | E-UTRAN FDD-FDD Intra frequency handover for 5MHz bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 5.1.10 | E-UTRAN FDD-FDD Handover intra frequency handover for UE category 0 | Rel-12 | C94 | UE supporting E-UTRA FD-FDD and UE Category 0 |  |  |  |
| 5.1.11 | E-UTRAN HD-FDD Handover intra frequency handover for UE category 0 | Rel-12 | C110 | UE supporting E-UTRA HD-FDD and UE Category 0 |  |  |  |
| 5.1.12 | E-UTRAN TDD-TDD Handover intra frequency handover for UE category 0 | Rel-12 | C93 | UE supporting E-UTRA TDD and UE Category 0 |  |  |  |
| 5.1.13 | E-UTRAN FDD-FDD Intra frequency handover for CE UEs in CEModeA | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 5.1.14 | E-UTRAN HD-FDD Intra frequency handover for CE UEs in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 5.1.15 | E-UTRAN TDD Intra frequency handover for CE UEs in CEModeA | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 5.1.16 | E-UTRAN FDD-FDD Intra frequency handover for CE UEs in CEModeB | Rel-13 | C94e | UE supporting E-UTRA FD-FDD and CEMode B |  |  |  |
| 5.1.17 | E-UTRAN HD-FDD Intra frequency handover for CE UEs in CEModeB | Rel-13 | C94f | UE supporting E-UTRA HD-FDD and CEModeB |  |  |  |
| 5.1.18 | E-UTRAN TDD Intra frequency handover for CE UEs in CEModeB | Rel-13 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 5.1.19 | E-UTRAN FDD – FDD Intra frequency handover for UE Category 1bis | Rel-13 | C194 | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 5.1.20 | E-UTRAN TDD – TDD Intra frequency handover for UE Category 1bis | Rel-13 | C195 | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 5.1.28 | E-UTRAN HD-FDD inter frequency handover for CE UEs in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  | |
| 5.1.34 | E-UTRAN HD-FDD intra frequency handover for CE UEs in CEModeA without SFN acquisition | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  | |
| 5.1.41 | E-UTRAN FDD – FDD Intra-band Inter-frequency sync DAPS handover | Rel-16 | C244 | UE supporting E-UTRA FDD and Feature Group Indicators 5, 13 and 25 and inter-frequency sync DAPS handover |  |  | 2Rx, 4Rx |
| 5.1.42 | E-UTRAN FDD – FDD Intra-band Inter-frequency async DAPS handover | Rel-16 | C243 | UE supporting E-UTRA FDD and Inter-frequency async DAPS handover and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.43 | E-UTRAN FDD – FDD Inter-band Inter-frequency sync DAPS handover | Rel-16 | C244 | UE supporting E-UTRA FDD and Inter-frequency DAPS handover and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.44 | E-UTRAN FDD – FDD Inter-band Inter-frequency async DAPS handover | Rel-16 | C243 | UE supporting E-UTRA FDD and Inter-frequency async DAPS handover and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.45 | E-UTRAN FDD - FDD Intra frequency DAPS handover | Rel-16 | C245 | UE supporting E-UTRA FDD and Intra frequency DAPS handover |  |  | 2Rx, 4Rx |
| 5.1.46 | E-UTRAN TDD - TDD Intra frequency DAPS handover | Rel-16 | C248 | UE supporting E-UTRA TDD and Intra frequency DAPS handover |  |  | 2Rx, 4Rx |
| 5.1.47 | E-UTRAN FDD - FDD Intra frequency conditional handover | Rel-16 | C01u | UE supporting E-UTRA FDD and conditional HO |  |  | 2Rx, 4Rx | |
| 5.1.48 | E-UTRAN TDD - TDD Intra frequency conditional handover | Rel-16 | C02o | UE supporting E-UTRA TDD and conditional HO |  |  | 2Rx, 4Rx |
| 5.1.49 | E-UTRAN FDD - FDD Inter frequency conditional handover | Rel-16 | C01dc | UE supporting E-UTRA FDD and conditional HO and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.50 | E-UTRAN TDD - TDD Inter frequency conditional handover | Rel-16 | C02dc | UE supporting E-UTRA TDD and conditional HO and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.51 | E-UTRAN FDD - TDD Inter frequency conditional handover | Rel-16 | C21b | UE supporting E-UTRA FDD and E-UTRA TDD and conditional HO between FDD and TDD cells. and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.52 | E-UTRAN TDD - FDD Inter frequency conditional handover | Rel-16 | C21b | UE supporting E-UTRA FDD and E-UTRA TDD and conditional HO between FDD and TDD cells and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.53 | E-UTRAN TDD – TDD Intra-band Inter-frequency sync DAPS handover | Rel-16 | C247 | UE supporting E-UTRA TDD and Inter-frequency DAPS handover and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.54 | E-UTRAN TDD – TDD Inter-band Inter-frequency sync DAPS handover | Rel-16 | C247 | UE supporting E-UTRA TDD and Inter-frequency DAPS handover and Feature Group Indicators 5, 13 and 25 |  |  | 2Rx, 4Rx |
| 5.1.55 | E-UTRAN FDD - TDD inter-band inter-frequency synchronous DAPS handover | Rel-16 | C250 | UE supporting E-UTRA FDD and E-UTRA TDD and Inter-frequency DAPS handover and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.56 | E-UTRAN TDD - FDD inter-band inter-frequency synchronous DAPS handover | Rel-16 | C250 | UE supporting E-UTRA FDD and E-UTRA TDD and Inter-frequency DAPS handover and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.57 | E-UTRAN FDD – TDD Inter-band Inter-frequency async DAPS handover | Rel-16 | C249 | UE supporting E-UTRA FDD and E-UTRA TDD and Inter-frequency async DAPS handover and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.1.58 | E-UTRAN TDD – FDD Inter-band Inter-frequency async DAPS handover | Rel-16 | C249 | UE supporting E-UTRA FDD and E-UTRA TDD and Inter-frequency async DAPS handover and Feature Group Indicators 5, 25 and 30 |  |  | 2Rx, 4Rx |
| 5.2.1 | E-UTRAN FDD - UTRAN FDD handover | Rel-8 | C04a | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 8 and 22 |  |  | 2Rx, 4Rx |
| 5.2.2 | E-UTRAN TDD - UTRAN FDD handover | Rel-8 | C07a | UE supporting E-UTRA TDD and UTRA FDD and Feature Group Indicators 8 and 22 |  |  | 2Rx, 4Rx |
| 5.2.3 | E-UTRAN FDD - GSM handover | Rel-8 | C08e | UE supporting E-UTRA FDD and GSM and inter-RAT PS handover to GERAN and Feature Group Indicators 9, 15 and 23 |  |  | 2Rx, 4Rx |
| 5.2.4 | E-UTRAN TDD - UTRAN TDD handover | Rel-8 | C05a | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 8 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 5.2.5 | E-UTRAN FDD - UTRAN TDD handover | Rel-8 | C06a | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 8 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 5.2.6 | E-UTRA TDD - GSM handover | Rel-8 | C09f | UE supporting E-UTRA TDD and GSM and inter-RAT PS handover to GERAN and Feature Group Indicators 9, 15 and 23 |  |  | 2Rx, 4Rx |
| 5.2.7 | E-UTRAN FDD - UTRAN FDD handover: unknown target cell | Rel-8 | C04a | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 8 and 22 |  |  | 2Rx, 4Rx |
| 5.2.8 | E-UTRAN FDD - GSM handover: unknown target cell | Rel-8 | C08a | UE supporting E-UTRA FDD and GSM and inter-RAT PS handover to GERAN and inter-RAT PS handover to GERAN and Feature Group Indicators 9 and 23 |  |  | 2Rx, 4Rx |
| 5.2.9 | E-UTRAN TDD - GSM handover: unknown target cell | Rel-8 | C09b | UE supporting E-UTRA TDD and GSM and Feature Group Indicators 9 and 23 |  |  | 2Rx, 4Rx |
| 5.2.10 | E-UTRAN TDD - UTRAN TDD handover: unknown target cell | Rel-8 | C05a | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 8 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx |
| 5.2.11 | E-UTRAN FDD - UTRAN FDD handover for 5MHz Bandwidth | Rel-8 | C54 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand UTRA FDD and Feature Group Indicators 8 and 22 |  |  |  |
| 5.3.1 | E-UTRAN FDD - HRPD Handover | Rel-8 | C10a | UE supporting E-UTRA FDD and cdma2000 HRPD and Feature Group Indicators 12 and 26 |  |  | 2Rx, 4Rx |
| 5.3.2 | E-UTRAN FDD - cdma2000 1xRTT handover | Rel-8 | C11a | UE supporting E-UTRA FDD and cdma2000 1xRTT and Feature Group Indicators 11 and 24 |  |  | 2Rx, 4Rx |
| 5.3.3 | E-UTRAN FDD - HRPD handover: unknown target cell | Rel-8 | C10a | UE supporting E-UTRA FDD and cdma2000 HRPD and Feature Group Indicators 12 and 26 |  |  | 2Rx, 4Rx |
| 5.3.4 | E-UTRAN FDD - cdma2000 1xRTT handover: unknown target cell | Rel-8 | C11a | UE supporting E-UTRA FDD and cdma2000 1xRTT and Feature Group Indicators 11 and 24 |  |  | 2Rx, 4Rx |
| 5.3.5 | E-UTRAN TDD-HRPD Handover | Rel-9 | C36 | UE supporting E-UTRA TDD and cdma2000 HRPD and Feature Group Indicators 12 and 26. |  |  | 2Rx, 4Rx |
| 5.3.6 | E-UTRAN TDD-cdma2000 1X Handover | Rel-9 | C37 | UE supporting E-UTRA TDD and cdma2000 1xRTT and Feature Group Indicators 11 and 24. |  |  | 2Rx, 4Rx |
| **RRC Connection Mobility Control** | | | | | | |  |
| 6.1.1 | E-UTRAN FDD Intra-frequency RRC Re-establishment | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 6.1.1\_2 | E-UTRAN FDD Intra-frequency RRC Re-establishment for UE Category 1bis | Rel-13 | C01m | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 6.1.2 | E-UTRAN FDD Inter-frequency RRC Re-establishment | Rel-8 | C01b | UE supporting E-UTRA FDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 6.1.2\_2 | E-UTRAN FDD Inter-frequency RRC Re-establishment for UE Category 1bis | Rel-13 | C01n | UE supporting E-UTRA FDD and Feature Group Indicator 25 and UE Category 1bis |  |  |  |
| 6.1.3 | E-UTRAN TDD Intra-frequency RRC Re-establishment | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 6.1.3\_2 | E-UTRAN TDD Intra-frequency RRC Re-establishment for UE Category 1bis | Rel-13 | C02m | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 6.1.4 | E-UTRAN TDD Inter-frequency RRC Re-establishment | Rel-8 | C02b | UE supporting E-UTRA TDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 6.1.4\_2 | E-UTRAN TDD Inter-frequency RRC Re-establishment for UE Category 1bis | Rel-13 | C02n | UE supporting E-UTRA TDD and Feature Group Indicator 25 and UE Category 1bis |  |  |  |
| 6.1.5 | E-UTRAN FDD Intra-frequency RRC Re-establishment for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 6.1.6 | E-UTRAN FD-FDD Intra-frequency RRC Re-establishment for UE category 0 | Rel-12 | C94 | UE supporting E-UTRA FD-FDD and UE Category 0 |  |  |  |
| 6.1.7 | E-UTRAN HD-FDD Intra-frequency RRC Re-establishment for UE category 0 | Rel-12 | C107 | UE supporting E-UTRA HD-FDD and UE Category 0 |  |  |  |
| 6.1.8 | E-UTRAN TDD Intra-frequency RRC Re-establishment for UE category 0 | Rel-12 | C93 | UE supporting E-UTRA TDD and UE Category 0 |  |  |  |
| 6.1.9 | E-UTRAN FD-FDD Intra-frequency RRC Re-establishment for CE UE in CEModeA | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 6.1.10 | E-UTRAN HD-FDD Intra-frequency RRC Re-establishment for CE UE in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 6.1.11 | E-UTRAN TDD Intra-frequency RRC Re-establishment for CE UE in CEModeA | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 6.1.12 | E-UTRAN FD-FDD Intra-frequency RRC Re-establishment for UE in CEModeB | Rel-13 | C94e | UE supporting E-UTRA FD-FDD and CEModeB |  |  |  |
| 6.1.13 | E-UTRAN HD-FDD Intra-frequency RRC Re-establishment for UE in CEModeB | Rel-13 | C94f | UE supporting E-UTRA HD-FDD and CEModeB |  |  |  |
| 6.1.14 | E-UTRAN TDD Intra-frequency RRC Re-establishment for UE in CEModeB | Rel-13 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 6.1.15 | HD-FDD Intra-frequency RRC Re-establishment for category NB1 UE in In-Band mode under normal coverage | Rel-13 | C162 | UE supporting NB-IoT HD-FDD and User plane CIoT |  |  |  |
| 6.1.16 | HD-FDD Inter-frequency RRC Re-establishment for category NB1 UE in In-Band mode under Enhanced Coverage | Rel-13 | C162 | UE supporting NB-IoT HD-FDD and User plane CIoT |  |  |  |
| 6.1.18 | E-UTRAN HD-FDD Inter-frequency RRC Re-establishment for CE UE in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  | |
| 6.1.23 | E-UTRAN TDD Inter-frequency RRC Re-establishment for UE category NB1 in In-Band mode under normal coverage | Rel-15 | C234 | UE supporting NB-IoT TDD and User plane CIoT |  |  |  |
| 6.1.24 | E-UTRAN TDD - TDD Intra-frequency RRC Re-establishment for UE category NB1 in In-Band mode under enhanced coverage | Rel-15 | C234 | UE supporting NB-IoT TDD and User plane CIoT |  |  |  |
| 6.2.1 | E-UTRAN FDD - Contention Based Random Access Test | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 6.2.1\_2 | E-UTRAN FDD - Contention Based Random Access Test for UE Category 1bis | Rel-8 | C01m | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 6.2.2 | E-UTRAN FDD - Non-Contention Based Random Access Test | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 6.2.2\_2 | E-UTRAN FDD - Non-Contention Based Random Access Test for UE Category 1bis | Rel-8 | C01m | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 6.2.3 | E-UTRAN TDD - Contention Based Random Access Test | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 6.2.3\_2 | E-UTRAN TDD - Contention Based Random Access Test for UE Category 1bis | Rel-8 | C02m | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 6.2.4 | E-UTRAN TDD - Non-Contention Based Random Access Test | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 6.2.4\_2 | E-UTRAN TDD - Non-Contention Based Random Access Test for UE Category 1bis | Rel-8 | C02m | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 6.2.5 | E-UTRAN FDD - Contention Based Random Access Test for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  | 2Rx, 4Rx |
| 6.2.6 | E-UTRAN FDD - Non-Contention Based Random Access Test for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  | 2Rx, 4Rx |
| 6.2.7 | E-UTRAN FDD - Non-Contention Based Random Access Test For SCell in sTAG | Rel-12 | C61 | UE supporting E-UTRA FDD and Uplink Carrier Aggregation and multiple timing advances |  |  | 2Rx, 4Rx |
| 6.2.8 | E-UTRAN TDD - Non-Contention Based Random Access Test For SCell in sTAG | Rel-12 | C62 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advances |  |  | 2Rx, 4Rx |
| 6.2.9 | 3DL/3UL TDD CA Non-Contention Based Random Access Test for 2 SCells | Rel-13 | C230 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advances |  |  | 2Rx, 4Rx |
| 6.2.10 | E-UTRAN FDD Contention Based Random Access Test for CE UEs in Normal Coverage | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 6.2.11 | E-UTRAN HD-FDD Contention Based Random Access Test for CE UEs in Normal Coverage | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 6.2.12 | E-UTRAN TDD Contention Based Random Access Test for CE UEs in Normal Coverage | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 6.2.13 | E-UTRAN FDD - Contention Based Random Access Test for CE UEs in Enhanced Coverage | Rel-13 | C94e | U supporting E-UTRA FD-FDD andCEModeB |  |  |  |
| 6.2.14 | E-UTRAN HD-FDD - Contention Based Random Access Test for CE UEs in Enhanced Coverage | Rel-13 | C94f | UE supporting E-UTRA HD-FDD andCEModeB |  |  |  |
| 6.2.15 | E-UTRAN TDD - Contention Based Random Access Test for CE UEs in Enhanced Coverage | Rel-13 | C93e | UE supporting E-UTRA TDD andCEModeB |  |  |  |
| 6.2.16 | Contention Based Random Access Test for UE category NB1 UEs In-band mode in normal coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 6.2.17 | Contention Based Random Access Test for UE category NB1 UEs In-band mode in Enhanced Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 6.2.18 | Contention Based Random Access on Non-anchor Carrier Test for UE category NB1 UEs In-band mode in Enhanced Coverage | Rel-14 | C219 | UE supporting category NB1 and supporting NPRACH on non-anchor carrier |  |  |  |
| 6.2.19 | TDD Contention Based Random Access Test for UE category NB1 UEs In-band mode in normal coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 6.2.20 | TDD Contention Based Random Access Test for UE category NB1 UEs In-band mode in enhanced coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 6.2.21 | TDD Contention Based Random Access on Non-anchor Carrier Test for UE category NB1 UEs In-band mode in Enhanced Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 6.3.1 | Redirection from E-UTRAN FDD to UTRAN FDD | Rel-9 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 6.3.1\_2 | Redirection from E-UTRAN FDD to UTRAN FDD for UE Category 1bis | Rel-13 | C04h | UE supporting E-UTRA FDD and UTRA FDD and UE Category 1bis |  |  |  |
| 6.3.2 | Redirection from E-UTRAN TDD to UTRAN FDD | Rel-9 | C07 | UE supporting E-UTRA TDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 6.3.2\_2 | Redirection from E-UTRAN TDD to UTRAN FDD for UE Category 1bis | Rel-13 | C07d | UE supporting E-UTRA TDD and UTRA FDD and UE Category 1bis |  |  |  |
| 6.3.3 | Redirection from E-UTRAN FDD to GERAN when System Information is provided | Rel-9 | C27 | UE supporting E-UTRA FDD and GERAN |  |  | 2Rx, 4Rx |
| 6.3.3\_2 | Redirection from E-UTRAN FDD to GERAN when System Information is provided for UE Category 1bis | Rel-13 | C27a | UE supporting E-UTRA FDD and GERAN and UE Category 1bis |  |  |  |
| 6.3.4 | Redirection from E-UTRAN TDD to GERAN when System Information is provided | Rel-9 | C28 | UE supporting E-UTRA TDD and GERAN |  |  | 2Rx, 4Rx |
| 6.3.4\_2 | Redirection from E-UTRAN TDD to GERAN when System Information is provided for UE Category 1bis | Rel-13 | C28a | UE supporting E-UTRA TDD and GERAN and UE Category 1bis |  |  |  |
| 6.3.5 | E-UTRA TDD RRC connection release redirection to UTRA TDD | Rel-9 | C26 | UE supporting E-UTRA TDD and UTRA TDD |  |  | 2Rx, 4Rx |
| 6.3.5\_2 | E-UTRA TDD RRC connection release redirection to UTRA TDD for UE Category 1bis | Rel-13 | C26a | UE supporting E-UTRA TDD and UTRA TDD and UE Category 1bis |  |  |  |
| 6.3.6 | E-UTRA FDD RRC connection release redirection to UTRA TDD | Rel-9 | C25 | UE supporting E-UTRA FDD and UTRA TDD |  |  | 2Rx, 4Rx |
| 6.3.6\_2 | E-UTRA FDD RRC connection release redirection to UTRA TDD for UE Category 1bis | Rel-13 | C25a | UE supporting E-UTRA FDD and UTRA TDD and UE Category 1bis |  |  |  |
| 6.3.7 | E-UTRA TDD RRC connection release redirection to UTRA TDD without SI provided | Rel-9 | C26 | UE supporting E-UTRA TDD and UTRA TDD |  |  | 2Rx, 4Rx |
| 6.3.7\_2 | E-UTRA TDD RRC connection release redirection to UTRA TDD without SI provided for UE Category 1bis | Rel-13 | C26a | UE supporting E-UTRA TDD and UTRA TDD and UE Category 1bis |  |  |  |
| 6.3.8 | E-UTRA FDD RRC connection release redirection to UTRA TDD without SI provided | Rel-9 | C25 | UE supporting E-UTRA FDD and UTRA TDD |  |  | 2Rx, 4Rx |
| 6.3.8\_2 | E-UTRA FDD RRC connection release redirection to UTRA TDD without SI provided for UE Category 1bis | Rel-13 | C25a | UE supporting E-UTRA FDD and UTRA TDD and UE Category 1bis |  |  |  |
| 6.3.9 | Redirection from E-UTRAN FDD to UTRAN FDD without System Information | Rel-9 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 6.3.9\_2 | Redirection from E-UTRAN FDD to UTRAN FDD without System Information for UE Category 1bis | Rel-13 | C04h | UE supporting E-UTRA FDD and UTRA FDD and UE Category 1bis |  |  |  |
| 6.3.10 | Redirection from E-UTRAN FDD to GERAN when System Information is not provided | Rel-9 | C27 | UE supporting E-UTRA FDD and GERAN |  |  | 2Rx, 4Rx |
| 6.3.10\_2 | Redirection from E-UTRAN FDD to GERAN when System Information is not provided for UE Category 1bis | Rel-13 | C27a | UE supporting E-UTRA FDD and GERAN and UE Category 1bis |  |  |  |
| 6.3.11 | Redirection from E-UTRAN TDD to GERAN when System Information is not provided | Rel-9 | C28 | UE supporting E-UTRA TDD and GERAN |  |  | 2Rx, 4Rx |
| 6.3.11\_2 | Redirection from E-UTRAN TDD to GERAN when System Information is not provided for UE Category 1bis | Rel-13 | C28a | UE supporting E-UTRA TDD and GERAN and UE Category 1bis |  |  |  |
| 6.3.12 | E-UTRAN TDD RRC connection release redirection to UTRAN FDD without SI provided | Rel-9 | C07 | UE supporting E-UTRA TDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 6.3.12\_2 | E-UTRAN TDD RRC connection release redirection to UTRAN FDD without SI provided for UE Category 1bis | Rel-13 | C07d | UE supporting E-UTRA TDD and UTRA FDD and UE Category 1bis |  |  |  |
| **Timing and Signalling Characteristics** | | | | | | |  |
| 7.1.1 | E-UTRAN FDD - UE Transmit Timing Accuracy | Rel-8 | C01c | UE supporting E-UTRA FDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 7.1.1\_1 | E-UTRAN FDD - UE Transmit Timing Accuracy (Non DRx UE) | Rel-8 only | C23 | UE supporting E-UTRA FDD but not supporting Feature Group Indicator 5 |  |  |  |
| 7.1.1\_2 | E-UTRAN FDD - UE Transmit Timing Accuracy for UE category 1bis | Rel-13 | C214 | UE supporting E-UTRA FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.1.2 | E-UTRAN TDD - UE Transmit Timing Accuracy | Rel-8 | C02c | UE supporting E-UTRA TDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 7.1.2\_1 | E-UTRAN TDD - UE Transmit Timing Accuracy (Non DRx UE) | Rel-8 only | C24 | UE supporting E-UTRA TDD but not supporting Feature Group Indicator 5 |  |  |  |
| 7.1.2\_2 | E-UTRAN TDD - UE Transmit Timing Accuracy for UE category 1bis | Rel-13 | C207 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.1.3 | E-UTRAN FDD - UE Transmit Timing Accuracy Tests for SCell | Rel-11 | C57 | UE supporting E-UTRA FDD and Uplink Carrier Aggregation and Feature Group Indicator 5 |  |  |  |
| 7.1.3\_1 | E-UTRAN FDD - UE Transmit Timing Accuracy Tests for SCell (Release 12 and forward) | Rel-12 | C57 | UE supporting E-UTRA FDD and Uplink Carrier Aggregation and Feature Group Indicator 5 |  |  |  |
| 7.1.4 | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell | Rel-11 only | C58 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and Feature Group Indicator 5 | Either TC 7.1.4 or TC 7.1.4A shall be executed. (Note 1) |  |  |
| 7.1.4A | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell for 20 MHz +10 MHz bandwidth | Rel-11 | C58a | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and Feature Group Indicator 5 | Either TC 7.1.4 or TC 7.1.4A shall be executed. (Note 1) |  |  |
| 7.1.4\_1 | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell (Release 12 and forward) | Rel-12 | C58 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and Feature Group Indicator 5 |  |  |  |
| 7.1.5 | E-UTRAN FDD - UE Transmit Timing Accuracy Tests for 5MHz Bandwidth | Rel-8 | C56 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand Feature Group Indicator 5 |  |  |  |
| 7.1.6 | E-UTRAN FDD - UE Transmit Timing Accuracy Tests for SCell in sTAG | Rel-11 | C63 | UE supporting E-UTRA FDD and Uplink Carrier Aggregation and multiple timing advances and Feature Group Indicator 5 |  |  |  |
| 7.1.7 | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell in sTAG | Rel-11 | C64 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advance and Feature Group Indicator 5 | Either TC 7.1.7 or TC 7.1.7A or TC 7.1.7B shall be executed. (Note 1) |  |  |
| 7.1.7A | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell in sTAG for 20MHz +20MHz bandwidth | Rel-11 | C64a | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advance and Feature Group Indicator 5 | Either TC 7.1.7 or TC 7.1.7A or TC 7.1.7B shall be executed. (Note 1) |  |  |
| 7.1.7B | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for SCell in sTAG for 20MHz +10MHz bandwidth | Rel-11 | C64b | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advance and Feature Group Indicator 5 | Either TC 7.1.7 or TC 7.1.7A or TC 7.1.7B shall be executed. (Note 1) |  |  |
| 7.1.10 | E-UTRAN FDD - UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeA | Rel-13 | C94b | UE supporting E-UTRA FD-FDD and UE Category M1 and Feature Group Indicator 5 |  |  |  |
| 7.1.11 | E-UTRAN HD-FDD - UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeA | Rel-13 | C107c | UE supporting E-UTRA HD-FDD and UE Category M1 and Feature Group Indicator 5 |  |  |  |
| 7.1.12 | E-UTRAN TDD – UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeA | Rel-13 | C93c | UE supporting E-UTRA TDD and UE Category M1 and Feature Group Indicator 5 |  |  |  |
| 7.1.13 | 3DL/3UL TDD CA UE Transmit Timing Accuracy Tests for 2 SCells | Rel-13 | C231 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advance and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 7.1.14 | E-UTRAN FDD – UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeB | Rel-13 | C94h | UE supporting E-UTRA FD-FDD and (UE category M1 and CE Mode B) and Feature Group Indicator 5 |  |  |  |
| 7.1.15 | E-UTRAN HD-FDD – UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeB | Rel-13 | C94i | UE supporting E-UTRA HD-FDD and (UE category M1 and CE Mode B) and Feature Group Indicator 5 |  |  |  |
| 7.1.16 | E-UTRAN TDD – UE Transmit Timing Accuracy Tests for Cat-M1 UE in CEModeB | Rel-13 | C93k | UE supporting E-UTRA TDD and (UE category M1 and CE Mode B) and Feature Group Indicator 5 |  |  |  |
| 7.1.17 | HD-FDD Transmit Timing Accuracy Test for Category NB1 UE In-Band mode under Normal Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.1.18 | HD-FDD Transmit Timing Accuracy Test for Category NB1 UE In-band mode under Enhanced Coverage | Rel-13 | C155 | UE supporting NB-IoT HD-FDD and Feature Group Indicator 5 |  |  |  |
| 7.1.21 | E-UTRAN FDD – UE Transmit Timing Accuracy Tests for CE UE in CEModeA | Rel-14 | C94d | UE supporting E-UTRA FD-FDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 7.1.22 | E-UTRAN HD-FDD – UE Transmit Timing Accuracy Tests for CE UE in CEModeA | Rel-14 | C107b | UE supporting E-UTRA HD-FDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 7.1.23 | E-UTRAN TDD - UE Transmit Timing Accuracy Tests for CE UE in CEModeA | Rel-14 | C93h | UE supporting E-UTRA TDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 7.1.24 | E-UTRAN FDD – UE Transmit Timing Accuracy Tests for CE UE in CEModeB | Rel-14 | C94k | UE supporting E-UTRA FD-FDD and CEModeB and Feature Group Indicator 5 |  |  |  |
| 7.1.27 | E-UTRAN TDD – UE Transmit Timing Accuracy Tests for Category NB1 UE In-Band mode under normal coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.1.28 | E-UTRAN TDD – UE Transmit Timing Accuracy Tests for Category NB1 UE In-band mode under enhanced coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.2.1 | E-UTRAN FDD - UE Timing Advance Adjustment Accuracy | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 7.2.1\_2 | E-UTRAN FDD - UE Timing Advance Adjustment Accuracy for UE category 1bis | Rel-13 | C194 | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 7.2.2 | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy | Rel-8 | C02 | UE supporting E-UTRA TDD |  |  | 2Rx, 4Rx |
| 7.2.2\_2 | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy for UE category 1bis | Rel-13 | C195 | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 7.2.3 | E-UTRAN FDD - UE Timing Advance Adjustment Accuracy Test for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 7.2.4 | E-UTRAN FDD - UE Timing Advance Adjustment Accuracy Test For SCell in sTAG | Rel-12 | C61 | UE supporting E-UTRA FDD and Uplink Carrier Aggregation and multiple timing advances |  |  |  |
| 7.2.5 | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy Test For SCell in sTAG | Rel-11 | C62 | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advances | Either TC 7.2.5 or TC 7.2.5A or TC 7.2.5B shall be executed. (Note 1) |  |  |
| 7.2.5A | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy Test for SCell in sTAG for 20MHz +20MHz bandwidth | Rel-11 | C62a | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advances | Either TC 7.2.5 or TC 7.2.5A or TC 7.2.5B shall be executed. (Note 1) |  |  |
| 7.2.5B | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy Test for SCell in sTAG for 20MHz +10MHz bandwidth | Rel-11 | C62b | UE supporting E-UTRA TDD and Uplink Carrier Aggregation and multiple timing advances | Either TC 7.2.5 or TC 7.2.5A or TC 7.2.5B shall be executed. (Note 1) |  |  |
| 7.2.6 | E-UTRAN FDD Timing Advance Adjustment Accuracy Test for CE UE in CEModeA | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 7.2.7 | E-UTRAN HD-FDD UE Timing Advance Adjustment Accuracy Test for CE UE in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.2.8 | E-UTRAN TDD Timing Advance Adjustment Accuracy Test for CE UE in CEModeA | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 7.2.9 | HD-FDD UE Timing Advance Adjustment Accuracy Test for Category NB1 UE in Standalone Mode under Enhance Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.2.10 | E-UTRAN FDD UE Timing Advance Adjustment Accuracy Test in CEModeB | Rel-13 | C94e | U supporting E-UTRA FD-FDD and CEModeB |  |  |  |
| 7.2.11 | E-UTRAN HD-FDD UE Timing Advance Adjustment Accuracy Test in CEModeB | Rel-13 | C94f | UE supporting E-UTRA HD-FDD and CEModeB |  |  |  |
| 7.2.12 | E-UTRAN TDD UE Timing Advance Adjustment Accuracy Test in CEModeB | Rel-13 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 7.2.13 | E-UTRAN FDD - UE Timing Advance Adjustment Accuracy Test for sTTI and Short Processing Time | Rel-15 | C251 | UE supporting E-UTRA FDD and sTTI or short processing time |  |  | 2Rx, 4Rx |
| 7.2.14 | E-UTRAN TDD - UE Timing Advance Adjustment Accuracy Test for sTTI and Short Processing Time | Rel-15 | C252 | UE supporting E-UTRA TDD and sTTI or short processing time |  |  | 2Rx, 4Rx |
| 7.2.15 | E-UTRAN TDD – TDD UE Timing Advance Adjustment Accuracy Test for UE Category NB1 in Standalone Mode under Enhanced Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.3.1 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-Sync | Rel-8 | C01i | UE supporting E-UTRA FDD but not 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.1\_1 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync with 4 Rx antenna ports | Rel-10 | C140 | UE supporting E-UTRA FDD and 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.2 | E-UTRAN FDD Radio Link Monitoring Test for In-Sync | Rel-8 | C01i | UE supporting E-UTRA FDD but not 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.2\_1 | E-UTRAN FDD Radio Link Monitoring Test for In-Sync with 4 Rx antenna ports | Rel-10 | C140 | UE supporting E-UTRA FDD and 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.3 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-Sync | Rel-8 | C02a | UE supporting E-UTRA TDD but not 4Rx antenna ports on all supported TDD operating bands |  |  |  |
| 7.3.3\_1 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync with 4 Rx antenna ports | Rel-10 | C143 | UE supporting E-UTRA TDD and 4Rx antenna ports on all supported TDD operating bands |  |  |  |
| 7.3.4 | E-UTRAN TDD Radio Link Monitoring Test for In-Sync | Rel-8 | C02i | UE supporting E-UTRA TDD but not 4Rx antenna ports on all supported TDD operating bands |  |  |  |
| 7.3.4\_1 | E-UTRAN TDD Radio Link Monitoring Test for In-sync with 4 Rx antenna ports | Rel-10 | C143 | UE supporting E-UTRA TDD and 4Rx antenna ports on all supported TDD operating bands |  |  |  |
| 7.3.5 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync in DRX | Rel-8 | C01j | UE supporting E-UTRA FDD but not 4Rx antenna ports on all supported FDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.5\_1 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync in DRX with 4 Rx antenna ports | Rel-10 | C181 | UE supporting E-UTRA FDD and Feature Group Indicator 5 and 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.6 | E-UTRAN FDD Radio Link Monitoring Test for In-sync in DRX | Rel-8 | C01j | UE supporting E-UTRA FDD but not 4Rx antenna ports on all supported FDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.6\_1 | E-UTRAN FDD Radio Link Monitoring Test for In-sync in DRX with 4 Rx antenna ports | Rel-10 | C181 | UE supporting E-UTRA FDD and 4Rx antenna ports on all supported FDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.7 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync in DRX | Rel-8 | C02j | UE supporting E-UTRA TDD but not 4Rx antenna ports on all supported TDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.7\_1 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync in DRX with 4 Rx antenna ports | Rel-10 | C182 | UE supporting E-UTRA TDD and 4Rx antenna ports on all supported TDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.8 | E-UTRAN TDD Radio Link Monitoring Test for In-sync in DRX | Rel-8 | C02j | UE supporting E-UTRA TDD but not 4Rx antenna ports on all supported TDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.8\_1 | E-UTRAN TDD Radio Link Monitoring Test for In-sync in DRX with 4 Rx antenna ports | Rel-10 | C182 | UE supporting E-UTRA TDD and 4Rx antenna ports on all supported TDD operating bands and Feature Group Indicator 5 |  |  |  |
| 7.3.9 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with Non MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 7.3.10 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with Non MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 7.3.11 | E-UTRAN FDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with Non MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 7.3.12 | E-UTRAN TDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with Non MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 7.3.13 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 7.3.14 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 7.3.15 | E-UTRAN FDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 7.3.16 | E-UTRAN TDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 7.3.17 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with CRS assistance information and Non MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  | |
| 7.3.18 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync under Time Domain Measurement Resource Restriction with CRS assistance information and Non MBSFN ABS (feICIC) | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  | |
| 7.3.19 | E-UTRAN FDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with CRS assistance information and Non-MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 7.3.20 | E-UTRAN TDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with CRS assistance information and Non-MBSFN ABS (feICIC) | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 7.3.21 | E-UTRAN FDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with CRS assistance information and MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 7.3.22 | E-UTRAN TDD Radio Link Monitoring Test for In-sync under Time Domain Measurement Resource Restriction with CRS assistance information and MBSFN ABS (feICIC) | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 7.3.23 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 7.3.23\_1 | E-UTRAN FDD Radio Link Monitoring Test for Out-of-sync for 5MHz Bandwidth with 4Rx antenna ports | Rel-10 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 7.3.24 | E-UTRAN FDD Radio Link Monitoring Test for In-sync for 5MHz Bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 7.3.25 | E-UTRAN FDD Radio Link Monitoring Test for In-sync in DRX for 5MHz Bandwidth | Rel-8 | C56 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand Feature Group Indicator 5 |  |  |  |
| 7.3.26 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync for UE category 0 | Rel-12 | C94 | UE supporting E-UTRA FD-FDD and UE Category 0 |  |  |  |
| 7.3.26\_2 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync for UE Category 1bis | Rel-13 | C194 | UE supporting E-UTRA FD-FDD and UE Category 1bis |  |  |  |
| 7.3.27 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-sync for UE category 0 | Rel-12 | C94 | UE supporting E-UTRA FD-FDD and UE Category 0 |  |  |  |
| 7.3.27\_2 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-sync for UE Category 1bis | Rel-13 | C194 | UE supporting E-UTRA FD-FDD and UE Category 1bis |  |  |  |
| 7.3.28 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category 0 | Rel-12 | C95 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.28\_2 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE Category 1bis | Rel-13 | C214 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.3.29 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-sync in DRX for UE category 0 | Rel-12 | C95 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.29\_2 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-sync in DRX for UE Category 1bis | Rel-13 | C214 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.3.30 | E-UTRAN HD-FDD Radio Link Monitoring Test for Out-of-sync for UE category 0 | Rel-12 | C110 | UE supporting E-UTRA HD-FDD and UE Category 0 |  |  |  |
| 7.3.31 | E-UTRAN HD-FDD Radio Link Monitoring Test for In-sync for UE category 0 | Rel-12 | C110 | UE supporting E-UTRA HD-FDD and UE Category 0 |  |  |  |
| 7.3.32 | E-UTRAN HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category 0 | Rel-12 | C111 | UE supporting E-UTRA HD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.33 | E-UTRAN HD-FDD Radio Link Monitoring Test for In-sync in DRX for UE category 0 | Rel-12 | C111 | UE supporting E-UTRA HD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.34 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync for UE category 0 | Rel-12 | C93 | UE supporting E-UTRA TDD and UE Category 0 |  |  |  |
| 7.3.34\_2 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync for UE Category 1bis | Rel-13 | C195 | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 7.3.35 | E-UTRAN TDD Radio Link Monitoring Test for In-sync for UE category 0 | Rel-12 | C93 | UE supporting E-UTRA TDD and UE Category 0 |  |  |  |
| 7.3.35\_2 | E-UTRAN TDD Radio Link Monitoring Test for In-sync for UE Category 1bis | Rel-13 | C195 | UE supporting E-UTRA TDD and UE Category 1bis |  |  |  |
| 7.3.36 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category 0 | Rel-12 | C96 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.36\_2 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync in DRX for UE Category 1bis | Rel-13 | C215 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.3.37 | E-UTRAN TDD Radio Link Monitoring Test for In-sync in DRX for UE category 0 | Rel-12 | C96 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 7.3.37\_2 | E-UTRAN TDD Radio Link Monitoring Test for In-sync in DRX for UE Category 1bis | Rel-13 | C215 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 7.3.38 | E-UTRAN FDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in synchronous DC | Rel-12 | C123b | UE supporting E-UTRA FDD and Dual Connectivity but not 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.38\_1 | E-UTRAN FDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in synchronous DC with 4 Rx antenna ports | Rel-12 | C185 | UE supporting E-UTRA FDD and Dual Connectivity and 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.39 | E-UTRAN FDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in asynchronous DC | Rel-12 | C125a | UE supporting E-UTRA FDD and asynchronous Dual Connectivity but not 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.39\_1 | E-UTRAN FDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in asynchronous DC with 4 Rx antenna ports | Rel-12 | C186 | UE supporting E-UTRA FDD and asynchronous Dual Connectivity and 4Rx antenna ports on all supported FDD operating bands |  |  |  |
| 7.3.40 | E-UTRAN TDD-TDD DC Radio Link Monitoring Test for Out-of-sync in DRX in synchronous DC | Rel-12 | C124 | UE supporting E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.41 | E-UTRAN FDD-FDD Radio Link Monitoring Test for In-sync in DRX in synchronous dual connectivity | Rel-12 | C123 | UE supporting E-UTRA FDD and Dual Connectivity |  |  |  |
| 7.3.42 | E-UTRAN FDD-FDD DC Radio Link Monitoring Test for In-sync in DRX in asynchronous DC | Rel-12 | C125 | UE supporting E-UTRA FDD and asynchronous Dual Connectivity |  |  |  |
| 7.3.43 | E-UTRAN TDD-TDD Radio Link Monitoring Test for In-sync in DRX in synchronous dual connectivity | Rel-12 | C124 | UE supporting E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.44 | E-UTRAN TDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in synchronous DC with PCell in FDD | Rel-12 | C123a | UE supporting E-UTRA FDD and E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.45 | E-UTRAN TDD-FDD DC Radio Link Monitoring Test for Out-of-sync in DRX in synchronous DC with PCell in TDD | Rel-12 | C123a | UE supporting E-UTRA FDD and E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.46 | E-UTRAN TDD-FDD Radio Link Monitoring Test for In-sync in DRX for PSCell in synchronous DC with PCell in FDD | Rel-12 | C123a | UE supporting E-UTRA FDD and E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.47 | E-UTRAN TDD-FDD Radio Link Monitoring Test for In-sync in DRX for PSCell in synchronous DC with PCell in TDD | Rel-12 | C123a | UE supporting E-UTRA FDD and E-UTRA TDD and Dual Connectivity |  |  |  |
| 7.3.48 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync for CE UE in CEMode A | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 7.3.49 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-Sync for CE UE in CEMode A | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 7.3.50 | E-UTRAN FD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for CE UE configured in CEMode A | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 7.3.51 | E-UTRAN FD-FDD Radio Link Monitoring Test for In-sync in DRX for CE UE configured in CEMode A | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 7.3.52 | E-UTRAN HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for CE UE | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.3.53 | E-UTRAN HD-FDD Radio Link Monitoring Test for In-sync for CE UE category | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.3.54 | E-UTRAN HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for CE UE configured in CEMode A | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.3.55 | E-UTRAN HD-FDD Radio Link Monitoring Test for In-sync in DRX for CE UE configured in CEMode A | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.3.56 | E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync for CE UE in CEMode A | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 7.3.57 | E-UTRAN TDD Radio Link Monitoring Test for In-Sync for CE UE in CEMode A | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 7.3.58 | E- UTRAN TDD Radio Link Monitoring Test for Out-of-sync in DRX for CE UE configured in CEMode A | Rel-13 | C93c | UE supporting E-UTRA TDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 7.3.59 | E- UTRAN TDD Radio Link Monitoring Test for In-sync in DRX for CE UE configured in CEMode A | Rel-13 | C93c | UE supporting E-UTRA TDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 7.3.60 | HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 In-band mode in normal coverag | Rel-13 | C155 | UE supporting NB-IoT HD-FDD and Feature Group Indicators 5 |  |  |  |
| 7.3.61 | HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 In-band mode in Enhanced Coverage | Rel-13 | C155 | UE supporting NB-IoT HD-FDD and Feature Group Indicators 5 |  |  |  |
| 7.3.62 | HD-FDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 In-Band mode in Enhanced Coverage | Rel-13 | C155 | UE supporting NB-IoT HD-FDD and Feature Group Indicators 5 |  |  |  |
| 7.3.63 | HD-FDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 In-Band mode in Normal Coverage | Rel-13 | C155 | UE supporting NB-IoT HD-FDD and Feature Group Indicators 5 |  |  |  |
| 7.3.64 | HD-FDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 In-Band mode in Normal Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.3.65 | HD-FDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 In-Band mode in Enhanced Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.3.66 | HD-FDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 Standalone mode in Normal Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.3.67 | HD-FDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 guard band mode in Enhanced Coverage | Rel-13 | C154 | UE supporting NB-IoT HD-FDD |  |  |  |
| 7.3.69 | E-UTRAN HD-FDD Early Out-of-sync reporting Test for CE UE in CEMode A | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 7.3.88 | TDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 In-band mode in normal coverage | Rel-15 | C237 | UE supporting NB-IoT TDD and Feature Group Indicators 5 |  |  |  |
| 7.3.89 | TDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 In-band mode in enhanced coverage | Rel-15 | C237 | UE supporting NB-IoT TDD and Feature Group Indicators 5 |  |  |  |
| 7.3.90 | TDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 In-Band mode in Normal Coverage | Rel-15 | C237 | UE supporting NB-IoT TDD and Feature Group Indicators 5 |  |  |  |
| 7.3.91 | TDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 In-Band mode in Enhanced Coverage | Rel-15 | C237 | UE supporting NB-IoT TDD and Feature Group Indicators 5 |  |  |  |
| 7.3.92 | TDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 In-Band mode in Normal Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.3.93 | TDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 In-Band mode in Enhanced Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.3.94 | TDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 Standalone mode in Normal Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.3.95 | TDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 guard band mode in Enhanced Coverage | Rel-15 | C235 | UE supporting NB-IoT TDD |  |  |  |
| 7.4.1 | E-UTRAN FDD-FDD DC interruption at transitions between active and non-active during DRX in synchronous DC | Rel-12 | C175 | UE supporting E-UTRA FDD, Dual Connectivity and Feature Group Indicator 5 | It is not necessary for DC ASYNCH UEs to be tested in this test if 7.4.3 case is executed. (Note 2) |  |  |
| 7.4.2 | E-UTRAN TDD-TDD DC interruption at transitions between active and non-active during DRX in synchronous DC | Rel-12 | C136 | UE supporting E-UTRA TDD, Dual Connectivity and Feature Group Indicator 5 | It is not necessary for DC ASYNCH UEs to be tested in this test if 7.4.4 case is executed. (Note 2) |  |  |
| 7.4.3 | E-UTRAN FDD-FDD Interruption at transitions between active and non-active during DRX in asynchronous dual connectivity | Rel-12 | C135 | UE supporting E-UTRA FDD, Dual Connectivity Asynch and Feature Group Indicator 5 |  |  |  |
| 7.6.1 | E-UTRAN FDD-TDD CA interruption at SRS carrier based switching | Rel-14 | C200 | UE supporting E-UTRA FDD and TDD CA with FDD as PCell and SRS switching between component carriers |  |  |  |
| 7.6.2 | E-UTRAN TDD-TDD CA interruption at SRS carrier based switching | Rel-14 | C201 | UE supporting E-UTRA TDD CA and SRS switching between component carriers |  |  |  |
| **UE Measurements Procedures** | | | | | | |  |
| 8.1.1 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells | Rel-8 | C01 | UE supporting E-UTRA FDD |  |  | 2Rx, 4Rx |
| 8.1.2 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-8 | C01c | UE supporting E-UTRA FDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.1.3 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX | Rel-8 | C01c | UE supporting E-UTRA FDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.1.4 | Void |  |  |  |  |  |  |
| 8.1.5 | E-UTRAN FDD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C13 | UE supporting E-UTRA FDD and intra-frequency SI acquisition in FDD for HO |  |  | 2Rx, 4Rx |
| 8.1.6 | E-UTRAN FDD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX | Rel-9 | C13a | UE supporting E-UTRA FDD and intra-frequency SI acquisition in FDD for HO and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.1.7 | E-UTRAN FDD-FDD Intra-Frequency Event-Triggered Reporting under Time Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 8.1.8 | E-UTRAN FDD-FDD Intra-Frequency Event-Triggered Reporting under Time Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 8.1.9 | E-UTRAN FDD-FDD intra frequency event triggered reporting under fading propagation conditions in asynchronous cells for 5MHz bandwidth | Rel-8 | C49 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_N |  |  |  |
| 8.1.10 | E-UTRAN FDD-FDD intra frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for 5MHz bandwidth | Rel-8 | C56 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand Feature Group Indicator 5 |  |  |  |
| 8.1.11 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category 0 | Rel-12 | C94 | UE supporting E-UTRA FD-FDD and UE Category 0 |  |  |  |
| 8.1.11\_1 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category 1bis | Rel-13 | C194 | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 8.1.11\_2 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category 1bis | Rel-13 | C194 | UE supporting E-UTRA FDD and UE Category 1bis |  |  |  |
| 8.1.12 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 0 | Rel-12 | C95 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.12\_1 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C194a | UE supporting E-UTRA FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.12\_2 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C194a | UE supporting E-UTRA FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.13 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 0 | Rel-12 | C95 | UE supporting E-UTRA FD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.13\_1 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 1bis | Rel-13 | C194a | UE supporting E-UTRA FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.13\_2 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 1bis | Rel-13 | C194a | UE supporting E-UTRA FDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.14 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category 0 | Rel-12 | C111 | UE supporting E-UTRA HD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.15 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 0 | Rel-12 | C111 | UE supporting E-UTRA HD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.16 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 0 | Rel-12 | C111 | UE supporting E-UTRA HD-FDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.17 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 0 | Rel-12 | C96 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.17\_1 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.17\_2 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.18 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 0 | Rel-12 | C96 | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.1.18\_1 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.18\_2 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.1.19 | E-UTRAN FD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for UE category 0 | Rel-12 | C108 | UE supporting E-UTRA FD-FDD, CSG and intra-frequency SI acquisition in FDD for HO and Category 0 |  |  |  |
| 8.1.19\_2 | E-UTRAN FDD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for UE category 1bis | Rel13 | C108a | UE supporting E-UTRA FDD-FDD, CSG and intra-frequency SI acquisition in FDD for HO and Category 1bis |  |  |  |
| 8.1.20 | E-UTRAN FDD – FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for UE category 0 | Rel-12 | C108c | UE supporting E-UTRA FD-FDD, CSG and intra-frequency SI acquisition in FDD for HO and Category 0 and Feature Group Indicator 5 |  |  |  |
| 8.1.20\_2 | E-UTRAN FDD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for UE category 1bis | Rel-13 | C108b | UE supporting E-UTRA FDD-FDD, CSG and intra-frequency SI acquisition in FDD for HO, Feature Group Indicator 5 and Category 1bis |  |  |  |
| 8.1.21 | E-UTRAN HD - FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for UE category 0 | Rel-12 | C109 | UE supporting E-UTRA HD-FDD, CSG and intra-frequency SI acquisition in FDD for HO and Category 0 |  |  |  |
| 8.1.22 | E-UTRAN HD- FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for UE category 0 | Rel-12 | C109a | UE supporting E-UTRA HD-FDD, CSG and intra-frequency SI acquisition in FDD for HO and Category 0 and Feature Group Indicator 5 |  |  |  |
| 8.1.23 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 8.1.24 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA | Rel-13 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 8.1.25 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeA in DRX | Rel-13 | C94d | UE supporting E-UTRA FD-FDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 8.1.26 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.1.27 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeA | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.1.28 | E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeA in DRX | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.1.29 | E-UTRAN TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeA | Rel-13 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 8.1.30 | E-UTRAN TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeA in DRX | Rel-13 | C93h | UE supporting E-UTRA TDD and CEModeA and Feature Group Indicator 5 |  |  |  |
| 8.1.31 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeB | Rel-13 | C94e | UE supporting E-UTRA FD-FDD and CEModeB |  |  |  |
| 8.1.32 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeB | Rel-13 | C94e | UE supporting E-UTRA FD-FDD and CEModeB |  |  |  |
| 8.1.33 | E-UTRAN HD-FDD Intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeB | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.1.34 | E-UTRAN HD-FDD Intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeB | Rel-13 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.1.35 | E-UTRAN TDD Intra-frequency event triggered reporting under fading propagation conditions in synchronous cells for CE UE in CEModeB | Rel-13 | C93e | UE supporting E-UTRA TDD and CEModeB |  |  |  |
| 8.1.36 | E-UTRAN FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for CE UE in CEModeB | Rel-13 | C94g | UE supporting E-UTRA FD- FDD and CEModeB and intra-frequency SI acquisition for HO |  |  |  |
| 8.1.37 | E-UTRAN FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for CE UE in CEModeB | Rel-13 | C94g | UE supporting E-UTRA FD-FDD and CEModeB and intra-frequency SI acquisition for HO |  |  |  |
| 8.1.38 | E-UTRAN HD- FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for CE UE in CEModeB | Rel-13 | FFS | FFS |  |  |  |
| 8.1.39 | E-UTRAN HD-FDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for CE UE in CEModeB | Rel-13 | FFS | FFS |  |  |  |
| 8.1.40 | E-UTRAN FDD-FDD intra-frequency event triggered reporting for UE configured with highSpeedEnhancedMeasFlag in synchronous cells | Rel-14 | C205 | UE supporting E-UTRA FDD and highspeed measurement enhancement and Feature Group Indicator 5 |  |  |  |
| 8.1.41 | E-UTRAN FDD intra-frequency event triggered reporting for serving cell under fading propagation conditions for CE UE in CEModeA without gap | Rel-14 | C94a | UE supporting E-UTRA FD-FDD and CEModeA |  |  |  |
| 8.1.42 | E-UTRAN HD-FDD intra-frequency event triggered reporting for serving cell under fading propagation conditions for CE UE in CEModeA without gap | Rel-14 | C107a | UE supporting E-UTRA HD-FDD and CEModeA |  |  |  |
| 8.2.1 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-8 | C02c | UE supporting E-UTRA TDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.2.2 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX | Rel-8 | C02c | UE supporting E-UTRA TDD and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.2.3 | E-UTRAN TDD - TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C15 | UE supporting E-UTRA TDD and intra-frequency SI acquisition in TDD for HO. |  |  | 2Rx, 4Rx |
| 8.2.4 | E-UTRAN TDD - TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX | Rel-9 | C15a | UE supporting E-UTRA TDD and intra-frequency SI acquisition in TDD for HO and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.2.5 | E-UTRAN TDD-TDD Intra-Frequency Event-Triggered Reporting under Time Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 8.2.6 | E-UTRAN TDD-TDD Intra-Frequency Event-Triggered Reporting under Time Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 8.2.7 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for UE category 0 | Rel-12 | C113a | UE supporting E-UTRA TDD, CSG. inter-frequency SI acquisition in TDD for HO and UE Category 0 |  |  |  |
| 8.2.7\_2 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD, intra-frequency SI acquisition in TDD for HO and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.2.8 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for UE category 0 | Rel-12 | C113 | UE supporting E-UTRA TDD, CSG. inter-frequency SI acquisition in TDD for HO and Feature Group Indicator 5 and UE Category 0 |  |  |  |
| 8.2.8\_2 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for UE category 1bis | Rel-13 | C195a | UE supporting E-UTRA TDD, intra-frequency SI acquisition in TDD for HO and Feature Group Indicator 5 and UE Category 1bis |  |  |  |
| 8.2.9 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps for CE UE in CEModeB | Rel-13 | C93f | UE supporting E-UTRA TDD and CEModeB and intra-frequency SI acquisition for HO |  |  |  |
| 8.2.10 | E-UTRAN TDD Intra-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX for CE UE in CEModeB | Rel-13 | C93f | UE supporting E-UTRA TDD and CEModeB and intra-frequency SI acquisition for HO |  |  |  |
| 8.2.14 | E-UTRAN TDD intra-frequency event triggered reporting for serving cell under fading propagation conditions for CE in CEModeA without gap | Rel-14 | C93a | UE supporting E-UTRA TDD and CEModeA |  |  |  |
| 8.3.1 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells | Rel-8 | C01b | UE supporting E-UTRA FDD and Feature Group Indicator 25 | It is not necessary for CA UEs to be tested in this test if 8.20.1 case is executed. |  | 2Rx, 4Rx |
| 8.3.1\_2 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category 1bis | Rel-13 | C212 | UE supporting E-UTRA FDD and Feature Group Indicator 25 and UE Category 1bis |  |  |  |
| 8.3.2 | E-UTRAN FDD-FDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells | Rel-8 | C01e | UE supporting E-UTRA FDD and Feature Group Indicators 5 and 25 |  |  | 2Rx, 4Rx |
| 8.3.2\_2 | E-UTRAN FDD-FDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells for UE category 1bis | Rel-13 | C214 | UE supporting E-UTRA FDD and Feature Group Indicators 5 and 25 and UE Category 1bis |  |  |  |
| 8.3.3 | E-UTRAN FDD-FDD inter frequency event triggered reporting under AWGN propagation conditions in asynchronous cells with DRX when L3 filtering is used | Rel-8 | C01e | UE supporting E-UTRA FDD and Feature Group Indicators 5 and 25 |  |  | 2Rx, 4Rx |
| 8.3.3\_2 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under AWGN propagation conditions in asynchronous cells with DRX when L3 filtering is used for UE category 1bis | Rel-13 | C194c | UE supporting E-UTRA FDD and Feature Group Indicators 5 and 25 and UE category 1bis |  |  |  |
| 8.3.4 | E-UTRAN FDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C14 | UE supporting E-UTRA FDD and inter-frequency SI acquisition in FDD for HO |  |  | 2Rx, 4Rx |
| 8.3.5 | E-UTRAN FDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX | Rel-9 | C14a | UE supporting E-UTRA FDD and inter-frequency SI acquisition in FDD for HO and Feature Group Indicators 5 |  |  | 2Rx, 4Rx |
| 8.3.6 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting without measurement gaps under AWGN propagation conditions in asynchronous cells | Rel-10 | C47 | UE supporting E-UTRA FDD and Feature Group Indicator 25 and Measurement without gaps |  |  | 2Rx, 4Rx |
| 8.3.7 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for Increased Carrier Monitoring without Reduced Performance Group | Rel-12 | C01p | UE supporting E-UTRA FDD and Increased Carrier Monitoring E-UTRA and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.3.8 | FDD-FDD Inter-frequency correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C01p | UE supporting E-UTRA FDD and Increased Carrier Monitoring E-UTRA and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.3.9 | FDD-FDD Inter-frequency correct reporting of measurement events with reduced performance group configured, DRX | Rel-12 | C01q | UE supporting E-UTRA FDD and Increased Carrier Monitoring E-UTRA and Feature Group Indicator 5 and 25 |  |  | 2Rx, 4Rx |
| 8.3.12 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeA | Rel-14 | FFS | FFS |  |  |  |
| 8.3.13 | E-UTRAN HD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeA | Rel-14 | FFS | FFS |  |  |  |
| 8.3.14 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeB | Rel-14 | FFS | FFS |  |  |  |
| 8.3.15 | E-UTRAN HD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeB | Rel-14 | FFS | FFS |  |  |  |
| 8.3.16 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA when DRX is used | Rel-14 | FFS | FFS |  |  |  |
| 8.3.17 | E-UTRAN HD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA in DRX | Rel-14 | FFS | FFS |  |  |  |
| 8.3.18 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for UE category M1 in CEModeB in DRX | Rel-14 | FFS | FFS |  |  |  |
| 8.3.19 | E-UTRAN HD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeB in DRX | Rel-14 | FFS | FFS |  |  |  |
| 8.4.1 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-8 | C02b | UE supporting E-UTRA TDD and Feature Group Indicator 25 | It is not necessary for CA UEs to be tested in this test if 8.20.2 case is executed. |  | 2Rx, 4Rx |
| 8.4.1\_2 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C213 | UE supporting E-UTRA TDD and Feature Group Indicator 25 and UE Category 1bis |  |  |  |
| 8.4.2 | E-UTRAN TDD-TDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in synchronous cells | Rel-8 | C02e | UE supporting E-UTRA TDD and Feature Group Indicators 5 and 25 |  |  | 2Rx, 4Rx |
| 8.4.2\_2 | E-UTRAN TDD-TDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in synchronous cells for UE category 1bis | Rel-13 | C215 | UE supporting E-UTRA TDD and Feature Group Indicators 5 and 25 and UE Category 1bis |  |  |  |
| 8.4.3 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under AWGN propagation conditions in synchronous cells with DRX when L3 filtering is used | Rel-8 | C02e | UE supporting E-UTRA TDD and Feature Group Indicators 5 and 25 |  |  | 2Rx, 4Rx |
| 8.4.3\_2 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under AWGN propagation conditions in synchronous cells with DRX when L3 filtering is used for UE category 1bis | Rel-13 | C195c | UE supporting E-UTRA TDD and Feature Group Indicators 5 and 25 and UE category 1bis |  |  |  |
| 8.4.4 | E-UTRAN TDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C16 | UE supporting E-UTRA TDD and inter-frequency SI acquisition in TDD for HO |  |  | 2Rx, 4Rx |
| 8.4.5 | E-UTRAN TDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps with DRX | Rel-9 | C16a | UE supporting E-UTRA TDD and inter-frequency SI acquisition in TDD for HO and Feature Group Indicator 5 |  |  | 2Rx, 4Rx |
| 8.4.6 | E-UTRAN TDD-TDD Inter-frequency event triggered reporting for TDD UL/DL configuration 0 | Rel-12 | C02b | UE supporting E-UTRA TDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.4.6\_2 | E-UTRAN TDD-TDD Inter-frequency event triggered reporting for TDD UL/DL configuration 0 for UE category 1bis | Rel-13 | C213 | UE supporting E-UTRA TDD and Feature Group Indicator 25 and UE Category 1bis |  |  |  |
| 8.4.7 | E-UTRAN TDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for Increased Carrier Monitoring without Reduced Performance Group | Rel-12 | C01o | UE supporting E-UTRA TDD and Increased Carrier Monitoring and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.4.8 | TDD-TDD Interfrequency correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C01o | E supporting E-UTRA TDD and Increased Carrier Monitoring E-UTRA and Feature Group Indicator 25 |  |  | 2Rx, 4Rx | |
| 8.4.9 | TDD-TDD Inter-frequency correct reporting of measurement events with reduced performance group configured, DRX | Rel-12 | C01r | E supporting E-UTRA TDD and Increased Carrier Monitoring E-UTRA and Feature Group Indicator 5 and 25 |  |  | 2Rx, 4Rx | |
| 8.4.12 | E-UTRAN TDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeA | Rel-14 | FFS | FFS |  |  |  | |
| 8.4.13 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE with discontinuous MPDCCH monitoring in CEModeB | Rel-14 | FFS | FFS |  |  |  | |
| 8.4.14 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeA in DRX | Rel-14 | FFS | FFS |  |  |  | |
| 8.4.15 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells for CE UE in CEModeB in DRX | Rel-14 | FFS | FFS |  |  |  | |
| 8.5.1 | E-UTRAN FDD-UTRAN FDD event triggered reporting under fading propagation conditions | Rel-8 | C04g | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 15 and 22 | It is not necessary for CA UEs to be tested in this test if 8.20.3 case is executed. |  | 2Rx, 4Rx |
| 8.5.2 | E-UTRAN FDD-UTRAN FDD SON ANR cell search reporting under AWGN propagation conditions | Rel-8 | C04f | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 5, 19 and 22 |  |  | 2Rx, 4Rx |
| 8.5.3 | E-UTRAN FDD - UTRAN FDD event triggered reporting when DRX is used under fading propagation conditions | Rel-8 | C04d | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 5, 15 and 22 |  |  | 2Rx, 4Rx |
| 8.5.4 | E-UTRAN FDD - UTRAN FDD enhanced cell identification under AWGN propagation conditions | Rel-9 | C29 | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicator 15 |  |  | 2Rx, 4Rx |
| 8.5.6 | E-UTRAN FDD - UTRAN FDD event triggered reporting without measurement gaps under AWGN propagation conditions | Rel-10 | C48 | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicator 15 and 22 and Measurement without gaps |  |  | 2Rx, 4Rx |
| 8.5.7 | E-UTRAN FDD - UTRAN FDD event triggered reporting under fading propagation conditions for 5MHz bandwidth | Rel-8 | C55 | UE supporting E-UTRA FDD and only E-UTRA bands within band group FDD\_Nand UTRA FDD and Feature Group Indicators 15 and 22 |  |  |  |
| 8.5.8 | E-UTRA FDD InterRAT UTRA FDD correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C07h | UE supporting E-UTRA FDD and UTRA FDD, Increased Carrier Monitoring UTRA and Feature Group Indicators 15 and 22 |  |  | 2Rx, 4Rx | |
| 8.6.1 | E-UTRAN TDD-UTRAN FDD event triggered reporting under fading propagation conditions | Rel-8 | C07b | UE supporting E-UTRA TDD and UTRA FDD and Feature Group Indicators 15 and 22 |  |  | 2Rx, 4Rx |
| 8.6.3 | E-UTRA TDD InterRAT UTRA FDD correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C07i | UE supporting E-UTRA TDD and UTRA FDD, Increased Carrier Monitoring UTRA and Feature Group Indicators 15 and 22 |  |  | 2Rx, 4Rx | |
| 8.7.1 | E-UTRAN TDD-UTRAN TDD event triggered reporting under fading propagation conditions | Rel-8 Only | C05b | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 15 and 22 | It is not necessary for CA UEs to be tested in this test if 8.20.4 case is executed. |  | 2Rx, 4Rx | |
|  |  | Rel-9 | C83 | UE supporting E-UTRA TDD and UTRA TDD and not supporting UTRA FDD Feature Group Indicators 15 and 22 |  |  |  | |
|  |  | Rel-9 | C79 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 15 and 39 |  |  |  | |
| 8.7.2 | E-UTRAN TDD - UTRAN TDD cell search when DRX is used under fading propagation conditions | Rel-8 Only | C05d | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 5, 15 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx | |
|  |  | Rel-9 | C84 | UE supporting E-UTRA TDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicators 5, 15 and 22 |  |  |  | |
|  |  | Rel-9 | C80 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 5, 15 and 39 |  |  |  | |
| 8.7.3 | E-UTRAN TDD - UTRAN TDD SON ANR cell search reporting under AWGN propagation conditions | Rel-8 Only | C120 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 19 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx | |
|  |  | Rel-9 | C121 | UE supporting E-UTRA TDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicators 22 and 37 |  |  |  | |
|  |  | Rel-9 | C122 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 37 and 39 |  |  |  | |
| 8.7.4 | E-UTRAN TDD - UTRAN TDD enhanced cell identification under AWGN propagation conditions | Rel-9 | C79 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicator 15 and 39 |  |  | 2Rx, 4Rx | |
|  |  | Rel-9 | C31 | UE supporting E-UTRA TDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicator 15 and 22 |  |  |  | |
| 8.7.5 | E-UTRA TDD InterRAT UTRA TDD correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C07e | UE supporting E-UTRA TDD and UTRA TDD, Increased Carrier Monitoring UTRA and Feature Group Indicators 15 and 22 |  |  | 2Rx, 4Rx | |
| 8.7A.1 | E-UTRA FDD InterRAT UTRA TDD correct reporting of measurement events with reduced performance group configured, non DRX | Rel-12 | C07f | UE supporting E-UTRA FDD and UTRA TDD, Increased Carrier Monitoring UTRA and Feature Group Indicators 15 and 22 |  |  | 2Rx, 4Rx | |
| 8.8.1 | E-UTRAN FDD-GSM event triggered reporting in AWGN | Rel-8 | C08f | UE supporting E-UTRA FDD and GSM and Feature Group Indicator s 15 and 23 |  |  | 2Rx, 4Rx |
| 8.8.2 | E-UTRAN FDD - GSM event triggered reporting when DRX is used in AWGN | Rel-8 | C08d | UE supporting E-UTRA FDD and GSM and Feature Group Indicators 5, 15 and 23 |  |  | 2Rx, 4Rx |
| 8.9.1 | E-UTRAN FDD-UTRAN TDD event triggered reporting in fading propagation conditions | Rel-8 Only | C06b | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 15 and 22 |  | Rel-9 UTRA TDD | 2Rx, 4Rx | |
|  |  | Rel-9 | C85 | UE supporting E-UTRA FDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicators 15 and 22 |  |  |  | |
|  |  | Rel-9 | C77 | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 15 and 39 |  |  |  | |
| 8.9.2 | E-UTRAN FDD - UTRAN TDD enhanced cell identification under AWGN propagation conditions | Rel-9 | C78 | UE supporting E-UTRA FDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicator 15 and 22 |  |  | 2Rx, 4Rx | |
|  |  | Rel-9 | C77 | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 15 and 39 |  |  |  | |
| 8.10.1 | E-UTRAN TDD-GSM event triggered reporting in AWGN | Rel-8 | C09g | UE supporting E-UTRA TDD and GSM and Feature Group Indicators 15 and 23 |  |  | 2Rx, 4Rx |
| 8.10.2 | E-UTRAN TDD - GSM event triggered reporting when DRX is used in AWGN | Rel-8 | C09e | UE supporting E-UTRA TDD and GSM and Feature Group Indicators 5, 15 and 23 |  |  | 2Rx, 4Rx |
| 8.2.11 | E-UTRAN TDD-TDD intra-frequency event triggered reporting for UE configured with highSpeedEnhancedMeasFlag in synchronous cells | Rel-14 | C190 | UEs supporting E-UTRA TDD and high speed enhancement for measurement |  |  |  | |
| 8.11.1 | Multiple E-UTRAN FDD-FDD Inter-frequency event triggered reporting under fading propagation conditions | Rel-8 | C01b | UE supporting E-UTRA FDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.11.2 | E-UTRAN TDD - E-UTRAN TDD and E-UTRAN TDD Inter-frequency event triggered reporting under fading propagation conditions | Rel-8 | C02b | UE supporting E-UTRA TDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.11.3 | E-UTRAN FDD-FDD Inter-frequency and UTRAN FDD event triggered reporting under fading propagation conditions | Rel-8 | C04e | UE supporting E-UTRA FDD and UTRA FDD and Feature Group Indicators 22 and 25 |  |  | 2Rx, 4Rx |
| 8.11.4 | InterRAT E-UTRA TDD to E-UTRA TDD and UTRA TDD cell search | Rel-8 Only | C05e | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 22 and 25 |  |  | 2Rx, 4Rx | |
|  |  | Rel-9 | C86 | UE supporting E-UTRA TDD and UTRA TDD and not supporting UTRA FDD and Feature Group Indicators 22 and 25 |  |  |  | |
|  |  | Rel-9 | C82 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 25 and 39 |  |  |  | |
| 8.11.5 | Combined E-UTRAN FDD - E-UTRA FDD and GSM cell search; E-UTRA cells in fading; GSM cell in static propagation conditions | Rel-8 | C08b | UE supporting E-UTRA FDD and GSM and Feature Group Indicator 23 and 25 |  |  | 2Rx, 4Rx |
| 8.11.6 | Combined E-UTRAN TDD - E-UTRA TDD and GSM cell search; E-UTRA cells in fading; GSM cell in static propagation conditions | Rel-8 | C09a | UE supporting E-UTRA TDD and GSM and Feature Group Indicator 23 and 25 |  |  | 2Rx, 4Rx |
| 8.12.1 | Void |  |  |  |  |  |  |
| 8.13.1 | Void |  |  |  |  |  |  |
| 8.14.1 | E-UTRAN TDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells | Rel-9 | C22 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.14.2 | E-UTRAN TDD-FDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in synchronous cells | Rel-9 | C38 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 4 and 25 |  |  |  |
| 8.14.3 | E-UTRAN TDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C39a | UE supporting E-UTRA FDD and E-UTRA TDD and inter-frequency SI acquisition in TDD for HO and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.15.1 | E-UTRAN FDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells | Rel-9 | C22 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.15.2 | E-UTRAN FDD-TDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells | Rel-9 | C38 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 4 and 25 |  |  | 2Rx, 4Rx |
| 8.15.3 | E-UTRAN FDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps | Rel-9 | C39 | UE supporting E-UTRA FDD and E-UTRA TDD and inter-frequency SI acquisition in FDD for HO and Feature Group Indicator 25 |  |  | 2Rx, 4Rx |
| 8.16.1 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX | Rel-10 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.1 or TC 8.16.5 or TC 8.16.9 or TC 8.16.13 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.2 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX | Rel-10 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.2 or TC 8.16.6 or TC 8.16.10 or TC 8.16.14 or TC 8.16.21 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.3 | E-UTRAN FDD-FDD Event triggered reporting on deactivated SCell with PCell interruption in non-DRX | Rel-10 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.3 or TC 8.16.7 or TC 8.16.11 or TC 8.16.15 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.4 | E-UTRANTDD-TDD Event triggered reporting on deactivated SCell with PCell interruption in non-DRX | Rel-10 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.4 or TC 8.16.8 or TC 8.16.12 or TC 8.16.16 or TC 8.16.22 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.5 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX for 20 MHz bandwidth | Rel-10 | C32c | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.1 or TC 8.16.5 or TC 8.16.9 or TC 8.16.13 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.6 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX for 20 MHz bandwidth | Rel-10 | C33c | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.2 or TC 8.16.6 or TC 8.16.10 or TC 8.16.14 or TC 8.16.21 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.7 | E-UTRA FDD event triggered reporting on deactivated SCell with PCell interruption in non-DRX for 20 MHz bandwidth | Rel-10 | C32c | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.3 or TC 8.16.7 or TC 8.16.11 or TC 8.16.15 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.8 | E-UTRAN TDD Event triggered reporting on deactivated SCell with PCell interruption in non-DRX for 20 MHz bandwidth | Rel-10 | C33c | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.4 or TC 8.16.8 or TC 8.16.12 or TC 8.16.16 or TC 8.16.22 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.9 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX for 10MHz+5MHz | Rel-11 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.1 or TC 8.16.5 or TC 8.16.9 or TC 8.16.13 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.10 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX for 10MHz+5MHz | Rel-11 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.2 or TC 8.16.6 or TC 8.16.10 or TC 8.16.14 or TC 8.16.21 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.11 | E-UTRAN FDD event triggered reporting on deactivating SCell with PCell interruption in non-DRX for 10MHz+5MHz | Rel-11 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.3 or TC 8.16.7 or TC 8.16.11 or TC 8.16.15 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.12 | E-UTRAN TDD event triggered reporting on deactivating SCell with PCell interruption in non-DRX for 10MHz+5MHz | Rel-11 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.4 or TC 8.16.8 or TC 8.16.12 or TC 8.16.16 or TC 8.16.22 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.13 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX for 5 MHz+5MHz | Rel-10 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.1 or TC 8.16.5 or TC 8.16.9 or TC 8.16.13 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.14 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX for 5 MHz+5MHz | Rel-10 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.2 or TC 8.16.6 or TC 8.16.10 or TC 8.16.14 or TC 8.16.21 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.15 | E-UTRA FDD event triggered reporting on deactivated SCell with PCell interruption in non-DRX for 5MHz+5MHz bandwidth | Rel-10 | C32 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 111 | Either TC 8.16.3 or TC 8.16.7 or TC 8.16.11 or TC 8.16.15 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.16 | E-UTRA TDD event triggered reporting on deactivated SCell with PCell interruption in non-DRX for 5MHz+5MHz bandwidth | Rel-10 | C33 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.4 or TC 8.16.8 or TC 8.16.12 or TC 8.16.16 or TC 8.16.22 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.17 | E-UTRAN FDD activation and deactivation of known SCell in non-DRX | Rel-10 | C32b | UE supporting E-UTRA FDD and CA and Feature Group Indicator 25 | Either TC 8.16.17 or TC 8.16.17A shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.17A | E-UTRAN FDD activation and deactivation of known SCell in non-DRX for 20MHz +20MHz bandwidth | Rel-10 | C32a | UE supporting E-UTRA FDD and CA and Feature Group Indicator 25 | Either TC 8.16.17 or TC 8.16.17A shall be executed. (Note 1) |  |  |
| 8.16.18 | E-UTRAN TDD activation and deactivation of known SCell in non-DRX | Rel-10 | C33b | UE supporting E-UTRA TDD and CA and Feature Group Indicator 25 | Either TC 8.16.18 or TC 8.16.18A shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.18A | E-UTRAN TDD activation and deactivation of known SCell in non-DRX for 20MHz +20MHz bandwidth | Rel-10 | C33a | UE supporting E-UTRA TDD and CA and Feature Group Indicator 25 | Either TC 8.16.18 or TC 8.16.18A shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.21 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX for 20MHz+10MHz | Rel-10 | C33d | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.2 or TC 8.16.6 or TC 8.16.10 or TC 8.16.14 or TC 8.16.21 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.22 | E-UTRAN TDD event triggered reporting on deactivating SCell with PCell interruption in non-DRX for 20MHz+10MHz | Rel-10 | C33d | UE supporting E-UTRA TDD and CA and Feature Group Indicator 111 | Either TC 8.16.4 or TC 8.16.8 or TC 8.16.12 or TC 8.16.16 or TC 8.16.22 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.16.23 | E-UTRAN TDD-FDD CA event triggered reporting under deactivated SCell in non-DRX with PCell in FDD | Rel-12 | C67 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell and Feature Group Indicator 111 |  |  | 2Rx, 4Rx |
| 8.16.24 | E-UTRAN TDD-FDD CA event triggered reporting under deactivated SCell in non-DRX with PCell in TDD | Rel-12 | C68 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell and Feature Group Indicator 111 |  |  | 2Rx, 4Rx |
| 8.16.25 | E-UTRAN TDD-FDD CA event triggered reporting on deactivated SCell with PCell interruption in non-DRX with PCell in FDD | Rel-12 | C67 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell and Feature Group Indicator 111 |  |  | 2Rx, 4Rx |
| 8.16.26 | E-UTRAN TDD-FDD CA event triggered reporting on deactivated SCell with PCell interruption in non-DRX with PCell in TDD | Rel-12 | C68 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell and Feature Group Indicator 111 |  |  | 2Rx, 4Rx |
| 8.16.47 | 2DL/2UL FDD CA activation and deactivation of known PUCCH SCell without valid TA in non-DRX | Rel-13 | C206 | UE supporting E-UTRA FDD and CA and Feature Group Indicator 25 and PUCCH transmission on SCell in CA |  |  | 2Rx, 4Rx |
| 8.16.48 | 2DL/2UL TDD CA activation and deactivation of known PUCCH SCell without valid TA in non-DRX | Rel-13 | C207 | UE supporting E-UTRA TDD and CA and Feature Group Indicator 25 and PUCCH transmission on SCell in CA |  |  | 2Rx, 4Rx |
| 8.16.49 | 2DL/2UL TDD-FDD CA (FDD PCell) activation and deactivation of known PUCCH SCell without valid TA in non-DRX | Rel-13 | C208 | UE supporting E-UTRA FDD and TDD and 3DL CA with FDD as PCell and Feature Group Indicator 25 and PUCCH transmission on SCell in CA |  |  | 2Rx, 4Rx |
| 8.16.50 | 2DL/2UL TDD-FDD CA (TDD PCell) activation and deactivation of known PUCCH SCell without valid TA in non-DRX | Rel-13 | C209 | UE supporting E-UTRA FDD and TDD and 3DL CA with TDD as PCell and Feature Group Indicator 25 and PUCCH transmission on SCell in CA |  |  | 2Rx, 4Rx |
| 8.16.83 | 3 DL CA Event Triggered Reporting under Deactivated SCells in Non-DRX with generic duplex modes | Rel-10 | C226 | UE supporting E-UTRA FDD or TDD and 3DL CA and Feature Group Indicator 111. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C224 | UE supporting E-UTRA FDD and TDD and 3DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.84 | 3 DL CA Event Triggered Reporting on Deactivated SCell with PCell and SCell Interruptions in Non-DRX with generic duplex modes | Rel-10 | C226 | UE supporting E-UTRA FDD or TDD and 3DL CA and Feature Group Indicator 111. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C224 | UE supporting E-UTRA FDD and TDD and 3DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.85 | 3 DL CA Activation and Deactivation of Known SCell in Non-DRX with generic duplex modes | Rel-10 | C227 | UE supporting E-UTRA FDD or TDD and 3DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C225 | UE supporting E-UTRA FDD and E-UTRA TDD and 3DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.86 | 3 DL CA Activation and Deactivation of Unknown SCell in Non-DRX with generic duplex modes | Rel-10 | C227 | UE supporting E-UTRA FDD or TDD and 3DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C225 | UE supporting E-UTRA FDD and E-UTRA TDD and 3DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.87 | 4 DL CA Event Triggered Reporting under Deactivated SCells in Non-DRX with generic duplex modes | Rel-11 | C220 | UE supporting E-UTRA FDD or TDD and 4DL CA and Feature Group Indicator 111. | The UE shall execute only either 8.16.87 or the corresponding test from 8.16.51, 8.16.52, 8.16.53 and 8.16.54. |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C220a | UE supporting E-UTRA FDD, TDD and 4DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.88 | 4 DL CA Event Triggered Reporting on Deactivated SCell with PCell and SCell Interruptions in Non-DRX with generic duplex modes | Rel-11 | C220 | UE supporting E-UTRA FDDor TDD and 4DL CA and Feature Group Indicator 111. | The UE shall execute only either 8.16.88 or the corresponding test from 8.16.55 and 8.16.56. |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C220a | UE supporting E-UTRA FDD, TDD and 4DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.89 | 4 DL CA Activation and Deactivation of Known SCell in Non-DRX with generic duplex modes | Rel-11 | C222 | UE supporting E-UTRA FDD or E-UTRA TDD and 4DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C222a | UE supporting E-UTRA FDD, E-UTRA TDD and 4DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.90 | 4 DL CA Activation and Deactivation of Unknown SCell in Non-DRX with generic duplex modes | Rel-11 | C222 | UE supporting E-UTRA FDD or E-UTRA TDD and 4DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C222a | UE supporting E-UTRA FDD, E-UTRA TDD and 4DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.91 | 5 DL CA Event Triggered Reporting under Deactivated SCells in Non-DRX with generic duplex modes | Rel-11 | C221 | UE supporting E-UTRA FDD or TDD and 5DL CA and Feature Group Indicator 111. | The UE shall execute only either 8.16.91 or the corresponding test from 8.16.65, 8.16.66, 8.16.71 and 8.16.72. |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C221a | UE supporting E-UTRA FDD, TDD and 5DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.92 | 5 DL CA Event Triggered Reporting on Deactivated SCell with PCell and SCell Interruptions in Non-DRX with generic duplex modes | Rel-11 | C221 | UE supporting E-UTRA FDD or TDD and 5DL CA and Feature Group Indicator 111. | The UE shall execute only either 8.16.92 or the corresponding test from 8.16.73 and 8.16.74. |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C221a | UE supporting E-UTRA FDD, TDD and 5DL CA and Feature Group Indicator 111. |  |  |  | |
| 8.16.93 | 5 DL CA Activation and Deactivation of Known SCell in Non-DRX with generic duplex modes | Rel-11 | C223 | UE supporting E-UTRA FDDor E-UTRA TDD and 5DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C223a | UE supporting E-UTRA FDD, E-UTRA TDD and 5DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.94 | 5 DL CA Activation and Deactivation of Unknown SCell in Non-DRX with generic duplex modes | Rel-11 | C223 | UE supporting E-UTRA FDD or E-UTRA TDD and 5DL CA and Feature Group Indicator 25. |  |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C223a | UE supporting E-UTRA FDD, E-UTRA TDD and 5DL CA and Feature Group Indicator 25. |  |  |  | |
| 8.16.95 | 6 DL CA Event Triggered Reporting under Deactivated SCells in Non-DRX with generic duplex modes | Rel-14 | C232 | UE supporting E-UTRA FDD or TDD and 6DL CA and Feature Group Indicator 111. |  |  | 2Rx, 4Rx |
| 8.16.96 | 6 DL CA Event Triggered Reporting on Deactivated SCell with PCell and SCell Interruptions in Non-DRX with generic duplex modes | Rel-14 | C232 | UE supporting E-UTRA FDD or TDD and 6DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.97 | 6 DL CA Activation and Deactivation of Known SCell in Non-DRX with generic duplex modes | Rel-14 | C232 | UE supporting E-UTRA FDD or TDD and 6DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.98 | 6 DL CA Activation and Deactivation of Unknown SCell in Non-DRX with generic duplex modes | Rel-14 | C232 | UE supporting E-UTRA FDD or TDD and 6DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.99 | 7DL CA Event Triggered Reporting under Deactivated SCells in Non-DRX with generic duplex modes | Rel-14 | C233 | UE supporting E-UTRA FDD or TDD and 7DL CA and Feature Group Indicator 111. |  |  | 2Rx, 4Rx |
| 8.16.100 | 7 DL CA Event Triggered Reporting on Deactivated SCell with PCell and SCell Interruptions in Non-DRX with generic duplex modes | Rel-14 | C233 | UE supporting E-UTRA FDD or TDD and 7DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.101 | 7 DL CA Activation and Deactivation of Known SCell in Non-DRX with generic duplex modes | Rel-14 | C233 | UE supporting E-UTRA FDD or TDD and 7DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.102 | DL CA Activation and Deactivation of Unknown SCell in Non-DRX with generic duplex modes | Rel-14 | C233 | UE supporting E-UTRA FDD or TDD and 7DL CA and Feature Group Indicator 111. |  |  |  |
| 8.16.103 | E-UTRAN FDD hibernation and activation of known SCell in non-DRX | Rel-15 | C239 | UE supporting E-UTRA FDD and SCell MAC CE hibernation |  |  |  |
| 8.16.103A | E-UTRAN TDD hibernation and activation of known SCell in non-DRX | Rel-15 | C240 | UE supporting E-UTRA TDD and SCell MAC CE hibernation |  |  |  |
| 8.16.104 | E-UTRAN FDD hibernation and activation of unknown SCell in non-DRX | Rel-15 | C239 | UE supporting E-UTRA FDD and SCell MAC CE hibernation |  |  |  |
| 8.16.104A | E-UTRAN TDD hibernation and activation of unknown SCell in non-DRX | Rel-15 | C240 | UE supporting E-UTRA TDD and SCell MAC CE hibernation |  |  |  |
| 8.18.1 | E-UTRAN TDD-HRPD event triggered reporting under fading propagation conditions | Rel-9 | C40 | UE supporting E-UTRA TDD and cdma2000 HRPD and Feature Group Indicator 15 |  |  | 2Rx, 4Rx |
| 8.19.1 | E-UTRAN TDD-CDMA2000 1X event triggered reporting under fading propagation conditions | Rel-9 | C41 | UE supporting E-UTRA TDD and cdma2000 1xRTT and Feature Group Indicator 15 |  |  | 2Rx, 4Rx |
| 8.20.1 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells | Rel-10 | C18 | UE supporting E-UTRA FDD and CA |  |  | 2Rx, 4Rx |
| 8.20.2 | E-UTRAN TDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 8.20.2 or TC 8.20.2A or TC 8.20.2B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.20.2A | E-UTRAN TDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in synchronous cells for 20 MHz +20 MHz bandwidth | Rel-10 | C19a | UE supporting E-UTRA TDD and CA | Either TC 8.20.2 or TC 8.20.2A or TC 8.20.2B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.20.2B | E-UTRAN TDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in synchronous cells for 20 MHz +10 MHz bandwidth | Rel-10 | C19b | UE supporting E-UTRA TDD and CA | Either TC 8.20.2 or TC 8.20.2A or TC 8.20.2B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.20.3 | E-UTRAN FDD - UTRAN FDD event triggered reporting under fading propagation conditions | Rel-10 | C43 | UE supporting E-UTRA FDD, CA and UTRA FDD and Feature Group Indicator 15 |  |  | 2Rx, 4Rx |
| 8.20.4 | E-UTRAN TDD to UTRAN TDD cell search under fading propagation conditions | Rel-10 | C44 | UE supporting E-UTRA TDD, CA and UTRA TDD and Feature Group Indicator 15 | Either TC 8.20.4 or TC 8.20.4A or TC 8.20.4B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.20.4A | E-UTRAN TDD to UTRAN TDD cell search under fading propagation conditions for 20 MHz + 20 MHz bandwidth | Rel-10 | C44a | UE supporting E-UTRA TDD, CA and UTRA TDD and Feature Group Indicator 15 | Either TC 8.20.4 or TC 8.20.4A or TC 8.20.4B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.20.4B | E-UTRAN TDD to UTRAN TDD cell search under fading propagation conditions for 20 MHz + 10 MHz bandwidth | Rel-10 | C44b | UE supporting E-UTRA TDD, CA and UTRA TDD and Feature Group Indicator 15 | Either TC 8.20.4 or TC 8.20.4A or TC 8.20.4B shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 8.22.1 | E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells in DRX based on CRS based discovery signal | Rel-12 | C01ch | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicator 5 |  |  |  |
| 8.22.2 | E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX | Rel-12 | C02ch | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicator 5 |  |  |  |
| 8.22.3 | E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in DRX based on CRS based discovery signal | Rel-12 | C01eh | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicators 5 and 25 |  |  |  |
| 8.22.4 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in DRX based on CRS based discovery signal | Rel-12 | C02eh | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicators 5 and 25 |  |  |  |
| 8.22.5 | E-UTRAN FDD-FDD intra-frequency event triggered reporting in DRX based on CSI-RS based discovery signal | Rel-12 | C97 | UE supporting E-UTRA FDD and CSI-RS based discovery signals measurement and Feature Group Indicator 5 |  |  |  |
| 8.22.6 | E-UTRAN TDD-TDD intra-frequency event triggered reporting in DRX based on CSI-RS based discovery signal | Rel-12 | C98 | UE supporting E-UTRA TDD and CSI-RS based discovery signals measurement and Feature Group Indicator 5 |  |  |  |
| 8.22.7 | E-UTRAN FDD-FDD Inter-frequency event triggered reporting in DRX based on CSI-RS based discovery signal | Rel-12 | C99 | UE supporting E-UTRA FDD and CSI-RS based discovery signals measurement and Feature Group Indicators 5 and 25 |  |  |  |
| 8.22.8 | E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation condition in DRX based on CSI-RS based discovery signal | Rel-12 | C100 | UE supporting E-UTRA TDD and CSI-RS based discovery signals measurement and Feature Group Indicators 5 and 25 |  |  |  |
| 8.22.9 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX based on CRS based discovery signal | Rel-12 | C126 | UE supporting E-UTRA FDD and CA and CRS based discovery signal measurement and Feature Group Indicators 111 |  |  |  |
| 8.22.10 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX based on CRS based discovery signal | Rel-12 | C126 | UE supporting E-UTRA TDD and CA and CRS based discovery signal measurement and Feature Group Indicators 111 |  |  |  |
| 8.22.11 | E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX based on CSI-RS based discovery signal | Rel-12 | C118 | UE supporting E-UTRA FDD and CA and CSI-RS based discovery signal measurement |  |  |  |
| 8.22.12 | E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX based on CSI-RS based discovery signal | Rel-12 | C119 | UE supporting E-UTRA TDD and CA and CSI-RS based discovery signal measurement |  |  |  |
| 8.23.1 | E-UTRAN FDD-FDD DC intra-frequency event triggered reporting with DRX in synchronous DC | Rel-12 | C134 | UE supporting E-UTRA FDD, Dual Connectivity and Feature Group Indicator 5 | It is not necessary for DC ASYNCH UEs to be tested in this test if 8.23.2 case is executed. (Note 2) |  |  |
| 8.23.2 | E-UTRAN FDD-FDD DC intra-frequency event triggered reporting with DRX in asynchronous DC | Rel-12 | C135 | UE supporting E-UTRA FDD, Dual Connectivity Asynch and Feature Group Indicator 5 |  |  |  |
| 8.23.3 | E-UTRAN TDD-TDD DC intra-frequency event triggered reporting with DRX in synchronous DC | Rel-12 | C136 | UE supporting E-UTRA TDD, Dual Connectivity and Feature Group Indicator 5 |  |  |  |
| 8.23.4 | E-UTRAN FDD-FDD DC inter-frequency event triggered reporting with DRX in synchronous DC | Rel-12 | C137 | UE supporting E-UTRA FDD, Dual Connectivity and Feature Group Indicator 5 and 25 | It is not necessary for DC ASYNCH UEs to be tested in this test if 8.23.5 case is executed. (Note 2) |  |  |
| 8.23.5 | E-UTRAN FDD-FDD DC inter-frequency event triggered reporting with DRX in asynchronous DC | Rel-12 | C138 | UE supporting E-UTRA FDD, Dual Connectivity Asynch and Feature Group Indicator 5 and 25 |  |  |  |
| 8.23.6 | E-UTRAN TDD-TDD DC inter-frequency event triggered reporting with DRX in synchronous DC | Rel-12 | C139 | UE supporting E-UTRA TDD, Dual Connectivity and Feature Group Indicator 5 and 25 |  |  |  |
| 8.23.7 | E-UTRAN FDD-FDD Addition and Release Delay of known PSCell in Synchronous DC | Rel-12 | C176 | UE supporting E-UTRA FDD, Dual Connectivity | It is not necessary for DC ASYNCH UEs to be tested in this test if 8.23.2 case is executed. (Note 2) |  |  |
| 8.23.8 | E-UTRAN FDD-FDD Addition and Release Delay of known PSCell in Asynchronous DC | Rel-12 | C177 | UE supporting E-UTRA FDD, Dual Connectivity Asynch |  |  |  |
| 8.23.9 | E-UTRAN TDD Addition and Release Delay of known PSCell in Synchronous DC | Rel-12 | C178 | UE supporting E-UTRA TDD, Dual Connectivity |  |  |  |
| 8.25.1 | E-UTRAN FDD-WLAN Event Triggered Reporting in non-DRX under AWGN | Rel-13 | C179 | UE supporting E-UTRA FDD and WLAN Aggregation |  |  |  |
| 8.25.2 | E-UTRAN TDD-WLAN Event Triggered Reporting in non-DRX under AWGN | Rel-13 | C180 | UE supporting E-UTRA TDD and WLAN Aggregation |  |  |  |
| 8.26.1 | E-UTRAN FDD-FS3 Activation and deactivation of known FS3 SCell with FDD PCell in non-DRX | Rel-13 | C144 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and Feature Group Indicator 25 |  |  |  |
| 8.26.2 | E-UTRAN TDD-FS3 Activation and deactivation of known FS3 SCell with TDD PCell in non-DRX | Rel-13 | C159 | UE supporting E-UTRA TDD and downlink LAA and Feature Group Indicator 25 |  |  |  |
| 8.26.3 | E-UTRAN FDD-FS3 Event triggered reporting on deactivated FS3 SCell and FDD PCell interruption in non-DRX | Rel-13 | C145 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and Feature Group Indicator 111 | It is not necessary for LAA UEs to execute this test if 8.26.3A case is executed (Note 3) |  |  |
| 8.26.3A | E-UTRAN FDD-FS3 3DL Event triggered reporting on deactivated FS3 SCell and FDD PCell interruption in non-DRX | Rel-13 | C145a | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and Feature Group Indicator 111 |  |  |  |
| 8.26.4 | E-UTRAN TDD-FS3 Event triggered reporting on deactivated FS3 SCell and TDD PCell interruption in non-DRX | Rel-13 | C160 | UE supporting E-UTRA TDD and downlink LAA and Feature Group Indicator 111 | It is not necessary for LAA UEs to execute this test if 8.26.4A case is executed (Note 3) |  |  |
| 8.26.4A | E-UTRAN TDD-FS3 3DL Event triggered reporting on deactivated FS3 SCell and TDD PCell interruption in non-DRX | Rel-13 | C160a | UE supporting E-UTRA TDD and downlink LAA on two SCells and Feature Group Indicator 111 |  |  |  |
| 8.26.5 | E-UTRAN FDD-FS3 Intra-frequency event triggered reporting in non-DRX for CRS based discovery signal | Rel-13 | C153 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and CRS based discovery signals Feature Group Indicator 111 | It is not necessary for LAA UEs to execute this test if 8.26.5A case is executed (Note 3) |  |  |
| 8.26.5A | E-UTRAN FDD-FS3 Intra-frequency event triggered reporting in non-DRX for CRS based discovery signal with 2 SCells | Rel-13 | C153a | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and CRS based discovery signals Feature Group Indicator 111 |  |  |  |
| 8.26.6 | E-UTRAN TDD-FS3 Intra-frequency event triggered reporting in non-DRX for CRS based discovery signal | Rel-13 | C146 | UE supporting E-UTRA TDD and downlink LAA and CRS based discovery signals and Feature Group Indicator 111 | It is not necessary for LAA UEs to execute this test if 8.26.6A case is executed (Note 3) |  |  |
| 8.26.6A | E-UTRAN TDD-FS3 Intra-frequency event triggered reporting in non-DRX for CRS based discovery signal with 2 SCells | Rel-13 | C146a | UE supporting E-UTRA TDD and downlink LAA CRS based discovery signals and Feature Group Indicator 111 |  |  |  | |
| 8.26.7 | E-UTRAN FDD-FS3 Intra-frequency event triggered reporting in DRX for CRS based discovery signal | Rel-13 | C198 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and Feature Group Indicators 5 and 111 |  |  |  | |
| 8.26.8 | E-UTRAN TDD-FS3 Intra-frequency event triggered reporting in DRX for CRS based discovery signal | Rel-13 | C199 | UE supporting E-UTRA TDD and downlink LAA and Feature Group Indicator 5 and 111 |  |  |  | |
| 8.26.9 | E-UTRAN FDD-FS3 Inter-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-13 | C147 | UE supporting E-UTRA FDD and downlink LAA with FDD as Pcell and Feature Group Indicator 25 |  |  |  |
| 8.26.10 | E-UTRAN TDD-FS3 Inter-frequency event triggered reporting under fading propagation conditions in synchronous cells | Rel-13 | C148 | UE supporting E-UTRA TDD and downlink LAA and Feature Group Indicator 25 |  |  |  |
| Measurement Performance Requirements | | | | | | |  |
| 9.1.1.1 | FDD Intra Frequency Absolute RSRP Accuracy | Rel-8 to Rel-11 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.1.1\_1 | FDD Intra Frequency Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.1.1\_2 | FDD Intra frequency Absolute RSRP accuracy for UE category 1bis | Rel-13 | C01k | UE supporting E-UTRA FDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.1.1.1\_3 | FDD Intra Frequency Absolute RSRP Accuracy for CA Idle Mode Measurements | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.1.1.2 | FDD Intra Frequency Relative Accuracy of RSRP | Rel-8 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.1.2\_2 | FDD Intra Frequency Relative Accuracy of RSRP for UE category 1bis | Rel-13 | C01k | UE supporting E-UTRA FDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.1.2.1 | TDD Intra Frequency Absolute RSRP Accuracy | Rel-8 to Rel-11 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.2.1\_1 | TDD Intra Frequency Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.2.1\_2 | TDD Intra Frequency Absolute RSRP Accuracy for UE category 1bis | Rel-13 | C02k | UE supporting E-UTRA TDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.1.2.2 | TDD Intra Frequency Relative Accuracy of RSRP | Rel-8 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.2.2\_2 | TDD Intra Frequency Relative Accuracy of RSRP for UE category 1bis | Rel-13 | C02k | UE supporting E-UTRA TDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.1.3.1 | FDD - FDD Inter Frequency Absolute RSRP Accuracy | Rel-8 to Rel-11 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.3.1\_1 | FDD - FDD Inter Frequency Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.3.1\_2 | FDD - FDD Inter Frequency Absolute RSRP Accuracy for UE category 1bis | Rel-13 | C01l | UE supporting E-UTRA FDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.3.1\_3 | FDD-FDD Inter Frequency Absolute RSRP Accuracy for CA Idle Mode Measurements for Overlapping Carrier | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.1.3.1\_4 | FDD-FDD Inter Frequency Absolute RSRP Accuracy for CA Idle Mode Measurements for Non-Overlapping Carrier | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.1.3.2 | FDD - FDD Inter Frequency Relative Accuracy of RSRP | Rel-8 to Rel-11 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.3.2\_1 | FDD - FDD Inter Frequency Relative Accuracy of RSRP (Rel-12 and forward) | Rel-12 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.3.2\_2 | FDD - FDD Inter Frequency Relative Accuracy of RSRP for UE category 1bis | Rel-13 | C01l | UE supporting E-UTRA FDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.4.1 | TDD - TDD Inter Frequency Absolute RSRP Accuracy | Rel-8 to Rel-11 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.4.1\_1 | TDD - TDD Inter Frequency Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.4.1\_2 | TDD - TDD Inter Frequency Absolute RSRP Accuracy for UE category 1bis | Rel-13 | C02l | UE supporting E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.4.2 | TDD - TDD Inter Frequency Relative Accuracy of RSRP | Rel-8 to Rel-11 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.4.2\_1 | TDD - TDD Inter Frequency Relative Accuracy of RSRP (Rel-12 and forward) | Rel-12 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.4.2\_2 | TDD - TDD Inter Frequency Relative Accuracy of RSRP for UE category 1bis | Rel-13 | C02l | UE supporting E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.5.1 | FDD - TDD Inter Frequency Absolute RSRP Accuracy | Rel-9 to Rel-11 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.5.1\_1 | FDD - TDD Inter Frequency Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.5.1\_2 | FDD - TDD Inter Frequency Absolute RSRP Accuracy for UE category 1bis | Rel-13 | C42a | UE supporting E-UTRA FDD and E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.5.2 | FDD - TDD Inter Frequency Relative Accuracy of RSRP | Rel-9 to Rel-11 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.5.2\_1 | FDD - TDD Inter Frequency Relative Accuracy of RSRP (Rel-12 and forward) | Rel-12 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.5.2\_2 | FDD - TDD Inter Frequency Relative Accuracy of RSRP for UE category 1bis | Rel-13 | C42a | UE supporting E-UTRA FDD and E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.6.1 | FDD Absolute RSRP Accuracy E-UTRA for Carrier Aggregation | Rel-10 and Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1 or TC 9.1.12.1 or TC 9.1.18.1 or TC 9.1.20.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.6.1\_1 | FDD Absolute RSRP Accuracy E-UTRA for Carrier Aggregation (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1\_1 or TC 9.1.12.1\_1 or TC 9.1.18.1\_1 or TC 9.1.20.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.6.2 | FDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation | Rel-10 and Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2 or TC 9.1.12.2 or TC 9.1.18.2 or TC 9.1.20.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.6.2\_1 | FDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2\_1 or TC 9.1.12.2\_1 or TC 9.1.18.2\_1 or TC 9.1.20.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.7.1 | TDD Absolute RSRP Accuracy E-UTRA for Carrier Aggregation | Rel-10 and Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1 or TC 9.1.13.1 or TC 9.1.19.1 or TC 9.1.21.1 or TC 9.1.24.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.7.1\_1 | TDD Absolute RSRP Accuracy E-UTRA for Carrier Aggregation (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1\_1 or TC 9.1.13.1\_1 or TC 9.1.19.1\_1 or TC 9.1.21.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.7.2 | TDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation | Rel-10 and Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2 or TC 9.1.13.2 or TC 9.1.19.2 or TC 9.1.21.2 or TC 9.1.24.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.7.2\_1 | TDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2\_1 or TC 9.1.13.2\_1 or TC 9.1.19.2\_1 or TC 9.1.21.2\_1 or TC 9.1.24.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.8.1 | FDD Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 and Rel-11 only | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.8.1\_1 | FDD Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) (Rel-12 and forward) | Rel-12 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.8.2 | FDD Relative RSRP under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.9.1 | TDD Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 and Rel-11 only | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.9.1\_1 | TDD Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) (Rel-12 and forward) | Rel-12 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.9.2 | TDD Relative RSRP under Time-Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.10.1 | FDD Absolute RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 and Rel-11 only | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.10.1\_1 | FDD Absolute RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) (Rel-12 and forward) | Rel-12 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.10.2 | FDD Relative RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.1.11.1 | TDD Absolute RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 and Rel-11 only | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.11.1\_1 | TDD Absolute RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) (Rel-12 and forward) | Rel-12 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.11.2 | TDD Relative RSRP under Time-Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.1.12.1 | FDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz | Rel-10 and Rel-11 only | C18a | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1 or TC 9.1.12.1 or TC 9.1.18.1 or TC 9.1.20.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.12.1\_1 | FDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz (Rel-12 and forward) | Rel-12 | C18a | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1\_1 or TC 9.1.12.1\_1 or TC 9.1.18.1\_1 or TC 9.1.20.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.12.2 | FDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz | Rel-10 and Rel-11 only | C18a | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2 or TC 9.1.12.2 or TC 9.1.18.2 or TC 9.1.20.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.12.2\_1 | FDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz (Rel‑12 and forward) | Rel-12 | C18a | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2\_1 or TC 9.1.12.2\_1 or TC 9.1.18.2\_1 or TC 9.1.20.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.13.1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz | Rel-10 and Rel-11 only | C19a | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1 or TC 9.1.13.1 or TC 9.1.19.1 or TC 9.1.21.1 or TC 9.1.24.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.13.1\_1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz (Rel-12 and forward) | Rel-12 | C19a | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1\_1 or TC 9.1.13.1\_1 or TC 9.1.19.1\_1 or TC 9.1.21.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.13.2 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz | Rel-10 and Rel-11 only | C19a | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2 or TC 9.1.13.2 or TC 9.1.19.2 or TC 9.1.21.2 or TC 9.1.24.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.13.2\_1 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20 MHz (Rel-12 and forward) | Rel-12 | C19a | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2\_1 or TC 9.1.13.2\_1 or TC 9.1.19.2\_1 or TC 9.1.21.2\_1 or TC 9.1.24.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.14.1 | FDD Intra Frequency Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 only | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.14.1\_1 | FDD Intra Frequency Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) (Rel-12 and forward) | Rel-12 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.14.2 | FDD Intra Frequency Relative RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.15.1 | TDD Intra Frequency Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 only | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.15.1\_1 | TDD Intra Frequency Absolute RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) (Rel-12 and forward) | Rel-12 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.15.2 | TDD Intra Frequency Relative RSRP Accuracy under Time-Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 9.1.16.1 | FDD Intra Frequency Absolute RSRP Accuracy for 5MHz Bandwidth | Rel-8 to Rel-11 | C50 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicator 16 |  |  |  |
| 9.1.16.1\_1 | FDD Intra Frequency Absolute RSRP Accuracy for 5MHz Bandwidth (Rel-12 and forward) | Rel-12 | C50 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicator 16 |  |  |  |
| 9.1.16.2 | FDD Intra Frequency Relative Accuracy of RSRP for 5MHz Bandwidth | Rel-8 | C50 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicator 16 |  |  |  |
| 9.1.17.1 | FDD - FDD Inter Frequency Absolute RSRP Accuracy for 5MHz Bandwidth | Rel-8 to Rel-11 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.17.1\_1 | FDD - FDD Inter Frequency Absolute RSRP Accuracy for 5MHz Bandwidth (Rel-12 and forward) | Rel-12 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.17.2 | FDD - FDD Inter Frequency Relative Accuracy of RSRP for 5MHz Bandwidth | Rel-8 to Rel-11 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_Nand Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.17.2\_1 | FDD - FDD Inter Frequency Relative Accuracy of RSRP for 5MHz Bandwidth (Rel-12 and forward) | Rel-12 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicators 16 and 25 |  |  |  |
| 9.1.18.1 | FDD Absolute RSRP Accuracy for E-UTRA for Carrier Aggregation for 10MHz + 5MHz | Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1 or TC 9.1.12.1 or TC 9.1.18.1 or TC 9.1.20.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.18.1\_1 | FDD Absolute RSRP Accuracy for E-UTRA for Carrier Aggregation for 10MHz + 5MHz (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1\_1 or TC 9.1.12.1\_1 or TC 9.1.18.1\_1 or TC 9.1.20.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.18.2 | FDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation for 10MHz + 5MHz | Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2 or TC 9.1.12.2 or TC 9.1.18.2 or TC 9.1.20.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.18.2\_1 | FDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation for 10MHz + 5MHz (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2\_1 or TC 9.1.12.2\_1 or TC 9.1.18.2\_1 or TC 9.1.20.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.19.1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 10MHz + 5MHz | Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1 or TC 9.1.13.1 or TC 9.1.19.1 or TC 9.1.21.1 or TC 9.1.24.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.19.1\_1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 10MHz + 5MHz (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1\_1 or TC 9.1.13.1\_1 or TC 9.1.19.1\_1 or TC 9.1.21.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.19.2 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 10MHz + 5MHz | Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2 or TC 9.1.13.2 or TC 9.1.19.2 or TC 9.1.21.2 or TC 9.1.24.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.19.2\_1 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 10MHz + 5MHz (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2\_1 or TC 9.1.13.2\_1 or TC 9.1.19.2\_1 or TC 9.1.21.2\_1 or TC 9.1.24.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.20.1 | FDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz bandwidth | Rel-10 and Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1 or TC 9.1.12.1 or TC 9.1.18.1 or TC 9.1.20.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.20.1\_1 | FDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz bandwidth (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.1\_1 or TC 9.1.12.1\_1 or TC 9.1.18.1\_1 or TC 9.1.20.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.20.2 | FDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz bandwidth | Rel-10 and Rel-11 only | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2 or TC 9.1.12.2 or TC 9.1.18.2 or TC 9.1.20.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.20.2\_1 | FDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz bandwidth (Rel-12 and forward) | Rel-12 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.1.6.2\_1 or TC 9.1.12.2\_1 or TC 9.1.18.2\_1 or TC 9.1.20.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.21.1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz | Rel-10 and Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1 or TC 9.1.13.1 or TC 9.1.19.1 or TC 9.1.21.1 or TC 9.1.24.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.21.1\_1 | TDD Absolute RSRP Accuracy for E-UTRAN Carrier Aggregation for 5MHz + 5MHz (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1\_1 or TC 9.1.13.1\_1 or TC 9.1.19.1\_1 or TC 9.1.21.1\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.21.2 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz | Rel-10 and Rel-11 only | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2 or TC 9.1.13.2 or TC 9.1.19.2 or TC 9.1.21.2 or TC 9.1.24.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.21.2\_1 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 5MHz + 5MHz (Rel-12 and forward) | Rel-12 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2\_1 or TC 9.1.13.2\_1 or TC 9.1.19.2\_1 or TC 9.1.21.2\_1 or TC 9.1.24.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.22 | FDD-TDD RSRP Accuracy E-UTRA for Carrier Aggregation with PCell in FDD | Rel-12 | C141 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell |  |  | 2Rx, 4Rx |
| 9.1.23 | FDD-TDD RSRP Accuracy E-UTRA for Carrier Aggregation with PCell in TDD | Rel-12 | C142 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell |  |  | 2Rx, 4Rx |
| 9.1.24.1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20MHz + 10MHz | Rel-10 and Rel-11 only | C19b | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.1 or TC 9.1.13.1 or TC 9.1.19.1 or TC 9.1.21.1 or TC 9.1.24.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.24.1\_1 | TDD Absolute RSRP Accuracy for E-UTRA Carrier Aggregation for 20MHz + 10MHz (Rel-12 and forward) | Rel-12 | C19b | UE supporting E-UTRA TDD and CA |  |  | 2Rx, 4Rx |
| 9.1.24.2 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20MHz + 10MHz | Rel-10 and Rel-11 only | C19b | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2 or TC 9.1.13.2 or TC 9.1.19.2 or TC 9.1.21.2 or TC 9.1.24.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.24.2\_1 | TDD Relative RSRP Accuracy for E-UTRA Carrier Aggregation for 20MHz + 10MHz (Rel-12 and forward) | Rel-12 | C19b | UE supporting E-UTRA TDD and CA | Either TC 9.1.7.2\_1 or TC 9.1.13.2\_1 or TC 9.1.19.2\_1 or TC 9.1.21.2\_1 or TC 9.1.24.2\_1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.1.25 | FDD intra-frequency absolute and relative RSRP accuracies in CRS based discovery signal | Rel-12 | C101 | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.26 | TDD intra-frequency absolute and relative RSRP accuracies in CRS based discovery signal | Rel-12 | C102 | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.27 | FDD-FDD inter-frequency absolute and relative RSRP accuracies in CRS based discovery signal | Rel-12 | C103 | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.28 | TDD-TDD inter-frequency absolute and relative RSRP accuracies in CRS based discovery signal | Rel-12 | C104 | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.29 | FDD intra frequency absolute and relative CSI-RSRP accuracies in CSI-RS based discovery signal | Rel-12 | C114 | UE supporting E-UTRA FDD and CSI-RS based discovery signal measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.30 | TDD intra frequency absolute and relative CSI-RSRP accuracies in CSI-RS based discovery signal | Rel-12 | C115 | UE supporting E-UTRA TDD and CSI-RS based discovery signal measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.31 | FDD-FDD inter-frequency absolute and relative CSI-RSRP accuracies in CSI-RS based discovery signal | Rel-12 | C116 | UE supporting E-UTRA FDD and CSI-RS based discovery signal measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.32 | TDD-TDD inter-frequency absolute and relative CSI-RSRP accuracies in CSI-RS based discovery signal | Rel-12 | C117 | UE supporting E-UTRA TDD and CSI-RS based discovery signal measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.1.33 | FDD absolute and relative RSRP accuracies for E-UTRAN Carrier Aggregation in CRS based discovery signal | Rel-12 | C128 | UE supporting E-UTRA FDD and CA and CRS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.1.34 | TDD absolute and relative RSRP accuracies for E-UTRAN Carrier Aggregation in CRS based discovery signal | Rel-12 | C129 | UE supporting E-UTRA TDD and CA and CRS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.1.35 | FDD absolute and relative CSI-RSRP accuracies for E-UTRAN Carrier Aggregation in CSI-RS based discovery signal | Rel-12 | C118 | UE supporting E-UTRA FDD and CA and CSI-RS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.1.36 | TDD absolute and relative CSI-RSRP accuracies for E-UTRAN Carrier Aggregation in CSI-RS based discovery signal | Rel-12 | C119 | UE supporting E-UTRA TDD and CA and CSI-RS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.1.41.1 | FD-FDD Intra Frequency Absolute RSRP Accuracy for UE category 0 | Rel-12 | C88 | UE supporting E-UTRA FD-FDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.41.2 | FD-FDD Intra Frequency Relative RSRP Accuracy for UE category 0 | Rel-12 | C88 | UE supporting E-UTRA FD-FDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.42.1 | HD-FDD Intra Frequency Absolute RSRP Accuracy for UE category 0 | Rel-12 | C89 | UE supporting E-UTRA HD-FDD (UE category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.42.2 | HD-FDD Intra Frequency Relative RSRP Accuracy for UE category 0 | Rel-12 | C89 | UE supporting E-UTRA HD-FDD (UE category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.43.1 | TDD Intra Frequency Absolute RSRP Accuracy for UE category 0 | Rel-12 | C90 | UE supporting E-UTRA TDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.43.2 | TDD Intra Frequency Relative RSRP Accuracy for UE category 0 | Rel-12 | C90 | UE supporting E-UTRA TDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.1.52 | FD-FDD RSRP Intra frequency case for BL/CE UE in CEModeA | Rel-13 | C94c | UE supporting E-UTRA FD-FDD and (UE Category M1 or UE Category M2) and Feature Group Indicator 16 |  |  |  |
| 9.1.53 | HD-FDD RSRP Intra frequency case for BL/CE UE in CEModeA | Rel-13 | C107d | UE supporting E-UTRA HD-FDD and (UE Category M1 or UE Category M2) and Feature Group Indicator 16 |  |  |  |
| 9.1.54 | TDD RSRP Intra frequency case for BL/CE UE in CEModeA | Rel-13 | C93b | UE supporting E-UTRA TDD and (UE Category M1 or UE Category M2) and Feature Group Indicator 16 |  |  |  |
| 9.1.55 | FS3 Intra frequency absolute and relative RSRP accuracies with FDD PCell | Rel-13 | C149 | UE supporting E-UTRA FDD and Downlink LAA with FDD as Pcell |  |  | 2Rx, 4Rx |
| 9.1.56 | FS3 Intra frequency absolute and relative RSRP accuracies with TDD PCell | Rel-13 | C152 | UE supporting E-UTRA TDD and Downlink LAA with TDD as PCell |  |  | 2Rx, 4Rx |
| 9.1.57 | FD-FDD RSRP Intra frequency case for BL/CE UE in CEModeB | Rel-13 | C107f | UE supporting E-UTRA FD-FDD and (UE Category M1 or UE Category M2) and CE Mode B and Feature Group Indicator 16 |  |  |  |
| 9.1.58 | HD-FDD RSRP Intra frequency case for BL/CE UE in CEModeB | Rel-13 | C107e | UE supporting E-UTRA HD-FDD and (UE Category M1 or UE Category M2) and CE Mode B and Feature Group Indicator 16 |  |  |  |
| 9.1.59 | TDD RSRP Intra frequency case for BL/CE UE in CEModeB | Rel-13 | C93d | UE supporting E-UTRA TDD and (UE Category M1 or UE Category M2) and CE Mode B and Feature Group Indicator 16 |  |  |  |
| 9.1.60 | FS3 absolute and relative CSI-RSRP accuracies for E-UTRAN Carrier Aggregation in CSI-RS based discovery signal with FDD PCell | Rel-13 | C150 | UE supporting E-UTRA FDD and Downlink LAA with FDD as Pcell and CSI-RS based discovery signals and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.61 | FS3 absolute and relative CSI-RSRP accuracies for E-UTRAN Carrier Aggregation in CSI-RS based discovery signal with TDD PCell | Rel-13 | C151 | UE supporting E-UTRA TDD and Downlink LAA and CSI-RS based discovery signals and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.1.68 | 3 DL RSRP for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-12 | C229 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 3DL CA. Note: the UE shall execute only either 9.1.68 or the corresponding test from 9.1.37, 9.1.38, 9.1.39\_1 and 9.1.40\_1. |  |  |  |
| 9.1.69 | 4 DL RSRP for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-12 | C191b | UE supporting E-UTRA FDD or E-UTRA TDD and 4DL CA. | Note: the UE shall execute only either 9.1.69 or the corresponding test from 9.1.44, 9.1.45, 9.1.46 and 9.1.47. |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C191f | UE supporting E-UTRA FDD, E-UTRA TDD and 4DL CA |  |  |  | |
| 9.1.70 | 5 DL RSRP for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-11 | C191c | UE supporting E-UTRA FDDor E-UTRA TDD and 5DL CA. | Note: the UE shall execute only either 9.1.70 or the corresponding test from 9.1.48, 9.1.49, 9.1.50 and 9.1.51 |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C191g | UE supporting E-UTRA FDD, E-UTRA TDD and 5DL CA |  |  |  | |
| 9.1.71 | 6 DL RSRP for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-14 | C241 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 6DL CA. |  |  | 2Rx, 4Rx |
| 9.1.72 | 7 DL RSRP for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-14 | C242 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 7DL CA. |  |  | 2Rx, 4Rx |
| 9.2.1.1 | FDD Intra Frequency Absolute RSRQ Accuracy | Rel-8 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.2.1.1\_2 | FDD Intra Frequency Absolute RSRQ Accuracy for UE Category 1bis | Rel-13 | C01k | UE supporting E-UTRA FDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.2.1.1\_3 | FDD Intra Frequency Absolute RSRQ Accuracy for CA Idle Mode Measurements | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.2.2.1 | TDD Intra Frequency Absolute RSRQ Accuracy | Rel-8 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.2.2.1\_2 | TDD Intra Frequency Absolute RSRQ Accuracy for UE Category 1bis | Rel-13 | C02k | UE supporting E-UTRA TDD and UE Category 1bis and Feature Group Indicator 16 |  |  |  |
| 9.2.3.1 | FDD - FDD Inter Frequency Absolute RSRQ Accuracy | Rel-8 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.3.1\_2 | FDD - FDD Inter Frequency Absolute RSRQ Accuracy for UE Category 1bis | Rel-13 | C01l | UE supporting E-UTRA FDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.3.1\_3 | FDD - FDD Inter Frequency Absolute RSRQ Accuracy for CA Idle Mode Measurements for Overlapping Carrier | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.2.3.1\_4 | FDD - FDD Inter Frequency Absolute RSRQ Accuracy for CA Idle Mode Measurements for Non-overlapping Carriers | Rel-15 | C238 | UE supporting E-UTRA FDD and CA Idle mode measurements |  |  |  |
| 9.2.3.2 | FDD - FDD Inter Frequency Relative Accuracy of RSRQ | Rel-8 | C01g | UE supporting E-UTRA FDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.3.2\_2 | FDD - FDD Inter Frequency Relative Accuracy of RSRQ for UE Category 1bis | Rel-13 | C01l | UE supporting E-UTRA FDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.4.1 | TDD - TDD Inter Frequency Absolute RSRQ Accuracy | Rel-8 to Rel-11 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4.1\_1 | TDD - TDD Inter Frequency Absolute RSRQ Accuracy (Rel-12 and forward) | Rel-12 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4.1\_2 | TDD - TDD Inter Frequency Absolute RSRQ Accuracy for UE Category 1bis | Rel-13 | C02l | UE supporting E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.4.2 | TDD -TDD Inter Frequency Relative Accuracy of RSRQ | Rel-8 to Rel-11 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4.2\_1 | TDD -TDD Inter Frequency Relative Accuracy of RSRQ (Rel-12 and forward) | Rel-12 | C02g | UE supporting E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4.2\_2 | TDD -TDD Inter Frequency Relative Accuracy of RSRQ for UE Category 1bis | Rel-13 | C02l | UE supporting E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.4A.1 | FDD - TDD Inter Frequency Absolute RSRQ Accuracy | Rel-9 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4A.1\_2 | FDD - TDD Inter Frequency Absolute RSRQ Accuracy for UE Category 1bis | Rel-13 | C42a | UE supporting E-UTRA FDD and E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.4A.2 | FDD - TDD Inter Frequency Relative Accuracy of RSRQ | Rel-9 | C42 | UE supporting E-UTRA FDD and E-UTRA TDD and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.4A.2\_2 | FDD - TDD Inter Frequency Relative Accuracy of RSRQ for UE Category 1bis | Rel-13 | C42a | UE supporting E-UTRA FDD and E-UTRA TDD and UE category 1bis and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.5.1 | FDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.1 or TC 9.2.11.1 or TC 9.2.21.1 or TC 9.2.23.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.5.2 | FDD Relative RSRQ Accuracy E-UTRA for Carrier Aggregation | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.2 or TC 9.2.11.2 or TC 9.2.21.2 or TC 9.2.23.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.6.1 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.1 or TC 9.2.12.1 or TC 9.2.22.1 or TC 9.2.24.1 or TC 9.2.27.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.6.2 | TDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.2 or TC 9.2.12.2 or TC 9.2.22.2 or TC 9.2.24.2 or TC 9.2.27.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.7.1 | FDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.2.8.1 | TDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.2.9.1 | FDD Absolute RSRQ under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C45 | UE supporting E-UTRA FDD and Feature Group Indicator 115 |  |  |  |
| 9.2.10.1 | TDD Absolute RSRQ under Time Domain Measurement Resource Restriction with MBSFN ABS (eICIC) | Rel-10 | C46 | UE supporting E-UTRA TDD and Feature Group Indicator 115 |  |  |  |
| 9.2.11.1 | FDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.1 or TC 9.2.11.1 or TC 9.2.21.1 or TC 9.2.23.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.11.2 | FDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.2 or TC 9.2.11.2 or TC 9.2.21.2 or TC 9.2.23.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.12.1 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.1 or TC 9.2.12.1 or TC 9.2.22.1 or TC 9.2.24.1 or TC 9.2.27.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.12.2 | TDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.2 or TC 9.2.12.2 or TC 9.2.22.2 or TC 9.2.24.2 or TC 9.2.27.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.15.1 | FDD RSRQ Accuracy under Time Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 | C59 | UE supporting E-UTRA FDD and CRS interference handling and Feature Group Indicator 115 |  |  |  |
| 9.2.16.1 | TDD RSRQ Accuracy under Time Domain Measurement Resource Restriction with CRS Assistance Information and Non-MBSFN ABS (feICIC) | Rel-11 | C60 | UE supporting E-UTRA TDD and CRS interference handling and ss-CCH interference handling and Feature Group Indicator 115 |  |  |  |
| 9.2.17.1 | FDD Intra Frequency Absolute RSRQ Accuracy for 5MHz Bandwidth | Rel-8 | C50 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicator 16 |  |  |  |
| 9.2.18.1 | FDD - FDD Inter Frequency Absolute RSRQ Accuracy for 5MHz Bandwidth | Rel-8 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.18.2 | FDD - FDD Inter Frequency Relative Accuracy of RSRQ for 5MHz Bandwidth | Rel-8 | C51 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and Feature Group Indicators 16 and 25 |  |  |  |
| 9.2.19.1 | FDD-FDD Inter Frequency absolute WB-RSRQ | Rel-11 | C01h | UE supporting E-UTRA FDD and WB-RSRQ measurement and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.20.1 | TDD-TDD Inter Frequency absolute WB-RSRQ | Rel-11 | C02h | UE supporting E-UTRA TDD and WB-RSRQ measurement and Feature Group Indicators 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.21.1 | FDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 10MHz+5MHz | Rel-11 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.1 or TC 9.2.11.1 or TC 9.2.21.1 or TC 9.2.23.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.21.2 | FDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 10MHz+5MHz | Rel-11 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.2 or TC 9.2.11.2 or TC 9.2.21.2 or TC 9.2.23.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.22.1 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 10MHz+5MHz | Rel-11 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.1 or TC 9.2.12.1 or TC 9.2.22.1 or TC 9.2.24.1 or TC 9.2.27.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.22.2 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 10MHz+5MHz | Rel-11 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.2 or TC 9.2.12.2 or TC 9.2.22.2 or TC 9.2.24.2 or TC 9.2.27.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.23.1 | FDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 5MHz+5MHz | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.1 or TC 9.2.11.1 or TC 9.2.21.1 or TC 9.2.23.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.23.2 | FDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 5MHz+5MHz | Rel-10 | C18 | UE supporting E-UTRA FDD and CA | Either TC 9.2.5.2 or TC 9.2.11.2 or TC 9.2.21.2 or TC 9.2.23.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.24.1 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 5MHz+5MHz | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.1 or TC 9.2.12.1 or TC 9.2.22.1 or TC 9.2.24.1 or TC 9.2.27.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.24.2 | TDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 5MHz+5MHz | Rel-10 | C19 | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.2 or TC 9.2.12.2 or TC 9.2.22.2 or TC 9.2.24.2 or TC 9.2.27.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.25.1 | Absolute RSRQ Accuracy for E-UTRAN TDD-FDD Carrier Aggregation with PCell in FDD | Rel-12 | C67 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell |  |  | 2Rx, 4Rx |
| 9.2.25.2 | Relative RSRQ Accuracy for E-UTRAN TDD-FDD Carrier Aggregation with PCell in FDD | Rel-12 | C67 | UE supporting E-UTRA FDD and TDD and 2DL CA with FDD as PCell |  |  | 2Rx, 4Rx |
| 9.2.26.1 | Absolute RSRQ Accuracy for E-UTRAN TDD-FDD Carrier Aggregation with PCell in TDD | Rel-12 | C142 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell |  |  | 2Rx, 4Rx |
| 9.2.26.2 | Relative RSRQ Accuracy for E-UTRAN TDD-FDD Carrier Aggregation with PCell in TDD | Rel-12 | C142 | UE supporting E-UTRA FDD and TDD and 2DL CA with TDD as PCell |  |  | 2Rx, 4Rx |
| 9.2.27.1 | TDD Absolute RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz+10MHz | Rel-10 | C19b | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.1 or TC 9.2.12.1 or TC 9.2.22.1 or TC 9.2.24.1 or TC 9.2.27.1 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.27.2 | TDD Relative RSRQ Accuracy for E-UTRA Carrier Aggregation for 20MHz+10MHz | Rel-10 | C19b | UE supporting E-UTRA TDD and CA | Either TC 9.2.6.2 or TC 9.2.12.2 or TC 9.2.22.2 or TC 9.2.24.2 or TC 9.2.27.2 shall be executed. (Note 1) |  | 2Rx, 4Rx |
| 9.2.28 | FDD intra-frequency absolute RSRQ accuracy with CRS based discovery signal | Rel-12 | C101 | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.2.29 | TDD intra-frequency absolute RSRQ accuracy with CRS based discovery signal | Rel-12 | C102 | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.2.30 | FDD-FDD inter-frequency absolute and relative RSRQ accuracies with CRS based discovery signal | Rel-12 | C103 | UE supporting E-UTRA FDD and CRS based discovery signals measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.31 | TDD-TDD inter-frequency absolute and relative RSRQ accuracies with CRS based discovery signal | Rel-12 | C104 | UE supporting E-UTRA TDD and CRS based discovery signals measurement and Feature Group Indicator 16 and 25 |  |  | 2Rx, 4Rx |
| 9.2.32 | FDD absolute and relative RSRQ accuracy for E-UTRAN Carrier Aggregation in CRS based discovery signal | Rel-12 | C128 | UE supporting E-UTRA FDD and CA and CRS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.2.33 | TDD absolute and relative RSRQ accuracy for E-UTRAN Carrier Aggregation in CRS based discovery signal | Rel-12 | C129 | UE supporting E-UTRA TDD and CA and CRS based discovery signal measurement |  |  | 2Rx, 4Rx |
| 9.2.42.1 | FD-FDD Intra Frequency Absolute RSRQ Accuracy for UE category 0 | Rel-12 | C88 | UE supporting E-UTRA FD-FDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.2.43.1 | HD-FDD Intra Frequency Absolute RSRQ Accuracy for UE category 0 | Rel-12 | C89 | UE supporting E-UTRA HD-FDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.2.44.1 | TDD Intra Frequency Absolute RSRQ Accuracy for UE category 0 | Rel-12 | C90 | UE supporting E-UTRA TDD (UE Category 0) and Feature Group Indicator 16 |  |  |  |
| 9.2.51 | FS3 Intra frequency absolute and relative RSRQ accuracies with FDD PCell | Rel-13 | C149 | UE supporting E-UTRA FDD and Downlink LAA with FDD as Pcell |  |  | 2Rx, 4Rx |
| 9.2.52 | FS3 Intra frequency absolute and relative RSRQ accuracies with TDD PCell | Rel-13 | C152 | UE supporting E-UTRA TDD and Downlink LAA with TDD as PCell |  |  | 2Rx, 4Rx |
| 9.2.55 | 3 DL RSRQ for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-12 | C229 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 3DL CA. Note: the UE shall execute only either 9.2.55 or the corresponding test from 9.2.38, 9.2.39, 9.2.40 or 9.2.41 |  |  | 2Rx, 4Rx |
| 9.2.56 | 4 DL RSRQ for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-11 | C191b | UE supporting E-UTRA FDD or E-UTRA TDD and 4DL CA. | Note: the UE shall execute only either 9.2.56 or the corresponding test from 9.2.45, 9.2.46 |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C191f | UE supporting E-UTRA FDD, E-UTRA TDD and 4DL CA |  |  |  | |
| 9.2.57 | 5 DL RSRQ for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-11 | C191c | UE supporting E-UTRA FDD and/or E-UTRA TDD and 5DL CA. | Note: the UE shall execute only either 9.2.57 or the corresponding test from 9.2.47, 9.2.48 |  | 2Rx, 4Rx | |
|  |  | Rel-12 | C191g | UE supporting E-UTRA FDD, E-UTRA TDD and 5DL CA |  |  |  | |
| 9.2.58 | 6 DL RSRQ for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-14 | C241 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 6DL CA. |  |  | 2Rx, 4Rx |
| 9.2.59 | 7 DL RSRQ for E-UTRAN in Carrier Aggregation with generic duplex modes | Rel-14 | C242 | UE supporting E-UTRA FDD and/or E-UTRA TDD and 7DL CA. |  |  | 2Rx, 4Rx |
| 9.3.1 | E-UTRAN FDD - UTRA FDD CPICH RSCP absolute accuracy | Rel-9 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 9.3.2 | E-UTRAN TDD - UTRA FDD CPICH RSCP absolute accuracy | Rel-9 | C07 | UE supporting E-UTRA TDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 9.3.3 | E-UTRAN FDD - UTRA FDD CPICH RSCP absolute accuracy for 5MHz bandwidth | Rel-9 | C52 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_Nand UTRA FDD |  |  |  |
| 9.4.1 | E-UTRAN FDD - UTRA FDD CPICH Ec/No absolute accuracy | Rel-9 | C04 | UE supporting E-UTRA FDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 9.4.2 | E-UTRAN TDD - UTRA FDD CPICH Ec/No absolute accuracy | Rel-9 | C07 | UE supporting E-UTRA TDD and UTRA FDD |  |  | 2Rx, 4Rx |
| 9.4.3 | E-UTRAN FDD - UTRA FDD CPICH Ec/No absolute accuracy for 5MHz bandwidth | Rel-9 | C52 | UE supporting E-UTRA FDD and E-UTRA bands within band group FDD\_N and UTRA FDD |  |  |  |
| 9.5.1 | E-UTRAN FDD - UTRA TDD PCCPCH RSCP absolute accuracy | Rel-9 | C65 | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 39 |  |  | 2Rx, 4Rx |
|  |  | Rel-9 | C105 | UE supporting E-UTRA FDD and UTRA TDD and Feature Group Indicators 22 and not supporting UTRA FDD |  |  | 2Rx, 4Rx |
| 9.5.2 | E-UTRAN TDD - UTRA TDD PCCPCH RSCP absolute accuracy | Rel-9 | C66 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 39 |  |  | 2Rx, 4Rx |
|  |  | Rel-9 | C106 | UE supporting E-UTRA TDD and UTRA TDD and Feature Group Indicators 22 and not supporting UTRA FDD |  |  | 2Rx, 4Rx |
| 9.6.1 | GSM RSSI accuracy for E-UTRAN FDD | Rel-9 | C08g | UE supporting E-UTRA FDD and GSM and Feature Group Indicator 16 and 23 |  |  | 2Rx, 4Rx |
| 9.6.2 | GSM RSSI accuracy for E-UTRAN TDD | Rel-9 | C09h | UE supporting E-UTRA TDD and GSM and Feature Group Indicator 16 and 23 |  |  | 2Rx, 4Rx |
| 9.9.1.1 | FDD Intra Frequency Serving Cell Absolute RSRP Accuracy | Rel-10 and Rel-11 only | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.9.1.1\_1 | FDD Intra Frequency Serving Cell Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.9.1.2 | FDD Intra Frequency Serving Cell Absolute RSRQ Accuracy | Rel-10 | C01f | UE supporting E-UTRA FDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.9.2.1 | TDD Intra Frequency Serving Cell Absolute RSRP Accuracy | Rel-10 and Rel-11 only | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.9.2.1\_1 | TDD Intra Frequency Serving Cell Absolute RSRP Accuracy (Rel-12 and forward) | Rel-12 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.9.2.2 | TDD Intra Frequency Serving Cell Absolute RSRQ Accuracy | Rel-10 | C02f | UE supporting E-UTRA TDD and Feature Group Indicator 16 |  |  | 2Rx, 4Rx |
| 9.11.1 | FS3 average RSSI accuracy case (PCell using FDD) | Rel-13 | C157 | UE supporting E-UTRA FDD and Downlink LAA with FDD as Pcell and RSSI measurement |  |  | 2Rx, 4Rx |
| 9.11.2 | FS3 average RSSI accuracy case (PCell using TDD) | Rel-13 | C158 | UE supporting E-UTRA TDD and Downlink LAA with TDD as Pcell and RSSI measurement |  |  | 2Rx, 4Rx |
| 9.12.1 | FS3 channel occupancy test (PCell using FDD) | Rel-13 | C157 | UE supporting E-UTRA FDD and Downlink LAA with FDD as Pcell and channel occupancy measurement |  |  | 2Rx, 4Rx |
| 9.12.2 | FS3 channel occupancy test (PCell using TDD) | Rel-13 | C158 | UE supporting E-UTRA TDD and Downlink LAA with TDD as Pcell and channel occupancy measurement |  |  | 2Rx, 4Rx |
| **V2V Communications** | | | | | | | |
| 11.1 | V2V UE Transmission Timing Accuracy Test | Rel-14 | C203 | UE supporting V2X Sidelink communication |  |  |  |
| 11.2 | Interruptions due to V2V sidelink communication | Rel-14 | C204 | UE supporting E-UTRA and V2X Sidelink communication |  |  |  |
| **V2X Communications** | | | | | | | |
| 12.1.1 | V2X UE Transmission Timing Accuracy Test for eNB as Timing Reference | Rel-14 | C204 | UE supporting E-UTRA and V2X Sidelink communication |  |  |  |
| 12.1.2 | V2X UE Transmission Timing Accuracy Test for SyncRef UE as Timing Reference | Rel-14 | C216 | UE supporting V2X Sidelink communication and SLSS transmission and reception |  |  |  |
| 12.2.1 | Initiation/Cease of SLSS Transmission with V2X Sidelink Communication for eNB as Timing Reference | Rel-14 | C216 | UE supporting V2X Sidelink communication and SLSS transmission and reception |  |  |  |
| 12.2.2 | Initiation/Cease of SLSS Transmission with V2X Sidelink Communication for SyncRef UE as Timing Reference | Rel-14 | C216 | UE supporting V2X Sidelink communication and SLSS transmission and reception |  |  |  |
| 12.3.1 | V2X Synchronization Reference Selection/Reselection Tests for GNSS configured as the highest priority | Rel-14 | C216 | UE supporting V2X Sidelink communication and SLSS transmission and reception |  |  |  |
| 12.3.2 | V2X Synchronization Reference Selection/Reselection Tests for eNB configured as the highest priority | Rel-14 | C216 | UE supporting V2X Sidelink communication and SLSS transmission and reception |  |  |  |
| 12.4 | Congestion Control Measurement Test for V2X UE | Rel-14 | C217 | UE supporting V2X Sidelink communication and congestion control |  |  |  |
| 12.5 | Interruptions due to V2X Sidelink Communication | Rel-14 | C204 | UE supporting E-UTRA and V2X Sidelink communication |  |  |  |
| 12.6.1 | V2X UE Autonomous Resource Selection/Reselection Tests for PSSCH-RSRP measurements | Rel-14 | C228 | UE supporting V2X Sidelink communication and autonomous resource selection |  |  |  |
| 12.6.2 | V2X UE Autonomous Resource Selection/Reselection Tests for S-RSSI measurements | Rel-14 | C228 | UE supporting V2X Sidelink communication and autonomous resource selection |  |  |  |

Table 4.2-1a: Applicability of RRM conformance test cases Conditions

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| C01 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 THEN R ELSE N/A |
| C01a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/13 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01ah IF A.4.1-1/1 AND A.4.4-1a/13 AND A.4.4-1a/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C01b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01c IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.4-1a/5) THEN R ELSE N/A |
| C01ch IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.4-1a/5) THEN R ELSE N/A |
| C01d IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/13 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01dh IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/13 AND A.4.4-1a/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C01dc IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/13 AND A.4.4-1a/25 AND A.4.5-1/92) THEN R ELSE N/A |
| C01e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01eh IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01f IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/16) THEN R ELSE N/A |
| C01g IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/16 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01h IF (A.4.1-1/1 AND A.4.4-1a/16 AND A.4.4-1a/25 AND A.4.5-1/7) THEN R ELSE N/A |
| C01i IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND NOT(A.4.5-1/40)) THEN R ELSE N/A |
| C01j IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1 OR A.4.3-4aa/1 OR A.4.3-4aa/1 OR A.4.3-4aa/1 OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/5 AND NOT( A.4.5-1/40)) THEN R ELSE N/A |
| C01k IF (A.4.1-1/1 AND A.4.4-1a/16 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C01m IF A.4.3-4a/1a AND A.4.1-1/1 THEN R ELSE N/A |
| C01n IF A.4.3-4a/1a AND (A.4.1-1/1 AND A.4.4-1a/25) THEN R ELSE N/A |
| C01l IF (A.4.1-1/1 AND A.4.4-1a/16 AND A.4.4-1a/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C01o IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a)) AND (A.4.5-1/71 AND A.4.1-1/2 AND A.4.4-1b/25 AND A.4.5-2aa/1) THEN R ELSE N/A |
| C01p IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a)) AND (A.4.5-1/71 AND A.4.1-1/1 AND A.4.4-1a/25 AND A.4.5-2aa/1) THEN R ELSE N/A |
| C01q IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a)) AND (A.4.5-1/71 AND A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/25 AND A.4.5-2aa/1) THEN R ELSE N/A |
| C01r IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a)) AND (A.4.5-1/71 AND A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1a/25 AND A.4.5-2aa/1) THEN R ELSE N/A |
| C01s IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.5-1/71 THEN R ELSE N/A |
| C01t IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/71 THEN R ELSE N/A |
| C01u IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.5-1/92 THEN R ELSE N/A |
| C02 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 THEN R ELSE N/A |
| C02a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/13 AND A.4.4-1b/25 AND NOT(A.4.5-1/41)) THEN R ELSE N/A |
| C02ah IF (A.4.1-1/2 AND A.4.4-1b/13 AND A.4.4-1b/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C02b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02c IF (A.4.1-1/2 AND A.4.4-1b/5) THEN R ELSE N/A |
| C02ch IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.4-1b/5) THEN R ELSE N/A |
| C02d IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/13 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02dh IF (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/13 AND A.4.4-1b/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C02dc IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/13 AND A.4.4-1b/25) AND A.4.5-1/92 THEN R ELSE N/A |
| C02e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02eh IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02f IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/16) THEN R ELSE N/A |
| C02g IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/16 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02h IF (A.4.1-1/2 AND A.4.4-1b/16 AND A.4.4-1b/25 AND A.4.5-1/7) THEN R ELSE N/A |
| C02i IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (NOT(A.4.1-1/2 AND A.4.5-1/41)) THEN R ELSE N/A |
| C02j IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1b/5 AND NOT(A.4.5-1/41)) THEN R ELSE N/A |
| C02k IF (A.4.1-1/2 AND A.4.4-1b/16 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C02l IF (A.4.1-1/2 AND A.4.4-1b/16 AND A.4.4-1b/25 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C02m IF A.4.3-4a/1a AND A.4.1-1/2 THEN R ELSE N/A |
| C02n IF A.4.3-4a/1a AND (A.4.1-1/2 AND A.4.4-1b/25) THEN R ELSE N/A |
| C02o IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/92 THEN R ELSE N/A |
| C03 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2) THEN R ELSE N/A |
| C03a IF (A.4.1-1/1 AND A.4.1-1/2 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C04 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3) THEN R ELSE N/A |
| C04a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/8 AND A.4.4-1a/22) THEN R ELSE N/A |
| C04b Void |
| C04c Void |
| C04d IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/5 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C04e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/22 AND A.4.4-1a/25) THEN R ELSE N/A |
| C04f IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/5 AND A.4.4-1a/19 AND A.4.4-1a/22) THEN R ELSE N/A |
| C04g IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C04h IF (A.4.3-4a/1a AND A.4.1-1/1 AND A.4.1-1/3) THEN R ELSE N/A |
| C04i IF A.4.5-1/76 AND A.4.1-1/1 AND A.4.1-1/4 THEN R ELSE N/A |
| C04j IF A.4.5-1/76 AND A.4.1-1/2 AND A.4.1-1/3 THEN R ELSE N/A |
| C04k IF A.4.5-1/76 AND A.4.1-1/2 AND A.4.1-1/4 THEN R ELSE N/A |
| C04l IF A.4.5-1/76 AND A.4.1-1/1 AND A.4.1-1/3 THEN R ELSE N/A |
| C05 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4) THEN R ELSE N/A |
| C05a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/8 AND A.4.4-1b/22) THEN R ELSE N/A |
| C05b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/15 AND A.4.4-1b/25) THEN R ELSE N/A |
| C05c Void |
| C05d IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/5 AND A.4.4-1b/15 AND A.4.4-1b/25) THEN R ELSE N/A |
| C05e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/22 AND A.4.4-1b/25) THEN R ELSE N/A |
| C06 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4) THEN R ELSE N/A |
| C06a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-1a/8 AND A.4.4-1a/22) THEN R ELSE N/A |
| C06b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C07 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/3) THEN R ELSE N/A |
| C07a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/3 AND A.4.4-1b/8 AND A.4.4-1b/22) THEN R ELSE N/A |
| C07b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/3 AND A.4.4-1b/15 AND A.4.4-1b/22) THEN R ELSE N/A |
| C07c Void |
| C07d IF (A.4.3-4a/1a AND A.4.1-1/2 AND A.4.1-1/3) THEN R ELSE N/A |
| C07e IF (A.4.5-1/76 AND A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/15 AND A.4.4-1b/22) THEN R ELSE N/A |
| C07f IF (A.4.5-1/76 AND A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-1b/15 AND A.4.4-1b/22) THEN R ELSE N/A |
| C07h IF (A.4.5-1/76 AND A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C07i IF (A.4.5-1/76 AND A.4.1-1/2 AND A.4.1-1/3 AND A.4.4-1b/15 AND A.4.4-1b/22) THEN R ELSE N/A |
| C08 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5) THEN R ELSE N/A |
| C08a IF (A.4.1-1/1 AND A.4.1-1/5 AND A.4.5-1/16 AND A.4.4-1a/9 AND A.4.4-1a/23) THEN R ELSE N/A |
| C08b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5 AND A.4.4-1a/23 AND A.4.4-1a/25) THEN R ELSE N/A |
| C08c Void |
| C08d IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5 AND A.4.4-1a/5 AND A.4.4-1a/15 AND A.4.4-1a/23) THEN R ELSE N/A |
| C08e IF (A.4.1-1/1 AND A.4.1-1/5 AND A.4.5-1/16 AND A.4.4-1a/9 AND A.4.4-1a/15 AND A.4.4-1a/23) THEN R ELSE N/A |
| C08f IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5 AND A.4.4-1a/15 AND A.4.4-1a/23) THEN R ELSE N/A |
| C08g IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5 AND A.4.4-1a/16 AND A.4.4-1a/23) THEN R ELSE N/A |
| C09 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5) THEN R ELSE N/A |
| C09a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5 AND A.4.4-1b/23 AND A.4.4-1b/25) THEN R ELSE N/A |
| C09b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5 AND A.4.5-1/16 AND A.4.4-1b/9 AND A.4.4-1b/23) THEN R ELSE N/A |
| C09c Void |
| C09d Void |
| C09e IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5 AND A.4.4-1b/5 AND A.4.4-1b/15 AND A.4.4-1b/23) THEN R ELSE N/A |
| C09f IF (A.4.1-1/2 AND A.4.1-1/5 AND A.4.5-1/16 AND A.4.4-1b/9 AND A.4.4-1b/15 AND A.4.4-1b/23) THEN R ELSE N/A |
| C09g IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5 AND A.4.4-1b/15 AND A.4.4-1b/23) THEN R ELSE N/A |
| C09h IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5 AND A.4.4-1b/16 AND A.4.4-1b/23) THEN R ELSE N/A |
| C10 IF (A.4.1-1/1 AND A.4.1-1/6) THEN R ELSE N/A |
| C10a IF (A.4.1-1/1 AND A.4.1-1/6 AND A.4.4-1a/12 AND A.4.4-1a/26) THEN R ELSE N/A |
| C11 IF (A.4.1-1/1 AND A.4.1-1/7) THEN R ELSE N/A |
| C11a IF (A.4.1-1/1 AND A.4.1-1/7 AND A.4.4-1a/11 AND A.4.4-1a/24) THEN R ELSE N/A |
| C12 Void |
| C13 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.5-1/2) THEN R ELSE N/A |
| C13a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.5-1/2) AND A.4.4-1a/5 THEN R ELSE N/A |
| C14 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.5-1/3) THEN R ELSE N/A |
| C14a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.5-1/3) AND A.4.4-1a/5 THEN R ELSE N/A |
| C15 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.5-1/44) THEN R ELSE N/A |
| C15a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.5-1/44) AND A.4.4-1b/5 THEN R ELSE N/A |
| C16 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.5-1/45) THEN R ELSE N/A |
| C16a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.5-1/45) A.4.4-1b/5 THEN R ELSE N/A |
| C17 Void |
| C18 IF (A.4.1-1/1 AND A.4.2-1/2) THEN R ELSE N/A |
| C18a IF (A.4.1-1/1 AND A.4.2-1/2) AND A.4.3-3a/7 THEN R ELSE N/A |
| C18b Void |
| C19 IF (A.4.1-1/2 AND A.4.2-1/2) THEN R ELSE N/A |
| C19a IF (A.4.1-1/2 AND A.4.2-1/2) AND A.4.3-3a/7 THEN R ELSE N/A |
| C19b IF (A.4.1-1/2 AND A.4.2-1/2) AND A.4.3-3a/8 THEN R ELSE N/A |
| C20 Void |
| C21 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/5 AND A.4.4-1b/5) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND (A.4.4-1a/30 AND A.4.4-1b/30) THEN R ELSE N/A |
| C21a IF (A.4.1-1/1 AND A.4.1-1/2) AND (A.4.4-1a/5 AND A.4.4-1b/5) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND (A.4.4-1a/30 AND A.4.4-1b/30) AND A.4.3-4a/1a THEN R ELSE N/A |
| C21b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/5 AND A.4.4-1b/5) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND (A.4.4-1a/30 AND A.4.4-1b/30) AND A.4.5-1/93 THEN R ELSE N/A |
| C22 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C23 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND NOT A.4.4-1a/5) THEN R ELSE N/A |
| C24 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND NOT A.4.4-1b/5) THEN R ELSE N/A |
| C25 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4) THEN R ELSE N/A |
| C25a IF (A.4.3-4a/1a AND A.4.1-1/1 AND A.4.1-1/4) THEN R ELSE N/A |
| C26 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4) THEN R ELSE N/A |
| C26a IF (A.4.3-4a/1a AND A.4.1-1/2 AND A.4.1-1/4) THEN R ELSE N/A |
| C27 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/5) THEN R ELSE N/A |
| C27a IF (A.4.3-4a/1a AND A.4.1-1/1 AND A.4.1-1/5) THEN R ELSE N/A |
| C28 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/5) THEN R ELSE N/A |
| C28a IF (A.4.3-4a/1a AND A.4.1-1/2 AND A.4.1-1/5) THEN R ELSE N/A |
| C29 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/15) THEN R ELSE N/A |
| C30 Void |
| C31 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1b/15 AND A.4.4-1b/22) THEN R ELSE N/A |
| C32 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.4-3a/111) THEN R ELSE N/A |
| C32a IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.4-1a/25) AND A.4.3-3a/7 THEN R ELSE N/A |
| C32b IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.4-1a/25) THEN R ELSE N/A |
| C32c IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.4-3a/111) AND A.4.3-3a/7 THEN R ELSE N/A |
| C33 IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-3b/111) THEN R ELSE N/A |
| C33a IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-1b/25) AND A.4.3-3a/7 THEN R ELSE N/A |
| C33b IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-1b/25) THEN R ELSE N/A |
| C33c IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-3b/111 ) AND A.4.3-3a/7 THEN R ELSE N/A |
| C33d IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-3b/111) AND A.4.3-3a/8 THEN R ELSE N/A |
| C34 IF (A.4.1-1/2 AND A.4.1-1/6) THEN R ELSE N/A |
| C35 IF (A.4.1-1/2 AND A.4.1-1/7) THEN R ELSE N/A |
| C36 IF (A.4.1-1/2 AND A.4.1-1/6 AND A.4.4-1b/12 AND A.4.4-1b/26) THEN R ELSE N/A |
| C37 IF (A.4.1-1/2 AND A.4.1-1/7 AND A.4.4-1b/11 AND A.4.4-1b/24) THEN R ELSE N/A |
| C38 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/4 AND A.4.4-1b/4) AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C39 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2 AND A.4.5-1/ 3 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C39a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2 AND A.4.5-1/45 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C40 IF (A.4.1-1/2 AND A.4.1-1/6 AND A.4.4-1b/15) THEN R ELSE N/A |
| C41 IF (A.4.1-1/2 AND A.4.1-1/7 AND A.4.4-1b/15) THEN R ELSE N/A |
| C42 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/16 AND A.4.4-1b/16) AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C42a IF (A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/16 AND A.4.4-1b/16) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND A.4.3-4a/1a) THEN R ELSE N/A |
| C43 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.2-1/2 AND A.4.4-1a/15) THEN R ELSE N/A |
| C44 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.2-1/2 AND A.4.4-1b/15) THEN R ELSE N/A |
| C44a IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.2-1/2 AND A.4.4-1b/15) AND A.4.3-3a/7 THEN R ELSE N/A |
| C44b IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.2-1/2 AND A.4.4-1b/15) AND A.4.3-3a/8 THEN R ELSE N/A |
| C45 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-3a/115) THEN R ELSE N/A |
| C46 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-3b/115) THEN R ELSE N/A |
| C47 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.4-1a/25 AND NOT A.4.5-1/4) THEN R ELSE N/A |
| C48 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/3 AND A.4.4-1a/15 AND A.4.4-1a/22 AND NOT A.4.5-1/5) THEN R ELSE N/A |
| C49 IF (A.4.1-1/1 AND A.4.5-1/6) THEN R ELSE N/A |
| C50 IF (A.4.1-1/1 AND A.4.3-3/31 AND A.4.4-1a/16) THEN R ELSE N/A |
| C51 IF (A.4.1-1/1 AND A.4.3-3/31 AND A.4.4-1a/16 AND A.4.4-1a/25) THEN R ELSE N/A |
| C52 IF (A.4.1-1/1 AND A.4.3-3/31 AND A.4.1-1/3) THEN R ELSE N/A |
| C53 IF (A.4.1-1/1 AND A.4.5-1/6 AND A.4.1-1/3) THEN R ELSE N/A |
| C54 IF (A.4.1-1/1 AND A.4.5-1/6 AND A.4.1-1/3 AND A.4.4-1a/8 AND A.4.4-1a/22) THEN R ELSE N/A |
| C55 IF (A.4.1-1/1 AND A.4.5-1/6 AND A.4.1-1/3 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C56 IF (A.4.1-1/1 AND A.4.5-1/6 AND A.4.4-1a/5) THEN R ELSE N/A |
| C57 IF (A.4.1-1/1 AND ((A.4.6.1-1/1 OR A.4.6.1-1/2) AND (A.4.6.1-2/1 OR A.4.6.1-2/2)) AND A.4.4-1a/5) THEN R ELSE N/A |
| C58 IF (A.4.1-1/2 AND ((A.4.6.1-1/1 OR A.4.6.1-1/2) AND (A.4.6.1-2/1 OR A.4.6.1-2/2)) AND A.4.4-1b/5) THEN R ELSE N/A |
| C58a IF (A.4.1-1/2 AND ((A.4.6.1-1/1 OR A.4.6.1-1/2) AND (A.4.6.1-2/1 OR A.4.6.1-2/2)) AND A.4.4-1b/5) AND A.4.3-3a/8 THEN R ELSE N/A |
| C59 IF (A.4.1-1/1 AND A.4.5-2/1 AND A.4.4-3a/115) THEN R ELSE N/A |
| C60 IF (A.4.1-1/2 AND A.4.5-2/1 AND A.4.5-2/2 AND A.4.4-3b/115) THEN R ELSE N/A |
| C61 IF (A.4.1-1/1 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3) THEN R ELSE N/A |
| C62 IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3) THEN R ELSE N/A |
| C62a IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.3-3a/7 ) THEN R ELSE N/A |
| C62b IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.3-3a/8) THEN R ELSE N/A |
| C63 IF (A.4.1-1/1 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.4-1a/5) THEN R ELSE N/A |
| C64 IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.4-1b/5) THEN R ELSE N/A |
| C64a IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.4-1b/5 AND A.4.3-3a/7) THEN R ELSE N/A |
| C64b IF (A.4.1-1/2 AND (((A.4.6.1-1/1 AND A.4.6.1-2/1) OR (A.4.6.1-1/2 AND A.4.6.1-2/2)) OR (A.4.6.2-1/1 AND A.4.6.2-2/1) OR (A.4.6.3-1/1 AND A.4.6.3-2/1)) AND A.4.5-2/3 AND A.4.4-1b/5 AND A.4.3-3a/8) THEN R ELSE N/A |
| C65 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-2a/39) THEN R ELSE N/A |
| C66 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-2b/39) THEN R ELSE N/A |
| C67 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C68 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C69 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15) THEN R ELSE N/A |
| C69a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15) THEN R ELSE N/A |
| C69b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15) THEN R ELSE N/A |
| C70 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14) THEN R ELSE N/A |
| C70a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14) THEN R ELSE N/A |
| C70b IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/14) THEN R ELSE N/A |
| C71 IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4)) THEN R ELSE N/A |
| C72 IF (A.4.1-1/1 AND (A.4.6.3-1/2 OR A.4.6.2-1/2)) THEN R ELSE N/A |
| C73 IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4)) THEN R ELSE N/A |
| C74 IF (A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.2-1/2)) THEN R ELSE N/A |
| C75 IF (A.4.1-1/1 AND A.4.6-1/2) THEN R ELSE N/A |
| C75a IF (A.4.1-1/1 AND A.4.6-1/3) THEN R ELSE N/A |
| C75b IF (A.4.1-1/1 AND A.4.6-1/4) THEN R ELSE N/A |
| C75c IF (A.4.1-1/1 AND A.4.6-1/4 AND A.4.4-1a/25) THEN R ELSE N/A |
| C75d IF (A.4.1-1/1 AND A.4.6-1/4 AND A.4.4-1a/111) THEN R ELSE N/A |
| C76 IF (A.4.1-1/2 AND A.4.6-1/2) THEN R ELSE N/A |
| C76a IF (A.4.1-1/2 AND A.4.6-1/3) THEN R ELSE N/A |
| C76b IF (A.4.1-1/2 AND A.4.6-1/4) THEN R ELSE N/A |
| C76c IF (A.4.1-1/2 AND A.4.6-1/4 AND A.4.4-1b/25) THEN R ELSE N/A |
| C76d IF (A.4.1-1/2 AND A.4.6-1/4 AND A.4.4-1b/111) THEN R ELSE N/A |
| C77 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-1a/15 AND A.4.4-2a/39) THEN R ELSE N/A |
| C78 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C79 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/15 AND A.4.4-2b/39) THEN R ELSE N/A |
| C80 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/5 AND A.4.4-1b/15 AND A.4.4-2b/39) THEN R ELSE N/A |
| C81 Void |
| C82 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/25 AND A.4.4-2b/39) THEN R ELSE N/A |
| C83 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1b/15 AND A.4.4-1b/25) THEN R ELSE N/A |
| C84 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1b/5 AND A.4.4-1b/15 AND A.4.4-1b/25) THEN R ELSE N/A |
| C85 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1a/15 AND A.4.4-1a/22) THEN R ELSE N/A |
| C86 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1b/22 AND A.4.4-1b/25) THEN R ELSE N/A |
| C87 Void |
| C88 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.3-4a/1 AND A.4.4-1a/16) THEN R ELSE N/A |
| C89 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.3-4a/1 AND A.4.3-7/2 AND A.4.4-1a/16) THEN R ELSE N/A |
| C90 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.3-4a/1 AND A.4.4-1b/16) THEN R ELSE N/A |
| C91 IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.4-1a/25) THEN R ELSE N/A |
| C92 IF (A.4.1-1/1 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND A.4.4-1a/25) THEN R ELSE N/A |
| C93 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C93a IF A.4.1-1/2 AND A.4.5-1/25 THEN R ELSE N/A |
| C93b IF A.4.1-1/2 AND (A.4.3-4aa/1 OR A.4.3-4aa2) AND A.4.4-1b/16 THEN R ELSE N/A |
| C93c IF A.4.1-1/2 AND A.4.3-4aa/1 AND A.4.4-1b/5 THEN R ELSE N/A |
| C93d IF A.4.1-1/2 AND (A.4.3-4aa/1 OR A.4.3-4aa/2) AND A.4.5-1/26 AND A.4.4-1b/16 THEN R ELSE N/A |
| C93e IF A.4.1-1/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C93f IF A.4.1-1/2 AND A.4.5-1/26 AND A.4.5-1/2 THEN R ELSE N/A |
| C93h IF A.4.1-1/2 AND A.4.3-4aa/2 AND A.4.4-1b/5 THEN R ELSE N/A |
| C93k IF A.4.1-1/2 AND A.4.3-4aa/1 AND A.4.5-1/26 AND A.4.4-1b/5 THEN R ELSE N/A |
| C94 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C94a IF A.4.1-1/1 AND NOT A.4.3-7/2AND A.4.5-1/25THEN R ELSE N/A |
| C94b IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.3-4aa/1 AND A.4.4-1a/5 THEN R ELSE N/A |
| C94c IF A.4.1-1/1 AND NOT A.4.3-7/2 AND (A.4.3-4aa/1 OR A.4.3-4aa/2) AND A.4.4-1a/16 THEN R ELSE N/A |
| C94d IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/25 AND A.4.4-1a/5 THEN R ELSE N/A |
| C94e IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C94f IF A.4.1-1/1 AND A.4.3-7/2 AND A.4.5-1/26 THEN R ELSE N/A |
| C94g IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/26 AND A.4.5-1/2 THEN R ELSE N/A |
| C94h IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/26 AND A.4.4-1a/5 THEN R ELSE N/A |
| C94i IF A.4.1-1/1 AND A.4.3-7/2 AND (A.4.3-4aa/1 AND A.4.5-1/26) AND A.4.4-1a/5 THEN R ELSE N/A |
| C94k IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/26 AND A.4.4-1a/5 THEN R ELSE N/A |
| C94m IF A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.3-4aa/2 AND A.4.4-1a/5 THEN R ELSE N/A |
| C95 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.4-1a/5 AND A.4.3-4a/1 THEN R ELSE N/A |
| C96 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.4-1b/5 AND A.4.3-4a/1 THEN R ELSE N/A |
| C97 IF (A.4.1-1/1 AND A.4.5-1/20 AND A.4.4-1a/5) THEN R ELSE N/A |
| C98 IF (A.4.1-1/2 AND A.4.5-1/20 AND A.4.4-1b/5) THEN R ELSE N/A |
| C99 IF (A.4.1-1/1 AND A.4.5-1/20 AND A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C100 IF (A.4.1-1/2 AND A.4.5-1/20 AND A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C101 IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.4-1a/16) THEN R ELSE N/A |
| C102 IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.4-1b/16) THEN R ELSE N/A |
| C103 IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.4-1a/16 AND A.4.4-1a/25) THEN R ELSE N/A |
| C104 IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.4-1b/16 AND A.4.4-1b/25) THEN R ELSE N/A |
| C105 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.1-1/4 AND (NOT A.4.1-1/3) AND A.4.4-1a/22) THEN R ELSE N/A |
| C106 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND (NOT A.4.1-1/3) AND A.4.4-1b/22) THEN R ELSE N/A |
| C107 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.3-4a/1 AND A.4.3-7/2 THEN R ELSE N/A |
| C107a IF A.4.1-1/1 AND A.4.3-7/2 AND A.4.5-1/25 THEN R ELSE N/A |
| C107b IF A.4.1-1/1 AND A.4.3-7/2 AND A.4.5-1/25 AND A.4.4-1a/5 THEN R ELSE N/A |
| C107c IF A.4.1-1/1 AND A.4.3-7/2 AND A.4.3-4aa/1 AND A.4.4-1a/5 THEN R ELSE N/A |
| C107d IF A.4.1-1/1 AND A.4.3-7/2 AND (A.4.3-4aa/1 OR A.4.3-4aa/2) AND A.4.4-1a/16 THEN R ELSE N/A |
| C107e IF A.4.1-1/1 AND A.4.3-7/2 AND (A.4.3-4aa/1 OR A.4.3-4aa/2) AND A.4.5-1/26 AND A.4.4-1a/16 THEN R ELSE N/A |
| C107f IF A.4.1-1/1 AND NOT A.4.3-7/2 AND (A.4.3-4aa/1 OR A.4.3-4aa/2) AND A.4.5-1/26 AND A.4.4-1a/16 THEN R ELSE N/A |
| C108 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/1 AND A.4.5-1/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C108a IF (A.4.3-4a/1a AND A.4.1-1/1) AND A.4.5-1/1 AND A.4.5-1/2 AND THEN R ELSE N/A |
| C108b IF (A.4.3-4a/1a AND A.4.1-1/1) AND A.4.5-1/1 AND A.4.5-1/2 AND A.4.4-1a/5 THEN R ELSE N/A |
| C108c IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND NOT A.4.3-7/2 AND A.4.5-1/1 AND A.4.5-1/2 AND A.4.3-4a/1 AND A.4.4-1a/5 THEN R ELSE N/A |
| C109 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/1 AND A.4.5-1/2 AND A.4.3-4a/1 AND A.4.3-7/2 THEN R ELSE N/A |
| C109a IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/1 AND A.4.5-1/2 AND A.4.3-4a/1 AND A.4.3-7/2 AND A.4.4-1a/5 THEN R ELSE N/A |
| C110 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.3-7/2 AND A.4.3-4a/1 THEN R ELSE N/A |
| C111 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.3-7/2 AND A.4.4-1a/5 AND A.4.3-4a/1 THEN R ELSE N/A |
| C112 Void |
| C113 IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/1 AND A.4.5-1/44 AND A.4.4-1b/5 AND A.4.3-4a/1 THEN R ELSE N/A |
| C113a IF (NOT(A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/1 AND A.4.5-1/44 AND A.4.3-4a/1 THEN R ELSE N/A |
| C114 IF (A.4.1-1/1 AND A.4.5-1/20 AND A.4.4-1a/16) THEN R ELSE N/A |
| C115 IF (A.4.1-1/2 AND A.4.5-1/20 AND A.4.4-1b/16) THEN R ELSE N/A |
| C116 IF (A.4.1-1/1 AND A.4.5-1/20 AND A.4.4-1a/16 AND A.4.4-1a/25) THEN R ELSE N/A |
| C117 IF (A.4.1-1/2 AND A.4.5-1/20 AND A.4.4-1b/16 AND A.4.4-1b/25) THEN R ELSE N/A |
| C118 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.5-1/20) THEN R ELSE N/A |
| C119 IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.5-1/20) THEN R ELSE N/A |
| C120 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-1b/19 AND A.4.4-1b/22) THEN R ELSE N/A |
| C121 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND (A.4.1-1/4 AND NOT A.4.1-1/3) AND A.4.4-1b/22 AND A.4.4-2b/37) THEN R ELSE N/A |
| C122 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.1-1/4 AND A.4.4-2b/37 AND A.4.4-2b/39) THEN R ELSE N/A |
| C123 IF A.4.1-1/1 AND A.4.2-1/8 THEN R ELSE N/A |
| C123a IF A.4.1-1/1 AND A.4.1-1/2 AND A.4.2-1/8 THEN R ELSE N/A |
| C123b IF A.4.1-1/1 AND A.4.2-1/8 AND A.4.5-1/40 THEN R ELSE N/A |
| C124 IF A.4.1-1/2 AND A.4.2-1/8 THEN R ELSE N/A |
| C125 IF A.4.1-1/1 AND A.4.5-1/27 THEN R ELSE N/A |
| C125a IF A.4.1-1/1 AND A.4.5-1/27 AND A.4.5-1/40 THEN R ELSE N/A |
| C126 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.5-1/19 AND A.4.4-3b/111) THEN R ELSE N/A |
| C127 Void |
| C128 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.5-1/19) THEN R ELSE N/A |
| C129 IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.5-1/19) THEN R ELSE N/A |
| C130 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND A.4.4-1b/25) THEN R ELSE N/A |
| C131 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND A.4.4-1b/25) THEN R ELSE N/A |
| C132 IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.4-1b/25) THEN R ELSE N/A |
| C133 IF (A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND A.4.4-1a/25) THEN R ELSE N/A |
| C134 IF A.4.1-1/1 AND A.4.2-1/8 AND A.4.4-1a/5 THEN R ELSE N/A |
| C135 IF A.4.1-1/1 AND (A.4.2-1/8 AND A.4.5-1/27) AND A.4.4-1a/5 THEN R ELSE N/A |
| C136 IF A.4.1-1/2 AND A.4.2-1/8 AND A.4.4-1b/5 THEN R ELSE N/A |
| C137 IF A.4.1-1/1 AND A.4.2-1/8 AND (A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C138 IF A.4.1-1/1 AND (A.4.2-1/8 AND A.4.5-1/27) AND (A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C139 IF A.4.1-1/2 AND A.4.2-1/8 AND (A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C140 IF (A.4.1-1/1 AND A.4.5-1/40) THEN R ELSE N/A |
| C141 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/15) THEN R ELSE N/A |
| C142 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/1 AND A.4.5-1/14) THEN R ELSE N/A |
| C143 IF (A.4.1-1/2 AND A.4.5-1/41) THEN R ELSE N/A |
| C144 IF (A.4.1-1/1 AND A.4.5-1/32 AND A.4.4-1a/25) THEN R ELSE N/A |
| C145 IF (A.4.1-1/1 AND A.4.5-1/32 AND A.4.4-3a/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C145a IF (A.4.1-1/1 AND A.4.5-1/15 AND A.4.5-1/32 AND A.4.4-1a/111 AND (NOT A.4.6.1-1/1)) THEN R ELSE N/A |
| C146 IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3b/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C146a IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3b/111 AND (NOT A.4.6-1/1)) THEN R ELSE N/A |
| C147 IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3a/111) THEN R ELSE N/A |
| C148 IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3b/111) THEN R ELSE N/A |
| C149 IF (A.4.1-1/1 AND A.4.5-1/32) THEN R ELSE N/A |
| C150 IF (A.4.1-1/1 AND A.4.5-1/57 AND A.4.5-1/32 AND A.4.5-1/61) THEN R ELSE N/A |
| C151 IF (A.4.1-1/2 AND A.4.5-1/57 AND A.4.5-1/32 AND A.4.5-1/61 AND A.4.4-1b/16) THEN R ELSE N/A |
| C152 IF (A.4.1-1/2 AND A.4.5-1/32) THEN R ELSE N/A |
| C153 IF (A.4.1-1/1 AND A.4.5-1/32 AND A.4.5-1/19 AND A.4.4-3a/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C153a IF (A.4.1-1/1 AND A.4.5-1/32 AND A.4.5-1/19 AND A.4.4-3a/111 AND (NOT A.4.6-1/1)) THEN R ELSE N/A |
| C154 IF (A.4.1-1/8 AND A.4.3-7/2) THEN R ELSE N/A |
| C155 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.4-1a/5 THEN R ELSE N/A |
| C156 IF A.4.1-1/1 AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/12 OR A.4.6.3-1/11 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND A.4.4-3a/111 THEN R ELSE N/A |
| C157 IF (A.4.1-1/1 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.5-1/33) THEN R ELSE N/A |
| C158 IF (A.4.1-1/2 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.5-1/33) THEN R ELSE N/A |
| C159 IF (A.4.1-1/2 AND A.4.5-1/32 AND A.4.4-1b/25) THEN R ELSE N/A |
| C160 IF (A.4.1-1/2 AND A.4.5-1/32 AND A.4.4-3b/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C160a IF (A.4.1-1/2 AND A.4.5-1/32 AND A.4.4-1b/111 AND (NOT A.4.6.1-1/1)) THEN R ELSE N/A |
| C161 IF A.4.1-1/2 AND (A.4.6.1-1/4 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/12 OR A.4.6.3-1/11 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND A.4.4-3b/111 THEN R ELSE N/A |
| C162 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/34 THEN R ELSE N/A |
| C163 IF (A.4.1-1/1 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.4-3a/111) THEN R ELSE N/A |
| C164 IF (A.4.1-1/1 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND A.4.4-3a/111) THEN R ELSE N/A |
| C165 IF (A.4.1-1/2 AND (A.4.6.1-1/3 OR A.4.6.3-1/3 OR A.4.6.3-1/4) AND A.4.4-3b/111) THEN R ELSE N/A |
| C166 IF (A.4.1-1/2 AND (A.4.6.3-1/2 OR A.4.6.2-1/2) AND A.4.4-3b/111) THEN R ELSE N/A |
| C167 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/15 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C168 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND A.4.5-1/14 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C169 IF (A.4.1-1/1 AND A.4.1-1/2) AND (A.4.6.2-1/6 OR A.4.6.3-1/13 OR A.4.6.2-1/8 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17) AND (A.4.4-3a/111 AND A.4.4-3b/111) THEN R ELSE N/A |
| C170 IF (A.4.1-1/1 AND A.4.1-1/2) AND (A.4.6.3-1/14) AND A.4.4-3a/111 THEN R ELSE N/A |
| C171 IF A.4.1-1/1 AND (A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8) AND A.4.4-3b/111 THEN R ELSE N/A |
| C172 IF A.4.1-1/1 AND (A.4.6.3-1/14) AND A.4.4-3a/111 THEN R ELSE N/A |
| C173 IF A.4.1-1/2 AND (A.4.6.3-1/13 OR A.4.6.3-1/15 OR A.4.6.3-1/16 OR A.4.6.3-1/17 OR A.4.6.2-1/6 OR A.4.6.2-1/7 OR A.4.6.2-1/8) AND A.4.4-3a/111 THEN R ELSE N/A |
| C174 IF A.4.1-1/2 AND (A.4.6.3-1/14 OR A.4.6.1-1/5) AND A.4.4-3a/111 THEN R ELSE N/A |
| C175 IF A.4.1-1/1 AND A.4.2-1/8 AND A.4.4-1a/5 THEN R ELSE N/A |
| C176 IF A.4.1-1/1 AND A.4.2-1/8 THEN R ELSE N/A |
| C177 IF A.4.1-1/1 AND (A.4.2-1/8 AND A.4.5-1/27) THEN R ELSE N/A |
| C178 IF A.4.1-1/2 AND A.4.2-1/8 THEN R ELSE N/A |
| C179 IF (A.4.1-1/1 AND A.4.1-1/9) AND (A.4.2-1/9 OR A.4.2-1/10) THEN R ELSE N/A |
| C180 IF (A.4.1-1/2 AND A.4.1-1/9) AND (A.4.2-1/9 OR A.4.2-1/10) THEN R ELSE N/A |
| C181 IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.5-1/40) THEN R ELSE N/A |
| C182 IF (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.5-1/41) THEN R ELSE N/A |
| C183 Void |
| C184 Void |
| C185 IF (A.4.1-1/1 AND A.4.2-1/8 AND A.4.5-1/40) THEN R ELSE N/A |
| C186 IF (A.4.1-1/1 AND A.4.5-1/27 AND A.4.5-1/40) THEN R ELSE N/A |
| C187 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C188 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14 AND (A.4.4-3a/111 AND A.4.4-3b/111)) THEN R ELSE N/A |
| C189 IF (A.4.1-1/2 AND A.4.6-1/3 AND A.4.4-3b/111) THEN R ELSE N/A |
| C190 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/15 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C190a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/15 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C191 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND A.4.5-1/14 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C191a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND A.4.5-1/14 AND (A.4.4-1a/25 AND A.4.4-1b/25)) THEN R ELSE N/A |
| C191b IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/3) THEN R ELSE N/A |
| C191c IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/4) THEN R ELSE N/A |
| C191d IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2) THEN R ELSE N/A |
| C191e IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/2) THEN R ELSE N/A |
| C191f IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3) THEN R ELSE N/A |
| C191g IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4) THEN R ELSE N/A |
| C192 IF (A.4.1-1/2 AND (A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND A.4.4-1b/25) THEN R ELSE N/A |
| C193 IF (A.4.1-1/2 AND (A.4.6.1-1/4 OR A.4.6.3-1/6 OR A.4.6.3-1/7 OR A.4.6.3-1/9 OR A.4.6.3-1/10 OR A.4.6.3-1/11 OR A.4.6.3-1/12 OR A.4.6.2-1/4 OR A.4.6.2-1/5) AND A.4.4-1b/25) THEN R ELSE N/A |
| C194 IF (A.4.1-1/1 AND A.4.3-4a/1a) THEN R ELSE N/A |
| C194a IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/5) THEN R ELSE N/A |
| C194b IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/25) THEN R ELSE N/A |
| C194c IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C195 IF (A.4.1-1/22 AND A.4.3-4a/a) THEN R ELSE N/A |
| C195a IF (A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-1b/5) THEN R ELSE N/A |
| C195b Void |
| C195c IF (A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-1b/5 AND A.4.4-1b/25) THEN R ELSE N/A |
| C196 IF (A.4.1-1/1 AND A.4.3-7/5) THEN R ELSE N/A |
| C197 IF (A.4.1-1/2 AND A.4.3-7/5) THEN R ELSE N/A |
| C198 IF (A.4.1-1/1 AND 4.4-1a/5 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3a/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C199 IF (A.4.1-1/2 AND 4.4-1a/5 AND A.4.5-1/19 AND A.4.5-1/32 AND A.4.4-3b/111 AND A.4.6-1/1) THEN R ELSE N/A |
| C200 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.2-1/8 AND A.4.5-1/59) THEN R ELSE N/A |
| C201 IF (A.4.1-1/2 AND A.4.2-1/8 AND A.4.5-1/59) THEN R ELSE N/A |
| C202 IF (A.4.1-1/8 AND A.4.3-4c/1 AND A.4.5-1/60) THEN R ELSE N/A |
| C203 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1) THEN R ELSE N/A |
| C204 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1) THEN R ELSE N/A |
| C205 IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.5-1/64) THEN R ELSE N/A |
| C206 IF (A.4.1-1/1 AND A.4.2-1/2 AND A.4.4-1a/25 AND A.4.5-1/65) THEN R ELSE N/A |
| C207 IF (A.4.1-1/2 AND A.4.2-1/2 AND A.4.4-1b/25 AND A.4.5-1/65) THEN R ELSE N/A |
| C208 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.2-1/2 AND A.4.5-1/15 AND A.4.4-1b/25 AND A.4.5-1/65) THEN R ELSE N/A |
| C209 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.2-1/2 AND A.4.5-1/14 AND A.4.4-1b/25 AND A.4.5-1/65) THEN R ELSE N/A |
| C210 IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/5) THEN R ELSE N/A |
| C211 IF (A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-1a/5) THEN R ELSE N/A |
| C212 IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/25) THEN R ELSE N/A |
| C213 IF (A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-1b/25) THEN R ELSE N/A |
| C214 IF (A.4.1-1/1 AND A.4.3-4a/1a AND A.4.4-1a/5 AND A.4.4-1a/25) THEN R ELSE N/A |
| C215 IF (A.4.1-1/2 AND A.4.3-4a/1a AND A.4.4-1b/5 AND A.4.4-1b a/25) THEN R ELSE N/A |
| C216 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-1/10 AND A.4.5-1/49) THEN R ELSE N/A |
| C217 IF (A.4.1-1/10 AND A.4.3-4d/2 AND A.4.5-7/1 AND A.4.5-1/68) THEN R ELSE N/A |
| C218 Void |
| C219 IF (A.4.1-1/8 AND A.4.3-7/2) AND (A.4.5-1/60 AND A.4.5-1/77) THEN R ELSE N/A |
| C220 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/3 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C220a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C221 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/4 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C221a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C222 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/3 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C222a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/3 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C223 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/4 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C223a IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/4 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C224 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C225 IF ((A.4.1-1/1 AND A.4.1-1/2) AND A.4.6-1/2 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C226 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/2 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C227 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/2 AND (A.4.5-1/14 OR A.4.5-1/15)) THEN R ELSE N/A |
| C228 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.1-1/10 AND A.4.5-1/48) THEN R ELSE N/A |
| C229 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/2) THEN R ELSE N/A |
| C230 IF (A.4.1-1/2 AND A.6.1-1/3 AND A.4.6.1-2/3 AND A.4.5-2/3) THEN R ELSE N/A |
| C231 IF (A.4.1-1/2 AND A.6.1-1/3 AND A.4.6.1-2/3 AND A.4.5-2/3 AND A.4.4-1b/5) THEN R ELSE N/A |
| C232 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/5 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C233 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/6 AND (A.4.4-3a/111 OR A.4.4-3b/111)) THEN R ELSE N/A |
| C234 IF (A.4.1-1/8a AND (A.4.3-4c/1 or A.4.3-4c/2)) AND A.4.5-1/34 THEN R ELSE N/A |
| C235 IF (A.4.1-1/8a AND (A.4.3-4c/1 or A.4.3-4c/2)) THEN R ELSE N/A |
| C236 IF (A.4.1-1/8 AND A.4.3-7/2 AND A.4.5-1/108) THEN R ELSE N/A |
| C237 IF (A.4.1-1/8a AND (A.4.3-4c/1 or A.4.3-4c/2)) AND A.4.4-1a/5 THEN R ELSE N/A |
| C238 IF (A.4.1-1/1 AND A.4.5-1/86) THEN R ELSE N/A |
| C239 IF (A.4.1-1/1 AND A.4.5-1/87) THEN R ELSE N/A |
| C240 IF (A.4.1-1/2 AND A.4.5-1/87) THEN R ELSE N/A |
| C241 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/5) THEN R ELSE N/A |
| C242 IF ((A.4.1-1/1 OR A.4.1-1/2) AND A.4.6-1/6) THEN R ELSE N/A |
| C243 IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/13 AND A.4.4-1a/25 AND A.4.5-1/96) THEN R ELSE N/A |
| C244 IF (A.4.1-1/1 AND A.4.4-1a/5 AND A.4.4-1a/13 AND A.4.4-1a/25 AND A.4.5-1/97) THEN R ELSE N/A |
| C245 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/1 AND A.4.5-1/95)THEN R ELSE N/A |
| C246 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/13 AND A.4.4-1b/25 AND A.4.5-1/96) THEN R ELSE N/A |
| C247 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND (A.4.1-1/2 AND A.4.4-1b/5 AND A.4.4-1b/13 AND A.4.4-1b/25 AND A.4.5-1/97) THEN R ELSE N/A |
| C248 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/95 THEN R ELSE N/A |
| C249 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/5 AND A.4.4-1b/5) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND (A.4.4-1a/30 AND A.4.4-1b/30) AND A.4.5-1/96 THEN R ELSE N/A |
| C250 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.1-1/2 AND (A.4.4-1a/5 AND A.4.4-1b/5) AND (A.4.4-1a/25 AND A.4.4-1b/25) AND (A.4.4-1a/30 AND A.4.4-1b/30) AND A.4.5-1/97 THEN R ELSE N/A |
| C251 IF (NOT(A.4.3-4a/1 OR A.4.3-4a/1a OR A.4.3-4aa/1)) AND A.4.1-1/1 AND A.4.5-1/94 AND (A.4.5-1/95 OR A.4.5-1/96 OR A.4.5-1/97 OR A.4.5-1/98) THEN R ELSE N/A |
| C252 IF (NOT(A.4.3-4a/1 OR A.4.3-4aa/1)) AND A.4.1-1/2 AND A.4.5-1/94 AND (A.4.5-1/95 OR A.4.5-1/98) THEN R ELSE N/A |

Table 4.2-1b: Number of TC Executions - Notes

|  |
| --- |
| Note 1: The Carrier Aggregation TCs verify the same core requirement(s) however with different channel bandwidth configurations, this according to the guidance in TS 36.521-3, Annex C.3.3 [2]. |
| Note 2: The Dual Connectivity TCs verify the same RRM requirements(s) however with different synchronous or asynchronous DC scenarios, this according to the guidance in TS 36.521-3, Annex 3A.5 [2]. |
| Note 3: Unique FS3 Event triggered reporting tests are defined for one or more FS3 cells. Therefore, only the test case specific to the number of FS3 cells needs to be executed. |

## 4.3 RF and RRM conformance test cases for NB-IoT/eMTC NTN

### 4.3.1 RF conformance test cases for NB-IoT/eMTC NTN

Table 4.3.1-1: Applicability of RF conformance test cases for NB-IoT/eMTC NTN, ref. TS 36.521-4 [20]

| Clause | TC Title | Release | Applicability | | Tested Bands Selection | Branch | Additional Information |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Condition | Comment |  |  |  |
| **Transmitter Characteristics** | | | | | | | |
| 6.2A.1 | UE Maximum Output Power for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.2A.2 | UE maximum output power reduction for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.2A.3 | UE additional maximum output power reduction for category M1 UE | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.2A.4 | Configured transmitted Power for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.2B.1 | UE maximum output power for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.2B.2 | UE maximum output power reduction for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.2B.3 | UE additional maximum output power reduction for category NB1 and NB2 UE | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.2B.4 | Configured transmitted Power for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3A.1 | UE Minimum output power for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.2 | Transmit OFF power for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.3.1 | General ON/OFF time mask for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.3.2.1 | PRACH time mask for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.3.2.2 | SRS time mask for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.4.1 | Power Control Absolute power tolerance for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.4.2 | Power Control Relative power tolerance for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3A.4.3 | Aggregate power control tolerance for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.3B.1 | UE Minimum output power for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3B.2 | Transmit OFF power for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3B.3.1 | General ON/OFF time mask for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3B.3.2 | NPRACH time mask for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3B.4.1 | Power Control Absolute power tolerance for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.3B.4.2 | Power Control Absolute power tolerance for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| **Transmitter Characteristics** | | | | | | | |
| 6.4A.1\_1 | Frequency error with GSO ephemeris for UE category M1 | Rel-17 | C03 | UE supporting eMTC NTN and only GSO or both GSO and NGSO | D01 |  |  |
| 6.4A.1\_2 | Frequency error with NGSO ephemeris for UE category M1 | Rel-17 | C04 | UE supporting eMTC NTN and only NGSO or both GSO and NGSO | D01 |  |  |
| 6.4B.1\_1 | Frequency error with GSO ephemeris and UE category NB1 and NB2 | Rel-17 | C05 | UE supporting NB-IoT NTN and only GSO or both GSO and NGSO | D02 |  |  |
| 6.4B.1\_2 | Frequency error with NGSO ephemeris for UE category NB1 and NB2 | Rel-17 | C06 | UE supporting NB-IoT NTN and only NGSO or both GSO and NGSO | D02 |  |  |
| 6.4A.2.1 | Error Vector Magnitude (EVM) for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.4A.2.2 | Carrier leakage for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.4A.2.3 | In-band emissions for non allocated RB for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.4A.2.4 | EVM equalizer spectrum flatness for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.4B.2.1 | Error Vector Magnitude (EVM) for Category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.4B.2.2 | Carrier leakage for Category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.4B.2.3 | In-band emissions for Category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5A.2 | Occupied bandwidth for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5A.3.2 | Spectrum emission mask for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5A.3.4 | Adjacent Channel Leakage Ratio for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5A.4.2 | Transmitter Spurious emissions for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5A.4.3 | Spurious emission band UE co-existence for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5A.4.4 | Additional spurious emissions for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 6.5B.2 | Occupied bandwidth for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5B.3.2 | Spectrum emission mask for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5B.3.4 | Adjacent Channel Leakage Ratio for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5B.4.2 | Transmitter Spurious emissions for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5B.4.3 | Spurious emission band UE co-existence for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.5B.4.4 | Additional spurious emissions for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 6.6B | Transmit intermodulation for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| **Receiver Characteristics** | | | | | | | |
| 7.3A | Reference sensitivity power level for UE category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.3B | Reference sensitivity power level for UE category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.4A | Maximum input level for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.4B | Maximum input level for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.5A | Adjacent Channel Selectivity for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.5B | Adjacent Channel Selectivity for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.6A.2 | In-band blocking for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.6A.3 | Out-of-band blocking for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.6A.4 | Narrow band blocking for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.6B.2 | In-band blocking for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.6B.3 | Out-of-band blocking for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.7A | Spurious response for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.7B | Spurious response for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.8A | Wideband intermodulation for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.8B | Wideband intermodulation for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |
| 7.9A | Spurious emissions for category M1 | Rel-17 | C01 | UE supporting eMTC NTN | D01 |  |  |
| 7.9B | Spurious emissions for category NB1 and NB2 | Rel-17 | C02 | UE supporting NB-IoT NTN | D02 |  |  |

Table 4.3.1-1a: Applicability of RF conformance test cases Conditions for NB-IoT/eMTC NTN

|  |  |
| --- | --- |
| C01 IF (A.4.1-1/12) THEN R ELSE N/A | |
| C02 IF (A.4.1-1/8b) THEN R ELSE N/A | |
| C03 IF (A.4.1-1/12) AND A.4.5-1/104 THEN R ELSE N/A | |
| C04 IF (A.4.1-1/12) AND A.4.5-1/103 THEN R ELSE N/A | |
| C05 IF (A.4.1-1/8b) AND A.4.5-1/104 THEN R ELSE N/A | |
| C06 IF (A.4.1-1/8b) AND A.4.5-1/103 THEN R ELSE N/A | |

Table 4.3.1-1b: Tested Bands Selection Criteria of RF conformance test cases for NB-IoT/eMTC NTN

|  |  |  |
| --- | --- | --- |
| **Code** | **Selection** | **Comment** |
| D01 | A.4.3-3 AND {255,256} | eMTC NTN Band 255, 256 if supported |
| D02 | A.4.3-3 AND { 255,256} | NB-IoT NTN Band 255.256 if supported |

### 4.3.2 Performance conformance test cases for NB-IoT/eMTC NTN

Table 4.3.2-1: Applicability of Performance conformance test cases for NB-IoT/eMTC NTN, ref. TS 36.521-4 [20]

| Clause | TC Title | Release | Applicability | | Tested Bands Selection | Additional Information |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Condition | Comment |  |  |
| **Performance Requirement** | | | | | | |
| 8.2.1.1.1 | PDSCH in standalone mode under NTN fading conditions | Rel-17 | C01 | UE supporting eMTC NTN in NGSO or both NGSO + GSO and UE category M1 | D01 |  |
| 8.3.1.1.2 | Demodulation of NPDSCH (Cell-Specific Reference Symbols) in standalone for category NB1 and NB2 | Rel-17 | C03 | UE supporting NB-IoT NTN | D02 |  |
| 8.3.1.1.3 | Demodulation of NPDSCH (Cell-Specific Reference Symbols) in standalone for NB2 | Rel-17 | C04 | UE supporting NB-IoT NTN and category NB2 | D02 |  |
| 8.3.1.2.1 | Demodulation of NPDCCH single-antenna performance for category NB1 and NB2 | Rel-17 | C05 | UE supporting NB-IoT NTN | D02 |  |

Table 4.3.2-1a: Applicability of Performance conformance test cases Conditions for NB-IoT/eMTC NTN

|  |
| --- |
| C01 IF (A.4.1-1/1a AND A.4.3-7/2) AND A.4.3-4aa/1 AND A.4.5-1/99 AND (A.4.5-1/103 OR (A.4.5-1/103 AND A.4.5-1/104)) THEN R ELSE N/A |
| C02 IF (A.4.1-1/8b AND A.4.3-7/2) AND (A.4.3-4c/1 or A.4.3-4c/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR (A.4.5-1/103 AND A.4.5-1/104)) THEN R ELSE N/A |
| C03 IF (A.4.1-1/8b AND A.4.3-7/2) AND (A.4.3-4c/1 or A.4.3-4c/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) THEN R ELSE N/A |
| C04 IF (A.4.1-1/8b AND A.4.3-7/2) AND A.4.3-4c/2 AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) THEN R ELSE N/A |
| C05 IF (A.4.1-1/8b AND A.4.3-7/2) AND (A.4.3-4c/1 or A.4.3-4c/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) THEN R ELSE N/A |

Table 4.3.2-1b: Tested Bands Selection Criteria of Performance conformance test cases for NB-IoT/eMTC NTN

|  |  |  |
| --- | --- | --- |
| **Code** | **Selection** | **Comment** |
| D01 | A.4.3-3 AND {255,256} | eMTC NTN Band 255,256 if supported |
| D02 | A.4.3-3 AND {255,256} | NB-IoT NTN Band 255,256 if supported |

### 4.3.3 RRM conformance test cases for NB-IoT/eMTC NTN

Table 4.3.3-1: Applicability of RRM conformance test cases for NB-IoT/eMTC NTN, ref. TS 36.521-3 [2]

| Clause | TC Title | Release | Applicability | | Additional Information | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Condition | Comments | Number of TC Executions | Release on other RAT | Branch |
| **13 E-UTRAN Standalone Tests for UE Category NB for Satellite Access** | | | | | | |  |
| **13.1 RRC\_IDLE state for satellite access** | | | | | | |  |
| **13.1.1 Cell re-selection for satellite access** | | | | | | |  |
| 13.1.1.1 | HD – FDD Intra frequency case for UE Category NB1 Standalone mode in normal coverage | Rel-17 | C05 | UE supporting NB-IoT HD-FDD and GSO |  |  | 1Rx |
| 13.1.1.2 | HD – FDD Intra frequency case for UE Category NB1 Standalone mode in normal coverage with serving cell RRM measurement relaxation | Rel-17 | C06 | UE supporting wakeUpSignal, NB-IoT HD-FDD and GSO |  |  | 1Rx |
| 13.1.1.3 | HD – FDD Intra frequency case for UE Category NB1 Standalone mode in normal coverage with UE specific DRX | Rel-17 | C07 | UE supporting NB-IoT HD-FDD, GSO and UE specific DRX |  |  | 1Rx |
| **13.3 RRC connection mobility control for satellite access** | | | | | | |  |
| **13.3.1 RRC re-establishment for satellite access** | | | | | | |  |
| 13.3.1.1 | HD-FDD Intra-frequency RRC Re-establishment for UE category NB1 in Standalone mode under normal coverage | Rel-17 | C08 | UE supporting NB-IoT HD-FDD, GSO and User Plane CIoT |  |  | 1Rx |
| 13.3.1.2 | HD-FDD Intra-frequency RRC Re-establishment for UE category NB1 in Standalone mode under enhanced coverage | Rel-17 | C08 | UE supporting NB-IoT HD-FDD, GSO and User Plane CIoT |  |  | 1Rx |
| **13.3.2 Random Access for Satellite Access** | | | | | | |  |
| 13.3.2.1 | Contention Based Random Access Test for UE category NB1 UEs in Satellite Access - Standalone mode in normal coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.3.2.2 | Contention Based Random Access Test for UE category NB1 UEs in Satellite Access - Standalone mode in Enhanced Coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.3.2.3 | Contention Based Random Access on Non-anchor Carrier Test for UE category NB1 UEs Standalone mode in Enhanced Coverage | Rel-17 | C10 | UE supporting NB-IoT HD-FDD, NTN and NPRACH on non-anchor carrier | NOTE 1 |  | 1Rx |
| **13.4 Timing and signalling characteristics for satellite access** | | | | | | |  |
| **13.4.1 UE transmit timing for satellite access** | | | | | | |  |
| 13.4.1.1 | E-UTRAN HD-FDD – UE Transmit Timing Accuracy Tests for Category NB1 UE Standalone mode under normal coverage for Satellite Access | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.4.1.2 | E-UTRAN HD-FDD – UE Transmit Timing Accuracy Tests for Category NB1 UE Standalone mode under enhanced coverage for Satellite Access | Rel-17 | C02 | UE supporting NB-IoT HD-FDD, NTN and DRX | NOTE 1 |  | 1Rx |
| 13.4.1.3 | E-UTRAN HD-FDD – UE Transmit Timing Accuracy Tests for Category NB1 UE Standalone mode under enhanced coverage with segment transmission in NGSO for Satellite Access | Rel-17 | C03 | UE supporting NB-IoT HD-FDD and NGSO, but not supporting to report the supported gap length between segments for TA pre-compensation. |  |  | 1Rx |
| **13.4.2 UE timing advance for satellite access** | | | | | | |  |
| 13.4.2.1 | HD-FDD UE Timing Advance Adjustment Accuracy Test for UE Category NB1 in Standalone Mode under Normal Coverage for Satellite Access | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.4.2.2 | HD-FDD UE Timing Advance Adjustment Accuracy Test for UE Category NB1 in Standalone Mode under Enhance Coverage for Satellite Access | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| **13.4.3 Radio Link Monitoring for satellite access** | | | | | | |  |
| 13.4.3.1 | HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 Standalone mode in normal coverage | Rel-17 | C02 | UE supporting NB-IoT HD-FDD, NTN and DRX | NOTE 1 |  | 1Rx |
| 13.4.3.2 | HD-FDD Radio Link Monitoring Test for Out-of-sync in DRX for UE category NB1 Standalone mode in enhanced coverage | Rel-17 | C02 | UE supporting NB-IoT HD-FDD, NTN and DRX | NOTE 1 |  | 1Rx |
| 13.4.3.3 | HD-FDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 Standalone mode in Enhanced Coverage | Rel-17 | C02 | UE supporting NB-IoT HD-FDD, NTN and DRX | NOTE 1 |  | 1Rx |
| 13.4.3.4 | HD-FDD Radio Link Monitoring Test for In-sync with DRX for UE Category NB1 Standalone mode in Normal Coverage | Rel-17 | C02 | UE supporting NB-IoT HD-FDD, NTN and DRX | NOTE 1 |  | 1Rx |
| 13.4.3.5 | HD-FDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 Standalone mode in Normal Coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.4.3.6 | HD-FDD Radio Link Monitoring Test for In-sync without DRX for UE Category NB1 Standalone mode in Enhanced Coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.4.3.7 | HD-FDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 Standalone mode in Normal Coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.4.3.8 | HD-FDD Radio Link Monitoring Test for Out-of-sync without DRX for UE Category NB1 Standalone mode in Enhanced Coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| **13.6 Measurement performance requirements for UE for satellite access** | | | | | | |  |
| **13.6.2 Channel quality reporting accuracy for satellite access** | | | | | | |  |
| 13.6.2.1 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy for UE Category NB1 Standalone mode under normal coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.6.2.2 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy for UE Category NB1 Standalone mode under enhanced coverage | Rel-17 | C01 | UE supporting NB-IoT HD-FDD and NTN | NOTE 1 |  | 1Rx |
| 13.6.2.3 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy on non-anchor carrier for UE Category NB1 Standalone mode under normal coverage | Rel-17 | C09 | UE supporting NB-IoT HD-FDD, NTN and DL channel quality reporting for a non-anchor carrier for FDD in Msg3 | NOTE 1 |  | 1Rx |
| 13.6.2.4 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy on non-anchor carrier for UE Category NB1 Standalone mode under enhanced coverage | Rel-17 | C09 | UE supporting NB-IoT HD-FDD, NTN and DL channel quality reporting for a non-anchor carrier for FDD in Msg3 | NOTE 1 |  | 1Rx |
| 13.6.2.5 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy in RRC\_CONNECTED for UE Category NB1 Standalone mode under normal coverage | Rel-17 | C04 | UE supporting NB-IoT HD-FDD, NTN and DL channel quality reporting in RRC\_CONNECTED | NOTE 1 |  | 1Rx |
| 13.6.2.6 | E-UTRAN HD-FDD Downlink channel quality reporting accuracy in RRC\_CONNECTED for UE Category NB1 Standalone mode under enhanced coverage | Rel-17 | C04 | UE supporting NB-IoT HD-FDD, NTN and DL channel quality reporting in RRC\_CONNECTED | NOTE 1 |  | 1Rx |

Table 4.3.3-1a: Applicability of RRM conformance test cases Conditions for NB-IoT/eMTC NTN

|  |
| --- |
| C01 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) THEN R ELSE N/A |
| C02 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND A.4.4-1a/5 AND (A.4.5-1/103 OR A.4.5-1/104) THEN R ELSE N/A |
| C03 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND A.4.5-1/103 AND (NOT A.4.5-1/105) THEN R ELSE N/A |
| C04 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) AND A.4.5-1/106 THEN R ELSE N/A |
| C05 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND A.4.5-1/104 THEN R ELSE N/A |
| C06 IF (A.4.1-1/8 AND A.4.3-7/2 AND A.4.5-1/108) AND A.4.5-1/99 AND A.4.5-1/104 THEN R ELSE N/A |
| C07 IF (A.4.1-1/8 AND A.4.3-7/2 AND A.4.5-1/107) AND A.4.5-1/99 AND A.4.5-1/104 THEN R ELSE N/A |
| C08 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND A.4.5-1/104 AND A.4.5-1/34 THEN R ELSE N/A |
| C09 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) AND 109 THEN R ELSE N/A |
| C10 IF (A.4.1-1/8 AND A.4.3-7/2) AND A.4.5-1/99 AND (A.4.5-1/103 OR A.4.5-1/104) AND 110 THEN R ELSE N/A |

Table 4.3.3-1b: Number of TC Executions - Notes

|  |
| --- |
| Note 1: If UE supports both NGSO and GSO, the GSO test case can be skipped if the UE passes NGSO test case, this according to the guidance in each test cases of TS 36.521-3 [2]. |

Annex A (normative):ICS proforma for E-UTRA User Equipment

Notwithstanding the provisions of the copyright related to the text of the present document, The Organizational Partners of 3GPP grant that users of the present document may freely reproduce the ICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed ICS.

## A.1 Guidance for completing the ICS proforma

### A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardised manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the ICS proforma;

- identification of the implementation;

- identification of the protocol;

- ICS proforma tables (for example: UE implementation types, Teleservices, etc).

### A.1.2 Abbreviations and conventions

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646‑7 [4].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Reference column

The reference column gives reference to the relevant 3GPP core specifications.

Release column

The release column indicates the earliest release from which the capability or option is relevant.

Comments column

This column is left blank for particular use by the reader of the present document.

References to items

For each possible item answer (answer in the support column) within the ICS proforma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.), respectively.

EXAMPLE 1: A.4.1-1/2 is the reference to the answer of item 2 in table A.4.1-1.

### A.1.3 Instructions for completing the ICS proforma

The supplier of the implementation may complete the ICS proforma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the ICS proforma.

## A.2 Identification of the User Equipment

Identification of the User Equipment should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

### A.2.1 Date of the statement

### A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

Hardware configuration:

Software configuration:

### A.2.3 Product supplier

Name:

Address:

Telephone number:

Facsimile number:

E-mail address:

Additional information:

### A.2.4 Client

Name:

Address:

Telephone number:

Facsimile number:

E-mail address:

Additional information:

### A.2.5 ICS contact person

Name:

Telephone number:

Facsimile number:

E-mail address:

Additional information:

## A.3 Identification of the protocol

This ICS proforma applies to the 3GPP standards listed in the normative references clause of the present document.

## A.4 ICS proforma tables

### A.4.1 UE Implementation Types

Table A.4.1-1: UE Radio Technologies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | UE Radio Technologies | Ref. | Release | Comments |
| 1 | E-UTRA FDD | 36.101 | Rel-8 |  |
| 2 | E-UTRA TDD | 36.101 | Rel-8 |  |
| 3 | UTRA FDD | 25.101 | R99 |  |
| 4 | UTRA TDD | 25.102 | R99 |  |
| 5 | GSM | 45.005 | R99 |  |
| 6 | cdma2000 HRPD | C.S0024-A | Rel-8 |  |
| 7 | cdma2000 1xRTT | C.S0002-A | Rel-8 |  |
| 8 | NB-IoT | 36.101 | Rel-13 |  |
| 8a | NB-IoT TDD | 36.101 | Rel-15 |  |
| 8b | NB-IoT NTN | 36.102 | Rel-18 |  |
| 9 | WLAN | IEEE Std 802.11 |  |  |
| 10 | V2X Sidelink Communication | 36.101 | Rel-14 |  |
| 11 | eMTC | 36.101 | Rel-13 |  |
| 12 | eMTC NTN | 36.102 | Rel-18 |  |

### A.4.2 UE Service Capabilities

Table A.4.2-1: UE Radio Technologies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | UE Radio Technologies | Ref. | Release | Comments |
| 1 | LTE MBMS | 36.101 | Rel-9 |  |
| 2 | LTE CA | 36.101 | Rel-10 |  |
| 3 | UL-MIMO | 36.306, 4.3.4.6 | Rel-10 |  |
| 4 | Void |  |  |  |
| 5 | Enhanced Dual Layer TDD | 36.306, 4.3.4.5 | Rel-9 |  |
| 6 | EPDCCH | 36.306, 4.3.4.18 | Rel-11 |  |
| 7 | FDD - TDD CA | 36.306, 4.3.4.28 | Rel-12 |  |
| 8 | Support of DC | 36.306, 4.3.5.9 | Rel-12 | The UE supports of synchronous dual connectivity and power control mode 1 |
| 9 | Support of E-UTRAN WLAN Aggregation - LWA | 36.306, 4.3.18, 4.3.25, 4.3.27, 7.10.2 | Rel-13 |  |
| 10 | Support of E-URAN WLAN Aggregation with IPsec Tunnel - LWIP | 36.306, 4.3.18, 4.3.24, 4.3.27, 7.10.2 | Rel-13 |  |

### A.4.3 Baseline Implementation Capabilities

Table A.4.3-1: Supported protocols

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Supported protocols | Ref. | Release | Comments |
| 1 | EPS Mobility Management | 24.301, 5 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 2 | EPS Session Management | 24.301, 6 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 3 | GPRS Mobility Management | 23.060 | R99 | For NB-IoT the release is from Rel-13 |
| 4 | Radio Resource Control | 36.331 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 5 | Packet Data Convergence Protocol | 36.323 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 6 | Radio Link Control | 36.322 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 7 | Medium Access Control | 36.321 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 8 | Physical Layer | 36.201 36.302 | Rel-8 | For NB-IoT the release is from Rel-13 |

Table A.4.3-2: Special Conformance Testing Functions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Special Conformance Testing Functions | Ref. | Release | Comments |
| 1 | UE test loop | 36.509 | Rel-8 | For NB-IoT the release is from Rel-13 |
| 2 | Max UE test loop UL RLC SDU size 65535 bits | 36.509 | Rel-8 |  |

Table A.4.3-3: RF Baseline Implementation Capabilities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Release | Comments |
| 1 | Frequency band: 1920-1980, 2110-2170 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 1 |
| 2 | Frequency band: 1850-1910, 1930-1990 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 2 |
| 3 | Frequency band: 1710-1785, 1805-1880 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 3 |
| 4 | Frequency band: 1710-1755, 2110-2155 MHz | 36.101, 5.5 | Rel-8 | FDD Band 4 |
| 5 | Frequency band: 824-849, 869-894 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 5 |
| 6 | Frequency band: 830-840, 875-885 MHz | 36.101, 5.5 | Rel-8 | FDD Band 6 |
| 7 | Frequency band: 2500-2570, 2620-2690 MHz | 36.101, 5.5 | Rel-8 | FDD Band 7 |
| 8 | Frequency band: 880-915, 925-960 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 8 |
| 9 | Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz | 36.101, 5.5 | Rel-8 | FDD Band 9 |
| 10 | Frequency band: 1710-1770, 2110-2170 MHz | 36.101, 5.5 | Rel-8 | FDD Band 10 |
| 11 | Frequency band: 1427.9-1447.9, 1475.9-1495.9 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 11 |
| 12 | Frequency band: 699-716, 729-746 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 12 |
| 13 | Frequency band: 777-787, 746-756 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 13 |
| 14 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | Rel-8 | FDD Band 14 |
| 15 | Reserved | 36.101, 5.5 | Rel-8 | FDD Band 15 |
| 16 | Reserved | 36.101, 5.5 | Rel-8 | FDD Band 16 |
| 17 | Frequency band: 704-716, 734-746 MHz | 36.101, 5.5 | Rel-8 | FDD and HD-FDD Band 17 |
| 18 | Frequency band: 815-830, 860-875 MHz | 36.101, 5.5 | Rel-9 | FDD and HD-FDD Band 18 |
| 19 | Frequency band: 830-845, 875-890 MHz | 36.101, 5.5 | Rel-9 | FDD and HD-FDD Band 19 |
| 20 | Frequency band: 832-862, 791-821MHz | 36.101, 5.5 | Rel-9 | FDD and HD-FDD Band 20 |
| 21 | Frequency band: 1447.9-1462.9, 1495.9-1510.9 MHz | 36.101, 5.5 | Rel-9 | FDD and HD-FDD Band 21Band 21 |
| 22 | Frequency band: 3410-3490, 3510-3590 MHz | 36.101, 5.5 | Rel-10 | FDD Band 22 |
| 23 | Frequency band: 2000-2020, 2180-2200 MHz | 36.101, 5.5 | Rel-10 | FDD Band 23 |
| 24 | Frequency band: 1626.5-1660.5, 1525-1559 MHz | 36.101, 5.5 | Rel-10 | FDD Band 24 |
| 25 | Frequency band: 1850-1915, 1930-1995 MHz | 36.101, 5.5 | Rel-10 | FDD and HD-FDD Band 25 |
| 26 | Frequency band: 814-849, 859-894 MHz | 36.101, 5.5 | Rel-11 | FDD and HD-FDD Band 26 |
| 27 | Frequency band: 807-824, 852-869 MHz | 36.101, 5.5 | Rel-11 | FDD Band 27 |
| 28 | Frequency band: 703-748, 758-803 MHz | 36.101, 5.5 | Rel-11 | FDD and HD-FDD Band 28 |
| 29 | Frequency band: N/A, 717-728 MHz | 36.101, 5. 5 | Rel-11 | FDD Band 29 |
| 30 | Frequency band: 2305-2315, 2350-2360 MHz (Note 2) | 36.101, 5.5 | Rel-12 | FDD Band 30 |
| 31 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | Rel-12 | FDD and HD-FDD Band 31 |
| 32 | Frequency band: N/A, 1452-1496 MHz | 36.101, 5.5 | Rel-12 | FDD Band 32 |
| 33 | Frequency band: 1900-1920, 1900-1920 MHz | 36.101, 5.5 | Rel-8 | TDD Band 33 |
| 34 | Frequency band: 2010-2025, 2010-2025 MHz | 36.101, 5.5 | Rel-8 | TDD Band 34 |
| 35 | Frequency band: 1850-1910, 1850-1910 MHz | 36.101, 5.5 | Rel-8 | TDD Band 35 |
| 36 | Frequency band: 1930-1990, 1930-1990 MHz | 36.101, 5.5 | Rel-8 | TDD Band 36 |
| 37 | Frequency band: 1910-1930, 1910-1930 MHz | 36.101, 5.5 | Rel-8 | TDD Band 37 |
| 38 | Frequency band: 2570-2620, 2570-2620 MHz | 36.101, 5.5 | Rel-8 | TDD Band 38 |
| 39 | Frequency band: 1880-1920, 1880-1920 MHz | 36.101, 5.5 | Rel-8 | TDD Band 39 |
| 40 | Frequency band: 2300-2400, 2300-2400 MHz | 36.101, 5.5 | Rel-8 | TDD Band 40 |
| 41 | Frequency band: 2496-2690, 2496-2690 MHz | 36.101, 5.5 | Rel-10 | TDD Band 41 |
| 42 | Frequency band: 3400-3600, 3400-3600 MHz | 36.101, 5.5 | Rel-10 | TDD Band 42 |
| 43 | Frequency band: 3600-3800, 3600-3800 MHz | 36.101, 5.5 | Rel-10 | TDD Band 43 |
| 44 | Frequency band: 703-803, 703-803 MHz | 36.101, 5.5 | Rel-11 | TDD Band 44 |
| 45 | Frequency band: 1447-1467, 1447-1467 MHz | 36.101, 5.5 | Rel-13 | TDD Band 45 |
| 46 | Frequency band: 5150-5925, 5250-5925 MHz | 36.101, 5.5 | Rel-13 | TDD Band 46 |
| 47 | Frequency band: 5855-5925, 5855-5925 MHz | 36.101, 5.5 | Rel-14 | TDD Band 47 |
| ... |  |  |  |  |
| 48 | Frequency band: 3550-3700, 3550-3700 MHz | 36.101, 5.5 | Rel-14 | TDD Band 48 |
| .. |  |  |  |  |
| 53 | Frequency band: 2483.5-2495, 2483.5-2495 MHz | 36.101, 5.5 | Rel-16 | TDD Band 53 |
| 54 | Frequency band: 1670-1675, 1670-1675 MHz | 36.101, 5.5 | Rel-18 | TDD Band 54 |
| ... |  |  |  |  |
| 65 | Frequency band: 1920-2010, 2110-2200 MHz | 36.101, 5.5 | Rel-13 | FDD Band 65 |
| 66 | Frequency band: 1710-1780, 2110-2200 MHz | 36.101, 5.5 | Rel-13 | FDD and HD-FDD Band 66 |
| ... |  |  |  |  |
| 68 | Frequency band: 698-728, 753-783 MHz | 36.101, 5.5 | Rel-15 | FDD Band 68 |
| 69 | Frequency band: N/A, 2570-2620 MHz | 36.101, 5.5 | Rel-14 | FDD Band 69 |
| 70 | Frequency band: 1695-1710, 1995-2020 MHz | 36.101, 5.5 | Rel-14 | FDD and HD-FDD Band 70 |
| 71 | Frequency band: 663-698, 617-652 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 71 |
| 72 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 72 |
| 73 | Frequency band: 450-455, 460-465 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 73 |
| 74 | Frequency band: 1427-1470, 1475-1518 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 74 |
| ... |  |  |  |  |
| 85 | Frequency band: 698-716, 728-746 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 85 |
| ... |  |  |  |  |
| 87 | Frequency band: 410-415, 420-425 MHz | 36.101, 5.5 | Rel-16 | FDD and HD-FDD Band 87 |
| 88 | Frequency band: 412-417, 422-427 MHz | 36.101, 5.5 | Rel-16 | FDD and HD-FDD Band 88 |
| ... |  |  |  |  |
| 103 | Frequency band: 787-788, 757-758 MHz | 36.101, 5.5 | Rel-17 | FDD and HD-FDD Band 103 |
| ... |  |  |  |  |
| 255 | Frequency band: 1626.5-1660.5, 1525-1559 MHz | 36.102, 5.2 | Rel-18 | FDD Band 255 |
| 256 | Frequency band: 1980-2010, 2170-2200 MHz | 36.102, 5.2 | Rel-18 | FDD Band 256 |
| Note 1: The values indicated in column "Release" are to be understood as the specifications release version in which a band was introduced and not as a mandate that a UE conforming to particular release shall support a particular band. For further guidance to release independent bands see TS 36.307 [16]  Note 2: The uplink transmission is not allowed at this band for the UE with the externally vehicle-mounted antennas. | | | | |

Table A.4.3-3a: RF Additional Baseline Implementation Capabilities

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Additional Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Support of 1.4 MHz channel bandwidth | 36.101, 5.6.1  36.102, 5.3A (Band 255 and 256) | Operating bands supporting 1.4 MHz Bandwidth:  2, 3, 4, 5, 8, 12, 23, 25, 26, 27, 31, 35, 36, 53, 54, 65, 66, 72, 73, 74, 87, 88, 255, 256 |
| 2 | Support of 3 MHz channel bandwidth | 36.101, 5.6.1 | Operating bands supporting 3 MHz Bandwidth:  2, 3, 4, 5, 8, 12, 23, 25, 26, 27, 28, 31, 35, 36, 44, 53, 54, 65, 66, 72, 73, 74, 87, 88 |
| 3 | Support of 5 MHz channel bandwidth | 36.101, 5.6.1 | All operating bands support 5 MHz Bandwidth except band 46 and Band 47 |
| 4 | Support of 10 MHz channel bandwidth | 36.101, 5.6.1 | All operating bands support 10 MHz Bandwidth except band 31, 54, 72 and 73 |
| 5 | Support of 15 MHz channel bandwidth | 36.101, 5.6.1 | Operating bands supporting 15 MHz Bandwidth:  1, 2, 3, 4, 7, 9, 10, 18, 19, 20, 21, 22, 23, 25, 26, 28, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 48, 65, 66, 70, 74 |
| 6 | Support of 20 MHz channel bandwidth | 36.101, 5.6.1 | Operating bands supporting 20MHz Bandwidth:  1, 2, 3, 4, 7, 9, 10, 20, 22, 23, 25, 28, 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 65, 66, 701, 74 |
| 7 | Support of 20 MHz for both PCell and SCell | 36.101, 5.6A.1 |  |
| 8 | Support of 20 MHz for PCell and 10 MHz for SCell | 36.101, 5.6A.1 |  |
| 9 | Support at most 40 MHz aggregated bandwidth | 36.101, 5.6A.1 |  |
| 10 | Support at most 60 MHz aggregated bandwidth | 36.101, 5.6A.1 |  |
| 11 | Support at most 80 MHz aggregated bandwidth | 36.101, 5.6A.1 |  |
| 12 | Support at most 100 MHz aggregated bandwidth | 36.101, 5.6A.1 |  |
| 13 | Support of 200 kHz channel bandwidth | 36.102, 5.3B | Operating bands supporting 200 kHz Bandwidth:  255, 256 |
| Note 1: 1 For the 20 MHz channel bandwidth, the additional baseline implementation capabilities are restricted to E‑UTRA operation when carrier aggregation is configured. | | | |

Table A.4.3-3b: Additional UE Power Class implementation Capabilities

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF baseline UE Baseline implementation capability | Ref. | Comments |
| 1 | UE Power Class 1 | 36.101, 6.2.2 | Applicable to Bands 14, 31, 72, 87, 88 |
| 2 | UE Power Class 3 | 36.101, 6.2.2 | All applicable E-UTRA and NB-IoT bands |
|  |  | 36.102, 6.2A.1 and 6.2B.1 | All applicable NB-IoT NTN and eMTC NTN bands |
| 3 | UE Power Class 5 | 36.101, 6.2.2E  36.306,  4.3.5.1 and 4.3.5.1A | All applicable E-UTRA and NB-IoT bands  20dBm |
|  |  | 36.102, 6.2A.1 and 6.2B.1 | All applicable NB-IoT NTN and eMTC NTN bands  20dBm |
| 4 | UE Power Class 2 | 36.101, 6.2.2. 6.2.2E | Applicable to Bands 31, 41, 47, 72 |
| 5 | UE Power Class 6 | 36.101, 6.2.2E  36.306,  4.3.5.1A.2 | All applicable E-UTRA and NB-IoT bands  14dBm |

Table A.4.3-3c: UE Power Class 1 implementation Capabilities per band

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Release | Comments |
| 1 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | Rel-8 | FDD Band 14 |
| 2 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | Rel-12 | FDD and HD-FDD Band 31 |
| 3 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 72 |
| 4 | Frequency band: 410-415, 420-425 MHz | 36.101, 5.5 | Rel-16 | FDD and HD-FDD Band 87 |
| 5 | Frequency band: 412-417, 422-427 MHz | 36.101, 5.5 | Rel-16 | FDD and HD-FDD Band 88 |

Table A.4.3-3d: UE Power Class 2 implementation Capabilities per band

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Release | Comments |
| 1 | Frequency band: 2496-2690, 2496-2690 MHz | 36.101, 5.5 | Rel-10 | TDD Band 41 |
| 2 | Frequency band: 5855-5925, 5855-5925 MHz | 36.101, 5.5 | Rel-14 | TDD Band 47 |
| 3 | Frequency band: 2570-2620, 2570-2620 MHz | 36.101, 5.5 | Rel-15 | TDD Band 38 |
| 4 | Frequency band: 2300-2400, 2300-2400 MHz | 36.101, 5.5 | Rel-15 | TDD Band 40 |
| 5 | Frequency band: 3400-3600, 3400-3600 MHz | 36.101, 5.5 | Rel-15 | TDD Band 42 |
| 6 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | Rel-12 | FDD and HD-FDD Band 31 |
| 7 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | Rel-15 | FDD and HD-FDD Band 72 |

Table A.4.3-4: UE Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | UE Category | Ref. | Release | Comments |
| 1 | Category 1 | 36.306, 4.1 | Rel-8 |  |
| 2 | Category 2 | 36.306, 4.1 | Rel-8 |  |
| 3 | Category 3 | 36.306, 4.1 | Rel-8 |  |
| 4 | Category 4 | 36.306, 4.1 | Rel-8 |  |
| 5 | Category 5 | 36.306, 4.1 | Rel-8 | Support for 64QAM in UL |
| 6 | Category 6 | 36.306, 4.1 | Rel-10 |  |
| 7 | Category 7 | 36.306, 4.1 | Rel-10 |  |
| 8 | Category 8 | 36.306, 4.1 | Rel-10 | Support for 64QAM in UL |
| 9 | Category 9 | 36.306, 4.1 | Rel-11 |  |
| 10 | Category 10 | 36.306, 4.1 | Rel-11 |  |
| 11 | Category 11 | 36.306, 4.1 | Rel-11 |  |
| 12 | Category 12 | 36.306, 4.1 | Rel-11 |  |

Table A.4.3-4a: UE Downlink Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | Category DL 0 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 0 |
| 1a | Category DL 1bis | 36.306, 4.1A | Rel-13 | Only in combination with Category UL 1bis |
| 2 | Category DL 6 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 5 or Category UL 16 |
| 3 | Category DL 7 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 13 or Category UL 18 |
| 4 | Category DL 9 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 5 or Category UL 16 |
| 5 | Category DL 10 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 13 or Category UL 18 |
| 6 | Category DL 11 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 5 or Category UL 16 |
| 7 | Category DL 12 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 13 or Category UL 15 or Category UL 18 or Category UL 20 |
| 8 | Category DL 13 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 16 or Category UL 18 |
| 9 | Category DL 14 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 8 or Category UL 17 |
| 10 | Category DL 15 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 16 or Category UL 18 |
| 11 | Category DL 16 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 15 or Category UL 16 or Category UL 18 or Category UL 20 |
| 12 | Category DL 17 | 36.306, 4.1A | Rel-13 | Only in combination with Category UL 14 or Category UL 19 |
| 13 | Category DL 18 | 36.306, 4.1A | Rel-13 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 15 or Category UL 16 or Category UL 18 or Category UL 20 |
| 14 | Category DL 19 | 36.306, 4.1A | Rel-13 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 15 or Category UL 16 or Category UL 18 or Category UL 20 or Category UL 21 |
| 15 | Category DL 4 | 36.306, 4.1A | Rel-12 | Only in combination with Category UL 5 |
| 16 | Category DL 20 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 15 or Category UL 16 or Category UL 18 or Category UL 20 or Category UL 21 |
| 17 | Category DL 21 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 3 or Category UL 5 or Category UL 7 or Category UL 13 or Category UL 15 or Category UL 16 or Category UL 18 or Category UL 20 |
| 18 | Category DL 22 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 20 or Category UL 22 or Category UL 23 or Category UL 24 or Category UL 25 or Category UL 26 |
| 19 | Category DL 23 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 20 or Category UL 22 or Category UL 23 or Category UL 24 or Category UL 25 or Category UL 26 |
| 20 | Category DL 24 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 20 or Category UL 22 or Category UL 23 or Category UL 24 or Category UL 25 or Category UL 26 |
| 21 | Category DL 25 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 20 or Category UL 22 or Category UL 23 or Category UL 24 or Category UL 25 or Category UL 26 |
| 22 | Category DL 26 | 36.306, 4.1A | Rel-14 | Only in combination with Category UL 20 or Category UL 22 or Category UL 23 or Category UL 24 or Category UL 25 or Category UL 26 |

Table A.4.3-4aa: Additional UE Downlink Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | Category DL M1 | 36.306, 4.1A | Rel-13 | Only in combination with Category UL M1 |
| 2 | Category DL M2 (NOTE 1) | 36.306, 4.1A | Rel-14 | Only in combination with Category UL M2 |
| NOTE 1: A UE indicating Category M2 shall also indicate Category M1. | | | | |

Table A.4.3-4b: UE Uplink Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | Category UL 0 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 0 |
| 1a | Category UL 1bis | 36.306, 4.1A | Rel-13 | Only in combination with Category DL 1bis |
| 2 | Category UL 3 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 13, Category DL 15, Category DL 16, Category DL 18, Category DL 19, Category DL 20 or Category DL 21 |
| 3 | Category UL 5 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 6, Category DL 9, Category DL 11, Category DL 13, Category DL 15 , Category DL 16, Category DL 18, Category DL 19, Category DL 20 or Category DL 21 |
| 4 | Category UL 7 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 13, Category DL 15, Category DL 16, Category DL 18, Category DL 19, Category DL 20 or Category DL 21 |
| 5 | Category UL 8 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 14 |
| 6 | Category UL 13 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL 7, Category DL 10, Category DL 12, Category DL 13, Category DL 15, Category DL 16, Category DL 18, Category DL 19, Category DL 20 or Category DL 21 |
| 7 | Category UL 14 | 36.306, 4.1A | Rel-13 | Only in combination with Category DL 17 |
| 8 | Category UL 15 | 36.306, 4.1A | Rel-13 | Only in combination with Category DL 12 or Category DL 16 or Category DL 18 or Category DL 19 or Category DL 20 or Category DL 21 |
| 9 | Category UL 16 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 6,  Category DL 9,  Category DL 11,  Category DL 13,  Category DL 15,  Category DL 16.  Category DL 18,  Category DL 19,  Category DL 20 or Category DL 21 |
| 10 | Category UL 17 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 14 |
| 11 | Category UL 18 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 7,  Category DL 10,  Category DL 12,  Category DL 13,  Category DL 15,  Category DL 16.  Category DL 18,  Category DL 19,  Category DL 20 or Category DL 21 |
| 12 | Category UL 19 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 17 |
| 13 | Category UL 20 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 12,  Category DL 16,  Category DL 18,  Category DL 19,  Category DL 20, Category DL 21,  Category DL 22,  Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |
| 14 | Category UL 21 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 19 or Category DL 20 |
| 15 | Category UL 22 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 22, Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |
| 16 | Category UL 23 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 22, Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |
| 17 | Category UL 24 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 22, Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |
| 18 | Category UL 25 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 22, Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |
| 19 | Category UL 26 | 36.306, 4.1A | Rel-14 | Only in combination with Category DL 22, Category DL 23,  Category DL 24, Category DL 25 or  Category DL 26 |

Table A.4.3-4ba: Additional UE Uplink Category

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | Category UL M1 | 36.306, 4.1A | Rel-12 | Only in combination with Category DL M1 |
| 2 | Category UL M2 (NOTE 1) | 36.306, 4.1A | Rel-14 | Only in combination with Category DL M2 |
| NOTE 1: A UE indicating Category M2 shall also indicate Category M1. | | | | |

Table A.4.3-4c: UE Category NB

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | Category NB1 | 36.306, 4.1C | Rel-13 |  |
| 2 | Category NB2 (Note 1) | 36.306, 4.1C | Rel-14 |  |
| NOTE 1: A UE indicating Category NB2 shall also indicate Category NB1. | | | | |

Table A.4.3-4d: UE Category for V2X Sidelink communication

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | SL-C Category 1 | 36.306, 4.1B | Rel-14 |  |
| 2 | SL-C Category 2 | 36.306, 4.1B | Rel-14 |  |

Table A.4.3-4da: UE Category for reception capabilities for sidelink communication

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | SL-C-RX Category 1 | 36.306, 4.1B | Rel-15 |  |
| 2 | SL-C-RX Category 2 | 36.306, 4.1B | Rel-15 |  |
| 3 | SL-C-RX Category 3 | 36.306, 4.1B | Rel-15 |  |
| 4 | SL-C-RX Category 4 | 36.306, 4.1B | Rel-15 |  |
| NOTE 1: If a UE of this release supports sidelink communication, the UE shall support SL-C-RX Category 1 and SL-C-TX Category 1. If a UE of this release supports V2X sidelink communication, the UE shall support SL-C-RX Category 2 to 4 for reception, and SL-C-TX category 2 to 5 for transmission. | | | | |

Table A.4.3-4db: UE Category for transmission capabilities for sidelink communication

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **UE Category** | **Ref.** | **Release** | **Comments** |
| 1 | SL-C-TX Category 1 | 36.306, 4.1B | Rel-15 |  |
| 2 | SL-C-TX Category 2 | 36.306, 4.1B | Rel-15 |  |
| 3 | SL-C-TX Category 3 | 36.306, 4.1B | Rel-15 |  |
| 4 | SL-C-TX Category 4 | 36.306, 4.1B | Rel-15 |  |
| 5 | SL-C-TX Category 5 | 36.306, 4.1B | Rel-15 |  |
| NOTE 1: If a UE of this release supports sidelink communication, the UE shall support SL-C-RX Category 1 and SL-C-TX Category 1. If a UE of this release supports V2X sidelink communication, the UE shall support SL-C-RX Category 2 to 4 for reception, and SL-C-TX category 2 to 5 for transmission. | | | | |

Table A.4.3-5: Void

Table A.4.3-6: Void

Table A.4.3-7: Additional capabilities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Additional capabilities | Ref. | Release | Comments |
| 1 | Enhanced performance requirements type A for LTE | 36.101, 8 | Rel-11 | Support for Enhanced performance requirements type A |
| 2 | Support of Type B Half-duplex FDD operation | 36.211, 6,2,5 36.306, 4.2.6 | Rel-12 | Support of Half-duplex FDD operation type B for category 0, category M1, category M2, category NB1 and category NB2 UE |
| 3 | Enhanced performance requirements type C for LTE | 36.101, 8 | Rel-12 | Support for Enhanced performance requirements type C |
| 4 | Enhanced performance requirements type B for LTE | 36.101, 8 36.306, 4.3.4.35 | Rel-12 | Support for Enhanced performance requirements type B |
| 5 | Enhanced measurement in high speed scenario | 36.306,4.3.33.1 | Rel-14 | Support measurement enhancements in high speed scenario |
| 6 | Enhanced downlink control channel performance requirements type A for LTE | 36.101, 8 | Rel-13 | Support for Enhanced downlink control channel performance requirements type A for LTE |
| 7 | Enhanced downlink control channel performance requirements type B for LTE | 36.101, 8 | Rel-13 | Support for Enhanced downlink control channel performance requirements type B for LTE |
| 8 | DMRS enhancements for TM9 | 36.306, 4.3.28.4 | Rel-13 | Support for DMRS enhancements in TM9 |
| 9 | aperiodic ZP-CSI-RS reporting | 36.306, 4.3.4.51 | Rel-13 | Support for aperiodic ZP-CSI-RS reporting |

Table A.4.3-8: Void

## A.4.4 Feature group indicators

In Table A.4.4-1a and Table A.4.4-1b, a 'VoLTE capable UE' corresponds to a UE that is capable of the "Voice domain preference for E-UTRAN" defined in TS 24.301 [15] being set to "IMS PS voice only", "IMS PS voice preferred, CS voice as secondary" or "CS voice preferred, IMS PS voice as secondary" (Ref TS 36.331 [14], clause B.1)

When a UE supports E-UTRA FDD only, it’s required to indicate combined FGI capabilities in Table A.4.4-1a, Table A.4.4-2a and Table A.4.4-3a; when a UE supports E-UTRA TDD only, it’s required to indicate combined FGI capabilities in Table A.4.4-1b, Table A.4.4-2b and Table A.4.4-3b; when a UE supports E-UTRA FDD/TDD dual mode with same FGI capabilities on FDD and TDD, it’s required to indicate both FGI capabilities in Table A.4.4-1a, Table A.4.4-2a, Table A.4.4-3a, Table A.4.4-1b, Table A.4.4-2b and Table A.4.4-3b and make sure those FDD and TDD tables are identical.

Note 1: From Rel-11 onwards 3GPP TSG RAN has discontinued the usage of FGI bits. Instead it has introduced a different mechanism to accomplish the same purposes based on the principles described in TS 36.306 [17] clause 4. This new principles where applicable have been catered for in section A.4.5, e.g. Table A.4.5-2.

Table A.4.4-1:Void

Table A.4.4-1a: Feature group indicators 1-32 for FDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Support of  - Intra-subframe frequency hopping for PUSCH scheduled by UL grant  - DCI format 3a (TPC commands for PUCCH and PUSCH with single bit power adjustments)  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PMI  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI | - set to 1 by category M1 UE that has implemented and successfully tested "Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PM" |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_1\_F | Corresponding to the Index of Indicator, the leftmost binary bit 1. Set to true if supporting all functionalities in the feature group. |
| 2 | Support of  - Simultaneous CQI and ACK/NACK on PUCCH, i.e. PUCCH format 2a and 2b  - Absolute TPC command for PUSCH  - Resource allocation type 1 for PDSCH  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-0 - UE selected subband CQI without PMI  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_2\_F | Corresponding to the Index of Indicator, the leftmost binary bit 2. Set to true if supporting all functionalities in the feature group. |
| 3 | Support of  - Semi-persistent scheduling  - TTI bundling  - 5bit RLC UM SN  - 7bit PDCP SN | - can only be set to 1 if the UE has set bit number 7 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_3\_F | Corresponding to the Index of Indicator, the leftmost binary bit 3. Set to true if supporting all functionalities in the feature group. |
| Support of  - 5bit RLC UM SN  - 7bit PDCP SN | - can only be set to 1 if the UE has set bit number 7 to 1. | Yes, if UE supports VoLTE | Rel-9, Rel-10 |
| Yes, if UE supports VoLTE.  Yes, if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 4 | Support of  - Short DRX cycle | - can only be set to 1 if the UE has set bit number 5 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_4\_F | Corresponding to the Index of Indicator, the leftmost binary bit 4. Set to true if supporting all functionalities in the feature group. |
| 5 | Support of  - Long DRX cycle  - DRX command MAC control element |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_5\_F | Corresponding to the Index of Indicator, the leftmost binary bit 5. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 6 | Support of  - Prioritized bit rate |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_6\_F | Corresponding to the Index of Indicator, the leftmost binary bit 6. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 7 | Support of  - RLC UM | - can only be set to 0 if the UE does not support voice |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_7\_F | Corresponding to the Index of Indicator, the leftmost binary bit 7. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports VoLTE | Rel-9 |
| Yes, if UE supports VoLTE.  Yes, if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 8 | Support of  - EUTRA RRC\_CONNECTED to UTRA CELL\_DCH PS handover | - can only be set to 1 if the UE has set bit number 22 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_8\_F | Corresponding to the Index of Indicator, the leftmost binary bit 8. Set to true if supporting all functionalities in the feature group. |
| Support of  - EUTRA RRC\_CONNECTED to UTRA FDD or UTRA TDD CELL\_DCH PS handover, if the UE supports either only UTRAN FDD or only UTRAN TDD  - EUTRA RRC\_CONNECTED to UTRA FDD CELL\_DCH PS handover, if the UE supports both UTRAN FDD and UTRAN TDD | Yes (except for category M1 UE), if UE supports UTRA FDD | Rel-9 |
| 9 | Support of  - EUTRA RRC\_CONNECTED to GERAN GSM\_Dedicated handover | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 23 to 1 |  | Rel-8, Rel-9, Rel-10 | 36.331, Annex B.1 | pc\_FeatrGrp\_9\_F | Corresponding to the Index of Indicator, the leftmost binary bit 9. Set to true if supporting all functionalities in the feature group. |
|  | Yes (except for category M1 UE), if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 10 | Support of  - EUTRA RRC\_CONNECTED to GERAN (Packet\_)Idle by Cell Change Order  - EUTRA RRC\_CONNECTED to GERAN (Packet\_)Idle by Cell Change Order with NACC (Network Assisted Cell Change) |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_10\_F | Corresponding to the Index of Indicator, the leftmost binary bit 10. Set to true if supporting all functionalities in the feature group. |
| 11 | Support of  - EUTRA RRC\_CONNECTED to CDMA2000 1xRTT CS Active handover | - can only be set to 1 if the UE has sets bit number 24 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_11\_F | Corresponding to the Index of Indicator, the leftmost binary bit 11. Set to true if supporting all functionalities in the feature group. |
| 12 | Support of  - EUTRA RRC\_CONNECTED to CDMA2000 HRPD Active handover | - can only be set to 1 if the UE has set bit number 26 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_12\_F | Corresponding to the Index of Indicator, the leftmost binary bit 12. Set to true if supporting all functionalities in the feature group. |
| 13 | Support of  - Inter-frequency handover (within FDD or TDD) | - can only be set to 1 if the UE has set bit number 25 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_13\_F | Corresponding to the Index of Indicator, the leftmost binary bit 13. Set to true if supporting all functionalities in the feature group. |
| Yes (except for category M1 UE), unless UE only supports band 13 | Rel-9 |
| 14 | Support of  - Measurement reporting event: Event A4 - Neighbour > threshold  - Measurement reporting event: Event A5 - Serving < threshold1 & Neighbour > threshold2 |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_14\_F | Corresponding to the Index of Indicator, the leftmost binary bit 14.  Set to true if supporting all functionalities in the feature group. |
| Yes (except for category M1 UE) | Rel-9 |
| 15 | Support of  - Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Measurement reporting event: Event B1 - Neighbour > threshold for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set at least one of the bit number 22, 23, 24, 26 or 39 to 1.  - even if the UE sets bits 41, it shall still set bit 15 to 1 if measurement reporting event B1 is tested for all RATs supported by UE  - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_15\_F | Corresponding to the Index of Indicator, the leftmost binary bit 15.  Set to true if supporting all functionalities in the feature group. |
| Yes for FDD, if UE supports only UTRAN FDD and does not support UTRAN TDD or GERAN or 1xRTT or HRPD | Rel-9 |
| 16 | Support of  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*;  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*, if the UE has set bit number 25 to 1; and  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN, GERAN, 1xRTT or HRPD, if the UE has set bit number 22, 23, 24 or 26 to 1, respectively.  NOTE: Event triggered periodical reporting (i.e. with *triggerType* set to *event* and with *reportAmount* > 1) is a mandatory functionality of event triggered reporting and therefore not the subject of this bit.  Support of  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*, if the UE has set bit number 25 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively.  NOTE: Event triggered periodical reporting (i.e., with *triggerType* set to *event* and with *reportAmount* > 1) is a mandatory functionality of event triggered reporting and therefore not the subject of this bit. | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_16\_F | Corresponding to the Index of Indicator, the leftmost binary bit 16. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 17 | Support of  Intra-frequency ANR features including:  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 to 1.  - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_17\_F | Corresponding to the Index of Indicator, the leftmost binary bit 17. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 18 | Support of  Inter-frequency ANR features including:  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 to 1.  - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_18\_F | Corresponding to the Index of Indicator, the leftmost binary bit 18. Set to true if supporting all functionalities in the feature group. |
| Yes, unless UE only supports band 13 | Rel-9 |
| 19 | Support of  Inter-RAT ANR features including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, if the UE has set bit number 23 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN, 1xRTT or HRPD, if the UE has set bit number 22, 24 or 26 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN, GERAN, 1xRTT or HRPD, if the UE has set bit number 22, 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set bit number 5 to 1 and the UE has set at least one of the bit number 22, 23, 24 or 26 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_19\_F | Corresponding to the Index of Indicator, the leftmost binary bit 19. Set to true if supporting all functionalities in the feature group. |
| Support of  Inter-RAT ANR features including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, if the UE has set bit number 23 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for 1xRTT or HRPD, if the UE has set bit number 24 or 26 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRANTDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set bit number 5 to 1 and the UE has set at least one of the bit number 22, 39, 23, 24 or 26 to 1.  - even if the UE sets bits 33 to 37, it shall still set bit 19 to 1 if inter-RAT ANR features are tested for all RATs for which inter-RAT measurement reporting is indicated as tested | Rel-9 |
| 20 | If bit number 7 is set to ' 0':  - SRB1 and SRB2 for DCCH + 8x AM DRB  If bit number 7 is set to ' 1':  - SRB1 and SRB2 for DCCH + 8x AM DRB  - SRB1 and SRB2 for DCCH + 5x AM DRB + 3x UM DRB  NOTE: UE which indicate support for a DRB combination also support all subsets of the DRB combination. Therefore, release of DRB(s) never results in an unsupported DRB combination. | - Regardless of what bit number 7 and bit number 20 is set to, UE shall support at least SRB1 and SRB2 for DCCH + 4x AM DRB  - Regardless of what bit number 20 is set to, if bit number 7 is set to ' 1', UE shall support at least SRB1 and SRB2 for DCCH + 4x AM DRB + 1x UM DRB |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_20\_F | Corresponding to the Index of Indicator, the leftmost binary bit 20. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 21 | Support of  - Predefined intra- and inter-subframe frequency hopping for PUSCH with N\_sb > 1  - Predefined inter-subframe frequency hopping for PUSCH with N\_sb > 1 | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_21\_F | Corresponding to the Index of Indicator, the leftmost binary bit 21. Set to true if supporting all functionalities in the feature group. |
| 22 | Support of  - UTRAN measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_22\_F | Corresponding to the Index of Indicator, the leftmost binary bit 22. Set to true if supporting all functionalities in the feature group. |
| Support of  - UTRAN FDD or UTRAN TDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports either only UTRAN FDD or only UTRAN TDD  - UTRAN FDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports both UTRAN FDD and UTRAN TDD | Yes for FDD, if UE supports UTRA FDD | Rel-9 |
| 23 | Support of  - GERAN measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_23\_F | Corresponding to the Index of Indicator, the leftmost binary bit 23. Set to true if supporting all functionalities in the feature group. |
| 24 | Support of  - 1xRTT measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_24\_F | Corresponding to the Index of Indicator, the leftmost binary bit 24. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports enhanced 1xRTT CSFB | Rel-9 |
| 25 | Support of  - Inter-frequency measurements and reporting in E-UTRA connected mode  NOTE: The UE setting this bit to 1 and indicating support for FDD and TDD frequency bands in the UE capability signalling implements and is tested for FDD measurements while the UE is in TDD, and for TDD measurements while the UE is in FDD. | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_25\_F | Corresponding to the Index of Indicator, the leftmost binary bit 25. Set to true if supporting all functionalities in the feature group. |
| Yes, unless UE only supports band 13 | Rel-9 |
| 26 | Support of  - HRPD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_26\_F | Corresponding to the Index of Indicator, the leftmost binary bit 26. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports HRPD | Rel-9 |
| 27 | Support of  - EUTRA RRC\_CONNECTED to UTRA CELL\_DCH CS handover | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 8 to 1 and supports SR-VCC from EUTRA defined in TS 24.008  - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_27\_F | Corresponding to the Index of Indicator, the leftmost binary bit 27.  Set to true if supporting all functionalities in the feature group. |
| Support of  - EUTRA RRC\_CONNECTED to UTRA FDD or UTRA TDD CELL\_DCH CS handover, if the UE supports either only UTRAN FDD or only UTRAN TDD  - EUTRA RRC\_CONNECTED to UTRA FDD CELL\_DCH CS handover, if the UE supports both UTRAN FDD and UTRAN TDD | Yes for FDD, if UE supports VoLTE and UTRA FDD | Rel-9 |
| 28 | Support of  - TTI bundling | - If a category M1 UE does not support this feature group, this bit shall be set to 0. | Yes for FDD | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_28\_F | Corresponding to the Index of Indicator, the leftmost binary bit 28.  Set to true if supporting all functionalities in the feature group. |
|  |  |
| 29 | Support of  - Semi-Persistent Scheduling | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_29\_F | Corresponding to the Index of Indicator, the leftmost binary bit 29. Set to true if supporting all functionalities in the feature group. |
| 30 | Support of  - Handover between FDD and TDD | - can only be set to 1 if the UE has set bit number 13 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_30\_F | Corresponding to the Index of Indicator, the leftmost binary bit 30. Set to true if supporting all functionalities in the feature group. |
| 31 | Support of  - Indicates whether the UE supports the mechanisms defined for cells broadcasting multi band information i.e. comprehending multiBandInfoList, disregarding in RRC\_CONNECTED the related system information fields and understanding the EARFCN signalling for all bands, that overlap with the bands supported by the UE, and that are defined in the earliest version of TS 36.101 [42] that includes all UE supported bands. | - In this release of the protocol, this bit will never be mandated to be set to 1  - This FGI bit concerns an optional release independent feature (as it was difficult to introduce this from REL-8 when using regular UE capability signalling) |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_31\_F | Corresponding to the Index of Indicator, the leftmost binary bit 31.  Set to true if supporting all functionalities in the feature group. |
|  | Rel-9 |
|  |  |  | Yes | Rel-10 |  |  |  |
| 32 | Undefined |  |  | Rel-8 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 32. |

Table A.4.4-1b: Feature group indicators 1-32 for TDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Support of  - Intra-subframe frequency hopping for PUSCH scheduled by UL grant  - DCI format 3a (TPC commands for PUCCH and PUSCH with single bit power adjustments)  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PMI  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI | - set to 1 by category M1 UE that has implemented and successfully tested "Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PM" |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_1\_T | Corresponding to the Index of Indicator, the leftmost binary bit 1. Set to true if supporting all functionalities in the feature group. |
| 2 | Support of  - Simultaneous CQI and ACK/NACK on PUCCH, i.e. PUCCH format 2a and 2b  - Absolute TPC command for PUSCH  - Resource allocation type 1 for PDSCH  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-0 - UE selected subband CQI without PMI  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_2\_T | Corresponding to the Index of Indicator, the leftmost binary bit 2. Set to true if supporting all functionalities in the feature group. |
| 3 | Support of  - Semi-persistent scheduling  - TTI bundling  - 5bit RLC UM SN  - 7bit PDCP SN | - can only be set to 1 if the UE has set bit number 7 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_3\_T | Corresponding to the Index of Indicator, the leftmost binary bit 3. Set to true if supporting all functionalities in the feature group. |
| Support of  - 5bit RLC UM SN  - 7bit PDCP SN | - can only be set to 1 if the UE has set bit number 7 to 1. | Yes, if UE supports VoLTE | Rel-9, Rel-10 |
| Yes, if UE supports VoLTE.  Yes, if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 4 | Support of  - Short DRX cycle | - can only be set to 1 if the UE has set bit number 5 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_4\_T | Corresponding to the Index of Indicator, the leftmost binary bit 4. Set to true if supporting all functionalities in the feature group. |
| 5 | Support of  - Long DRX cycle  - DRX command MAC control element |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_5\_T | Corresponding to the Index of Indicator, the leftmost binary bit 5. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 6 | Support of  - Prioritized bit rate |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_6\_T | Corresponding to the Index of Indicator, the leftmost binary bit 6. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 7 | Support of  - RLC UM | - can only be set to 0 if the UE does not support voice |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_7\_T | Corresponding to the Index of Indicator, the leftmost binary bit 7. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports VoLTE | Rel-9 |
| Yes, if UE supports VoLTE.  Yes, if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 8 | Support of  - EUTRA RRC\_CONNECTED to UTRA CELL\_DCH PS handover | - can only be set to 1 if the UE has set bit number 22 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_8\_T | Corresponding to the Index of Indicator, the leftmost binary bit 8. Set to true if supporting all functionalities in the feature group. |
| Support of  - EUTRA RRC\_CONNECTED to UTRA FDD or UTRA TDD CELL\_DCH PS handover, if the UE supports either only UTRAN FDD or only UTRAN TDD  - EUTRA RRC\_CONNECTED to UTRA FDD CELL\_DCH PS handover, if the UE supports both UTRAN FDD and UTRAN TDD | Yes, if UE supports UTRA | Rel-9 |
| 9 | Support of  - EUTRA RRC\_CONNECTED to GERAN GSM\_Dedicated handover | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 23 to 1 |  | Rel-8, Rel-9, Rel-10 | 36.331, Annex B.1 | pc\_FeatrGrp\_9\_T | Corresponding to the Index of Indicator, the leftmost binary bit 9. Set to true if supporting all functionalities in the feature group. |
|  | Yes (except for category M1 UE), if UE supports SRVCC to EUTRAN from GERAN. | Rel-11 |
| 10 | Support of  - EUTRA RRC\_CONNECTED to GERAN (Packet\_)Idle by Cell Change Order  - EUTRA RRC\_CONNECTED to GERAN (Packet\_)Idle by Cell Change Order with NACC (Network Assisted Cell Change) |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_10\_T | Corresponding to the Index of Indicator, the leftmost binary bit 10. Set to true if supporting all functionalities in the feature group. |
| 11 | Support of  - EUTRA RRC\_CONNECTED to CDMA2000 1xRTT CS Active handover | - can only be set to 1 if the UE has sets bit number 24 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_11\_T | Corresponding to the Index of Indicator, the leftmost binary bit 11. Set to true if supporting all functionalities in the feature group. |
| 12 | Support of  - EUTRA RRC\_CONNECTED to CDMA2000 HRPD Active handover | - can only be set to 1 if the UE has set bit number 26 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_12\_T | Corresponding to the Index of Indicator, the leftmost binary bit 12. Set to true if supporting all functionalities in the feature group. |
| 13 | Support of  - Inter-frequency handover (within FDD or TDD) | - can only be set to 1 if the UE has set bit number 25 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_13\_T | Corresponding to the Index of Indicator, the leftmost binary bit 13. Set to true if supporting all functionalities in the feature group. |
| Yes (except for category M1 UE), unless UE only supports band 13 | Rel-9 |
| 14 | Support of  - Measurement reporting event: Event A4 - Neighbour > threshold  - Measurement reporting event: Event A5 - Serving < threshold1 & Neighbour > threshold2 |  |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_14\_T | Corresponding to the Index of Indicator, the leftmost binary bit 14.  Set to true if supporting all functionalities in the feature group. |
| Yes (except for category M1 UE) | Rel-9 |
| 15 | Support of  - Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Measurement reporting event: Event B1 - Neighbour > threshold for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set at least one of the bit number 22, 23, 24, 26 or 39 to 1.  - even if the UE sets bits 41, it shall still set bit 15 to 1 if measurement reporting event B1 is tested for all RATs supported by UE  - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_15\_T | Corresponding to the Index of Indicator, the leftmost binary bit 15.  Set to true if supporting all functionalities in the feature group. |
| Yes for FDD, if UE supports only UTRAN FDD and does not support UTRAN TDD or GERAN or 1xRTT or HRPD | Rel-9 |
| 16 | Support of  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*;  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*, if the UE has set bit number 25 to 1; and  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN, GERAN, 1xRTT or HRPD, if the UE has set bit number 22, 23, 24 or 26 to 1, respectively.  NOTE: Event triggered periodical reporting (i.e. with *triggerType* set to *event* and with *reportAmount* > 1) is a mandatory functionality of event triggered reporting and therefore not the subject of this bit.  Support of  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*, if the UE has set bit number 25 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively.  NOTE: Event triggered periodical reporting (i.e., with *triggerType* set to *event* and with *reportAmount* > 1) is a mandatory functionality of event triggered reporting and therefore not the subject of this bit. | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_16\_T | Corresponding to the Index of Indicator, the leftmost binary bit 16. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 17 | Support of  Intra-frequency ANR features including:  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Intra-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 to 1.  - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_17\_T | Corresponding to the Index of Indicator, the leftmost binary bit 17. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 18 | Support of  Inter-frequency ANR features including:  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-frequency periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 to 1.  - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_18\_T | Corresponding to the Index of Indicator, the leftmost binary bit 18. Set to true if supporting all functionalities in the feature group. |
| Yes, unless UE only supports band 13 | Rel-9 |
| 19 | Support of  Inter-RAT ANR features including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, if the UE has set bit number 23 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN, 1xRTT or HRPD, if the UE has set bit number 22, 24 or 26 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN, GERAN, 1xRTT or HRPD, if the UE has set bit number 22, 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set bit number 5 to 1 and the UE has set at least one of the bit number 22, 23, 24 or 26 to 1. |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_19\_T | Corresponding to the Index of Indicator, the leftmost binary bit 19. Set to true if supporting all functionalities in the feature group. |
| Support of  Inter-RAT ANR features including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells* for GERAN, if the UE has set bit number 23 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRAN TDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON* for 1xRTT or HRPD, if the UE has set bit number 24 or 26 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN FDD or UTRAN TDD, if the UE supports either only UTRAN FDD or only UTRANTDD and has set bit number 22 to 1  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for UTRAN FDD or UTRAN TDD, if the UE supports both UTRAN FDD and UTRAN TDD and has set bit number 22 or 39 to 1, respectively  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* for GERAN, 1xRTT or HRPD, if the UE has set bit number 23, 24 or 26 to 1, respectively | - can only be set to 1 if the UE has set bit number 5 to 1 and the UE has set at least one of the bit number 22, 39, 23, 24 or 26 to 1.  - even if the UE sets bits 33 to 37, it shall still set bit 19 to 1 if inter-RAT ANR features are tested for all RATs for which inter-RAT measurement reporting is indicated as tested | Rel-9 |
| 20 | If bit number 7 is set to ‘0’:  - SRB1 and SRB2 for DCCH + 8x AM DRB  If bit number 7 is set to ‘1’:  - SRB1 and SRB2 for DCCH + 8x AM DRB  - SRB1 and SRB2 for DCCH + 5x AM DRB + 3x UM DRB  NOTE: UE which indicate support for a DRB combination also support all subsets of the DRB combination. Therefore, release of DRB(s) never results in an unsupported DRB combination. | - Regardless of what bit number 7 and bit number 20 is set to, UE shall support at least SRB1 and SRB2 for DCCH + 4x AM DRB  - Regardless of what bit number 20 is set to, if bit number 7 is set to ‘1’, UE shall support at least SRB1 and SRB2 for DCCH + 4x AM DRB + 1x UM DRB |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_20\_T | Corresponding to the Index of Indicator, the leftmost binary bit 20. Set to true if supporting all functionalities in the feature group. |
| Yes | Rel-9 |
| 21 | Support of  - Predefined intra- and inter-subframe frequency hopping for PUSCH with N\_sb > 1  - Predefined inter-subframe frequency hopping for PUSCH with N\_sb > 1 | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_21\_T | Corresponding to the Index of Indicator, the leftmost binary bit 21. Set to true if supporting all functionalities in the feature group. |
| 22 | Support of  - UTRAN measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_22\_T | Corresponding to the Index of Indicator, the leftmost binary bit 22. Set to true if supporting all functionalities in the feature group. |
| Support of  - UTRAN FDD or UTRAN TDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports either only UTRAN FDD or only UTRAN TDD  - UTRAN FDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports both UTRAN FDD and UTRAN TDD | Yes for FDD, if UE supports UTRA FDD | Rel-9 |
| 23 | Support of  - GERAN measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_23\_T | Corresponding to the Index of Indicator, the leftmost binary bit 23. Set to true if supporting all functionalities in the feature group. |
| 24 | Support of  - 1xRTT measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_24\_T | Corresponding to the Index of Indicator, the leftmost binary bit 24. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports enhanced 1xRTT CSFB | Rel-9 |
| 25 | Support of  - Inter-frequency measurements and reporting in E-UTRA connected mode  NOTE: The UE setting this bit to 1 and indicating support for FDD and TDD frequency bands in the UE capability signalling implements and is tested for FDD measurements while the UE is in TDD, and for TDD measurements while the UE is in FDD. | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_25\_T | Corresponding to the Index of Indicator, the leftmost binary bit 25. Set to true if supporting all functionalities in the feature group. |
| Yes, unless UE only supports band 13 | Rel-9 |
| 26 | Support of  - HRPD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_26\_T | Corresponding to the Index of Indicator, the leftmost binary bit 26. Set to true if supporting all functionalities in the feature group. |
| Yes, if UE supports HRPD | Rel-9 |
| 27 | Support of  - EUTRA RRC\_CONNECTED to UTRA CELL\_DCH CS handover | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 8 to 1 and supports SR-VCC from EUTRA defined in TS 24.008  - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_27\_T | Corresponding to the Index of Indicator, the leftmost binary bit 27.  Set to true if supporting all functionalities in the feature group. |
| Support of  - EUTRA RRC\_CONNECTED to UTRA FDD or UTRA TDD CELL\_DCH CS handover, if the UE supports either only UTRAN FDD or only UTRAN TDD  - EUTRA RRC\_CONNECTED to UTRA FDD CELL\_DCH CS handover, if the UE supports both UTRAN FDD and UTRAN TDD | Yes for FDD, if UE supports VoLTE and UTRA FDD | Rel-9 |
| 28 | Support of  - TTI bundling | - If a category M1 UE does not support this feature group, this bit shall be set to 0 | Yes for FDD | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_28\_T | Corresponding to the Index of Indicator, the leftmost binary bit 28.  Set to true if supporting all functionalities in the feature group. |
|  |  |
| 29 | Support of  - Semi-Persistent Scheduling | - If a category M1 UE does not support this feature group, this bit shall be set to 0 |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_29\_T | Corresponding to the Index of Indicator, the leftmost binary bit 29. Set to true if supporting all functionalities in the feature group. |
| 30 | Support of  - Handover between FDD and TDD | - can only be set to 1 if the UE has set bit number 13 to 1 |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_30\_T | Corresponding to the Index of Indicator, the leftmost binary bit 30. Set to true if supporting all functionalities in the feature group. |
| 31 | Support of  - Indicates whether the UE supports the mechanisms defined for cells broadcasting multi band information i.e. comprehending multiBandInfoList, disregarding in RRC\_CONNECTED the related system information fields and understanding the EARFCN signalling for all bands, that overlap with the bands supported by the UE, and that are defined in the earliest version of TS 36.101 [42] that includes all UE supported bands. | - In this release of the protocol, this bit will never be mandated to be set to 1  - This FGI bit concerns an optional release independent feature (as it was difficult to introduce this from REL-8 when using regular UE capability signalling) |  | Rel-8 | 36.331, Annex B.1 | pc\_FeatrGrp\_31\_T | Corresponding to the Index of Indicator, the leftmost binary bit 31.  Set to true if supporting all functionalities in the feature group. |
|  | Rel-9 |
|  |  |  | Yes | Rel-10 |  |  |  |
| 32 | Undefined |  |  | Rel-8 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 32. |

Table A.4.4-2: Void

Table A.4.4-2a: Feature group indicators 33-64 for FDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 33 | Inter-RAT ANR features for UTRAN including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 22 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_33\_F | Corresponding to the Index of Indicator, the leftmost binary bit 33. Set to true if supporting all functionalities in the feature group. |
| 34 | Inter-RAT ANR features for GERAN including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 23 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_34\_F | Corresponding to the Index of Indicator, the leftmost binary bit 34. Set to true if supporting all functionalities in the feature group. |
| 35 | Inter-RAT ANR features for 1xRTT including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 24 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_35\_F | Corresponding to the Index of Indicator, the leftmost binary bit 35. Set to true if supporting all functionalities in the feature group. |
| 36 | Inter-RAT ANR features for HRPD including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 26 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_36\_F | Corresponding to the Index of Indicator, the leftmost binary bit 36. Set to true if supporting all functionalities in the feature group. |
| 37 | Inter-RAT ANR features for UTRAN TDD including:  - Inter-RAT periodical measurement reporting where triggerType is set to periodical and purpose is set to reportStrongestCellsForSON  - Inter-RAT periodical measurement reporting where triggerType is set to periodical and purpose is set to reportCGI | - can only be set to 1 if the UE has set bit number 5 and at least one of the bit number 22 (for UEs supporting only UTRA TDD) or the bit number 39 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_37\_F | Corresponding to the Index of Indicator, the leftmost binary bit 37.  Set to true if supporting all functionalities in the feature group. |
| 38 | -EUTRA RRC\_CONNECTED to UTRA TDD CELL\_DCH PS handover, if the UE supports both UTRAN FDD and UTRAN TDD | - can only be set to 1 if the UE has set bit number 39 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_38\_F | Corresponding to the Index of Indicator, the leftmost binary bit 38.  Set to true if supporting all functionalities in the feature group. |
| 39 | -UTRAN TDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports both UTRAN FDD and UTRAN TDD | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_39\_F | Corresponding to the Index of Indicator, the leftmost binary bit 39.  Set to true if supporting all functionalities in the feature group. |
| 40 | -EUTRA RRC\_CONNECTED to UTRA TDD CELL\_DCH CS handover, if the UE supports both UTRAN FDD and UTRAN TDD | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 38 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_40\_F | Corresponding to the Index of Indicator, the leftmost binary bit 40.  Set to true if supporting all functionalities in the feature group. |
| 41 | Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD, if the UE supports UTRAN FDD and has set bit number 22 to 1 | - If a category M1 UE does not support this feature group, this bit shall be set to 0. | Yes for FDD, unless UE has set bit number 15 to 1 | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_41\_F | Corresponding to the Index of Indicator, the leftmost binary bit 41.  Set to true if supporting all functionalities in the feature group. |
| 42 | DCI format 3a (TPC commands for PUCCH and PUSCH with single bit power adjustments) |  |  | Rel-13 | 36.331, Annex B.1 | pc\_FeatrGrp\_42\_F | Corresponding to the Index of Indicator, the leftmost binary bit 42. |
| 43 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 43. |
| 44 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 44. |
| 45 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 45. |
| 46 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 46. |
| 47 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 47. |
| 48 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 48. |
| 49 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 49. |
| 50 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 50. |
| 51 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 51. |
| 52 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 52. |
| 53 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 53. |
| 54 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 54. |
| 55 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 55. |
| 56 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 56. |
| 57 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 57. |
| 58 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 58. |
| 59 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 59. |
| 60 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 60. |
| 61 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 61. |
| 62 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 62. |
| 63 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 63. |
| 64 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 64. |

Table A.4.4-2b: Feature group indicators 33-64 for TDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 33 | Inter-RAT ANR features for UTRAN including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 22 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_33\_T | Corresponding to the Index of Indicator, the leftmost binary bit 33. Set to true if supporting all functionalities in the feature group. |
| 34 | Inter-RAT ANR features for GERAN including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCells*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 23 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_34\_T | Corresponding to the Index of Indicator, the leftmost binary bit 34. Set to true if supporting all functionalities in the feature group. |
| 35 | Inter-RAT ANR features for 1xRTT including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 24 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_35\_T | Corresponding to the Index of Indicator, the leftmost binary bit 35. Set to true if supporting all functionalities in the feature group. |
| 36 | Inter-RAT ANR features for HRPD including:  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportStrongestCellsForSON*  - Inter-RAT periodical measurement reporting where *triggerType* is set to *periodical* and *purpose* is set to *reportCGI* | - can only be set to 1 if the UE has set bit number 5 and bit number 26 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_36\_T | Corresponding to the Index of Indicator, the leftmost binary bit 36. Set to true if supporting all functionalities in the feature group. |
| 37 | Inter-RAT ANR features for UTRAN TDD including:  - Inter-RAT periodical measurement reporting where triggerType is set to periodical and purpose is set to reportStrongestCellsForSON  - Inter-RAT periodical measurement reporting where triggerType is set to periodical and purpose is set to reportCGI | - can only be set to 1 if the UE has set bit number 5 and at least one of the bit number 22 (for UEs supporting only UTRA TDD) or the bit number 39 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_37\_T | Corresponding to the Index of Indicator, the leftmost binary bit 37.  Set to true if supporting all functionalities in the feature group. |
| 38 | -EUTRA RRC\_CONNECTED to UTRA TDD CELL\_DCH PS handover, if the UE supports both UTRAN FDD and UTRAN TDD | - can only be set to 1 if the UE has set bit number 39 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_38\_T | Corresponding to the Index of Indicator, the leftmost binary bit 38.  Set to true if supporting all functionalities in the feature group. |
| 39 | -UTRAN TDD measurements, reporting and measurement reporting event B2 in E-UTRA connected mode, if the UE supports both UTRAN FDD and UTRAN TDD | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_39\_T | Corresponding to the Index of Indicator, the leftmost binary bit 39.  Set to true if supporting all functionalities in the feature group. |
| 40 | -EUTRA RRC\_CONNECTED to UTRA TDD CELL\_DCH CS handover, if the UE supports both UTRAN FDD and UTRAN TDD | - related to SR-VCC  - can only be set to 1 if the UE has set bit number 38 to 1. |  | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_40\_T | Corresponding to the Index of Indicator, the leftmost binary bit 40.  Set to true if supporting all functionalities in the feature group. |
| 41 | Measurement reporting event: Event B1 - Neighbour > threshold for UTRAN FDD, if the UE supports UTRAN FDD and has set bit number 22 to 1 | - If a category M1 UE does not support this feature group, this bit shall be set to 0. | Yes for FDD, unless UE has set bit number 15 to 1 | Rel-9 | 36.331, Annex B.1 | pc\_FeatrGrp\_41\_T | Corresponding to the Index of Indicator, the leftmost binary bit 41.  Set to true if supporting all functionalities in the feature group. |
| 42 | DCI format 3a (TPC commands for PUCCH and PUSCH with single bit power adjustments) |  |  | Rel-13 | 36.331, Annex B.1 | pc\_FeatrGrp\_42\_T | Corresponding to the Index of Indicator, the leftmost binary bit 42. |
| 43 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 43. |
| 44 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 44. |
| 45 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 45. |
| 46 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 46. |
| 47 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 47. |
| 48 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 48. |
| 49 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 49. |
| 50 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 50. |
| 51 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 51. |
| 52 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 52. |
| 53 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 53. |
| 54 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 54. |
| 55 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 55. |
| 56 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 56. |
| 57 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 57. |
| 58 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 58. |
| 59 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 59. |
| 60 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 60. |
| 61 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 61. |
| 62 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 62. |
| 63 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 63. |
| 64 | Undefined |  |  | Rel-9 | 36.331, Annex B.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 64. |

Table A.4.4-3: Void

Table A.4.4-3a: Feature group indicators 101-132 for FDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 101 | - DMRS with OCC (orthogonal cover code) and SGH (sequence group hopping) disabling | - if the UE supports two or more layers for spatial multiplexing in UL, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_101\_F | Corresponding to the Index of Indicator, the leftmost binary bit 101. Set to true if supporting all functionalities in the feature group. |
| - If a category 0 UE does not support this feature, this bit shall be set to 0. | Rel-12 |
| 102 | - Trigger type 1 SRS (aperiodic SRS) transmission (Up to X ports)  NOTE: X = number of supported layers on given band |  |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_102\_F | Corresponding to the Index of Indicator, the leftmost binary bit 102. Set to true if supporting all functionalities in the feature group. |
| 103 | - PDSCH transmission mode 9 when up to 4 CSI reference signal ports are configured | - for Category 8 UEs, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_103\_F | Corresponding to the Index of Indicator, the leftmost binary bit 103. Set to true if supporting all functionalities in the feature group. |
|  |  | - for Category 8 UEs, this bit shall be set to 1.  - for Category 11 and higher UEs, this bit shall be set to 1.  - for DL Category 11 and higher UEs (except for DL Category 13), this bit shall be set to 1. | Yes for the UE categories listed in the column “Notes” | Rel-15 |  |  |  |
| 104 | - PDSCH transmission mode 9 for TDD when 8 CSI reference signal ports are configured | - if the UE does not support TDD, this bit is irrelevant (capability signalling exists for FDD for this feature), and this bit shall be set to 0.  - for Category 8 UEs, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_104\_F | Corresponding to the Index of Indicator, the leftmost binary bit 104. Set to true if supporting all functionalities in the feature group. |
|  |  | - if the UE does not support TDD, this bit is irrelevant, and this bit shall be set to 0.  - this bit is not applicable to FDD (capability signalling exists for FDD for this feature).  - for Category 8 UEs, this bit shall be set to 1.  - for Category 11 and higher UEs, this bit shall be set to 1.  - for DL Category 11 and higher UEs (except for DL Category 13), this bit shall be set to 1. | Yes for TDD, for the UE categories listed in the column “Notes” | Rel-15 |  |  |  |
| 105 | - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-0 - UE selected subband CQI without PMI, when PDSCH transmission mode 9 is configured  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI, when PDSCH transmission mode 9 and up to 4 CSI reference signal ports are configured | - this bit can be set to 1 only if indices 2 (Table B.1-1) and 103 are set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_105\_F | Corresponding to the Index of Indicator, the leftmost binary bit 105. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if index 2 is set to 1 for both FDD and TDD, and index 103 is set to 1 either for FDD and TDD. |  | Rel-12 |  |  |  |
| 106 | - Periodic CQI/PMI/RI/PTI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI, when PDSCH transmission mode 9 and 8 CSI reference signal ports are configured | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to ' supported') and if index 2 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_106\_F | Corresponding to the Index of Indicator, the leftmost binary bit 106. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to' supported', and if index 2 is set to 1 for both FDD and TDD. |  | Rel-12 |  |  |  |
| 107 | - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PMI, when PDSCH transmission mode 9 is configured  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI, when PDSCH transmission mode 9 and up to 4 CSI reference signal ports are configured | - this bit can be set to 1 only if indices 1 (Table B.1-1) and 103 are set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_107\_F | Corresponding to the Index of Indicator, the leftmost binary bit 107. Set to true if supporting all functionalities in the feature group. |
| 108 | - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI, when PDSCH transmission mode 9 and 8 CSI reference signal ports are configured | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to' supported') and if index 1 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_108\_F | Corresponding to the Index of Indicator, the leftmost binary bit 108. Set to true if supporting all functionalities in the feature group. |
| 109 | - Periodic CQI/PMI/RI reporting on PUCCH Mode 1-1, submode 1 | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to' supported'). |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_109\_F | Corresponding to the Index of Indicator, the leftmost binary bit 109. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to ‘supported’. |  | Rel-12 |  |  |  |
| 110 | - Periodic CQI/PMI/RI reporting on PUCCH Mode 1-1, submode 2 | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to 'supported'). |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_110\_F | Corresponding to the Index of Indicator, the leftmost binary bit 110. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to ‘supported’. |  | Rel-12 |  |  |  |
| 111 | - Measurement reporting trigger Event A6 | - this bit can be set to 1 only if the UE supports carrier aggregation. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_111\_F | Corresponding to the Index of Indicator, the leftmost binary bit 111. Set to true if supporting all functionalities in the feature group. |
| 112 | - SCell addition within3 the Handover to EUTRA procedure | - this bit can be set to 1 only if the UE supports carrier aggregation and the Handover to EUTRA procedure. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_112\_F | Corresponding to the Index of Indicator, the leftmost binary bit 112. Set to true if supporting all functionalities in the feature group. |
| 113 | - Trigger type 0 SRS (periodic SRS) transmission on X Serving Cells  NOTE: X = number of supported component carriers in a given band combination | - this bit can be set to 1 only if the UE supports carrier aggregation in UL. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_113\_F | Corresponding to the Index of Indicator, the leftmost binary bit 113. Set to true if supporting all functionalities in the feature group. |
| 114 | - Reporting of both UTRA CPICH RSCP and Ec/N0 in a Measurement Report | - this bit can be set to 1 only if index 22 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_114\_F | Corresponding to the Index of Indicator, the leftmost binary bit 114. Set to true if supporting all functionalities in the feature group. |
| 115 | - time domain ICIC RLM/RRM measurement subframe restriction for the serving cell  - time domain ICIC RRM measurement subframe restriction for neighbour cells  - time domain ICIC CSI measurement subframe restriction | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_115\_F | Corresponding to the Index of Indicator, the leftmost binary bit 115. Set to true if supporting all functionalities in the feature group. |
| 116 | - Relative transmit phase continuity for spatial multiplexing in UL | - this bit can be set to 1 only if the UE supports two or more layers for spatial multiplexing in UL. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_116\_F | Corresponding to the Index of Indicator, the leftmost binary bit 116. Set to true if supporting all functionalities in the feature group. |
| 117 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 117. |
| 118 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 118. |
| 119 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 119. |
| 120 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 120. |
| 121 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 121. |
| 122 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 122. |
| 123 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 123. |
| 124 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 124. |
| 125 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 125. |
| 126 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 126. |
| 127 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 127. |
| 128 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 128. |
| 129 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 129. |
| 130 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 130. |
| 131 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 131. |
| 132 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 132. |

Table A.4.4-3b: Feature group indicators 101-132 for TDD

| Item | Additional information | Notes | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Release | Ref. | Mnemonic | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 101 | - DMRS with OCC (orthogonal cover code) and SGH (sequence group hopping) disabling | - if the UE supports two or more layers for spatial multiplexing in UL, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_101\_T | Corresponding to the Index of Indicator, the leftmost binary bit 101. Set to true if supporting all functionalities in the feature group. |
| - If a category 0 UE does not support this feature, this bit shall be set to 0. | Rel-12 |
| 102 | - Trigger type 1 SRS (aperiodic SRS) transmission (Up to X ports)  NOTE: X = number of supported layers on given band |  |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_102\_T | Corresponding to the Index of Indicator, the leftmost binary bit 102. Set to true if supporting all functionalities in the feature group. |
| 103 | - PDSCH transmission mode 9 when up to 4 CSI reference signal ports are configured | - for Category 8 UEs, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_103\_T | Corresponding to the Index of Indicator, the leftmost binary bit 103. Set to true if supporting all functionalities in the feature group. |
|  |  | - for Category 8 UEs, this bit shall be set to 1.  - for Category 11 and higher UEs, this bit shall be set to 1.  - for DL Category 11 and higher UEs (except for DL Category 13), this bit shall be set to 1. | Yes for the UE categories listed in the column “Notes” | Rel-15 |  |  |  |
| 104 | - PDSCH transmission mode 9 for TDD when 8 CSI reference signal ports are configured | - if the UE does not support TDD, this bit is irrelevant (capability signalling exists for FDD for this feature), and this bit shall be set to 0.  - for Category 8 UEs, this bit shall be set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_104\_T | Corresponding to the Index of Indicator, the leftmost binary bit 104. Set to true if supporting all functionalities in the feature group. |
|  |  | - if the UE does not support TDD, this bit is irrelevant, and this bit shall be set to 0.  - this bit is not applicable to FDD (capability signalling exists for FDD for this feature).  - for Category 8 UEs, this bit shall be set to 1.  - for Category 11 and higher UEs, this bit shall be set to 1.  - for DL Category 11 and higher UEs (except for DL Category 13), this bit shall be set to 1. | Yes for TDD, for the UE categories listed in the column “Notes” | Rel-15 |  |  |  |
| 105 | - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-0 - UE selected subband CQI without PMI, when PDSCH transmission mode 9 is configured  - Periodic CQI/PMI/RI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI, when PDSCH transmission mode 9 and up to 4 CSI reference signal ports are configured | - this bit can be set to 1 only if indices 2 (Table B.1-1) and 103 are set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_105\_T | Corresponding to the Index of Indicator, the leftmost binary bit 105. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if index 2 is set to 1 for both FDD and TDD, and index 103 is set to 1 either for FDD and TDD. |  | Rel-12 |  |  |  |
| 106 | - Periodic CQI/PMI/RI/PTI reporting on PUCCH: Mode 2-1 - UE selected subband CQI with single PMI, when PDSCH transmission mode 9 and 8 CSI reference signal ports are configured | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to' supported') and if index 2 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_106\_T | Corresponding to the Index of Indicator, the leftmost binary bit 106. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to 'supported', and if index 2 is set to 1 for both FDD and TDD. |  | Rel-12 |  |  |  |
| 107 | - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-0 - UE selected subband CQI without PMI, when PDSCH transmission mode 9 is configured  - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI, when PDSCH transmission mode 9 and up to 4 CSI reference signal ports are configured | - this bit can be set to 1 only if indices 1 (Table B.1-1) and 103 are set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_107\_T | Corresponding to the Index of Indicator, the leftmost binary bit 107. Set to true if supporting all functionalities in the feature group. |
| 108 | - Aperiodic CQI/PMI/RI reporting on PUSCH: Mode 2-2 - UE selected subband CQI with multiple PMI, when PDSCH transmission mode 9 and 8 CSI reference signal ports are configured | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to ' supported') and if index 1 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_108\_T | Corresponding to the Index of Indicator, the leftmost binary bit 108. Set to true if supporting all functionalities in the feature group. |
| 109 | - Periodic CQI/PMI/RI reporting on PUCCH Mode 1-1, submode 1 | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to' supported'). |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_109\_T | Corresponding to the Index of Indicator, the leftmost binary bit 109. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to 'supported'. |  | Rel-12 |  |  |  |
| 110 | - Periodic CQI/PMI/RI reporting on PUCCH Mode 1-1, submode 2 | - this bit can be set to 1 only if the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports (i.e., for TDD, if index 104 is set to 1, and for FDD, if *tm9-With-8Tx-FDD-r10* is set to' supported'). |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_110\_T | Corresponding to the Index of Indicator, the leftmost binary bit 110. Set to true if supporting all functionalities in the feature group. |
|  |  | - For UEs capable of TDD-FDD CA, this bit can be set to 1 for both FDD and TDD if either index 104 is set to 1 or tm9-With-8Tx-FDD-r10 is set to' supported'. |  | Rel-12 |  |  |  |
| 111 | - Measurement reporting trigger Event A6 | - this bit can be set to 1 only if the UE supports carrier aggregation. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_111\_T | Corresponding to the Index of Indicator, the leftmost binary bit 111. Set to true if supporting all functionalities in the feature group. |
| 112 | - SCell addition within the Handover to EUTRA procedure | - this bit can be set to 1 only if the UE supports carrier aggregation and the Handover to EUTRA procedure. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_112\_T | Corresponding to the Index of Indicator, the leftmost binary bit 112. Set to true if supporting all functionalities in the feature group. |
| 113 | - Trigger type 0 SRS (periodic SRS) transmission on X Serving Cells  NOTE: X = number of supported component carriers in a given band combination | - this bit can be set to 1 only if the UE supports carrier aggregation in UL. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_113\_T | Corresponding to the Index of Indicator, the leftmost binary bit 113. Set to true if supporting all functionalities in the feature group. |
| 114 | - Reporting of both UTRA CPICH RSCP and Ec/N0 in a Measurement Report | - this bit can be set to 1 only if index 22 (Table B.1-1) is set to 1. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_114\_T | Corresponding to the Index of Indicator, the leftmost binary bit 114. Set to true if supporting all functionalities in the feature group. |
| 115 | - time domain ICIC RLM/RRM measurement subframe restriction for the serving cell  - time domain ICIC RRM measurement subframe restriction for neighbour cells  - time domain ICIC CSI measurement subframe restriction | - If a category M1 UE does not support this feature group, this bit shall be set to 0. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_115\_T | Corresponding to the Index of Indicator, the leftmost binary bit 115. Set to true if supporting all functionalities in the feature group. |
| 116 | - Relative transmit phase continuity for spatial multiplexing in UL | - this bit can be set to 1 only if the UE supports two or more layers for spatial multiplexing in UL. |  | Rel-10 | 36.331, Annex C.1 | pc\_FeatrGrp\_116\_T | Corresponding to the Index of Indicator, the leftmost binary bit 116. Set to true if supporting all functionalities in the feature group. |
| 117 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 117. |
| 118 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 118. |
| 119 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 119. |
| 120 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 120. |
| 121 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 121. |
| 122 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 122. |
| 123 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 123. |
| 124 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 124. |
| 125 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 125. |
| 126 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 126. |
| 127 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 127. |
| 128 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 128. |
| 129 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 129. |
| 130 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 130. |
| 131 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 131. |
| 132 | Undefined |  |  | Rel-10 | 36.331, Annex C.1 |  | Corresponding to the Index of Indicator, the leftmost binary bit 132. |

### A.4.5 Additional information

Table A.4.5-1: Additional UE radio access capabilities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Additional capabilities | Ref. | Release | Comments |
| 1 | Support of CSG | 36.331, Annex B.2 | Rel-8 |  |
| 2 | Support of intra-frequency SI acquisition for HO in FDD | 36.306, 4.3.11.1 | Rel-9 |  |
| 3 | Support of inter-frequency SI acquisition for HO in FDD | 36.306, 4.3.11.2 | Rel-9 |  |
| 4 | Need for inter-frequency gaps (Note 1) | 36.306, 4.3.6.1 | Rel-8 |  |
| 5 | Need for inter-RAT gaps (Note 1) | 36.306, 4.3.6.1 | Rel-8 |  |
| 6 | Support of E-UTRA bands within band group FDD\_Nonly | 36.133, Annex A.3.7.2 | Rel-12 |  |
| 7 | Support of rsrqMeasWideband | 36.306, 4.3.6.2 | Rel-11 |  |
| 8 | Support of Maximum CSI processes of One on a component carrier within a band with PDSCH transmission mode 10 | 36.306, 4.3.5.5 | Rel-11 |  |
| 9 | Void |  |  |  |
| 10 | Disable E-UTRA capability if IMSVoIP not supported by the network | 23.221, 7.2a, 24.301, 4.5 | Rel-8 | pc\_Disable\_E-UTRA\_NOIMSVoIP |
| 11 | Support of Maximum CSI processes of Three on a component carrier within a band with PDSCH transmission mode 10 | 36.306, 4.3.5.5 | Rel-11 |  |
| 12 | Support of Maximum CSI processes of Four on a component carrier within a band with PDSCH transmission mode 10 | 36.306, 4.3.5.5 | Rel-11 |  |
| 13 | Support of multiClusterPUSCH-WithinCC-r10 | 36.306, 4.3.4.13 | Rel-10 |  |
| 14 | Support of FDD-TDD CA with PCell in TDD band | 36.306, 4.3.4.28 |  | The UE may not send the IE tdd-FDD-CA-PCellDuplex-r12 |
| 15 | Support of FDD-TDD CA with PCell in FDD band | 36.306, 4.3.4.28 |  | The UE may not send the IE tdd-FDD-CA-PCellDuplex-r12 |
| 16 | Support of interRAT-PS-HO-ToGERAN | 36.306, 4.3.7.11 | Rel-8 |  |
| 17 | Support of 64QAM in UL | 36.306, 4.3.4.39 | Rel-12 |  |
| 18 | Support of 256QAM in DL | 36.306, 4.3.5.7 | Rel-12 |  |
| 19 | Support CRS based discovery signals measurement | 36.306, 4.3.6.9 | Rel-12 |  |
| 20 | Support CSI-RS based discovery signals measurement | 36.306, 4.3.6.10 | Rel-12 |  |
| 21 | Support the behaviour on DL signals and physical channels when SCell is deactivated and discovery signals measurement is configured | 36.306, 4.3.4.38 | Rel-12 |  |
| 22 | Support of 4Rx antenna ports | 36.101, 7.2 | Rel-13 |  |
| 23 | Support of ProSe direct communication | 36.306, 4.3.21.1 | Rel-12 |  |
| 24 | Support of ProSe direct discovery | 36.306, 4.3.21.3 | Rel-12 |  |
| 25 | Support of CE mode A | 36.306, 4.3.8.3 | Rel-13 | Mandatory for CAT M1 UE |
| 26 | Support of CE mode B | 36.306, 4.3.29.1 | Rel-13 |  |
| 27 | Support of DC ASYNCH | 36.306, 4.3.29.2 | Rel-12 | The UE supports asynchronous dual connectivity and power control mode 2 |
| 28 | Support of DC SCG DRB | 36.306, 4.3.20.2 | Rel-12 | The UE supports dual connectivity and DRB type of SCG bearer |
| 29 | Support of DC Split DRB | 36.306, 4.3.20.1 | Rel-12 | The UE supports dual connectivity and DRB type of Split bearer |
| 30 | Support of MPR for intra-band contiguous carrier aggregation bandwidth class C with non-contiguous resource allocation | 36.306, 4.3.5.10  36.101, H.1 | Rel-10 | ModifiedMPR\_Behavior bit 0 (leftmost bit) |
| 31 | Support of A-MPR associated with NS\_05 for Band 1 | 36.306, 4.3.5.10  36.101, H.1 | Rel-10 | ModifiedMPR\_Behavior bit 1 |
| 32 | supports downlink LAA operation | 36.306, 4.3.23.1 | Rel-13 |  |
| 33 | supports measurement and reporting for RSSI and channel occupancy | 36.306, 4.3.6.19 | Rel-13 |  |
| 34 | Support of User plane CIoT | 24.301, 5.3.15 | Rel-13 |  |
| 35 | Support of EMM-REGISTERED without PDN | 24.301, 5.3.15 | Rel-13 |  |
| 36 | Support of EMM-REGISTERED with PDN | 24.301, 5.3.15 | Rel-13 |  |
| 37 | Support of 4Rx antenna ports in at least one FDD frequency band | 36.101, 7.2 | Rel-13 |  |
| 38 | Support of 4Rx antenna ports in at least one TDD frequency band | 36.101, 7.2 | Rel-13 |  |
| 39 | Support of FDD-TDD CA with PCell in FDD band and SCell with 4Rx supported TDD RF band | 36.306, 4.3.4.28, 36.101, 7.2 | Rel-13 |  |
| 40 | Support of 4Rx antenna ports on all supported FDD operating bands | 36.101, 8.1.2.6.1, 36.133, A.3.8.1 | Rel-13 | UE with same FDD band support declared in tables A.4.3-3 and A.4.5-5 |
| 41 | Support of 4Rx antenna ports on all supported TDD operating bands | 36.101, 8.1.2.6.1, 36.133, A.3.8.1 | Rel-13 | UE with same TDD band support declared in tables A.4.3-3 and A.4.5-5 |
| 42 | Support of A-MPR associated with NS\_04 for Band 41 | 36.306, 4.3.5.10  36.101, H.1 | Rel-12 | ModifiedMPR\_Behavior bit 2 |
| 43 | Support of RSSI and Channel occupancy reporting | 36.306, 4.3.6.19 | Rel-13 | Support of RSSI and Channel Occupancy. |
| 44 | Support of intra-frequency SI acquisition in TDD for HO | 36.306, 4.3.11.1 | Rel-9 |  |
| 45 | Support of inter-frequency SI acquisition in TDD for HO | 36.306, 4.3.11.2 | Rel-9 |  |
| 46 | Support of 4-layer spatial multiplexing with transmission mode 3 and transmission mode 4 | 36.306, 4.3.5.14. | Rel-10 |  |
| 47 | Void |  |  |  |
| 48 | Support of autonomous resource selection mode with full sensing for V2X sidelink communication | 36.306, 4.3.21.15 | Rel-14 |  |
| 49 | Support of SLSS transmission and reception for V2X sidelink communication | 36.306, 4.3.21.17 | Rel-14 |  |
| 50 | Support of maximum transmit power associated with Power class 2 V2X UE | 36.306, 4.3.21.22 | Rel-14 |  |
| 51 | Support of TM-9 in CE Mode A | 36.306 4.3.29.10 | Rel-13 |  |
| 52 | Support of TM-9 in CE Mode B | 36.306 4.3.29.11 | Rel-13 |  |
| 53 | Support of 4-layer spatial multiplexing with transmission mode 9 and transmission mode 10 | 36.306, 4.3.4.7 | Rel-10 |  |
| 54 | Support of TDD UL/DL reconfiguration for TDD serving cell(s) via monitoring PDCCH with eIMTA-RNTI on a TDD PCell, and HARQ feedback according to UL and DL HARQ reference configurations | 36.306 4.3.4.31 | Rel-12 |  |
| 55 | Support of Rel-12 DL CSI subframe set configuration | 36.306 4.3.4.29 | Rel-12 |  |
| 56 | Support of tm9 operation on LAA cell(s). | 36.306, 4.3.23.6 | Rel-13 |  |
| 57 | Supports of RRM measurements on LAA cell(s) based on CSI-RS-based DRS. | 36.306, 4.3.23.3 | Rel-13 |  |
| 58 | Support of 256QAM in UL | 36.306 4.3.4.73 | Rel-14 |  |
| 59 | Support of SRS switching between a band pair | 36.306, 4.3.5.24, 4.3.5.25 | Rel-14 |  |
| 60 | Support of NPRACH on non-anchor carrier | 36.306, 4.3.30.1 | Rel-14 |  |
| 61 | Support of csi-RS-DiscoverySignalsMeas-r12 | 36.331, 6.3.6 | Rel-12 |  |
| 62 | Support of UL LAA | 36.306, 4.3.23.8 | Rel-14 |  |
| 63 | Support of TM-6 in CE Mode A | 36.306 4.3.29.12 | Rel 13 |  |
| 64 | Support of high speed measurement enhancements | 36.306 4.3.33.1 | Rel-14 |  |
| 65 | Support of PUCCH transmission on SCell in CA | 36.306 4.3.4.47 | Rel-13 |  |
| 66 | Support of simultaneous E-UTRA V2X sidelink and E-UTRA uplink transmissions | 36.306 4.3.5.27 | Rel-14 |  |
| 67 | Support of transmitting PSCCH/PSSCH using dynamic scheduling | 36.306 4.3.21.14 | Rel-14 |  |
| 68 | Support of Channel Busy Ratio measurement and reporting of Channel Busy Ratio measurement to eNB for V2X sidelink communication | 36.306 4.3.21.18 | Rel-14 |  |
| 69 | Support of transmission and reception in the configuration of non-adjacent PSCCH and PSSCH for V2X sidelink communication | 36.306 4.3.21.21 | Rel-14 |  |
| 70 | Support of reception of 20 PSCCH in a subframe and decoding of 136 RBs per subframe counting both PSCCH and PSSCH in a band for V2X sidelink communication | 36.306 4.3.21.13 | Rel-14 |  |
| 71 | Support of Increased UE carrier monitoring E-UTRA | 36.306 4.3.6.6 | Rel-12 |  |
| 72 | Support of codebookConfig 1 for non-precoded EBF/ FD-MIMO operation in TM9 | 36.306 4.3.28.6 | Rel-13 |  |
| 73 | Support of codebookConfig 2 for non-precoded EBF/ FD-MIMO operation in TM9 | 36.306 4.3.28.6 | Rel-13 |  |
| 74 | Support of codebookConfig 3 for non-precoded EBF/ FD-MIMO operation in TM9 | 36.306 4.3.28.6 | Rel-13 |  |
| 75 | Support of codebookConfig 4 for non-precoded EBF/ FD-MIMO operation in TM9 | 36.306 4.3.28.6 | Rel-13 |  |
| 76 | Support of Increased UE carrier monitoring UTRA | 36.306 4.3.6.7 | Rel-12 |  |
| 77 | Support of multi-carrier operation | 36.306 4.3.4.115 | Rel-13 |  |
| 78 | Support of reception ending with a subframe occupied for a DwPTS-duration on LAA cell(s) | 36.306 4.3.23.4 | Rel-13 |  |
| 79 | Support of reception of subframes with second slot starting position on LAA cell(s) | 36.306 4.3.23.5 | Rel-13 |  |
| 80 | Support of enhanced 4Tx codebook | 36.306 4.3.4.33 | Rel-12 |  |
| 81 | Support of PUSCH feedback mode 3-2 | 36.306 4.3.4.34 | Rel-12 |  |
| 82 | Support for channel measurement restrictions in TM9 and TM10 | 36.306, 4.3.28.3 | Rel-13 |  |
| 83 | Support for interference measurement restrictions | 36.306 4.3.28.5 | Rel-13 |  |
| 84 | Support of 64QAM for non-repeated unicast PDSCH in RRC\_CONNECTED when operating in coverage enhancement mode A | 36.306 4.3.4.126 | Rel-15 |  |
| 85 | Support of alternative CQI table in RRC\_CONNECTED when operating in coverage enhancement mode A | 36.306 4.3.4.127 | Rel-15 |  |
| 86 | Support of eNB-configured CRS-based RRM measurements for configured carrier(s) in RRC\_IDLE mode | 36.306, 4.3.6.31 | Rel-15 |  |
| 87 | Support of having SCell configured in dormant SCell state | 36.306, 4.3.19.18 | Rel-15 |  |
| 88 | Support of asynchronous DAPS handover in source PCell and intra-frequency target PCell | 36.306, 4.3.5.39 | Rel-16 |  |
| 89 | Support of DAPS handover in source PCell and intra-frequency target PCell | 36.306, 4.3.5.40 | Rel-16 |  |
| 90 | Support of asynchronous DAPS handover in source PCell and inter-frequency target PCell | 36.306, 4.3.5.42 | Rel-16 |  |
| 91 | Support of DAPS handover in source PCell and inter-frequency target PCell | 36.306, 4.3.5.43 | Rel-16 |  |
| 92 | Support of conditional handover | 36.306,  4.3.30.3 | Rel-16 |  |
| 93 | Support of conditional handover between FDD and TDD cells | 36.306,  4.3.30.5 | Rel-16 |  |
| 94 | Support of short TTI and/or short processing time | 36.306 4.3.4.150 | Rel-15 | pc\_sTTI\_SPT |
| 95 | Support of sTTI combination {slot, slot} | 36.306 4.3.4.103 | Rel-15 |  |
| 96 | Support of sTTI combination {subslot, subslot} | 36.306 4.3.4.103 | Rel-15 |  |
| 97 | Support of sTTI combination {subslot, slot} | 36.306 4.3.4.103 | Rel-15 |  |
| 98 | Support of short processing time for the corresponding frame structure types | 36.306  4.3.4.100 | Rel-15 | pc\_spt\_Parameters |
| 99 | Support NTN access | 36.306 4.3.38.1 | Rel-17 |  |
| 100 | Support Timing advance reporting in NTN cell | 36.306 4.3.38.2 | Rel-17 |  |
| 101 | Support delaying the start of the *pur-ResponseWindowTimer* for NTN operation | 36.306 4.3.38.3 | Rel-17 |  |
| 102 | Support timing relationship enhancements using Differential Koffset | 36.306 4.3.38.4 | Rel-17 |  |
| 103 | Support NTN features in NGSO scenario | 36.306 4.3.38.5 | Rel-17 |  |
| 104 | Support NTN features in GSO scenario | 36.306 4.3.38.5 | Rel-17 |  |
| 105 | Support to report the supported gap length between segments for PUSCH and PUCCH required by a UE supporting *ce-ModeA-r13* or for NPUSCH required by a UE supporting *ue-category-NB*, for TA pre-compensation. | 36.306 4.3.38.6 | Rel-17 |  |
| 106 | Support DL channel quality reporting of the configured carrier for FDD in RRC\_CONNECTED | 36.306 4.3.6.37 | Rel-16 |  |
| 107 | Support UE specific DRX | 24.301 9.9.3.63 | Rel-16 |  |
| 108 | Support of WUS (wake up signal) for FDD | 36.306 4.3.4.113 | Rel-15 |  |
| 109 | Support DL channel quality reporting for a non-anchor carrier for FDD in Msg3 | 36.306 6.17.8 | Rel-16 |  |
| 110 | Support NPRACH on non-anchor carrier | 36.306 4.3.4.75 | Rel-14 |  |
| Note 1: Need for inter-frequency gaps or inter-RAT gaps indicates that the UE does not support corresponding measurement without gaps. | | | | |

Table A.4.5-2: Additional UE radio access capabilities (Mandatory for Rel-11 and onward)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item | Additional capabilities | Ref. | Release | Status  (Note 1) | Support  (Note 2) | Comments |
| 1 | UE supports CRS interference handling | 36.306, 4.3.4.15 | Rel-11 | O.01 |  | This is a Rel-11 Mandatory feature |
| 2 | UE supports ss-CCH interference handling | 36.306, 4.3.4.20 | Rel-11 | O.01 |  | This is a Rel-11 Mandatory feature |
| 3 | UE supports multiple timing advances for each band combination supported by the UE | 36.306, 4.3.5.3 | Rel-11 | O.01 |  | This is a Rel-11 Mandatory feature (Note 3) |
| Note 1: From Rel-11 onwards 3GPP TSG RAN has discontinued the usage of FGI bits (see A.4.4). Instead it has introduced a different mechanism to accomplish the same purposes based on the following principles (TS 36.306 [17] clause 4): 'For optional features, the UE radio access capability parameter indicates whether the feature has been implemented and successfully tested. For mandatory features with the UE radio access capability parameter, the parameter indicates whether the feature has been successfully tested.’ Reflecting this situation, in the present table the status for Mandatory features would be indicated as conditional Optional (O.xx) until IOT testing availability is ensured. The decision when IOT testing availability can be considered ensured is made by 3GPP TSG RAN. After the 3GPP TSG RAN decision that IOT testing is available, the status of the capability parameter will be changed to Mandatory (M) and the release from which this requirement apply would be explicitly stated.  Note 2: If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release.  Note 3: It is mandatory for UEs of this release of the specification to support this capability for band combinations having an UL on multiple FDD bands (see 36.306, 4.3.5.3). In the context of evaluating the status of the capability this would depend on the indication for UL support provided in Table A.4.3.3.3-3 i.e. if for at least one CA configurations for Inter-band CA the UE indicates A-A then the Support of multiple timing advances for this CA configuration is Mandatory. | | | | | | |

Table A.4.5-2a: Additional UE radio access capabilities Conditions

|  |
| --- |
| O.01 IF The feature has been IOT-ed THEN Support shall be indicated ELSE Support shall not be indicated |

Table A.4.5-3: UL MIMO Capabilities

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Frequency band: 1920-1980, 2110-2170 MHz | 36.101, 5.5 | FDD Band 1 |
| 2 | Frequency band: 1850-1910, 1930-1990 MHz | 36.101, 5.5 | FDD Band 2 |
| 3 | Frequency band: 1710-1785, 1805-1880 MHz | 36.101, 5.5 | FDD Band 3 |
| 4 | Frequency band: 1710-1755, 2110-2155 MHz | 36.101, 5.5 | FDD Band 4 |
| 5 | Frequency band: 824-849, 869-894 MHz | 36.101, 5.5 | FDD Band 5 |
| 6 | Frequency band: 830-840, 875-885 MHz | 36.101, 5.5 | FDD Band 6 |
| 7 | Frequency band: 2500-2570, 2620-2690 MHz | 36.101, 5.5 | FDD Band 7 |
| 8 | Frequency band: 880-915, 925-960 MHz | 36.101, 5.5 | FDD Band 8 |
| 9 | Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz | 36.101, 5.5 | FDD Band 9 |
| 10 | Frequency band: 1710-1770, 2110-2170 MHz | 36.101, 5.5 | FDD Band 10 |
| 11 | Frequency band: 1427.9-1447.9, 1475.9-1495.9 MHz | 36.101, 5.5 | FDD Band 11 |
| 12 | Frequency band: 699-716, 729-746 MHz | 36.101, 5.5 | FDD Band 12 |
| 13 | Frequency band: 777-787, 746-756 MHz | 36.101, 5.5 | FDD Band 13 |
| 14 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | FDD Band 14 |
| 15 | Reserved | 36.101, 5.5 | FDD Band 15 |
| 16 | Reserved | 36.101, 5.5 | FDD Band 16 |
| 17 | Frequency band: 704-716, 734-746 MHz | 36.101, 5.5 | FDD Band 17 |
| 18 | Frequency band: 815-830, 860-875 MHz | 36.101, 5.5 | FDD Band 18 |
| 19 | Frequency band: 830-845, 875-890 MHz | 36.101, 5.5 | FDD Band 19 |
| 20 | Frequency band: 832-862, 791-821MHz | 36.101, 5.5 | FDD Band 20 |
| 21 | Frequency band: 1447.9-1462.9, 1495.9-1510.9 MHz | 36.101, 5.5 | FDD and HD-FDD Band 21 |
| 22 | Frequency band: 3410-3490, 3510-3590 MHz | 36.101, 5.5 | FDD Band 22 |
| 23 | Frequency band: 2000-2020, 2180-2200 MHz | 36.101, 5.5 | FDD Band 23 |
| 24 | Frequency band: 1626.5-1660.5, 1525-1559 MHz | 36.101, 5.5 | FDD Band 24 |
| 25 | Frequency band: 1850-1915, 1930-1995 MHz | 36.101, 5.5 | FDD Band 25 |
| 26 | Frequency band: 814-849, 859-894 MHz | 36.101, 5.5 | FDD Band 26 |
| 27 | Frequency band: 807-824, 852-869 MHz | 36.101, 5.5 | FDD Band 27 |
| 28 | Frequency band: 703-748, 758-803 MHz | 36.101, 5.5 | FDD Band 28 |
| 29 | Frequency band: N/A, 717-728 MHz | 36.101, 5.5 | FDD Band 29 |
| 30 | Frequency band: 2305-2315, 2350-2360 MHz (Note 1) | 36.101, 5.5 | FDD Band 30 |
| 31 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | FDD Band 31 |
| ... |  |  |  |
| 33 | Frequency band: 1900-1920, 1900-1920 MHz | 36.101, 5.5 | TDD Band 33 |
| 34 | Frequency band: 2010-2025, 2010-2025 MHz | 36.101, 5.5 | TDD Band 34 |
| 35 | Frequency band: 1850-1910, 1850-1910 MHz | 36.101, 5.5 | TDD Band 35 |
| 36 | Frequency band: 1930-1990, 1930-1990 MHz | 36.101, 5.5 | TDD Band 36 |
| 37 | Frequency band: 1910-1930, 1910-1930 MHz | 36.101, 5.5 | TDD Band 37 |
| 38 | Frequency band: 2570-2620, 2570-2620 MHz | 36.101, 5.5 | TDD Band 38 |
| 39 | Frequency band: 1880-1920, 1880-1920 MHz | 36.101, 5.5 | TDD Band 39 |
| 40 | Frequency band: 2300-2400, 2300-2400 MHz | 36.101, 5.5 | TDD Band 40 |
| 41 | Frequency band: 2496-2690, 2496-2690 MHz | 36.101, 5.5 | TDD Band 41 |
| 42 | Frequency band: 3400-3600, 3400-3600 MHz | 36.101, 5.5 | TDD Band 42 |
| 43 | Frequency band: 3600-3800, 3600-3800 MHz | 36.101, 5.5 | TDD Band 43 |
| 44 | Frequency band: 703-803, 703-803 MHz | 36.101, 5.5 | TDD Band 44 |
| 45 | Frequency band: 1447-1467, 1447-1467 MHz | 36.101, 5.5 | TDD Band 45 |
| ... |  |  |  |
| 48 | Frequency band: 3550-3700, 3550-3700 MHz | 36.101, 5.5 | TDD Band 48 |
| … |  |  |  |
| 53 | Frequency band: 2483.5-2495, 2483.5-2495 MHz | 36.101, 5.5 | TDD Band 53 |
| 54 | Frequency band: 1670-1675, 1670-1675 MHz | 36.101, 5.5 | TDD Band 54 |
| … |  |  |  |
| 65 | Frequency band: 1920-2010, 2110-2200 MHz | 36.101, 5.5 | FDD Band 65 |
| 66 | Frequency band: 1710-1780, 2110-2200 MHz | 36.101, 5.5 | FDD Band 66 |
| ... |  |  |  |
| 68 | Frequency band: 698-728, 753-783 MHz | 36.101, 5.5 | FDD Band 68 |
| … |  |  |  |
| 70 | Frequency band: 1695-1710, 1995-2020 MHz | 36.101, 5.5 | FDD Band 70 |
| … |  |  |  |
| 72 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | FDD Band 72 |
| 73 | Frequency band: 450-455, 460-465 MHz | 36.101, 5.5 | FDD Band 73 |
| 74 | Frequency band: 1427-1470, 1475-1515 MHz | 36.101, 5.5 | FDD Band 74 |
| Note 1: The uplink transmission is not allowed at this band for the UE with the externally vehicle-mounted antennas. | | | |

Table A.4.5-4: nonContiguousUL-RA-WithinCC-Info-r10 Capabilities  
(required for MultiClusterPUSCH-WithinCC-r10)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Frequency band: 1920-1980, 2110-2170 MHz | 36.101, 5.5 | FDD Band 1 |
| 2 | Frequency band: 1850-1910, 1930-1990 MHz | 36.101, 5.5 | FDD Band 2 |
| 3 | Frequency band: 1710-1785, 1805-1880 MHz | 36.101, 5.5 | FDD Band 3 |
| 4 | Frequency band: 1710-1755, 2110-2155 MHz | 36.101, 5.5 | FDD Band 4 |
| 5 | Frequency band: 824-849, 869-894 MHz | 36.101, 5.5 | FDD Band 5 |
| 6 | Frequency band: 830-840, 875-885 MHz | 36.101, 5.5 | FDD Band 6 |
| 7 | Frequency band: 2500-2570, 2620-2690 MHz | 36.101, 5.5 | FDD Band 7 |
| 8 | Frequency band: 880-915, 925-960 MHz | 36.101, 5.5 | FDD Band 8 |
| 9 | Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz | 36.101, 5.5 | FDD Band 9 |
| 10 | Frequency band: 1710-1770, 2110-2170 MHz | 36.101, 5.5 | FDD Band 10 |
| 11 | Frequency band: 1427.9-1447.9, 1475.9-1495.9 MHz | 36.101, 5.5 | FDD Band 11 |
| 12 | Frequency band: 699-716, 729-746 MHz | 36.101, 5.5 | FDD Band 12 |
| 13 | Frequency band: 777-787, 746-756 MHz | 36.101, 5.5 | FDD Band 13 |
| 14 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | FDD Band 14 |
| 15 | Reserved | 36.101, 5.5 | FDD Band 15 |
| 16 | Reserved | 36.101, 5.5 | FDD Band 16 |
| 17 | Frequency band: 704-716, 734-746 MHz | 36.101, 5.5 | FDD Band 17 |
| 18 | Frequency band: 815-830, 860-875 MHz | 36.101, 5.5 | FDD Band 18 |
| 19 | Frequency band: 830-845, 875-890 MHz | 36.101, 5.5 | FDD Band 19 |
| 20 | Frequency band: 832-862, 791-821MHz | 36.101, 5.5 | FDD Band 20 |
| 21 | Frequency band: 1447.9-1462.9, 1495.9-1510.9 MHz | 36.101, 5.5 | FDD Band 21 |
| 22 | Frequency band: 3410-3490, 3510-3590 MHz | 36.101, 5.5 | FDD Band 22 |
| 23 | Frequency band: 2000-2020, 2180-2200 MHz | 36.101, 5.5 | FDD Band 23 |
| 24 | Frequency band: 1626.5-1660.5, 1525-1559 MHz | 36.101, 5.5 | FDD Band 24 |
| 25 | Frequency band: 1850-1915, 1930-1995 MHz | 36.101, 5.5 | FDD Band 25 |
| 26 | Frequency band: 814-849, 859-894 MHz | 36.101, 5.5 | FDD Band 26 |
| 27 | Frequency band: 807-824, 852-869 MHz | 36.101, 5.5 | FDD Band 27 |
| 28 | Frequency band: 703-748, 758-803 MHz | 36.101, 5.5 | FDD Band 28 |
| 29 | Frequency band: N/A, 717-728 MHz | 36.101, 5.5 | FDD Band 29 |
| 30 | Frequency band: 2305-2315, 2350-2360 MHz (Note 1) | 36.101, 5.5 | FDD Band 30 |
| 31 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | FDD Band 31 |
| ... |  |  |  |
| 33 | Frequency band: 1900-1920, 1900-1920 MHz | 36.101, 5.5 | TDD Band 33 |
| 34 | Frequency band: 2010-2025, 2010-2025 MHz | 36.101, 5.5 | TDD Band 34 |
| 35 | Frequency band: 1850-1910, 1850-1910 MHz | 36.101, 5.5 | TDD Band 35 |
| 36 | Frequency band: 1930-1990, 1930-1990 MHz | 36.101, 5.5 | TDD Band 36 |
| 37 | Frequency band: 1910-1930, 1910-1930 MHz | 36.101, 5.5 | TDD Band 37 |
| 38 | Frequency band: 2570-2620, 2570-2620 MHz | 36.101, 5.5 | TDD Band 38 |
| 39 | Frequency band: 1880-1920, 1880-1920 MHz | 36.101, 5.5 | TDD Band 39 |
| 40 | Frequency band: 2300-2400, 2300-2400 MHz | 36.101, 5.5 | TDD Band 40 |
| 41 | Frequency band: 2496-2690, 2496-2690 MHz | 36.101, 5.5 | TDD Band 41 |
| 42 | Frequency band: 3400-3600, 3400-3600 MHz | 36.101, 5.5 | TDD Band 42 |
| 43 | Frequency band: 3600-3800, 3600-3800 MHz | 36.101, 5.5 | TDD Band 43 |
| 44 | Frequency band: 703-803, 703-803 MHz | 36.101, 5.5 | TDD Band 44 |
| 45 | Frequency band: 1447-1467, 1447-1467 MHz | 36.101, 5.5 | TDD Band 45 |
| ... |  |  |  |
| 53 | Frequency band: 2483.5-2495, 2483.5-2495 MHz | 36.101, 5.5 | TDD Band 53 |
| 54 | Frequency band: 1670-1675, 1670-1675 MHz | 36.101, 5.5 | TDD Band 54 |
| … |  |  |  |
| 65 | Frequency band: 1920-2010, 2110-2200 MHz | 36.101, 5.5 | FDD Band 65 |
| 66 | Frequency band: 1710-1780, 2110-2200 MHz | 36.101, 5.5 | FDD Band 66 |
| ... |  |  |  |
| 68 | Frequency band: 698-728, 753-783 MHz | 36.101, 5.5 | FDD Band 68 |
| … |  |  |  |
| 70 | Frequency band: 1695-1710, 1995-2020 MHz | 36.101, 5.5 | FDD Band 70 |
| … |  |  |  |
| 72 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | FDD Band 72 |
| 73 | Frequency band: 450-455, 460-465 MHz | 36.101, 5.5 | FDD Band 73 |
| 74 | Frequency band: 1427-1470, 1475-1518 MHz | 36.101, 5.5 | FDD Band 74 |
| Note 1: The uplink transmission is not allowed at this band for the UE with the externally vehicle-mounted antennas. | | | |

Table A.4.5-5: 4 Rx antenna ports Capabilities

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Ref. | Release | Band | Supported | Comments |
| 1 | 36.101, 7.2 | Rel-13 | FDD Band 1 |  |  |
| 2 | 36.101, 7.2 | Rel-13 | FDD Band 2 |  |  |
| 3 | 36.101, 7.2 | Rel-13 | FDD Band 3 |  |  |
| 4 | 36.101, 7.2 | Rel-15 | FDD Band 4 |  |  |
| ... |  |  |  |  |  |
| 7 | 36.101, 7.2 | Rel-13 | FDD Band 7 |  |  |
| ... |  |  |  |  |  |
| 20 | 36.101, 7.2 | Rel-13 | FDD Band 20 |  |  |
| 21 | 36.101, 7.2 | Rel-14 | FDD Band 21 |  |  |
| ... |  |  |  |  |  |
| 25 | 36.101, 7.2 | Rel-14 | FDD Band 25 |  |  |
| ... |  |  |  |  |  |
| 30 | 36.101, 7.2 | Rel-15 | FDD Band 30 |  |  |
| ... |  |  |  |  |  |
| 34 | 36.101, 7.2 | Rel-15 | FDD Band 34 |  |  |
| ... |  |  |  |  |  |
| 39 | 36.101, 7.2 | Rel-13 | TDD Band 39 |  |  |
| 40 | 36.101, 7.2 | Rel-14 | TDD Band 40 |  |  |
| 41 | 36.101, 7.2 | Rel-13 | TDD Band 41 |  |  |
| 42 | 36.101, 7.2 | Rel-13 | TDD Band 42 |  |  |
| 66 | 36.101, 7.2 | Rel-15 | FDD Band 66 |  |  |

Table A.4.5-6: Void

Table A.4.5-6a: E-UTRA ProSe Communication Capabilities

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Frequency band: 1710-1785, 1805-1880 MHz | 36.101, 5.5 | FDD Band 3 |
| 2 | Frequency band: 2500-2570, 2620-2690 MHz | 36.101, 5.5 | FDD Band 7 |
| 3 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | FDD Band 14 |
| 4 | Frequency band: 832-862, 791-821MHz | 36.101, 5.5 | FDD Band 20 |
| 5 | Frequency band: 814-849, 859-894 MHz | 36.101, 5.5 | FDD Band 26 |
| 6 | Frequency band: 703-748, 758-803 MHz | 36.101, 5.5 | FDD Band 28 |
| 7 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | FDD Band 31 |
| 8 | Frequency band: 698-728, 753-783 MHz | 36.101, 5.5 | FDD Band 68 |
| 9 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | FDD Band 72 |
| 10 | Frequency band: 450-455, 460-465 MHz | 36.101, 5.5 | FDD Band 73 |

Table A.4.5-6b: E-UTRA ProSe Discovery Capabilities

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Frequency band: 1850-1910, 1930-1990 MHz | 36.101, 5.5 | FDD Band 2 |
| 2 | Frequency band: 1710-1785, 1805-1880 MHz | 36.101, 5.5 | FDD Band 3 |
| 3 | Frequency band: 1710-1755, 2110-2155 MHz | 36.101, 5.5 | FDD Band 4 |
| 4 | Frequency band: 2500-2570, 2620-2690 MHz | 36.101, 5.5 | FDD Band 7 |
| 5 | Frequency band: 788-798, 758-768 MHz | 36.101, 5.5 | FDD Band 14 |
| 6 | Frequency band: 832-862, 791-821MHz | 36.101, 5.5 | FDD Band 20 |
| 7 | Frequency band: 814-849, 859-894 MHz | 36.101, 5.5 | FDD Band 26 |
| 8 | Frequency band: 703-748, 758-803 MHz | 36.101, 5.5 | FDD Band 28 |
| 9 | Frequency band: 452.5-457.5, 462.5-467.5 MHz | 36.101, 5.5 | FDD Band 31 |
| 10 | Frequency band: 2496-2690, 2496-2690 MHz | 36.101, 5.5 | TDD Band 41 |
| 11 | Frequency band: 698-728, 753-783 MHz | 36.101, 5.5 | FDD Band 68 |
| 12 | Frequency band: 451-456, 461-466 MHz | 36.101, 5.5 | FDD Band 72 |
| 13 | Frequency band: 450-455, 460-465 MHz | 36.101, 5.5 | FDD Band 73 |

Table A.4.5-7: E-UTRA V2X Sidelink Communication

|  |  |  |  |
| --- | --- | --- | --- |
| Item | RF Baseline Implementation Capabilities | Ref. | Comments |
| 1 | Frequency band: 5855-5925, 5855-5925 MHz | 36.101, 5.5 | TDD Band 47 |

Table A.4.5-7a: Supported Inter-band con-current V2X configurations

|  |  |  |
| --- | --- | --- |
| Inter-band con-current V2X configurations | Release | Comments |
| V2X\_3A-47A | Rel-14 | - |
| V2X\_5A-47A | Rel-14 | - |
| V2X\_7A-47A | Rel-14 | - |
| V2X\_8A-47A | Rel-14 | - |
| V2X\_20A-47A | Rel-14 | - |
| V2X\_34A-47A | Rel-14 | - |
| V2X\_39A-47A | Rel-14 | - |
| V2X\_41A-47A | Rel-14 | - |

Table A.4.5-7b: Supported V2X intra-band multi-carrier configurations

|  |  |  |
| --- | --- | --- |
| V2X intra-band multi-carrier configurations | Release | Comments |
| V2X\_47B | Rel-14 | - |

Table A.4.5-8: Supported CA configurations with multi layer spatial multiplexing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Configuration | Release | Ref. | Comments |
| 1 | 2DL FDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-10 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 2 | 2DL TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-10 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 3 | 2DL FDD-TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-12 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 4 | 3DL FDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-10 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 5 | 3DL TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-10 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 6 | 3DL FDD-TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-12 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 7 | 4DL FDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-11 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 8 | 4DL TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-11 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 9 | 4DL FDD-TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-12 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 10 | 5DL FDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-11 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 11 | 5DL TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-11 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| 12 | 5DL FDD-TDD CA, with 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4 | Rel-12 | 36.101, 5.6A 36.306, 4.3.5.14 | - |
| NOTE: At least one component carrier in a CA configuration shall support 4Rx antenna ports and 4-layer spatial multiplexing with TM 3 and TM 4. | | | | |

### A.4.6 CA Physical Layer Baseline Implementation Capabilities

NOTE: See Annex B for status of completed CA configurations in this version of 3GPP UE conformance test specifications.

Table A.4.6-1: Downlink CA capabilities (for one or more of the supported CA configurations in Tables A.4.6.1-3, A.4.6.2-3, A.4.6.3-3, A.4.6.3-4, A.4.6.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | DL CA with 2 carriers | 36.101, 5.6A 36.331, 6.3.6 | (NOTE 1) |
| 2 | DL CA with 3 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| 3 | DL CA with 4 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| 4 | DL CA with 5 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| 5 | DL CA with 6 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| 6 | DL CA with 7 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| Note 1: A UE that supports operating Band 66 (Table A.4.3-3) and CA operation in any CA band shall support the DL CA configurations CA\_66B, CA\_66C and CA\_66A-66A, as specified in Note 6, in Table 5.5-1, in TS 36.101 [19]. | | | |

Table A.4.6-2: Uplink CA capabilities (for one or more of the supported CA configurations in Tables A.4.6.1-3, A.4.6.2-3, A.4.6.3-3, A.4.6.3-4, A.4.6.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | UL CA with 2 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |
| 2 | UL CA with 3 carriers | 36.101, 5.6A 36.331, 6.3.6 | Not used in any valid CA configurations in TS 36.101 yet |
| 3 | UL CA with 4 carriers | 36.101, 5.6A 36.331, 6.3.6 |  |

#### A.4.6.1 Intra-band contiguous CA Physical Layer Baseline Implementation Capabilities

Table A.4.6.1-1: Downlink Intra-band contiguous CA Bandwidth Class capabilities (for one or more of the supported CA configurations in Table A.4.6.1-3)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | DL Intra-band contiguous CA BW Class B | 36.101, 5.6A 36.331, 6.3.6 |  |
| 2 | DL Intra-band contiguous CA BW Class C | 36.101, 5.6A 36.331, 6.3.6 |  |
| 3 | DL Intra-band contiguous CA BW Class D | 36.101, 5.6A 36.331, 6.3.6 |  |
| 4 | DL Intra-band contiguous CA BW Class E | 36.101, 5.6A 36.331, 6.3.6 |  |
| 5 | DL Intra-band contiguous CA BW Class F | 36.101, 5.6A 36.331, 6.3.6 |  |

Table A.4.6.1-2: Uplink Intra-band contiguous CA Bandwidth Class capabilities (for one or more of the supported CA configurations in Table A.4.6.1-3)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | UL Intra-band contiguous CA BW Class B | 36.101, 5.6A 36.331, 6.3.6 | Not used in any valid CA configurations in TS 36.101 yet |
| 2 | UL Intra-band contiguous CA BW Class C | 36.101, 5.6A 36.331, 6.3.6 |  |
| 3 | UL Intra-band contiguous CA BW Class D | 36.101, 5.6A 36.331, 6.3.6 |  |

Table A.4.6.1-3: Supported CA configurations for Intra-band contiguous CA completed in current version of the specification

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA configuration / Item  (Note 1) | Uplink CA configuration(s)  (Note 1) | Bandwidth combination set(s)  (BCS) (Note 1) | Completion exception notes  (Note 12) | Release  (Note 11) | Supported | Supported CA Bandwidth Class(es) in UL  (Note 2,7) | Supported Bandwidth Combination Set(s)  (Note 3) | Fallback Bands Exception  (Note 5,8) | Fallback CA configurations Exceptions  (Note 6,8) | Supported band(s) for 4 layer spatial multiplexing  (Note 10) |
| CA\_1C | - | 0 | - | Rel-10 |  |  |  | - | - |  |
|  | CA\_1C | 0 | - | Rel-10 |  |  |  | - | - |  |
| CA\_2C | - | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_3C | - | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_3C | CA\_3C | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_5B | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_7B | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_7C | - | 0,1 | - | Rel-11 (BCS0), Rel-12  (BSC1) |  |  |  | - | - |  |
|  | CA\_7C | 0,1 | - | Rel-11 |  |  |  | - | - |  |
| CA\_8B | - | 0 | - | Rel-14 |  |  |  | - | - |  |
|  | CA\_8B | 0 | - | Rel-14 |  |  |  | - | - |  |
| CA\_12B | - | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_23B | - | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_27B | - | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_38C | - | 0 | - | Rel-11 |  |  |  | - | - |  |
|  | CA\_38C | 0 | - | Rel-11 |  |  |  | - | - |  |
| CA\_39C | - | 0 | - | Rel-12 |  |  |  | - | - |  |
|  | CA\_39C | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_40C | - | 0 | - | Rel-10  (BCS0)  Rel-12 (BCS1) |  |  |  | - | - |  |
|  | CA\_40C | 0,1 | - | Rel-10  (BCS0)  Rel-12 (BCS1) |  |  |  | - | - |  |
| CA\_40D | - | 0 | - | Rel-12 |  |  |  | - | - |  |
|  | CA\_40C | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_40E | - | 0 | - | Rel-14 |  |  |  | - | - |  |
| CA\_41C | - | 0,1,2 | - | Rel-11 (BCS0) Rel-12 (BCS1, BSC2) |  |  |  | - | - |  |
|  | CA\_41C | 0,1,2 | - | Rel-11 (BCS0) Rel-12 (BCS1, BSC2) |  |  |  | - | - |  |
| CA\_41D | - | 0 | - | Rel-12 |  |  |  | - | - |  |
|  | CA\_41C | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_42C | - | 0 | - | Rel-12 |  |  |  | - | - |  |
|  | CA\_42C | 0 | - | Rel-12 |  |  |  | - | - |  |
| CA\_42D | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_42E | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_48C | - | 0 | - | Rel-14 |  |  |  |  |  |  |
| CA\_48D | - | 0 | - | Rel-14 |  |  |  |  |  |  |
| CA\_66B | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| (NOTE 9) | CA\_66B | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_66C | - | 0 | - | Rel-13 |  |  |  | - | - |  |
| (NOTE 9) | CA\_66C | 0 | - | Rel-13 |  |  |  | - | - |  |
| CA\_70C | - | 0 | - | Rel-14 |  |  |  | - | - |  |
| Note 1: The E-UTRA CA configuration / Item column, the Uplink CA configuration(s) column and the bandwidth combination set(s) column X specifies completed configurations in 3GPP conformance test specifications. Notation used for intra-band contiguous CA Bands is according to TS 36.101 [2] Table 5.6A.1-1, e.g. ‘CA\_1C’ indicates CA operation on E-UTRA band 1 with DL CA Bandwidth Class C.  Note 2: The UL CA capabilities as per Table A.4.6-2 can be supported on a single or multiple CA Band(s). The UE supplier shall indicate all supported UL CA Bandwidth Class(es), in uplink of the supported CA Band(s), as per TS 36.101 [2] Table 5.6A.1-1. For this release of specification valid choices are ’N’, ‘XB’ and ‘XC’, where X is the band. For example, for CA\_1C, N would mean only DL CA, ‘1C’ would mean both DL and UL CA.  Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 36.101 [2] Table 5.6A.1-1.  Note 4: Reference to all items is 36.101, 5.6A and 36.331, 6.3.6.  Note 5: Fallback Bands Exceptions column is used for the FALLBACK() operator in "Tested Band Selection Criteria" (Table 4.1-1b). FALLBACK(A.4.6.1-3) shall return a set of all fallback bands of the supported CA Configurations, i.e. a union of bands included in each CA Configuration, derived according to Table 4.1-2, with the following additional conditions: Band is not listed in the Fallback Band Exceptions for the considered CA Configuration Maximum allowed channel BW in the band is included in at least one of the supported Bandwidth Combination Sets supported by the considered CA Configuration.  Note 6: Fallback CA configurations Exceptions column is used for the FALLBACK() and FALLBACK\_UL() operators in "Tested CA Configurations Criteria" (Table 4.1-1c). FALLBACK(A.4.6.1-3) shall return a set of all fallback CA Configurations of supported CA Configurations, derived according to Table 4.1-2, with the following additional conditions: Fallback CA Configuration is not listed in "Fallback CA Configurations Exceptions" Maximum allowed channel BW in each Fallback CA Configuration band is included in at least one of the supported CA Configuration Bandwidth Combination Sets.FALLBACK\_UL(A.4.6.1-3) shall return FALLBACK(A.4.6.1-3) AND UL(A.4.6.1-3).  Note 7: UL(A.4.6.1-3) shall return all supported CA Configurations where at least one UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL".UL\_2CC(A.4.6.1-3) shall return all supported CA Configurations where at least one 2 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL".UL\_3CC(A.4.6.1-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.  Note 8: The exceptions columns are pre-filled, please do not fill out. Exceptions are possible if there are big differences between CA Configuration and Fallback CA Configuration/band definitions. For example, CA\_18A-28A uses only a part of B28, so 28 will be listed as an exception.  Note 9: A UE that supports operating Band 66 (Table A.4.3-3) and CA operation in any CA band shall support the DL CA configurations CA\_66B, CA\_66C and CA\_66A-66A, as specified in Note 6, in Table 5.5-1, in TS 36.101 [19].  Note 10: The UE supplier shall indicate the frequency bands where 4 layer spatial multiplexing is supported in the supported CA Configurations.  Note 11: The release column indicates the release the CA configuration was introduced in TS 36.101 [2]. Additional bandwidth combination sets may have been introduced in a later release.  Note 12: The completion exception notes column indicates if there are any exceptions to the completion of the CA configuration in 3GPP conformance test specifications. The notation used for completion exception notes is "E#" where # is an integer number. The description of the completion exception notes are specified in Table A.4.6.1-3A. | | | | | | | | | | |

Table A.4.6.1-3A: Completion exception notes for CA configurations for Intra-band contiguous CA in Table A.4.6.1-3

|  |  |
| --- | --- |
| Completion exception notes | |
| Exception note | Description |
| E1 | FFS |

#### A.4.6.2 Intra-band non-contiguous CA Physical Layer Baseline Implementation Capabilities

Table A.4.6.2-1: Downlink Intra-band non-contiguous CA Bandwidth Class capabilities (for one or more of the supported CA configurations in Table A.4.6.2-3)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | DL Intra-band non-contiguous CA BW Class Combination A-A | 36.101, 5.6A 36.331, 6.3.6 |  |
| 2 | DL Intra-band non-contiguous CA BW Class Combination A-C/C-A | 36.101, 5.6A 36.331, 6.3.6 |  |
| 3 | Void |  |  |
| 4 | DL Intra-band non-contiguous CA BW Class Combination A-D/D-A | 36.101, 5.6A 36.331, 6.3.6 |  |
| 5 | DL Intra-band non-contiguous CA BW Class Combination C-C | 36.101, 5.6A 36.331, 6.3.6 |  |
| 6 | DL Intra-band non-contiguous CA BW Class Combination A-E | 36.101, 5.6A 36.331, 6.3.6 |  |
| 7 | DL Intra-band non-contiguous CA BW Class Combination B-D or C-D | 36.101, 5.6A 36.331, 6.3.6 |  |
| 8 | DL Intra-band non-contiguous CA BW Class Combination A-C-C or A-B-C | 36.101, 5.6A 36.331, 6.3.6 |  |
| 9 | DL Intra-band non-contiguous CA BW Class Combination A-A-A | 36.101, 5.6A 36.331, 6.3.6 | with three sub-blocks |

Table A.4.6.2-2: Uplink Intra-band non-contiguous CA Bandwidth Class capabilities (for one or more of the supported CA configurations in Table A.4.6.2-3)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | UL Intra-band non-contiguous CA BW Class Combination A-A | 36.101, 5.6A 36.331, 6.3.6 |  |

Table A.4.6.2-3: Supported CA configurations for Intra-band non-contiguous CA completed in current version of the specification

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA configuration / Item  (Note 1) | Uplink CA configuration(s)  (Note 1) | Bandwidth combination set(s)  (BCS) (Note 1) | Completion exception notes  (Note 12) | Release  (Note 11) | Supported | Supported CA Bandwidth Class(es) in UL  (Note 2,7) | Supported Bandwidth Combination Set(s)  (Note 3) | Fallback Bands Exception  (Note 5,8) | Fallback CA configurations Exceptions  (Note 6,8) | Supported band(s) for 4 layer spatial multiplexing  (Note 10) |
| CA\_2A-2A | - | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_3A-3A | - | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_4A-4A | - | 0,1 |  | Rel-12 |  |  |  | - | - |  |
|  | CA\_4A-4A | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_5A-5A | - | 0 |  | Rel-13 |  |  |  | - | - |  |
| CA\_7A-7A | - | 0,1,3 |  | Rel-12 |  |  |  | - | - |  |
| CA\_23A-23A | - | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_25A-25A | - | 0,1 |  | Rel-11 |  |  |  | - | - |  |
| CA\_41A-41A | - | 0,1 |  | Rel-11 |  |  |  | - | - |  |
| CA\_41A-41C | - | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_42A-42A | - | 0 |  | Rel-12 |  |  |  | - | - |  |
| CA\_42A-42C | - | 0 |  | Rel-13 |  |  |  | - | - |  |
| CA\_66A-66A (NOTE 9) | - | 0 |  | Rel-13 |  |  |  |  |  |  |
| CA\_66A-66A-66A | - | 0 |  | Rel-15 |  |  |  | - | - |  |
| CA\_66A-66C | - | 0 |  | Rel-14 |  |  |  | - | - |  |
| Note 1: The E-UTRA CA configuration / Item column, the Uplink CA configuration(s) column and the bandwidth combination set(s) column X specifies completed configurations in 3GPP conformance test specifications. Notation used for intra-band contiguous CA Bands is according to TS 36.101 [2] Table 5.6A.1-3, e.g. ‘CA\_2A-2A’ indicates CA intra-band non-contiguous operation on E-UTRA band 2 with DL CA Bandwidth Class A-A.  Note 2: The UL CA capabilities as per Table A.4.6-2 can be supported on a single or multiple CA Band(s). The UE supplier shall indicate all supported UL CA Bandwidth Class(es), in uplink of the supported CA Band(s), as per TS 36.101 [2] Table 5.6A.1-3. For this release of specification valid choices are ‘N’, ‘XA-XA’ and ‘XC’, where X is the band. For example, for CA\_4A-4A, ‘N’ would mean only DL CA, ‘4A-4A’ would mean both DL and UL CA.  Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 36.101 [2] Table 5.6A.1-3.  Note 4: Reference to all items is 36.101, 5.6A and 36.331, 6.3.6  Note 5: Fallback Bands Exceptions column is used for the FALLBACK() operator in "Tested Band Selection Criteria" (Table 4.1-1b). FALLBACK(A.4.6.2-3) shall return a set of all fallback bands of the supported CA Configurations, i.e. a union of bands included in each CA Configuration, derived according to Table 4.1-2, with the following additional conditions:   1. Band is not listed in the Fallback Band Exceptions for the considered CA Configuration 2. Maximum allowed channel BW in the band is included in at least one of the supported Bandwidth Combination Sets supported by the considered CA Configuration   Note 6: Fallback CA configurations Exceptions column is used for the FALLBACK() and FALLBACK\_UL() operators in "Tested CA Configurations Criteria" (Table 4.1-1c). FALLBACK(A.4.6.2-3) shall return a set of all fallback CA Configurations of supported CA Configurations, derived according to Table 4.1-2, with the following additional conditions:   1. Fallback CA Configuration is not listed in "Fallback CA Configurations Exceptions" 2. Maximum allowed channel BW in each Fallback CA Configuration band is included in at least one of the supported CA Configuration Bandwidth Combination Sets.   Note 7: UL(A.4.6.2-3) shall return all supported CA Configurations where at least one >1 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_2CC(A.4.6.2-3) shall return all supported CA Configurations where at least one 2 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_3CC(A.4.6.2-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.  Note 8: The exceptions columns are pre-filled, please do not fill out. Exceptions are possible if there are big differences between CA Configuration and Fallback CA Configuration/band definitions. For example, CA\_18A-28A uses only a part of B28, so 28 will be listed as an exception.  Note 9: A UE that supports operating Band 66 (Table A.4.3-3) and CA operation in any CA band shall support the DL CA configurations CA\_66B, CA\_66C and CA\_66A-66A, as specified in Note 6, in Table 5.5-1, in TS 36.101 [19].  Note 10: The UE supplier shall indicate the frequency bands where 4 layer spatial multiplexing is supported in the supported CA Configurations.  Note 11: The release column indicates the release the CA configuration was introduced in TS 36.101 [2]. Additional bandwidth combination sets may have been introduced in a later release.  Note 12: The completion exception notes column indicates if there are any exceptions to the completion of the CA configuration in 3GPP conformance test specifications. The notation used for completion exception notes is "E#" where # is an integer number. The description of the completion exception notes are specified in Table A.4.6.2-3A. | | | | | | | | | | |

Table A.4.6.2-3A: Completion exception notes for CA configurations for Intra-band non-contiguous CA in Table A.4.6.2-3

|  |  |
| --- | --- |
| Completion exception notes | |
| Exception note | Description |
| E1 | FFS |

#### A.4.6.3 Inter-band CA Physical Layer Baseline Implementation Capabilities

Table A.4.6.3-1: Downlink Inter-band CA Bandwidth Class Combination capabilities (for one or more of the supported CA configurations in Table A.4.6.3-3, A.4.6.3-4, A.4.6.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | DL Inter-band CA BW Class Combination A-A | 36.101, 5.6A 36.331, 6.3.6 |  |
| 2 | DL Inter-band CA BW Class Combination A-A-A (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 3 | DL Inter-band CA BW Class Combination A-A-A (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 4 | DL Inter-band CA BW Class Combination A-C or A-B (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 5 | DL Inter-band CA BW Class Combination A-A where one of the bands is DL-only | 36.101, 5.5 |  |
| 6 | DL Inter-band CA BW Class Combination A-A-A-A (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 7 | DL Inter-band CA BW Class Combination A-A-C or A-A-B (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 8 | DL Inter-band CA BW Class Combination A-A-A-C (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 9 | DL Inter-band CA BW Class Combination A-D or C-C or C-B (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 10 | DL Inter-band CA BW Class Combination A-A-C or A-A-B (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 11 | DL Inter-band CA BW Class Combination A-A-A-A (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 12 | DL Inter-band CA BW Class Combination A-A-A-A or A-A-A-A-A (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 13 | DL Inter-band CA BW Class Combination A-A-A-B or A-A-A-C (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 14 | DL Inter-band CA BW Class Combination A-A-A-A-A (five bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 15 | DL Inter-band CA BW Class Combination A-A-D (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 16 | DL Inter-band CA BW Class Combination A-A-A-B or A-A-A-C (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 17 | DL Inter-band CA BW Class Combination A-A-A-A-A (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 18 | DL Inter-band CA BW Class Combination A-A-A-C or A-A-A-B (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 19 | DL Inter-band CA BW Class Combination C-E (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 20 | DL Inter-band CA BW Class Combination A-A-E (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 21 | DL Inter-band CA BW Class Combination A-C-D (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 22 | DL Inter-band CA BW Class Combination A-A-A-D (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 23 | DL Inter-band CA BW Class Combination A-A-C-C (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 24 | DL Inter-band CA BW Class Combination C-D (two bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 25 | DL Inter-band CA BW Class Combination A-A-A-A-A-A (six bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 26 | DL Inter-band CA BW Class Combination A-C-E (three bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| 27 | DL Inter-band CA BW Class Combination A-C-D-A (four bands) | 36.101, 5.6A 36.331, 6.3.6 |  |
| Note: The order of the CA bandwidth classes in the CA BW Class Combination does not imply any order in the CA operating bands. | | | |

Table A.4.6.3-2: Uplink Inter-band CA Bandwidth Class Combination capabilities (for one or more of the supported CA configurations in Table A.4.6.3-3, A.4.6.3-4, A.4.6.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | UL Inter-band CA BW Class Combination A-A | 36.101, 5.6A 36.331, 6.3.6 |  |
| 2 | UL Inter-band CA BW Class Combination A-A-A (two bands) | 36.331, 6.3.6 |  |
| 3 | UL Inter-band CA BW Class Combination A-C (two bands) | 36.101, 5.6A  36.331, 6.3.6 |  |

Table A.4.6.3-3: Supported CA configurations for Inter-band CA (two bands) completed in current version of the specification

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA configuration / Item  (Note 1) | Uplink CA configuration(s)  (Note 1) | Bandwidth combination set(s)  (BCS) (Note 1) | Completion exception notes  (Note 12) | Release  (Note 11) | Supported | Supported CA Bandwidth Class(es) in UL  (Note 2,7) | Supported UL Bands  (Note 9) | Supported Bandwidth Combination Set(s)  (Note 3) | Fallback Bands Exception  (Note 5) | Fallback CA configurations Exceptions  (Note 6) | Supported band(s) for 4 layer spatial multiplexing  (Note 10) |
| CA\_1A-3A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-3A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-3C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-5A | - | 0,1 | - | Rel-10 |  |  |  |  | - | - |  |
|  | CA\_1A-5A | 0,1 | - | Rel-10 |  |  |  |  | - | - |  |
| CA\_1A-7A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-7A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-7A-7A | - | 0 | - | Rel-14 |  |  |  |  |  |  |  |
| CA\_1A-8A | - | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-8A | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-11A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-18A | - | 0,1 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_1A-18A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-19A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
| CA\_1A-20A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-21A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
| CA\_1A-26A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-28A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-28A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-38A | - | 0 | - | Rel-14 |  |  |  |  |  |  |  |
| CA\_1A-40A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_1A-41A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-41C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-42A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-42A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-42C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-46A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1C-3A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-4A-4A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-5A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-2A-7A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-12A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-12B | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-2A-14A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-29A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-66A |  | 0 |  | Rel-14 |  |  |  |  |  |  |  |
| CA\_2A-4A | - | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-4A | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-4A-4A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-5A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-5A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-5B | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-7A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_2A-7A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-7C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-12A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-12B | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-13A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-13A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-14A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-17A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
| CA\_2A-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-29A | - | 0,1,2 | - | Rel-11 |  |  | 2 |  | - | - |  |
| CA\_2A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-46A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_2A-46A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-66C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-66A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-71A | - | 0,1 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2C-29A | - | 0 | - | Rel-12 |  |  | 2 |  | - | - |  |
| CA\_2C-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2C-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_3A-5A | - | 0,1,2,3 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_3A-5A | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-7A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_3A-7A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-7C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-8A | - | 0,1,2 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_3A-8A | 0,1,2 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-11A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-19A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_3A-19A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-20A | - | 0,1 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_3A-20A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-26A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_3A-26A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-27A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-28A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-32A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-38A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-40A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_3A-40C | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_3A-41A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_3A-41A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-42A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_3A-42A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-42C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3A-46A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3C-5A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3C-7A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_3C-7C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3C-8A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3C-20A | - | 0 | - | Rel-14 |  |  |  |  |  |  |  |
| CA\_4A-4A-5A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-4A-7A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-4A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-4A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-4A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_4A-5A | - | 0,1 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_4A-5A | 0,1 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-7A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_4A-7A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-7A-7A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_4A-7C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_4A-12A | - | 0,1,2,3,4,5 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_4A-12A | 0,1,2,3,4,5 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-12B | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-13A | - | 0,1 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_4A-13A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-17A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_4A-17A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-27A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-28A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_4A-29A | - | 0,1,2 | - | Rel-11 |  |  | 4 |  | - | - |  |
| CA\_4A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-46A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_5A-5A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5A-7A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_5A-7A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-12A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_5A-12A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-17A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_5A-17A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-25A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_5A-40C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_5A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5B-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5B-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5B-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_7A-8A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_7A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_7A-20A | - | 0,1 | - | Rel-11 |  |  |  |  | - | - |  |
|  | CA\_7A-20A | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_7A-22A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_7A-28A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_7A-28A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_7A-32A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_7A-46A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_7A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_8A-11A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_8A-20A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
| CA\_8A-27A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_8A-28A | - | 0 | - | Rel-14 |  |  | 8 |  | - | - |  |
| CA\_8A-40A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_8A-41C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_8A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_8A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_11A-18A | - | 0 | - | Rel-11 |  |  |  |  | - | - |  |
| CA\_11A-28A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_11A-41A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_11A-41C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_11A-42A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_11A-42C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_12A-25A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_12A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_12A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_12A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_13A-46A | - | 0 | - | Rel-14 |  |  | 13 |  | - | - |  |
| CA\_13A-66A | - | 0 | - | Rel-14 |  |  |  |  |  |  |  |
| CA\_13A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_14A-30A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_14A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_14A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_18A-28A | - | 0 | - | Rel-12 |  |  |  |  | 28 | - |  |
|  | CA\_18A-28A | 0 | - | Rel-13 |  |  |  |  | 28 | - |  |
| CA\_19A-21A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_19A-21A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_19A-42A | - | 0 | - | Rel-12 (1UL)  Rel-14 (2UL) |  |  |  |  | - | - |  |
| CA\_19A-42C | - | 0 | - | Rel-12 (1UL)  Rel-14 (2UL) |  |  |  |  | - | - |  |
| CA\_20A-28A | - | 0 | - | Rel-14 |  |  |  |  | 28 | - |  |
| CA\_20A-32A | - | 0,1 | - | Rel-12 |  |  | 20 |  | - | - |  |
| CA\_20A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_20A-42A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_20A-67A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_21A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_21A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_23A-29A | - | 0,1 | - | Rel-12 |  |  | 23 |  | - | - |  |
| CA\_25A-41A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_25A-26A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_26A-41A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_26A-41C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_28A-40D | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_28A-41A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_28A-41C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_28A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_28A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_29A-30A | - | 0 | - | Rel-12 |  |  | 30 |  | - | - |  |
| CA\_29A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_29A-66A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_29A-66C | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_29A-70A | - | 0 | - | Rel-14 |  |  | 70 |  | - | - |  |
| CA\_29A-70C | - | 0 | - | Rel-15 |  |  | 70 |  | - | - |  |
| CA\_30A-48A | CA\_30A-48A | 0 | - | Rel-17 |  |  |  |  | - | - |  |
| CA\_30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_30A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_38A-40A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_39A-41A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_39A-41A | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_39A-41C | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_39A-41D | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_39C-41C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_40A-46A | - | 0 | - | Rel-14 |  |  | 40 |  | - | - |  |
| CA\_41A-42A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_41A-42A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_41A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_41A-42A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_41C | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_41C-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_41A-42A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_41C | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_41C-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_41A-42A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_41C | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_42C | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_41A-46A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_42A-46A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_46A-46A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_46A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_46A-66A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_46A-66C | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_46A-70A | - | 0 | - | Rel-14 |  |  | 70 |  | - | - |  |
| CA\_46C-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_66A-66A-70A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-66A-70C | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-66A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-70A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-70C | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66C-70A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66C-70C | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66C-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_70A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_70C-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| Note 1: The E-UTRA CA configuration / Item column, the Uplink CA configuration(s) column and the bandwidth combination set(s) column X specifies completed configurations in 3GPP conformance test specifications. Notation used for intra-band contiguous CA Bands is according to TS 36.101 [2] Table 5.6A.1-2, e.g. ‘CA\_1A-3A’ indicates interband CA operation on E-UTRA band 1 with DL CA Bandwidth Class A and on E-UTRA band 3 with DL CA Bandwidth Class A.  Note 2: The UL CA capabilities as per Table A.4.6-2 can be supported on a single or multiple CA Band(s). The UE supplier shall indicate all supported UL CA Bandwidth Class(es), in uplink of the supported CA Band(s), as per TS 36.101 [2] Table 5.6A.1-2. For this release of specification valid choices are ‘N’, ‘XA-XA’ and ‘XC’, where X is the band. For example, for full UL CA support in CA\_18A-28A, UE shall indicate 18A-28A. For no UL CA ‘N’.  Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 36.101 [2] Table 5.6A.1-2.  Note 4: Reference to all items is 36.101, 5.6A and 36.331, 6.3.6.  Note 5: Fallback Bands Exceptions column is used for the FALLBACK() operator in "Tested Band Selection Criteria" (Table 4.1-1b). FALLBACK(A.4.6.3-3) shall return a set of all fallback bands of the supported CA Configurations, i.e. a union of bands included in each CA Configuration, derived according to Table 4.1-2, with the following additional conditions:  1. Band is not listed in the Fallback Band Exceptions for the considered CA Configuration.  2. UL is supported in the band for the considered CA Configuration, according to Supported UL Bands Column.  3. Maximum allowed channel BW in the band is included in at least one of the supported Bandwidth Combination Sets supported by the considered CA Configuration  Note 6: Fallback CA configurations Exceptions column is used for the FALLBACK() and FALLBACK\_UL() operators in "Tested CA Configurations Criteria" (Table 4.1-1c). FALLBACK(A.4.6.3-3) shall return a set of all fallback CA Configurations of supported CA Configurations, derived according to Table 4.1-2, with the following additional conditions:  1. Fallback CA Configuration is not listed in "Fallback CA Configurations Exceptions"  2. UL is supported in each Fallback CA Configuration band that is not downlink-only, according to Supported UL Bands Column  3. Maximum allowed channel BW in each Fallback CA Configuration band is included in at least one of the supported CA Configuration Bandwidth Combination Sets.  FALLBACK\_UL(A.4.6.3-3) shall return FALLBACK(A.4.6.3-3) AND UL(A.4.6.3-3).  Note 7: UL(A.4.6.3-3) shall return all supported CA Configurations where at least one UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_2CC(A.4.6.3-3) shall return all supported CA Configurations where at least one 2 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_3CC(A.4.6.3-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.  Note 8: The exceptions columns are pre-filled, please do not fill out. Exceptions are possible if there are big differences between CA Configuration and Fallback CA Configuration/band definitions. For example, CA\_18A-28A uses only a part of B28, so 28 will be listed as an exception.  Note 9: List all the CA Combination bands where UL is supported.  Note 10: The UE supplier shall indicate the frequency bands where 4 layer spatial multiplexing is supported in the supported CA Configurations.  Note 11: The release column indicates the release the CA configuration was introduced in TS 36.101 [2]. Additional bandwidth combination sets may have been introduced in a later release.  Note 12: The completion exception notes column indicates if there are any exceptions to the completion of the CA configuration in 3GPP conformance test specifications. The notation used for completion exception notes is "E#" where # is an integer number. The description of the completion exception notes are specified in Table A.4.6.3-3A. | | | | | | | | | | | |

Table A.4.6.3-3A: Completion exception notes for CA configurations for Intra-band non-contiguous CA in Table A.4.6.3-3

|  |  |
| --- | --- |
| Completion exception notes | |
| Exception note | Description |
| E1 | FFS |

Table A.4.6.3-4: Supported CA configurations for Inter-band CA (three bands) completed in current version of the specification

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA configuration / Item  (Note 1) | Uplink CA configuration(s)  (Note 1) | Bandwidth combination set(s)  (BCS) (Note 1) | Completion exception notes  (Note 12) | Release  (Note 11) | Supported | Supported CA Bandwidth Class(es) in UL  (Note 2,7) | Supported UL Bands  (Note 9) | Supported Bandwidth Combination Set(s)  (Note 3) | Fallback Bands Exception  (Note 5,8) | Fallback CA configurations Exceptions  (Note 6,8) | Supported band(s) for 4 layer spatial multiplexing  (Note 10) |
| CA\_1A-3A-5A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-3A-7A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-8A | - | 0,1,2,3 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-3A | 0,1,2,3 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_1A-8A | 0,1,2,3 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_3A-8A | 0,1,2,3 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-11A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-3A-18A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_1A-3A-19A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-3A-20A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-3A-26A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_1A-3A | 0 | - | Rel-15 |  |  |  |  | - | - |  |
|  | CA\_1A-26A | 0 | - | Rel-15 |  |  |  |  | - | - |  |
|  | CA\_3A-26A | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_1A-3A-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_1A-3A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_1A-28A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
|  | CA\_3A-28A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-3A-32A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_1A-3A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-41A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-3A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3C-8A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-5A-7A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-7A-20A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-7A-28A | - | 0,1,2 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-8A-11A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-8A-28A | - | 0 | - | Rel-14 |  |  | 1, 8 |  | 28 | 1A-28A |  |
| CA\_1A-8A-38A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_1A-8A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-11A-18A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-11A-28A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-18A-28A | - | 0 | - | Rel-12 |  |  |  |  | 28 | 1A-28A |  |
|  | CA\_1A-18A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_1A-28A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_18A-28A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-19A-21A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_1A-19A-28A | - | 0 | - | Rel-13 |  |  |  |  | 28 | 1A-28A |  |
| CA\_1A-19A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-19A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-21A-28A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-21A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-21A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-28A-42A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-28A-42C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_1A-41A-42A | - | 0 | - | Rel-14 |  |  | 1, 42 |  | 41 | 41A-42A |  |
| CA\_2A-2A-4A-5A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-4A-71A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_2A-2A-5A-12A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-5A-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-7A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-12A-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-12A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_2A-2A-14A-30A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-14A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-14A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-2A-29A-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-2A-29A-66A | - | 0 | - | Rel-17 |  |  |  |  |  |  |  |
| CA\_2A-2A-29A-66A-66A | - | 0 | - | Rel-17 |  |  |  |  |  |  |  |
| CA\_2A-2A-66A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-4A-4A-5A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-5A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-4A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-4A-7A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_2A-4A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-4A-7A-7A | - | 0 | - | Rel-14 |  |  | 2, 4 |  |  |  |  |
|  | CA\_2A-4A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-4A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-4A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_4A-12A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-4A-29A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-4A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-5A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-5A-12B | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-5A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-5A-29A | - | 0 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_2A-5A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-5A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-5B-30A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-5B-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-5B-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-7A-12A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-7A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_2A-12A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A-66A | - | 0,1 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-13A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-14A-30A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-14A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-14A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-29A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_2A-29A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-29A-66A-66A | - | 0 | - | Rel-17 |  |  |  |  |  |  |  |
| CA\_2A-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-30A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-66A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-66A-66A-71A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_2A-66C-71A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_2C-5A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2C-12A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2C-29A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-7A-8A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-7A-20A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_3A-7A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_3A-20A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
|  | CA\_7A-20A | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-7A-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-7A-32A | - | 0 | - | Rel-14 |  |  |  |  |  |  |  |
| CA\_3A-7C-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-8A-11A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-8A-28A | - | 0 | - | Rel-14 |  |  | 3, 8 |  | 28 | 3A-28A |  |
| CA\_3A-8A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-11A-28A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-19A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-19A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-20A-32A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-28A-41A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-41A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3A-41A-42C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-41C-42A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3A-41C-42C | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_3C-7A-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_3C-7C-28A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-4A-5A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-4A-12A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-4A-29A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_4A-5A-12A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-5A-13A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-5A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-7A-12A | - | 0,1 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_4A-12A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
|  | CA\_4A-12A | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_4A-29A-30A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_5A-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5B-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_5B-30A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_7A-8A-20A | - | 0 | - | Rel-12 |  |  |  |  | - | - |  |
| CA\_7A-20A-32A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_8A-11A-28A | - | 0 | - | Rel-14 |  |  | 8, 11 |  | 28 | 11A-28A |  |
| CA\_12A-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_14A-30A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_14A-30A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_19A-21A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_19A-21A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_29A-30A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | - |  |
| CA\_29A-30A-66A-66A | - | 0 | - | Rel-15 |  |  | 66 |  | - | - |  |
| CA\_29A-46A-66A | - | 0 | - | Rel-14 |  |  | 66 |  | - | 29A-46A |  |
| CA\_29A-66A-66A-70A | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_29A-66A-66A-70C | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_29A-66A-70A | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_29A-66A-70C | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_29A-66C-70A | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_29A-66C-70C | - | 0 | - | Rel-15 |  |  | 66, 70 |  | - | - |  |
| CA\_66A-66A-70A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-66A-70C-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-70A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66A-70C-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66C-70A-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_66C-70C-71A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| Note 1: The E-UTRA CA configuration / Item column, the Uplink CA configuration(s) column and the bandwidth combination set(s) column X specifies completed configurations in 3GPP conformance test specifications. Notation used for intra-band contiguous CA Bands is according to TS 36.101 [2] Table 5.6A.1-2a, e.g. ‘CA\_1A-3A-19A’ indicates CA operation on E-UTRA bands 1, 3 and 19, each with CA Bandwidth class A.  Note 2: The UL CA capabilities as per Table A.4.6-2 can be supported on a single or multiple CA Band(s). The UE supplier shall indicate all supported UL CA Bandwidth Class(es), in uplink of the supported CA Band(s), as per TS 36.101 [2] Table 5.6A.1-2a. The UE shall also indicate in which bands is UL supported. For this release of specification valid choices are ‘N’, ‘XA-YA’ etc, where X,Y,Z are the bands. For example, for UL support in B1+B3, and B3+B19, for CA\_1A-3A-19A, UE shall indicate ‘1A-3A’,’3A-19A’.  Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 36.101 [2] Table 5.6A.1-2a.  Note 4: Reference to all items is 36.101, 5.6A and 36.331, 6.3.6.  Note 5: Fallback Bands Exceptions column is used for the FALLBACK() operator in "Tested Band Selection Criteria" (Table 4.1-1b). FALLBACK(A.4.6.3-4) shall return a set of all fallback bands of the supported CA Configurations, i.e. a union of bands included in each CA Configuration, derived according to Table 4.1-2, with the following additional conditions:  1. Band is not listed in the Fallback Band Exceptions for the considered CA Configuration.  2. UL is supported in the band for the considered CA Configuration, according to Supported UL Bands Column.  3. Maximum allowed channel BW in the band is included in at least one of the supported Bandwidth Combination Sets supported by the considered CA Configuration.  Note 6: Fallback CA configurations Exceptions column is used for the FALLBACK() and FALLBACK\_UL() operators in "Tested CA Configurations Criteria" (Table 4.1-1c). FALLBACK(A.4.6.3-4) shall return a set of all fallback CA Configurations of supported CA Configurations, derived according to Table 4.1-2, with the following additional conditions:  1. Fallback CA Configuration is not listed in "Fallback CA Configurations Exceptions".  2. UL is supported in each Fallback CA Configuration band that is not downlink-only, according to Supported UL Bands Column.  3. Maximum allowed channel BW in each Fallback CA Configuration band is included in at least one of the supported CA Configuration Bandwidth Combination Sets.  Note 7: UL(A.4.6.3-4) shall return all supported CA Configurations where at least one >1 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL" UL\_2CC(A.4.6.3-4) shall return all supported CA Configurations where at least one 2 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_3CC(A.4.6.3-4) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.  Note 8: The exceptions columns are pre-filled, please do not fill out. Exceptions are possible if there are big differences between CA Configuration and Fallback CA Configuration/band definitions. For example, CA\_18A-28A uses only a part of B28, so 28 will be listed as an exception.  Note 9: List all the CA Combination bands where UL is supported.  Note 10: The UE supplier shall indicate the frequency bands where 4 layer spatial multiplexing is supported in the supported CA Configurations.  Note 11: The release column indicates the release the CA configuration was introduced in TS 36.101 [2]. Additional bandwidth combination sets may have been introduced in a later release.  Note 12: The completion exception notes column indicates if there are any exceptions to the completion of the CA configuration in 3GPP conformance test specifications. The notation used for completion exception notes is "E#" where # is an integer number. The description of the completion exception notes are specified in Table A.4.6.3-4A. | | | | | | | | | | | |

Table A.4.6.3-4A: Completion exception notes for CA configurations for Intra-band non-contiguous CA in Table A.4.6.3-4

|  |  |
| --- | --- |
| Completion exception notes | |
| Exception note | Description |
| E1 | FFS |

Table A.4.6.3-5: Supported CA configurations for Inter-band CA (four bands) completed in current version of the specification

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA CA configuration / Item  (Note 1) | Uplink CA configuration(s)  (Note 1) | Bandwidth combination set(s)  (BCS) (Note 1) | Completion exception notes  (Note 12) | Release  (Note 11) | Supported | Supported CA Bandwidth Class(es) in UL  (Note 2,7) | Supported UL Bands (Note 9) | Supported Bandwidth Combination Set(s)  (Note 3) | Fallback Bands Exception  (Note 5,8) | Fallback CA configurations Exceptions  (Note 6,8) | Supported band(s) for 4 layer spatial multiplexing  (Note 10) |
| CA\_1A-3A-7A-8A | - | 0,1 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-7A-20A | - | 0 | - | Rel-14 |  |  |  |  | - | - | - |
| CA\_1A-3A-7A-28A | - | 0,1 | - | Rel-13 |  |  |  |  |  |  |  |
| CA\_1A-3A-7A-32A | - | 0 | - | Rel-15 |  |  |  |  |  |  |  |
| CA\_1A-3A-8A-40A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-19A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-3A-19A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-19A-21A-42A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_1A-19A-21A-42C | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-2A-14A-30A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-4A-5A-12A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-5A-29A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-5A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-7A-12A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-12A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-4A-29A-30A | - | 0 | - | Rel-13 |  |  |  |  | - | - |  |
| CA\_2A-5A-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-5A-30A-66A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-5B-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A-30A-66A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| CA\_2A-12A-30A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-14A-30A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-14A-30A-66A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-29A-30A-66A | - | 0 | - | Rel-15 |  |  |  |  | - | - |  |
| CA\_2A-29A-30A-66A-66A | - | 0 | - | Rel-17 |  |  |  |  |  |  |  |
| CA\_3A-7A-20A-32A | - | 0 | - | Rel-14 |  |  |  |  | - | - |  |
| Note 1: The E-UTRA CA configuration / Item column, the Uplink CA configuration(s) column and the bandwidth combination set(s) column X specifies completed configurations in 3GPP conformance test specifications. Notation used for intra-band contiguous CA Bands is according to TS 36.101 [2] Table 5.6A.1-2b, e.g. ‘CA\_1A-3A-19A-42A’ indicates CA operation on E-UTRA bands 1, 3, 19 and 42, each with CA Bandwidth class A.  Note 2: The UL CA capabilities as per Table A.4.6-2 can be supported on a single or multiple CA Band(s). The UE supplier shall indicate all supported UL CA Bandwidth Class(es), in uplink of the supported CA Band(s), as per TS 36.101 [2] Table 5.6A.1-2b. The UE shall also indicate in which bands is UL supported. For this release of specification valid choices are ‘N’, ‘XA-YA’ etc, where X,Y,Z are the bands. For example, for UL support in B1+B3, and B3+B19, for CA\_1A-3A-19A-42A, UE shall indicate ‘1A-3A’,’3A-19A’.  Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 36.101 [2] Table 5.6A.1-2b.  Note 4: Reference to all items is 36.101, 5.6A and 36.331, 6.3.6.  Note 5: Fallback Bands Exceptions column is used for the FALLBACK() operator in "Tested Band Selection Criteria" (Table 4.1-1b). FALLBACK(A.4.6.3-4) shall return a set of all fallback bands of the supported CA Configurations, i.e. a union of bands included in each CA Configuration, derived according to Table 4.1-2, with the following additional conditions:  1. Band is not listed in the Fallback Band Exceptions for the considered CA Configuration.  2. UL is supported in the band for the considered CA Configuration, according to Supported UL Bands Column.  3. Maximum allowed channel BW in the band is included in at least one of the supported Bandwidth Combination Sets supported by the considered CA Configuration.  Note 6: Fallback CA configurations Exceptions column is used for the FALLBACK() and FALLBACK\_UL() operators in "Tested CA Configurations Criteria" (Table 4.1-1c). FALLBACK(A.4.6.3-4) shall return a set of all fallback CA Configurations of supported CA Configurations, derived according to Table 4.1-2, with the following additional conditions:  4. Fallback CA Configuration is not listed in "Fallback CA Configurations Exceptions".  5. UL is supported in each Fallback CA Configuration band that is not downlink-only, according to Supported UL Bands Column.  6. Maximum allowed channel BW in each Fallback CA Configuration band is included in at least one of the supported CA Configuration Bandwidth Combination Sets.  Note 7: UL(A.4.6.3-4) shall return all supported CA Configurations where at least one >1 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL" UL\_2CC(A.4.6.3-4) shall return all supported CA Configurations where at least one 2 Carrier UL CA Bandwidth Class was declared in column "Supported CA Bandwidth Class(es) in UL". UL\_3CC(A.4.6.3-4) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.  Note 8: The exceptions columns are pre-filled, please do not fill out. Exceptions are possible if there are big differences between CA Configuration and Fallback CA Configuration/band definitions. For example, CA\_18A-28A uses only a part of B28, so 28 will be listed as an exception.  Note 9: List all the CA Combination bands where UL is supported.  Note 10: The UE supplier shall indicate the frequency bands where 4 layer spatial multiplexing is supported in the supported CA Configurations.  Note 11: The release column indicates the release the CA configuration was introduced in TS 36.101 [2]. Additional bandwidth combination sets may have been introduced in a later release.  Note 12: The completion exception notes column indicates if there are any exceptions to the completion of the CA configuration in 3GPP conformance test specifications. The notation used for completion exception notes is "E#" where # is an integer number. The description of the completion exception notes are specified in Table A.4.6.3-5A. | | | | | | | | | | | |

Table A.4.6.3-5A: Completion exception notes for CA configurations for Intra-band non-contiguous CA in Table A.4.6.3-5

|  |  |
| --- | --- |
| Completion exception notes | |
| Exception note | Description |
| E1 | FFS |

### A.4.7 Category M1 UE Centre Frequency Implementation

Table A.4.7-1: Category M1 UE Centre Frequency Implementation

|  |  |  |
| --- | --- | --- |
| Band | UE implementation on  Centre Frequency (Note1) | |
| Centre of Channel bandwidth | Centre of narrowband |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 7 |  |  |
| 8 |  |  |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |
| 14 |  |  |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |
| 21 |  |  |
| 26 |  |  |
| 27 |  |  |
| 28 |  |  |
| 31 |  |  |
| 39 |  |  |
| 41 |  |  |
| 42 |  |  |
| 43 |  |  |
| 71 |  |  |
| Note 1: UE vendor updates one of the two columns across all supported bands | | |

Annex B (informative): Status of CA configurations in 3GPP UE conformance test specifications

See attached document "PRD20 E-UTRA CA list v1.6.0.xlsm" for the status of E-UTRA CA configurations and its power classes in the version of 3GPP UE conformance test specifications as indicated in the header of this document.

Annex C (informative):  
Change history

| Date | TSG # | TSG Doc. | CR | Rev | Subject/Comment | Old | New |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2008-03 |  |  |  |  | Skeleton proposed for RAN5#38 Malaga |  | 0.0.1 |
| 2008-06 |  |  |  |  | Updated after RAN5#39bis:  - Editorial update and alignment with 36.523-2  - TC included in 36.521-1 and 36.521-3 included  - Some Conditions for TC selections introduce | 0.0.1 | 0.1.0 |
| 2008-08 |  |  |  |  | Updated after RAN5#40:  - Editorial update in regard to changing spec names, etc.  - FDD and TDD split (R5-083839)  - RRM TC numbers aligned with 36.521-3 v030 | 0.1.1 | 0.2.0 |
| 2008-10 |  |  |  |  | Update after RAN5#40bis:  - Table split in different clauses for Conformance and RRM test cases  - Extension of applicability tables to include Additional information column  - Change of applicability of TCs that apply to any E-UTRA device into "R" - recommended  - Updated TCs in accordance to 36.521-1 v110 and 36.521-3 v040  - Some editorial updates | 0.2.0 | 0.3.0 |
| 2008-11 |  |  |  |  | Update After RAN5#41 (R5-055360):  - Renamed 8.1.1, added new 8.1.2,  - Added new TCs to RRM section Measurement Performance Requirements  - Added Table A.4.3-2 with reference to test loop functions in 36.509  - Some editorial changes  - Normative References updated  - Change RRM TC titles to reflect their applicability to FDD only | 0.3.0 | 2.0.0 |
| 2008-12 | RAN#42 | RP-080970 |  |  | Approval of version 2.0.0 at RAN#42, then put to version 8.0.0. | 2.0.0 | 8.0.0 |
| 2008-01 |  |  |  |  | Editorial corrections. | 8.0.0 | 8.0.1 |
| 2009-05 | RAN#44 | RP-090448 | 0001 |  | CR to 36.521-2: Applicability changes and additions for RRM test cases | 8.0.1 | 8.1.0 |
| 2009-05 | RAN#44 | RP-090448 | 0002 |  | LTE-RF: Applicability for Output Power Dynamics test cases | 8.0.1 | 8.1.0 |
| 2009-09 | RAN#45 | R5-094035 | 0003 | - | Correction CR to 36.521-2: Applicability changes to introduce additional RRM tests | 8.1.0 | 8.2.0 |
| 2009-09 | RAN#45 | R5-094572 | 0004 | - | Applicability for Output Power Dynamics test cases | 8.1.0 | 8.2.0 |
| 2009-09 | RAN#45 | R5-094710 | 0005 | - | Resubmission-Correction CR to 36.521-2: Applicability changes to introduce additional RRM tests | 8.1.0 | 8.2.0 |
| 2009-09 | RAN#45 | R5-094768 | 0006 | - | Update of RRM Conformance test applicability for SON | 8.1.0 | 8.2.0 |
| 2009-09 | RAN#45 | R5-094999 | 0007 | - | Correction CR to 36.521-2: Applicability changes to RF PDSCH Demodulation tests | 8.1.0 | 8.2.0 |
| 2009-12 | RAN#46 | R5-095519 | 0008 |  | Correction CR to 36.521-2: Applicability changes to update the Demodulation of PDSCH (FDD) tests based on the CR merge results from RAN5#44 | 8.2.0 | 8.3.0 |
| 2009-12 | RAN#46 | R5-095778 | 0009 |  | Update of RRM Conformance test applicability for RLM in DRX test cases | 8.2.0 | 8.3.0 |
| 2009-12 | RAN#46 | R5-095841 | 0010 | - | CR to 36.521-2: Applicability additions for new RRM (FDD) tests | 8.2.0 | 8.3.0 |
| 2010-03 | RAN#47 | R5-100358 | 0011 | - | CR to 36.521-2 Rel-8 Introduction of Applicability for E-UTRAN FDD - FDD Intra Frequency Cell Search with DRX when L3 filtering is used | 8.3.0 | 8.4.0 |
| 2010-03 | RAN#47 | R5-100561 | 0012 | - | CR to 36.521-2: Update baseline implementation capabilities with extended LTE1500 operating bands | 8.3.0 | 8.4.0 |
| 2010-03 | RAN#47 | R5-100872 | 0013 | - | CSI: Following up corrections to tests titles and RI clause structure | 8.3.0 | 8.4.0 |
| 2010-03 | RAN#47 | - | - | - | Moved to v9.0.0 with no change | 8.4.0 | 9.0.0 |
| 2010-06 | RAN#48 | R5-103147 | 0014 | - | Adding band 20, 800MHZ in EU to TS36.521-2 | 9.0.0 | 9.1.0 |
| 2010-06 | RAN#48 | R5-103757 | 0015 | - | Introduction of feature group indicator in applicability for RRM test cases | 9.0.0 | 9.1.0 |
| 2010-09 | RAN#49 | R5-104246 | 0017 | - | CR to 36.521-2 on Correction to cell search | 9.1.0 | 9.2.0 |
| 2010-09 | RAN#49 | R5-104264 | 0018 | - | Addition of applicability for new RRM test cases | 9.1.0 | 9.2.0 |
| 2010-09 | RAN#49 | R5-104372 | 0019 | - | Update of Applicability for Demodulation test cases and UE implementation Types for UTRA TDD | 9.1.0 | 9.2.0 |
| 2010-09 | RAN#49 | R5-104840 | 0020 | - | 36521-2 General update to add-remove TCs applicability correct, TC titles and numbers and editorials | 9.1.0 | 9.2.0 |
| 2010-09 | RAN#49 | R5-105056 | 0021 | - | Applicability of a new Rel-9 downlink sustained data rate performance test cases | 9.1.0 | 9.2.0 |
| 2010-12 | RAN#50 | R5-106118 | 0022 | - | CR to 36.521-2: Update baseline implementation capabilities for EUTRA TDD LTE band 41 | 9.2.0 | 9.3.0 |
| 2011-03 | RAN#51 | R5-110536 | 0023 | - | Defining new bands 42 and 43 (3500MHz) | 9.3.0 | 9.4.0 |
| 2011-03 | RAN#51 | R5-110955 | 0024 | - | CR to 36.521-2: General update to add, remove, and correct applicability of RRM TCs | 9.3.0 | 9.4.0 |
| 2011-06 | RAN#52 | R5-112131 | 0025 | - | Correction to Band 12 frequency range in 36.521-2 | 9.4.0 | 9.5.0 |
| 2011-06 | RAN#52 | R5-112212 | 0026 | - | Adding Band 24 to TS 36.521-2 | 9.4.0 | 9.5.0 |
| 2011-06 | RAN#52 | R5-112378 | 0027 | - | Update of FGI bit definitions for rel-9 | 9.4.0 | 9.5.0 |
| 2011-06 | RAN#52 | R5-112821 | 0028 | - | Add release applicability for spatial multiplexing test cases | 9.4.0 | 9.5.0 |
| 2011-06 | RAN#52 | R5-112857 | 0029 | - | Addition of applicability for new RRM test cases 4.3.4.3 and 8.4.3 | 9.4.0 | 9.5.0 |
| 2011-06 | RAN#52 | R5-112865 | 0030 | - | Addition of applicability for new MBMS test cases 10.1 and 10.2 | 9.4.0 | 9.5.0 |
| 2011-09 | RAN#53 | R5-113306 | 0031 | - | Adding band 25 to TS36.521-2 | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-113625 | 0033 | - | Introduction of applicability of Rel-9 Scenarios | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-113626 | 0034 | - | Introduction of applicability of PDSCH performance tests for low UE categories | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-114025 | 0035 | - | Test Cases 6.2.3 and 6.2.4 Applicability Clarification | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-114070 | 0036 | - | Update baseline implementation capabilities for FDD LTE Band 23 in 36.521-2 | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-114074 | 0037 | - | Applicability for new R9 RRM test cases | 9.5.0 | 9.6.0 |
| 2011-09 | RAN#53 | R5-114096 | 0038 | - | Missing FGIs in RRM Test Case Applicabilities in 36.521-2 | 9.5.0 | 9.6.0 |
| 2011-12 | RAN#54 | R5-115128 | 0039 | - | Correction the content of A.4.4-1\_16 in 36.521-2 | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | R5-115134 | 0040 | - | Correction to the test case condition of C12 in 3GPP TS 36.521-2 | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | R5-115186 | 0041 | - | Adding band 22 (3500MHz FDD) to 36.521-2 | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | R5-115785 | 0042 | - | Requirement change in UE spurious emissions for Band 7 and 38 co-existence (Rel-8 only) | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | R5-115422 | 0043 | - | Update of FGI bit table in 36.521-2 | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | R5-115813 | 0044 | - | RF: Update of the applicability list | 9.6.0 | 9.7.0 |
| 2011-12 | RAN#54 | - | - | - | Moved to Rel-10 with no change | 9.7.0 | 10.0.0 |
| 2012-03 | RAN#55 | R5-120340 | 0046 | - | Addition of FGI bit 16 into test cases 9.1.x.x and 9.2.x.x | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120534 | 0047 | - | Introduction to Applicability for RSRQ for E-UTRA Carrier Aggregation | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120596 | 0048 | - | Updates to applicability for newly introduced CA feature chapter8 test cases in 36.521-2 | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120811 | 0049 | - | Correction to FGI bits in test case 8.5.2 | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120812 | 0050 | - | Addition of FGI bit 15 into test cases configuring event 1B | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120832 | 0051 | - | Update of FGI bit table in TS36.521-2 | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120836 | 0052 | - | Introduction to CA Applicability for Transmitter Characteristics tests MPR and ACLR | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120838 | 0053 | - | RF/RRM: Applicability for new added RRM test cases | 10.0.0 | 10.1.0 |
| 2012-03 | RAN#55 | R5-120840 | 0054 | - | Applicability for new UL MIMO test case | 10.0.0 | 10.1.0 |
| 2012-06 | RAN#56 | R5-121185 | 0055 | - | Updates to applicability for newly introduced CA feature TDD chapter 8 test cases in 36.521-2 | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121219 | 0056 | - | Adding operating band 26 to TS 36.521-2 | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121904 | 0057 | - | Addition of applicability for E-UTRAN Inter frequency case reselection in the existence of non-allowed CSG cell | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121965 | 0058 | - | Applicability for new UL MIMO test cases | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121966 | 0059 | - | Updates to applicability for Transmit timing tests in 36.521-2 | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121967 | 0060 | - | Applicability for new R9 RRM test cases | 10.1.0 | 10.2.0 |
| 2012-06 | RAN#56 | R5-121990 | 0061 | - | Addition of applicability for CA TCs | 10.1.0 | 10.2.0 |
| 2012-09 | RAN#57 | R5-123093 | 0062 | - | Updates to applicability for Chapter9 absolute and relative RSRP measurement test cases for carrier aggregation. | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123165 | 0063 | - | Introduction of Applicability for E-UTRAN Event Triggered reporting on deactivated SCell with PCell interruption in non-DRX for CA | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123169 | 0064 | - | Correction to Applicability for RSRQ for E-UTRA Carrier Aggregation | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123170 | 0065 | - | Introduction of eDL MIMO to UE service capabilities | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123533 | 0066 | - | Update of References in 36.521-2 v980 (pointer) | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123542 | 0067 | - | TS 36.521-2:TDD CA test cases applicability correction | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123788 | 0068 | - | Clarification of the release of UTRAN-EUTRAN Inter-RAT RRM test cases in 36.521-2 | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123856 | 0069 | - | Applicability for new RRM test cases | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123858 | 0070 | - | Introduction of Applicability for ACS for CA and UE config Tx output power for CA | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123909 | 0071 | - | TS 36.521-2:New UE categories addition | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123942 | 0072 | - | Applicability update for test cases in TS36.521-1 with single BW requirements not defined for all operating bands, rel-8 | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123993 | 0073 | - | Update applicability of UL-MIMO related conformance test cases | 10.2.0 | 10.3.0 |
| 2012-09 | RAN#57 | R5-123997 | 0074 | - | TS 36.521-2:Applicability for new CQI test cases | 10.2.0 | 10.3.0 |
| 2012-12 | RAN#58 | R5-125251 | 0075 | - | Removing FGI bit 5 from section four RRM test cases | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-125390 | 0076 | - | Adding bands 28 and 44 to TS36.521-2 | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-125821 | 0077 | - | Correction to Additional Information for RRM 4.3.4.3 | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-125833 | 0078 | - | Introduction of Band 27 to TS 36.521-2 | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-125836 | 0079 | - | Update applicability of UL-MIMO related conformance test cases | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-125920 | 0080 | - | Applicability removal of RRM TC8.12.1 | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-126049 | 0081 | - | Updates to the applicability of CA RF Tx tests | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-124138 | 0082 | - | Updates to the applicability of CA RF Performance tests | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-124168 | 0083 | - | Updates to the applicability of CA RF Rx tests | 10.3.0 | 10.4.0 |
| 2012-12 | RAN#58 | R5-124169 | 0084 | - | Applicability for new RRM CA related TCs | 10.3.0 | 10.4.0 |
| 2013-03 | RAN#59 | R5-130177 | 0085 | - | Introduction of new rel-10 Reporting of RI test cases into applicability specification | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130297 | 0086 | - | Introduction of eDL-MIMO applicability | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130306 | 0087 | - | Updates to applicability for newly introduced eICIC feature chapter9 RRM test cases | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130445 | 0090 | - | Correction to CA physical layer implementation capabilities | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130464 | 0091 | - | Correction of FGI bit 8 in 36.521-2 | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130802 | 0092 | - | Addition of applicability for RRM TCs 9.1.7.1 and 9.1.7.2 | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130807 | 0093 | - | Applicability correction to Spurious emission band UE co-existence(36.521-2) | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130997 | 0098 | - | Addition of applicability statement for 6 new eICIC test cases | 10.4.0 | 10.5.0 |
| 2013-03 | RAN#59 | R5-130375 | 0088 | - | Updates to CA physical layer baseline implementation capabilities for CA band 7 | 10.5.0 | 11.0.0 |
| 2013-03 | RAN#59 | R5-130379 | 0089 | - | Updates to CA physical layer baseline implementation capabilities for CA band 41 | 10.5.0 | 11.0.0 |
| 2013-03 | RAN#59 | R5-130927 | 0094 | - | Updates on the supported CA configurations for CA\_38, CA\_3-7 and CA\_7-20 | 10.5.0 | 11.0.0 |
| 2013-03 | RAN#59 | R5-130928 | 0095 | - | Addition of CA physical layer implementation capabilities for CA\_4-5 and CA\_4-13 | 10.5.0 | 11.0.0 |
| 2013-03 | RAN#59 | R5-130929 | 0096 | - | Updates of Inter-Band CA combinations CA\_3-20 and CA\_2-29 | 10.5.0 | 11.0.0 |
| 2013-03 | RAN#59 | R5-130930 | 0097 | - | CA\_2-17 and CA\_4-17 addition to supported capabilities in 36.521-2 | 10.5.0 | 11.0.0 |
| 2013-06 | RAN#60 | R5-131155 | 0100 | - | Introduction of new rel-11 Reporting of RI test cases into applicability specification | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131159 | 0101 | - | Introduction of Maximum Input Level test case for CA (inter-band DL CA without UL CA) into applicability specification | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131212 | 0102 | - | Correction of applicability conditions for TC 8.2.1.1.1\_1: TC 8.2.1.2.1\_1 and TC 8.3.2.1.1\_1 in 36.521-2 | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131444 | 0103 | - | Addition of applicability for Configured UE transmitted Output Power for inter-band CA | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131525 | 0104 | - | Corrections of eDL-MIMO applicability to align with reporting of CSI | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131712 | 0105 | - | Corrections to Table 4.1-1a "Applicability of RF conformance test cases Conditions" and Table 4.2-1a: Applicability of RRM conformance test cases Conditions | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131912 | 0106 | - | 36.521-2: Inter-band CA configurations update | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131914 | 0107 | - | Addition of applicability for FDD RF TCs 9.3.4.1.1, 9.3.4.2.1, 9.4.1.2.1, 9.4.2.2.1 and TDD RF TCs 9.3.4.1.2, 9.3.4.2.2, 9.4.1.2.2 and 9.4.2.2.2 | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-131927 | 0108 | - | Updates to applicability for newly introduced eICIC feature chapter9 RRM test cases in 36.521-2 | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-132013 | 0109 | - | 36.521-2 specification clean up | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-132015 | 0110 | - | Update of FGI tables in TS 36.521-2 | 11.0.0 | 11.1.0 |
| 2013-06 | RAN#60 | R5-132111 | 0111 | - | Removal of Spurious emission UE co-existence test case 6.6.3.2\_1 from 36.521-2 | 11.0.0 | 11.1.0 |
| 2013-09 | RAN#61 | R5-133125 | 0112 | - | editorial correction for RRM test case Condition C46 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133143 | 0113 | - | Addition of applicability for test cases 7.3.13 and 7.3.15 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133251 | 0114 | - | Addition of Band 31 to 36.521-2 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133315 | 0115 | - | Applicability for new CA TCs for 20MHz | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133347 | 0116 | - | eICIC RRM: Applicability for some new added eICIC test cases | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133350 | 0117 | - | CA RF: Applicability for some new added CA test cases | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133403 | 0118 | - | CA RRM: Corrections to applicability of CA RRM TC-s | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133816 | 0119 | - | Update applicability of test cases required to support PUSCH 2-2 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133825 | 0120 | - | eICIC RF: Applicability for some new added eICIC test cases | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133827 | 0121 | - | Correction to applicability of TC 8.3.2.1.2, 8.3.2.1.3 and 8.3.2.2.1 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133839 | 0122 | - | Correction of applicability for FDD RF TCs 9.3.4.1.1, 9.3.4.2.1 & 9.4.1.2.1and TDD RF TCs 9.3.4.1.2, 9.3.4.2.2 & 9.4.1.2.2 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133840 | 0123 | - | Addition of applicabilities for inter-freq/RAT without measurement gaps TCs | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133841 | 0124 | - | Correction to the reference information of chapter 2. | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133849 | 0125 | - | RRM: Update of applicability of some test cases | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133868 | 0126 | - | Addition of UE capability information Bandwidth Combination Set for Carrier Aggregation in ICS proforma tables | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133872 | 0127 | - | Update RF performance test applicability table for LTE B14 public safety high power UE | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133875 | 0128 | - | Addition of applicability for new TCs 8.3.1.1.3 and 8.3.2.1.4 | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133891 | 0129 | - | Applicability addition for CA test cases | 11.1.0 | 11.2.0 |
| 2013-09 | RAN#61 | R5-133897 | 0130 | - | Addition of the applicability of TC7.3.14 & TC7.3.16 | 11.1.0 | 11.2.0 |
| 2013-12 | RAN#62 | R5-134129 | 0131 | - | RRM: Corrections of applicability of some test cases | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134164 | 0132 | - | Introduction of UE TM3 Demodulation Performance under High Speed Applicability | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134281 | 0134 | - | Addition of applicability for Sustained data rate test(FDD) for category 6 and 7 UEs | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134285 | 0135 | - | Removal of 6.2.5A.2 from applicability table | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134293 | 0136 | - | Correction to applicabilities for inter-freq/RAT without measurement gaps TCs | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134315 | 0137 | - | Removal of comma separated conditions | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134883 | 0138 | - | Addition of applicability for new TCs 7.4A.4 and 7.5A.4 | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134893 | 0142 | - | Addition of applicabilities of LTE Type A performance requirements | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134895 | 0139 | - | Removal of redundant not applicable to any device tests from applicability table | 11.2.0 | 11.3.0 |
| 2013-12 | RAN#62 | R5-134279 | 0133 | - | Addition of Rel-12 CA band combinations(CA\_3-19 and CA\_19-21) to Table A.4.6.3-3 | 11.3.0 | 12.0.0 |
| 2013-12 | RAN#62 | R5-135011 | 0141 | - | Updates of Table A.4.6.3-3 for CA 1A-26A | 11.3.0 | 12.0.0 |
| 2013-12 | RAN#62 | R5-135032 | 0140 | - | Applicability for new RRM test cases for 5MHz bandwidth | 11.3.0 | 12.0.0 |
| 2014-03 | RAN#63 | R5-140390 | 0143 | - | LTE Type A performance requirements - Adding a new test case 9.3.5.1.2 | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140426 | 0144 | - | Updates to Intra-band non-contiguous CA applicability | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140526 | 0145 | - | Addition of applicability for TC 8.2.2.2.4 and TC 8.2.2.4.3 | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140808 | 0146 | - | Correction the applicability for test case 8.2.1.3.2. | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140809 | 0147 | - | Update applicability table for LTE B14 public safety high power UE test cases | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140817 | 0148 | - | Applicability for new DL CoMP test cases | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140870 | 0150 | - | Corrections the applicability of test cases 8.16.3 and 8.16.4 | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140871 | 0151 | - | Correcting applicability in 8.2.2.1.1\_1 and 8.2.2.2.1\_1 for UE categories 1 and/or 2 | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140897 | 0152 | - | Addition of Applicability for EPDCCH New Test Cases | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-140923 | 0153 | - | Introduction of UE CA Inter-band uplink capabilities | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-141020 | 0154 | - | Addition of test applicability of WB-RSRQ measurement | 12.0.0 | 12.1.0 |
| 2014-03 | RAN#63 | R5-141035 | 0155 | - | Applicability for new CA RRM TCs 7.1.3+7.1.4 | 12.0.0 | 12.1.0 |
| 2014-06 | RAN#64 | R5-142113 | 0157 | - | Addition of CA 3A-28A to 36.521-2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142337 | 0158 | - | Applicability update for CA band Combo CA\_2A-13A | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142345 | 0159 | - | Addition of CA band combination CA\_39A-41A to Table A.4.6.3-3 in TS 36.521-2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142347 | 0160 | - | Updates of Table A.4.6.3-3 for CA\_3A-26A and CA\_3A-27A | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142583 | 0161 | - | Update of FGI definitions in TS 36.521-2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142674 | 0162 | - | Definition correction to UL and DL category tables | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142772 | 0163 | - | Addition of CA\_2A-4A and CA\_5A-7A to 36.521-2 Annex A4 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142782 | 0164 | - | Introduction of TC 7.6.xA.4 and 7.7A.4 applicabilities | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-142799 | 0165 | - | Addition of applicability for TC 6.6.3B.2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143000 | 0166 | - | Conditions C19, C20, C21 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143016 | 0167 | - | Addition of RF test cases applicability for eICIC | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143017 | 0168 | - | Addition of RRM test cases applicability for eICIC | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143028 | 0169 | - | LTE Type A performance requirements - Adding test case 8.2.1.4.3 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143030 | 0170 | - | Condition C43 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143053 | 0171 | - | Correction to the applicability of the test case 7.6.2A.3 and 7.7A.3. | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143054 | 0172 | - | Correction of the condition of test case 8.7.1.1 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143055 | 0173 | - | Correction of the condition of the test cases 8.2.1.1.1\_A.2, 8.2.1.3.1\_A.1, 8.2.1.3.1\_A.2 and 8.2.1.4.2\_A.2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143056 | 0174 | - | Correction of the condition for the test cases 8.2.1.1.1\_A.1, 8.2.1.4.2\_A.1 and 8.2.2.1.1\_A.1 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143060 | 0175 | - | Introduction of feICIC applicability statement for CSI test cases | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143061 | 0176 | - | Introduction of feICIC applicability statement for RRM test cases | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143078 | 0177 | - | Applicability for new CoMP TDD TCs | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143083 | 0178 | - | Addition of applicability for newly added RRM test cases | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143084 | 0179 | - | Addition of CA\_27B related information into A.4.6 in TS 36.521-2 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143119 | 0180 | - | Update of applicability for EPDCCH test cases | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143145 | 0181 | - | Condition on no UL CA in C20 and C21 | 12.1.0 | 12.2.0 |
| 2014-06 | RAN#64 | R5-143215 | 0182 | - | Addition of applicability for new TM3, soft buffer management and SDR test cases | 12.1.0 | 12.2.0 |
| 2014-09 | RAN#65 | R5-144109 | 0183 | - | Introduction of feICIC applicability statement for Performance test cases (resubmission of R5-143075 not implemented) | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144121 | 0184 | - | Corrections to feICIC applicability statement for CSI test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144200 | 0185 | - | Applicability for newly added 5MHz+5 MHz and 10MHz+5MHz BW RRM test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144245 | 0186 | - | Corrections to applicability conditions for RRM test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144329 | 0187 | - | Update of FGI definitions in TS 36.521-2 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144449 | 0188 | - | Applicability update for CA band Combo CA\_7A-28A | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144484 | 0189 | - | Update Tx intra-band contiguous DL CA without UL CA TCs applicability to include BW Class B | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144504 | 0190 | - | New CA band combination CA\_NC\_42 and CA\_4-27-Update to 36.521-2 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144512 | 0191 | - | Addition of applicability for CA band combo CA\_2A-5A | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144800 | 0192 | - | Correction to RF Baseline capabilities with Band 29 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144837 | 0193 | - | Update test applicability for intra band non-contiguous CA test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144848 | 0194 | - | Update test applicability for inter band and intra band contiguous CA test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144849 | 0195 | - | Addition of CA\_2A-2A to 36.521-2 Annex A4 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144864 | 0202 | - | Addition of operating band 30 to TS36.521-2 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144871 | 0196 | - | Correction to Merge UE category tables | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144877 | 0197 | - | CA: Review of CA capabilities tables | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144878 | 0198 | - | Addition of applicability for newly added performance test cases | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144911 | 0199 | - | Update applicabilities for serving cell RSRP and RSRQ absolute accuracy TCs | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144919 | 0200 | - | Update the applicability conditions for TCs 8.8.2.1 and 8.8.2.2 | 12.2.0 | 12.3.0 |
| 2014-09 | RAN#65 | R5-144921 | 0201 | - | Addition of applicability for SDR test case 8.7.1.1\_A.3 | 12.2.0 | 12.3.0 |
| 2014-12 | RAN#66 | R5-145017 | 0202 | - | Correction to 6.7A title number | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145180 | 0203 | - | New CA band combination CA\_1A-3A - Updates of Table A.4.6.3-3 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145226 | 0204 | - | Introduction of CA\_42C into TS36.521-2 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145244 | 0205 | - | New CA band combination CA\_41-42 update to 36.521-2 section A.4.6.3 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145262 | 0206 | - | Applicability table update for RRM CA test cases in clause 8 and 9 to avoid redundant testing | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145359 | 0207 | - | Addition of applicability for TCs of activation and deactivation of known SCell | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145361 | 0208 | - | Removing SDR test applicability for Rel-11 and 12 inter-band CA | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145396 | 0209 | - | New CA band combination CA\_18A-28A - Updates of Table A.4.6.3-3 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145440 | 0210 | - | New CA band combination 1+11 and 8+11 û Introduction of 1+11 and 8+11 to 36.521-2 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145478 | 0211 | - | Correction to feICIC applicability statement for PHICH test cases | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145529 | 0212 | - | Updates to applicability of CA demodulation tests for release independence | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145821 | 0213 | - | Update of applicability statements for mandatory Rel-11 capabilities, CoMP, and more | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145822 | 0214 | - | Update of FGI definitions in TS 36.521-2 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145823 | 0215 | - | Updates the applicable release for soft buffer management and TDD SDR CA tests in part 2 | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145842 | 0216 | - | Corrections to applicabilities for COMP | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145869 | 0217 | - | Applicability for FDD TC 8.2.1.1.1\_A.3 and TDD TC 8.2.2.1.1\_A.3+TC 8.2.2.4.2\_A.3 for CA | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145873 | 0218 | - | Update to TM9 test case applicability | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145905 | 0219 | - | Applicability for newly added RRM TCs for testing of SCell in sTAG | 12.3.0 | 12.4.0 |
| 2014-12 | RAN#66 | R5-145981 | 0220 | - | Update to Additional information section to handle IMSVoIP not supported in 36.521-2 | 12.3.0 | 12.4.0 |
| 2015-03 | RAN#67 | R5-150298 | 0221 | - | Introduction of CA\_1A-7A to TS 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150304 | 0222 | - | Corrections to title of RRM test case 8.7.1 in applicability table | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150365 | 0223 | - | CA: Corrections to CA capability tables | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150374 | 0224 | - | Introduction of RF applicability for CA band combinations 5+25 and 12+25 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150444 | 0225 | - | New CA band combination CA\_1A-28A - Updates of Table A.4.6.3-3 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150524 | 0226 | - | Addition of CA\_1A-20A to TS 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150546 | 0227 | - | Addition of 2A-12A and 5A-13A 2DL Interband CA to 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150558 | 0228 | - | Applicability conditions added to TCs 9.1.12.x and 9.2.11.x | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150564 | 0229 | - | Addition of CA\_2A-2A-13A to TS 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150805 | 0230 | - | Update of FGI definitions in TS 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150830 | 0231 | - | Addition of CA\_2-30 to Annex A.4.6 of TS 36.521-2. | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150831 | 0232 | - | Addition of CA\_4-30 to Annex A.4.6 of TS 36.521-2. | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150832 | 0233 | - | Addition of CA\_5-30 to Annex A.4.6 of TS 36.521-2. | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150858 | 0234 | - | Update of applicability statements for CoMP - TCs being split | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150872 | 0235 | - | Addition of applicability for 3DL CA test cases | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150876 | 0236 | - | Addition of applicability for CA\_39C in TS36.521-2 | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150882 | 0238 | - | Addition of applicability for newly added 20MHz+10MHz RRM test cases | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150883 | 0239 | - | Addition of applicability for newly added RSRP accuracy RRM test cases | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150904 | 0240 | - | Addition of a new table for Supported CA configurations for Inter-band CA (three bands) | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150914 | 0241 | - | Addition of applicability for Multi-Cluster PUSCH with One Uplink Carrier test cases | 12.4.0 | 12.5.0 |
| 2015-03 | RAN#67 | R5-150923 | 0242 | - | CA demod test case variants merge in 36.521-2 | 12.4.0 | 12.5.0 |
| 2015-06 | RAN#68 | R5-151156 | 0245 | - | Correction of applicability conditions for RRM test case 5.3.5 and 5.3.6 | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151164 | 0246 | - | CA RF: Correction to condition description | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151461 | 0261 | - | Updates to 36.521-2 regarding merging of TDD CA test cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151463 | 0262 | - | Addition of applicability of TD-LTE to UTRA TDD periodic measurements | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151509 | 0263 | - | Introduction of applicability for test cases 9.6.1.1-A.2 and 9.6.1.2-A.2: FDD/TDD CQI Reporting under AWGN conditions – PUCCH 1-0 (3DL CA) | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151826 | 0250 | 2 | Addition and correction of applicability for TDD sustained data rate performance | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151827 | 0254 | 1 | Update applicabilities of merged TDD CA cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151828 | 0258 | 2 | Correction of applicability for TDD sustained data rate performance | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151829 | 0268 | 1 | Correction to PICS items referenced in C32b and C33b applicability conditions. | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151892 | 0248 | 1 | Addition of frequency E-UTRA band 32 | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-151949 | 0259 | 1 | Applicability update of FDD-TDD RSRP accuracy test cases for FDD-TDD CA. | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152009 | 0253 | 1 | Addition of applicability for newly added 20MHz+20MHz and 20MHz+10MHz CA RRM test cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152016 | 0264 | 1 | Introduction to applicability for 2UL CA RF test cases (Tx and Rx) | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152019 | 0260 | 1 | Addition of UE category 0 ICS and test cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152023 | 0251 | 1 | Update of CA Physical Layer Baseline Implementation Capabilities for Rel-12 CA 2UL configurations | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152029 | 0243 | 1 | Introduction of Band Selection Concept and new 3DL CA Combinations to 36.521-2 | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152036 | 0255 | 1 | Addition of applicability for newly introduced RSRP accuracy RRM test cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152037 | 0256 | 1 | Addition of applicability for newly added FDD CA RSRP accuracy RRM test cases | 12.5.0 | 12.6.0 |
| 2015-06 | RAN#68 | R5-152129 | 0270 | - | CoMP TCs applicability update | 12.5.0 | 12.6.0 |
| 2015-09 | RAN#69 | R5-153062 | 0271 | - | Introduction of LTE eDL\_MIMO applicability for TCs | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153162 | 0273 | - | Test applicability for TC 9.7.1.2 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153236 | 0278 | - | Addition of additional capabilities for Enhanced performance requirements type C for LTE | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-154023 | 0279 | 1 | RF: Applicability of CSI requirements to UE Category 1 (for 36.521-2) | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153388 | 0286 | - | Correction to applicability of feICIC test cases. | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153416 | 0287 | - | Correction to information of feature group indicators | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153477 | 0290 | - | 521-2 change applicability for Rel-10 CA RSRP relative accuracy tests | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153479 | 0292 | - | 521-2 change applicability for Rel-11 CA RSRP relative accuracy tests | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153480 | 0293 | - | Introduction of 2DL CA test skipping if 3DL CA is tested in 36.521-1 Chapter 7 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153481 | 0294 | - | 521-2 Addition of test applicabilities for Rel-12 CA RSRP relative accuracy tests | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153503 | 0296 | - | Correction to applicability content in Table 4.1-1, 4.1-1a. for 36.521-1 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153528 | 0299 | - | Update of FGI definitions in TS 36.521-2 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153580 | 0300 | - | Correction of applicability condition TC 9.6.1.1\_A.1 non-contiguous part | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153614 | 0302 | - | Applicability for Receiver Spurious emissions test case for Carrier aggregation in DL-only bands | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153689 | 0306 | - | Applicability for new RRM TCs 7.1.3\_1+7.1.4\_1 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153813 | 0283 | 1 | Correction of L2G PSHO applicability for TS 36.521-2 spec | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153828 | 0280 | 1 | Addition of applicabilities for 3DL CA test cases | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153846 | 0298 | 1 | Addition of applicability of SU-MIMO conformance tests | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153860 | 0282 | 1 | Addition of test applicabilities of some test cases for 2UL CA | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153861 | 0291 | 1 | Proposal for missing Selection Criteria in table 4.1 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153896 | 0281 | 1 | Addition of applicabilities for 3DL CA RRM test cases | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153897 | 0289 | 1 | Implementation of 36.521-1 Chapter 8.1 and 9.1 test selection rules in Table 4.1-1 testcases | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153910 | 0276 | 1 | Corrections to MTC test applicabilities | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153911 | 0297 | 1 | Correction of MTC UE test case applicability | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153929 | 0272 | 1 | Addition of applicability for newly introduced 20MHz+20MHz and 20MHz+10MHz cases (Rel-12) | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153932 | 0274 | 1 | Addition of applicability for newly introduced TC8.16.18A (Rel-10) | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153933 | 0275 | 1 | Addition of applicability for newly introduced TC7.1.4A (Rel-11) | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153935 | 0277 | 1 | Correction to applicability of EUTRA TDD to UTRA TDD connected mode measurements | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153946 | 0301 | 1 | Adding applicability for TC 8.2.1.7\_A.1 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-153948 | 0305 | 1 | Applicability corrections for test case 8.2.1.4.2\_A.1 | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | R5-154013 | 0295 | 1 | Addition of UE category 0 test cases | 12.6.0 | 12.7.0 |
| 2015-09 | RAN#69 | - | - | - | update of the "non-specific references" in section 2 according to the approved R5-153582 and an action point on ETSI MCC | 12.6.0 | 12.7.0 |
| 2015-12 | RAN#70 | R5-155275 | 0314 | - | Introduction of applicabilities of 2 test cases for 2UL CA Tx test cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155301 | 0316 | - | Introduction of test applicability for TC 6.6.2.2A.1 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155318 | 0319 | - | Update of UE categories for R8 in 36.521-2 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155319 | 0320 | - | Update of UE categories for R10 in 36.521-2 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155323 | 0322 | - | Update of UE categories for R11 in 36.521-2 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155544 | 0326 | - | Correction to conditions C32 and C35 in Table 4.1-1 and Table 4.1-1a | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155545 | 0327 | - | Correction to conditions of Table 4.1-1a | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155556 | 0328 | - | Correction of RRM Condition C77 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155558 | 0329 | - | Correction of RRM Condition C79 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155560 | 0330 | - | Correction of RRM Condition C80 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155563 | 0332 | - | Correction of RRM Condition C81 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155565 | 0334 | - | Correction of RRM Condition C82 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155635 | 0339 | - | Release indication corrections in table A.4.1-1: UE Radio Technologies | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155750 | 0341 | - | Addition of test cases in Table 4.1-1: Applicability of RF conformance test cases. | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155777 | 0342 | - | Test applicability for Intra Frequency RSRP Accuracy for UE category 0 Test Cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155843 | 0309 | 1 | Update of applicability of SU-MIMO conformance tests | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155870 | 0323 | 1 | Applicability updates on inter-band CA receiver test cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155871 | 0324 | 1 | Correction of applicability for FDD-TDD CA | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155872 | 0336 | 1 | Applicability update to FDD-TDD CA test cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155873 | 0335 | 1 | Introduction of applicability expression for new 3DL CA RRM test case TC 8.16.41 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-155874 | 0340 | 1 | 36.521-2: CA\_2A-2A-13A update | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156050 | 0308 | 1 | Addition of applicability for newly introduced MTC RRM tests | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156060 | 0331 | 1 | Addition of applicability for 2UL CA test cases 6.2.5A.3 and 6.2.5A.4 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156061 | 0333 | 1 | Addition of applicability for 2UL CA test cases 6.2.4A.3, 6.3.5A.3.2 and 6.6.3.3A.3 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156093 | 0313 | 1 | LTE Type B performance requirements - Addition of applicability for 6 new NAICS test cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156107 | 0325 | 1 | Correction to test case condition for the test cases 9.5.1.x | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156132 | 0338 | 2 | Applicability for new SCE-L1 test cases | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156135 | 0318 | 2 | Update of test applicabilities for R12 RRM cases in 36.521-2 | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156136 | 0337 | 1 | Update of the 1.4MHz MBMS test applicability | 12.7.0 | 12.8.0 |
| 2015-12 | RAN#70 | R5-156087 | 0315 | 1 | Introduction of test applicabilities for UL 64QAM cases | 12.8.0 | 13.0.0 |
| 2016-03 | RAN#71 | R5-160037 | 0343 | - | LTE Type B performance requirements - Addition of applicability for test cases 8.2.1.4.4 and 8.2.2.4.5 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160054 | 0344 | - | Addition of applicability for 2UL CA TC 6.5.2A.1.2, 6.5.2A.1.3, 6.5.2A.2.2 and 6.5.2A.2.3 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160069 | 0345 | - | Introduction of applicability of Tx test case 6.5.2A.3.2 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160071 | 0347 | - | Introduction of applicability of Tx test case 6.6.3.1A.3 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160073 | 0346 | 2 | Introduction of applicability of Tx test case 6.5.2A.3.3 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160108 | 0349 | - | Removal of technical content in 36.521-2 v12.8.0 and substitution with pointer to the next Release | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160126 | 0353 | - | Correction to applicability condition C22. | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160273 | 0362 | - | Applicability for new SCE RRM test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160372 | 0368 | - | Rel-8 UE category correction | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160373 | 0369 | - | Rel-10 UE category correction | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160511 | 0375 | - | New CA band combination CA\_41A-42C - Updates of Table A.4.6.3-3 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160530 | 0378 | - | Addition of CA Physical Layer Baseline Implementation Capabilities for the new CA configuration | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160575 | 0381 | - | Correction to the applicability of RRM test cases 9.5.1 and 9.5.2 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160593 | 0382 | - | Corrections to applicabilities of TDD FDD CA chapter 8 TCs | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160694 | 0385 | - | Applicability for newly added UL CA test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160714 | 0351 | 1 | Test applicability for Intra Frequency RSRQ Accuracy for UE category 0 Test Cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160806 | 0355 | 1 | Correction of applicability conditions C57 and C58 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160807 | 0356 | 1 | Missing applicability for TC 7.8.1A.4 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160808 | 0357 | 1 | Correction of Tested CA-Configurations for TC 7.5A.4 and TC 7.6.1A.4 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160816 | 0366 | 1 | Addition of some Rel-13 defined CA combinations to TS 36.521-2 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160817 | 0373 | 1 | CA\_20A-67A: Update of CA Physical Layer Baseline Implementation | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160818 | 0376 | 1 | Correction to condition C25x | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160851 | 0379 | 1 | Applicability of new RF NAICS test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160857 | 0361 | 1 | MTC applicability of RF test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160885 | 0360 | 1 | Adding applicability of RRM test cases for LC\_MTC\_LTE-UEConTest. | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-160962 | 0387 | - | Adding applicability statements to MTC RRM test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161027 | 0363 | 1 | Applicability for new LTE\_CA\_Rel12\_2UL test case 6.6.3.2A.3 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161036 | 0359 | 1 | Applicability for new DL 256QAM RF and BB test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161055 | 0352 | 1 | Adding applicability of RRM test cases for LC\_MTC\_LTE-UEConTest | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161058 | 0377 | 1 | Correction to conditions used item “support 256QAM in DL” | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161067 | 0370 | 1 | 36.521-2 Test point reduction for UL 64QAM multi-cluster ACLR tests | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161069 | 0374 | 1 | Add test case 8.16.17A and update release for test cases 8.16.18A | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161074 | 0348 | 1 | Addition of test case applicability for eDL MIMO Enhancement test cases | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161083 | 0384 | 1 | Introduction of applicability expression for new 3DL CA RRM test case TC 8.16.42 | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161084 | 0358 | 1 | Adding applicability of TC 8.16.39 and 8.16.40 for LTE\_CA\_Rel12\_3DL-UEConTest | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161108 | 0364 | 1 | Addition of applicability for Reference sensitivity with 4Rx antenna ports | 13.0.0 | 13.1.0 |
| 2016-03 | RAN#71 | R5-161116 | 0380 | 2 | Split FGI table for FDD and TDD and update related test case applicability | 13.0.0 | 13.1.0 |
| 2016-06 | RAN#72 | R5-162022 | 0388 | - | Adding missing ICS for UE supporting multiple timing advances | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162197 | 0395 | - | 7.6.1\_1 In-band blocking with 4 Rx antenna ports test applicability | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162229 | 0396 | - | Introduction of test applicability for newly introduced UL 64QAM test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162250 | 0397 | - | Addition of applicabilities for 2 Tx test cases 6.5.1D.1 and 6.5.1D.2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162256 | 0398 | - | Addition of applicability for test case 8.10.4.1.1 with 4 Rx antenna ports | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162257 | 0399 | - | Addition of applicability for test case 8.10.4.1.2 with 4 Rx antenna ports | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162259 | 0400 | - | Addition of applicability for test case 8.10.4.2.1 with 4 Rx antenna ports | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162260 | 0401 | - | Addition of applicability for test case 8.10.4.2.2 with 4 Rx antenna ports | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162298 | 0406 | - | Applicability of new RF NAICS test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162403 | 0408 | - | Addition of CA Physical Layer Baseline Implementation Capabilities for CA\_1A-3A-7A and CA\_3A-7A-8A to 36.521-2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162487 | 0413 | - | Addition of applicability for Additional spurious emissions for CA (inter-band DL CA and UL CA) | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162488 | 0414 | - | Update to the applicability for SCE RRM test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162489 | 0415 | - | Correction to applicability table for EUTRA TDD to UTRA TDD Son test case | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162503 | 0416 | - | New some Rel-13 defined CA combinations - Updates of Table A.4.6.3-3 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162546 | 0419 | - | Correction to condition C73h | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162547 | 0420 | - | Correction to condition C28y | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162565 | 0421 | - | Applicability for 4Rx antenna ports test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162574 | 0422 | - | Applicability for 2UL CA test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162650 | 0424 | - | Band 65 introduction to 36.521-2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162822 | 0402 | 1 | Editorial corrections of the condition table in the TS 36.521-2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162824 | 0411 | 1 | Modification to feICIC RRM test cases applicability | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162825 | 0407 | 1 | Minor correction to FGI FDD and TDD tables | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162826 | 0409 | 1 | Correction to applicability of RRM test cases condition in table 4.2-1a | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162827 | 0410 | 1 | Correction to RF applicability condition for feICIC | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162828 | 0417 | 1 | Correction of Tested CA Configurations Selection Criteria | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162829 | 0423 | 1 | New CA band combination CA\_8A-40A – Updates of Table A.4.6.3-3 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162850 | 0391 | 1 | Update of CA Physical Layer Baseline Implementation Capabilities for new CA configuration in Annex A.4.6 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162864 | 0390 | 1 | Addition of applicability for TC 7.9\_1 Spurious emissions with 4 Rx antenna ports | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162873 | 0392 | 1 | Add applicability for test case 6.2.4A.2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-162956 | 0394 | 1 | Addition of test cases in Table 4.1-1: Applicability of RF conformance test cases. | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-163019 | 0427 | - | Introduction of CA Physical Layer Baseline Implementation for CA\_1A-8A-11A | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-163105 | 0426 | 1 | Introduction of ICS and applicability for new e-MTC RF test cases | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-163109 | 0389 | 1 | Add B66 information in TS 36.521-2 | 13.1.0 | 13.2.0 |
| 2016-06 | RAN#72 | R5-163118 | 0425 | 1 | Applicability CR to 36.521-2 for new DC test cases | 13.1.0 | 13.2.0 |
| 2016-09 | RAN#73 | R5-165030 | 0428 | - | Update of CA Physical Layer Baseline Implementation Capabilities for new CA configuration in Annex A.4.6 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165090 | 0430 | - | Applicability of new RF and RRM test cases for CAT-M1 UE and UE in enhanced coverage | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165196 | 0432 | - | Applicability of new added ProSe RF test cases | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165197 | 0433 | - | Applicability of new added NAICS demodulation test cases | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165212 | 0435 | - | New CA band combination CA\_1A-40A and CA\_3A-40A - Updates of Table A.4.6.3-3 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165213 | 0436 | - | Correction of applicability conditions to test cases 9.5.2.1\_D and 9.5.2.2\_D | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165214 | 0437 | - | Correction to applicability of RF test cases condition in table 4.1-1a | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165216 | 0438 | - | Correction to incorrect test case number and title in Table 4.2-1 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165249 | 0439 | - | Applicabilities for new 4Rx Test Cases - CQI reporting / AWGN | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165271 | 0440 | - | Change of names of 3DL TCs | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165315 | 0443 | - | Update applicability for PCFICH/PDCCH performance with 4Rx antenna ports test cases | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165361 | 0444 | - | Addition of CA Physical Layer Baseline Implementation Capabilities for CA\_1A-3A-28A to 36.521-2. | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165399 | 0445 | - | Updates of physical layer baseline implementation capability for CA\_1A-3C | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165416 | 0448 | - | Additional CA Physical Layer Baseline Implementation Capabilities for new CA combinations to TS36.521-2 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165434 | 0452 | - | Introduction of test applicability for NB-IoT test cases 6.2.5F, 6.5.2.1F.1 and 6.5.2.2F | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165445 | 0453 | - | Introduction of test applicability for UL 64QAM+UL intra-band non-contiguous CA EVM test | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165493 | 0454 | - | Correction to applicability of Power Class 3 only UL TCs | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165504 | 0456 | - | Introduction of Band 45 into 36.521-2 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165515 | 0457 | - | Correction to applicability of Multi-Cluster TCs | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165533 | 0458 | - | Supplementation of SCE RRM test cases applicability | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165627 | 0460 | - | Applicability of new RF NAICS test cases | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165647 | 0461 | - | Correction to applicability condition for EUTRA TDD to UTRA TDD | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165656 | 0462 | - | Correction to test cases release information for test cases 9.3.3 and 9.4.3 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165662 | 0464 | - | Update of applicability for RRM 3 DL CA activation and deactivation test cases | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165824 | 0465 | - | 36.521-2 4CC Band combinations addition (CA\_2A-2A-4A-4A and CA\_2A-4A-5A-30A) | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165830 | 0466 | - | Correction to applicability for RF test cases in TS 36.521-2 table 4.1-1 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-165984 | 0451 | 1 | Introduction of ICS proforma tables for NB-IoT in 36.521-2 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166014 | 0429 | 1 | Adding missing test cases 6.3.5\_1.1, 6.3.5\_1.2, 6.3.5\_1.3 to table 4.1-1, 36.521-2 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166016 | 0449 | 1 | Correction to test cases not applicable for UE category 1 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166017 | 0450 | 1 | Correction for UL 64QAM test cases to TS36.521-2 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166018 | 0463 | 1 | Additional new PICS items to handle CA test cases bandwidth configurations of 20MHz+20MHz and 20MHz+10MHz in 3GPP TS 36.521-3 | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166019 | 0467 | 1 | Addition of modifiedMPR-behavior capability | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166049 | 0441 | 1 | Introduction of CA physical layer capabilities for CA\_8A-42A (2DL) and CA\_8A-42C (3DL) | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166088 | 0447 | 1 | Update of Feature Group Indicators for eMTC | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166332 | 0442 | 2 | Cleanup TS36.521-2 for XML compliant | 13.2.0 | 13.3.0 |
| 2016-09 | RAN#73 | R5-166057 | 0459 | 1 | New CA band combination CA\_1A-41A-42A - Updates of Table A.4.6.3-3 | 13.3.0 | 14.0.0 |
| 2016-12 | RAN#74 | R5-168040 | 0469 | - | Updates of Table A.4.6.3-3 to 36.521-2 for CA\_1A-3A-41A | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168261 | 0475 | - | Update to the applicability in identification of a new CGI E-UTRA cell using autonomous gaps | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168391 | 0479 | - | Band 66 Intra-band CA applicability dependency to 36.521-2 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168393 | 0480 | - | Correction to Band 65 capabilities in 36.521-2 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168486 | 0483 | - | Maintenance of the tables in 4.1, 4.2 TS36.521-2 for XML conversion | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168488 | 0484 | - | Maintenance of tables in A.4 TS36.521-2 for XML conversion | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168501 | 0489 | - | Maintenance of the tables in 4.1, 4.2, A.4 TS36.521-2 for XML conversion | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168533 | 0492 | - | Correction of title of 256 QAM DL test case 7.4A.3\_H | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168624 | 0499 | - | CA\_20A-28A: Update of CA Physical Layer Baseline Implementation | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168733 | 0502 | - | Correction to applicability test conditions C120, C93a, C93b, C94a, C94b, C94c C94d, C107a, C107b, C107c and C107d | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168748 | 0503 | - | Addition of missing CA Configurations selection in table 4.1-1 for some RF test cases 7.4.X | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168846 | 0509 | - | CA\_70C applicability information to 36.521-2 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168860 | 0511 | - | Correction to TS 36.521-2 Tested Bands Selection Criteria D10 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168905 | 0512 | - | CA\_3A-20A-32A: Update of CA Physical Layer Baseline Implementation | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-168918 | 0513 | - | Addition of CA Physical Layer Baseline Implementation for CA\_3A-7A-28A, CA\_3A-7B, CA\_7A-22A, CA\_7B, CA\_7B-28A, CA\_7C-28A and CA\_20A-40A | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169046 | 0517 | - | Applicability test case 6.7EA | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169090 | 0518 | - | Applicability of Dual Connectivity RF and RRM test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169163 | 0497 | 1 | Applicability of Rel-13 CA RF and RRM test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169515 | 0468 | 1 | Correction to applicability condition of RRM TC 8.7.3 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169516 | 0510 | 1 | Correction to TS 36.521-2 Applicability Tables 4.1-1a & 4.2-1a | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169518 | 0496 | 1 | Additional new PICS items to handle LAA test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169530 | 0478 | 1 | Introduction of applicability for new NB-IoT test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169554 | 0500 | 1 | New CA band combination CA\_1A-11A-18A - Updates of Table A.4.6.3-3 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169589 | 0508 | 1 | Applicability for E-UTRAN HD-FDD intra-frequency event triggered reporting under fading propagation conditions for Cat-M1 UE in CEModeA TCs | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169590 | 0477 | 1 | Addition of applicability for Dual Connectivity RRM test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169617 | 0491 | 1 | Add test cases 6.3.2A.2, 6.5.1A.2 and 6.6.2.3A.2 in Table 4.1-1 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169651 | 0481 | 1 | Band 70 applicability information to 36.521-2 | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169731 | 0507 | 1 | Addition of test case applicability for 4Rx RF/RRM test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169733 | 0495 | 1 | Applicability of eMTC RF and RRM test cases | 14.0.0 | 14.1.0 |
| 2016-12 | RAN#74 | R5-169734 | 0490 | 2 | Update to the applicability in the power control test cases for HPUE | 14.0.0 | 14.1.0 |
| 2017-03 | RAN#75 | R5-170524 | 0519 | - | Update of CA Physical Layer Baseline Implementation Capabilities for R14 CA configuration to 36.521-2 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-170544 | 0520 | - | Update TS 36.521-2 with Addition of LTE Band 48 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-170628 | 0523 | - | Resubmission of R5-170022 Introduction of test applicability for TC 6.3.5F.3, 8.12.1.1.2 and 8.12.2.1.1 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-170812 | 0528 | - | Correction of description of TC 8.2.2.4.2\_1 FDD PDSCH Closed Loop Multi Layer Spatial Multiplexing 4x2 (Release 9 and Forward) | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-170888 | 0537 | - | Corrections to Table 4.2-1 and 4.2-1.a. | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171194 | 0542 | - | Correction to applicability of 2CA TDD FDD RRM test cases | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171348 | 0547 | - | Correction to Band 70 RF additional baseline implementation capabilities | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171350 | 0548 | - | CA\_29A-66A, CA\_29A-66A-66A, CA\_29A-66C, CA\_46A-66A addition to 36.521-2 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171519 | 0541 | 1 | Maintenance of the tables in 4.1, 4.2, A.4 TS36.521-2 for XML conversion | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171702 | 0536 | 1 | Addition of frequency bands 46, 47, 48, 67, 68, 69 into Tables A.4.3-3, A.4.5-3 and A.4.5-4. | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171712 | 0532 | 1 | Introduction of CA\_1A-8A-28A to section A4.6 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171715 | 0533 | 1 | Introduction of CA\_3A-8A-28A to section A4.6 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171718 | 0534 | 1 | Introduction of CA\_3A-28A-41A to section A4.6 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171721 | 0530 | 1 | Introduction of CA\_8A-28A to section A4.6 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171722 | 0531 | 1 | Introduction of CA\_11A-28A to section A4.6 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171726 | 0526 | 1 | Realignment and rename of the Table A.4.3.4-a0 for UE category NB | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171893 | 0544 | 1 | Applicability update for 4Rx test cases | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171894 | 0522 | 1 | Addition of applicability for 4Rx test cases 9.9.4.1.1/9.9.4.1.2/9.9.4.2.1/9.9.4.2.2 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171920 | 0543 | 1 | LAA: Applicability addition of LAA test cases | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171925 | 0539 | 1 | Introduction of applicability for new NB-IoT test cases | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171935 | 0540 | 1 | New CA band combinations CA\_1A-41A-42C and 1A-41C-42A - Updates of Table A.4.6.3-4 | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171944 | 0549 | - | Correction to 2DL CA downlink capabilities | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171962 | 0525 | 3 | Applicability of Rel-13 CA RF and RRM test cases | 14.1.0 | 14.2.0 |
| 2017-03 | RAN#75 | R5-171970 | 0524 | 1 | Applicability of eMTC RF and RRM test cases | 14.1.0 | 14.2.0 |
| 2017-06 | RAN#76 | R5-172112 | 0550 | - | Addition of 14 CA configurations containing Band 66 to 36.521-2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172158 | 0552 | - | New CA band combination CA\_1A-41C-42C - Updates of Table A.4.6.3-4 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172356 | 0555 | - | Update to Additional UE radio access capabilities for NS\_04 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172425 | 0558 | - | Addition of CA\_2A-66A, CA\_5A-66A and CA\_13A-66A to TS 36.521-2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172524 | 0560 | - | Introduction of CA\_1A-11A-28A to Annex A4.6.3 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172528 | 0561 | - | Introduction of CA\_8A-11A-28A to Annex A4.6.3 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172687 | 0563 | - | Maintenance of the tables 4.1, 4.1-1a, 4.2 in TS36.521-2 for XML conversion | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172695 | 0564 | - | Correction to RRM applicability condition C132 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172697 | 0565 | - | Addition of new CA configuration CA\_3A-69A to 36.521-2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172699 | 0566 | - | Addition of new CA configuration CA\_2A-2A-12A to 36.521-2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172721 | 0569 | - | Applicability correction for eDL-MIMO test cases in part 2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172726 | 0571 | - | Applicability of eMTC RF and RRM test cases | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-172734 | 0572 | - | Add Applicability for TS 36.521-2 Test case 8.22.11 and 8.22.12 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173207 | 0556 | 1 | Remove MPR/A-MPR test cases from Applicability spec | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173224 | 0553 | 1 | New CA band combination CA\_3C-8A - Updates of Table A.4.6.3-3 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173282 | 0557 | 1 | LAA: Applicability update of LAA test cases | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173308 | 0570 | 1 | Applicability of Rel-13 CA RF and RRM test cases | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173324 | 0576 | 1 | Update of CA Physical Layer Baseline Implementation Capabilities for new CA configuration in Annex A.4.6 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173327 | 0577 | - | Update test applicabilities for NB-IoT test cases 6.1.15 and 6.1.16 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173350 | 0551 | 1 | NB-IoT bands 11, 25, 31, and 70 introduction to 36.521-2 | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173367 | 0574 | 1 | Corrections to Applicability Conformance and Conditions for intra/inter-frequency SI acquisition for HO | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173413 | 0562 | 1 | Correction to FD-FDD only test case comment and condition | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173419 | 0554 | 1 | Remove applicability of SDR test cases for 4Rx | 14.2.0 | 14.3.0 |
| 2017-06 | RAN#76 | R5-173420 | 0568 | 1 | 4Rx updates to RF/RRM applicability specification | 14.2.0 | 14.3.0 |
| 2017-09 | RAN#77 | R5-173701 | 0579 | - | New CA band combination CA\_1A-3C-8A - Updates of Table A.4.6.3-4 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-173938 | 0584 | - | Addition of test applicability of LAA test case 9.2.6.2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-173969 | 0586 | - | Introduction of CA\_1A-3A-11A to Annex | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-173976 | 0587 | - | Introduction of CA\_3A-8A-11A to Annex | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-173977 | 0588 | - | Introduction of CA configuration CA\_2A-7A | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-173986 | 0589 | - | Introduction of CA\_3A-11A-28A to Annex | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174025 | 0592 | - | Addition of new CA Configuration CA\_3A-38A to TS 36.521-2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174144 | 0596 | - | Addition of new CA configurations to 36.521-2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174154 | 0597 | - | Addition of 1.4 and 3 MHz to 36.521-2 for Band 65 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174224 | 0601 | - | Editorial Change to correct applicability comment to TC8.16.52 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174225 | 0602 | - | Corrected applicability and condition to 3DL CA tests required event A6 [TEI11] | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174226 | 0603 | - | Corrected applicability and condition to 3DL CA tests required event A6 [TEI12] | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-174417 | 0614 | - | Corrections to applicability Conformance and Conditions | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175015 | 0581 | 1 | Applicability of CA RF and RRM test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175022 | 0578 | 1 | Addition of CA\_29A-70A, CA\_29A-46A-66A, CA\_46A-66A-66A, CA\_46A-66C, CA\_46A-70A to 36.521-2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175028 | 0591 | 1 | Addition of a few Band 46 CA Configurations to TS 36.521-2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175029 | 0598 | 1 | Introduction of CA\_3A-32A to Table A.4.6.3-3 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175063 | 0593 | 1 | Update applicability of performance TCs | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175072 | 0615 | - | NB-IoT band 21 introduction to 36.521-2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175080 | 0595 | 1 | Applicability addition of 7.4.1, 7.4.2, 7.4.3 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175081 | 0611 | 1 | Introduction of new DC test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175082 | 0608 | 1 | Introduction of new RF Dual Connectivity test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175108 | 0585 | 1 | Addition of V2V applicability PICS for RF/RRM test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175131 | 0605 | 1 | Addition of the Rel-13 CA combinations into A.4.6 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175147 | 0583 | 1 | Addition of NB-IoT test applicabilities for multiple test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175148 | 0599 | 1 | Removal of redundant capability tables for Category NB1 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175167 | 0606 | 1 | Addition of applicability statements for new LWA test cases 8.25.1 & 8.25.2 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175172 | 0604 | 1 | Addition of the Rel-14 CA combinations into A.4.6 | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175195 | 0600 | 1 | Update to applicability for TDD-FDD 2DL CA with 4Rx performance test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175196 | 0590 | 1 | Addition of new 4Rx SDR test cases - applicability | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175198 | 0612 | 1 | Editorial change to the content of comment and condition of the test cases 8.2.1.3.1, 8.2.1.3.1\_1 and 8.2.1.3.2 in Table 4.1-1 and 4.1-1a. | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175200 | 0580 | 1 | Applicability of eMTC RF and RRM test cases | 14.3.0 | 14.4.0 |
| 2017-09 | RAN#77 | R5-175211 | 0609 | 1 | Applicability updates for 4Rx test cases | 14.3.0 | 14.4.0 |
| 2017-12 | RAN#78 | R5-176035 | 0616 | - | Addition of new 4Rx SDR test cases - applicability | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176303 | 0623 | - | Added FDD Band 69 to RF ICS | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176396 | 0627 | - | Applicabilities addition of test cases 8.13.3.6.1 and 8.13.3.6.2 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176397 | 0628 | - | Editorial Change to Clause number in Table 4.1-1 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176426 | 0635 | - | Correction to applicability condition of 4Rx CQI test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176447 | 0637 | - | Test tolerance, Addition of test applicability of RRM test case 8.4.6 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176561 | 0646 | - | Editorial correction of title for 4Rx chapter 9 TCs in 36.521-2 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176613 | 0649 | - | Editorial correction to the baseline implementation capability for Band 30 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176702 | 0656 | - | Applicability changes for RRM 4Rx tests | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-176797 | 0660 | - | Applicability for new 4Rx CA demodulation test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177093 | 0642 | 1 | Change of eMTC demodulation test cases numbering, part 2 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177326 | 0652 | 1 | Correction to e-MTC TM9 PDSCH applicability | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177328 | 0621 | 1 | Updated to LAA RRM test cases condition | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177329 | 0622 | 1 | Added missing RF test cases to applicability table | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177330 | 0632 | 1 | Correction to applicability condition for RRM test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177331 | 0647 | 1 | Corrected to RRM test cases 8.16.x and relevant condition | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177345 | 0634 | 1 | Addition of UE capability of 4-layer MIMO for different transmission modes | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177402 | 0648 | 1 | applicability spec updates for Cat1bis | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177406 | 0644 | 1 | Applicability statement for HST rrm&rf TCs | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177431 | 0625 | 1 | eLAA: Applicability update to test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177444 | 0619 | 1 | Applicability of legacy LTE RF/RRM test cases for CAT-M1 UE | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177445 | 0624 | 1 | Updated test condition to RF section 8 & 9 test cases for missing TM9 | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177446 | 0661 | 1 | Addition of test cases branch column for RF/Demod test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177447 | 0629 | 1 | Applicability and ICS for CA RF and RRM test cases | 14.4.0 | 14.5.0 |
| 2017-12 | RAN#78 | R5-177377 | 0620 | 1 | Added FDD Band 71 to RF ICS | 14.5.0 | 15.0.0 |
| 2018-03 | RAN#79 | R5-180334 | 0665 | - | Addition of FDD Band 72 to RF ICS in 36.521-2 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180335 | 0666 | - | Addition of FDD Band 68 to RF ICS in 36.521-2 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180419 | 0670 | - | Addition of test applicabilities of eIMTA new test cases. | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180557 | 0676 | - | Addition of applicability and ICS for 4Rx with CA | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180811 | 0684 | - | Test Case Applicability and Conditions for LTE DL Control Channel Interference Mitigation | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180830 | 0685 | - | Corrections to Applicability test conditions related to eDL-MIMO | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-180839 | 0686 | - | Correction to applicability of TC 7.6.3A.3 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181006 | 0694 | - | Correction to test case conditions C196 and C197 for RRM in Table 4.2-1a | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181049 | 0697 | - | Applicability of RRM Incmon test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181100 | 0700 | - | Applicability for new 4Rx CA demodulation test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181108 | 0701 | - | Introduction of CA\_3A-7A-20A (3DL-2U)L to Annex A | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181535 | 0678 | 1 | Addition of new R14 CA configurations to 36.521-2 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181536 | 0689 | 1 | Update of test applicability for 9.6.1.3.4 and 9.6.1.4.4 in 36.521-1 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181548 | 0691 | 1 | Correction to test applicability for LAA performance test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181552 | 0677 | 1 | Correct RRM LAA test applicability in 36521-2 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181553 | 0687 | 1 | Updates to Applicability of RF conformance test case 8.7.1.1\_A.5 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181554 | 0690 | 1 | Correction to test applicability for LAA RRM test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181555 | 0699 | 1 | [Editorial] Update of the 4Rx capable bands | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181562 | 0663 | 1 | Corrections to applicability of 4Rx SDR test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181596 | 0682 | 1 | Cat1bis RRM RSRQ applicability | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181597 | 0692 | 1 | Correction to the comment content for test cases 5.1.20 and 5.2.10 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181604 | 0672 | 1 | Addition of applicability for TC8.12.1.1.3 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181608 | 0675 | 1 | Added applicability to TS 36.521-2 for eHST RF test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181609 | 0693 | 1 | Correction to test case conditions C179 and C180 for RRM in Table 4.2-1a | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181612 | 0698 | 1 | Addition of the Band 74 information into TS 36.521-2 | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181614 | 0680 | 1 | Introduction of test applicabilities for UL 256QAM | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181640 | 0669 | 1 | Addition of test applicability of RRM SRS test cases | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181667 | 0704 | 1 | eLAA: Applicability spec update | 15.0.0 | 15.1.0 |
| 2018-03 | RAN#79 | R5-181695 | 0671 | 2 | Editorial change to applicability condition for RRM TC8.7.4 | 15.0.0 | 15.1.0 |
| 2018-06 | RAN#80 | R5-182653 | 0714 | - | Addition of test applicability for eNB RRM test case 6.2.18 | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-182683 | 0716 | - | Addition of applicabilities 4 test cases for UL 256QAM | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-182729 | 0718 | - | Correction to applicability spec for LAA Section 9 RRM test cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183947 | 0719 | 1 | Addition of applicability for LAA SDR cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-182797 | 0723 | - | eLAA: Applicability Update for eLAA test cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-182920 | 0731 | - | Applicability for new 4Rx TDD FDD CA demodulation test cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183276 | 0733 | 1 | Cat1bis applicability CR | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183736 | 0709 | 1 | Applicability and ICS for CA RF and RRM test cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183737 | 0725 | 1 | Addition of new Name\_Release mapping table for test applicability for DL CA | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183753 | 0707 | 1 | Correction to eMTC TM6 PDSCH applicability | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183755 | 0706 | 1 | Applicability for TC 9.2.4.1\_1 and 9.2.4.2\_1 | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183759 | 0730 | 1 | Test Applicability for TDD - TDD Inter Frequency RSRQ Accuracy | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183767 | 0713 | 1 | Correction of wrong references to ICS proforma tables (editorial) | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183800 | 0715 | 1 | Addition of test applicability for V2V RF and RRM test cases | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183812 | 0722 | 1 | High\_Speed\_test: Addition of applicability of FDD event reporting test case | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183834 | 0721 | 1 | Added new ICS information for UE Category M2 | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183846 | 0728 | 1 | 4Rx Test Case Redundancy | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183893 | 0708 | 1 | Adding applicability for new UL 256QAM test case, 6.2.3\_6 | 15.1.0 | 15.2.0 |
| 2018-06 | RAN#80 | R5-183898 | 0727 | 1 | Corrections to table “Table 4.1-1a” and “Table 4.2-1a” Applicability of test case Conditions from 3GPP TS 36.521-2 | 15.1.0 | 15.2.0 |
| 2018-09 | RAN#81 | R5-184294 | 0740 | - | Addition of test applicability for Rel-13 B5C new TC 8.16.47-50 | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184325 | 0741 | - | 36.521-2 updates for category M2 test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184581 | 0746 | - | Applicability C20 updated for intra-band contigous DL CA tests | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184584 | 0749 | - | Table format correct and removed redundant line for RF clause 6 test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184809 | 0758 | - | Correction to Applicability Condition of TS 36.521-1 Test Cases 6.6.2.2A.1 and 6.6.3.3A.1 | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184892 | 0761 | - | 4Rx branches in some 4DL CA and 5DL CA Demodulation test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184980 | 0766 | - | Cat1bis test cases applicability | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-184982 | 0767 | - | Resubmission of Cat1bis applicability CR | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185374 | 0738 | 1 | Addition of test applicabilities of multiple V2X test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185376 | 0763 | 1 | Add a new test condition for test case 8.13.3.1.2.5. | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185389 | 0753 | 1 | Applicabilities addition of test cases 8.3.1.1.9 and 8.3.2.1.10 | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185407 | 0751 | 1 | Addition of applicability for TC6.6.3.3\_2 | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185428 | 0755 | 1 | Applicability for New UL 256QAM test cases: 6.6.2.2\_2 and 6.6.2.3A.3\_2 | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185442 | 0768 | - | Applicability and ICS for CA RF and RRM test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185453 | 0744 | 1 | Addition of applicability of RRM IncMon test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185528 | 0748 | 1 | Table format correct and removed redundant line for RF clause 7 test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185541 | 0742 | 1 | Correction of applicability to TS 36.521-2 for HPUE RF test cases | 15.2.0 | 15.3.0 |
| 2018-09 | RAN#81 | R5-185549 | 0757 | 1 | Correction to band selection criteria applicability for HPUE devices that support Power Class 1 & 2 | 15.2.0 | 15.3.0 |
| 2018-12 | RAN#82 | R5-186585 | 0785 | - | Update the test applicability for Rel-14 NB-IOT RF test cases | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-186586 | 0786 | - | Update the test applicability for Rel-14 NB-IOT RRM test cases | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-186591 | 0787 | - | Addition of new CA configurations into 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188204 | 0791 | 1 | Applicability and ICS for CA RF and RRM test cases | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187095 | 0792 | - | Addition of applicability and ICS for Tx test cases for UL 256QAM CA | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188236 | 0796 | 1 | Correction to tested CA configuration selection criteria for Rx tests | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187310 | 0797 | - | Editorial change to applicability condition for TC8.2.1.3.1\_A.1 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187330 | 0798 | - | Applicability addition of test case 6.6.3.3A.1\_2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187339 | 0799 | - | Addition of new UL 256QAM test cases - applicability | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187341 | 0800 | - | Introduction of CA configurations CA\_2A-66C-71A and CA\_2C-66A-66A | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187358 | 0801 | - | Addition of applicability of feMTC test cases | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187448 | 0802 | - | Addition of Rel-13 CA configurations | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187478 | 0804 | - | Introduction of FD-MIMO test cases in 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187495 | 0805 | - | Correction to Reference Sensitivity Level "Tested Bands / CA-Configurations Selection" | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187925 | 0784 | 1 | Applicability for IncMon RRM Test Cases | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187975 | 0789 | 1 | Introduction of Power Class 1 for B31 and B72 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187981 | 0790 | 1 | Addition of B72 for test cases with 5MHz channel bandwidth | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-187989 | 0795 | 1 | Added ICS item for missing Category DL and UL | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188041 | 0780 | 1 | Addition CA 2A2A29A and CA 2A2A29A30A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188042 | 0781 | 1 | Addition CA 2A29A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188043 | 0782 | 1 | Addition CA 2A30A66A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188044 | 0783 | 1 | Addition CA 7A66A and CA 2A7A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188045 | 0774 | 1 | Addition CA 2A2A7A and CA 2A2A7A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188046 | 0775 | 1 | Addition CA 2A2A14A and CA 2A2A14A30A and CA 2A2A14A66A and CA 2A2A14A30A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188047 | 0776 | 1 | Addition CA 2A12A30A66A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188048 | 0777 | 1 | CA 2A14A30A66A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188049 | 0778 | 1 | Addition CA 2A14A66A66A and CA 2A2A14A66A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2018-12 | RAN#82 | R5-188050 | 0779 | 1 | Addition CA 2A29A30A66A 36.521-2 | 15.3.0 | 15.4.0 |
| 2019-03 | RAN#83 | R5-191115 | 0807 | - | Addition of new UL feMTC test cases - applicability | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191240 | 0808 | - | Editorial Correction of title of TC 6.5.2.1EB in TS 36.521-2 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191276 | 0809 | - | Alignment of TS 36.521-2 to TS 36.521-1 for feMTC TCs | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191277 | 0810 | - | Alignment of TS 36.521-2 to TS 36.521-1 for enhanced NB-IoT TCs | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191482 | 0816 | - | Correction to RRM condition used incorrect PICS table for the tests | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191603 | 0819 | - | Adding applicability of test case 6.5.1EC, Frequency Error for UE category M2 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191767 | 0820 | - | Applicability addition of test case 6.6.3.3A.2\_2 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-191972 | 0822 | - | Applicability update of NB-IOT RACH test case | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192035 | 0823 | - | Applicability update LAA SDR test cases- Editorial | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192099 | 0825 | - | Correction to conditions C04i, C04j, C04k and C04l in Table 4.2-1a | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192106 | 0826 | - | Correction to conditions in Table A.4.1-1a which are for test case support DL CA without UL CA | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192113 | 0828 | - | Updating ICS Table A.4.5-1 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192238 | 0829 | - | Adding applicability for test case 6.5.2.1EC.1, EVM for UE category M2 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192516 | 0824 | 1 | Applicability for 4Rx TDD FDD CA TM9 demodulation test cases | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192531 | 0813 | 1 | Applicability updated for new feMTC RRM test cases | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192613 | 0811 | 1 | Update the description of FGI bits 103 and 104 in 36.521-2 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192631 | 0814 | 1 | Applicability updated for new R13 CA RRM test cases | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192632 | 0821 | 1 | Update to 4DL/5DL CA Activation and Deactivation with generic duplex modes | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192645 | 0815 | 1 | Correction to test CA configurations selection criteria | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192849 | 0812 | 2 | Update the applicability of RF test cases related to FGI bits 103 and 104 | 15.4.0 | 15.5.0 |
| 2019-03 | RAN#83 | R5-192640 | 0817 | 1 | Band 53 introduction in TS 36.521-2 | 15.5.0 | 16.0.0 |
| 2019-06 | RAN#84 | R5-193680 | 0830 | - | Introduction of Baseline Implementation Capability for LTE Band 85 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-193882 | 0831 | - | Update of Recommended test case applicability for 3UL CA | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-193951 | 0832 | - | Remove CA\_3A-8A-27A from Inter-band CA Physical Layer Baseline Implementation Capabilities. | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194240 | 0836 | - | Addition of applicability for 6-DL CA SDR test cases | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194331 | 0838 | - | Additional of Note for RF category NB declaration | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194333 | 0839 | - | Editorial correction of CEModeB test cases | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194344 | 0840 | - | Adding applicability for DL256QAM RF test case 8.7.2.1\_H.4 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194345 | 0841 | - | Adding applicability for DL256QAM RF test case 8.7.2.1\_H.5 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194387 | 0842 | - | Addition of the test applicability for V2X intra-band multi-carrier configurations | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194433 | 0844 | - | Adding applicability for new test case 6.5.2.1EC.2 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194614 | 0851 | - | Updating Table A.4.3-3a | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194751 | 0855 | - | Applicability for new FD-MIMO PMI test cases | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194753 | 0856 | - | Adding applicability for TC 6.6.3.2A.4 and 6.6.3.3A.4 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194754 | 0857 | - | Addition of FDD Band 73 to RF ICS in 36.521-2 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194956 | 0859 | - | Update Applicability to Include 4Rx Capability for Band 30 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-194966 | 0835 | 1 | Introduction of CA\_7C\_28A to Annex 4.6.3 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195023 | 0853 | 1 | Introduction of ON/OFF time mask for 4UL CA applicability | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195067 | 0833 | 1 | Addition of new UL feMTC test cases - applicability | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195077 | 0848 | 1 | Correction to the content of PICS item A.4.6.3-2/3. | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195082 | 0854 | 1 | Correction in C01c applicability in 36.521-2 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195084 | 0843 | 1 | Applicability 3DL CA generic tests | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195448 | 0849 | 1 | Correction to applicability criteria for HPUE devices that support Power Class 1 & 2 | 16.0.0 | 16.1.0 |
| 2019-06 | RAN#84 | R5-195449 | 0850 | 1 | Updating Table 4.1-1a | 16.0.0 | 16.1.0 |
| 2019-09 | RAN#85 | R5-195723 | 0860 | - | Addition of test applicabilities for V2X test cases | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-195798 | 0861 | - | Introduction of CA\_11A\_41A, CA\_11A\_41C, CA\_11A\_42A, CA\_11A\_42C, CA\_3A\_41A\_42C, CA\_3A\_41C\_42A and CA\_3A\_41C\_42C to Annex 4.6.3 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196059 | 0863 | - | Introduction of Power Control and Transmit Intermodulation for 4UL CA applicability | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196127 | 0864 | - | Correction 4CC and 5CC applicability | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196152 | 0865 | - | Applicability and ICS for 4UL CA Tx test cases | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196288 | 0866 | - | Introduction of applicability expression for several 3UL CA RF conformance test cases | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196567 | 0867 | - | Addition of Re-13 capabilitys of multiple CA in 36.521-2 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196568 | 0868 | - | Addition of Re-15 capabilitys of multiple CA in 36.521-2 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196583 | 0869 | - | Correction to Applicability condition on Table 4.2-1 for TC4.2.31 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196712 | 0871 | - | Addition of TC7.9F Applicability of RF conformance | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196713 | 0872 | - | Modify TC 4.2.31 the RRM conformance condition of applicability | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196759 | 0873 | - | Addition of test applicability for 8.2.2.8.1 and 8.2.2.8.2 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196866 | 0876 | - | Updating TS36.521-2 Table 4.1-1 Applicability of RF conformance test cases, ref. TS 36.521-1 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196867 | 0877 | - | Updating TS36.521-2 Table 4.2-1 Applicability of RRM conformance test cases, ref. TS 36.521-3 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196939 | 0878 | - | Correction to Applicability Conditions for TC8.10.1.2.6 and C183, C183m updates | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-196945 | 0879 | - | Addition of applicability of FD-MIMO CQI test cases | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-197311 | 0880 | - | Updating the applicability table to remove transient period for FGI bits 103 and 104 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-197452 | 0875 | 1 | Updating NOTE 1 and NOTE 2 in Section 4 of TS36.521-2 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-197468 | 0870 | 1 | Adding applicability for feMTC test case 7.6.2EC, Out-of-band blocking for UE category M2 | 16.1.0 | 16.2.0 |
| 2019-09 | RAN#85 | R5-197486 | 0874 | 1 | Updates to Tested CA Configurations Selection Criteria | 16.1.0 | 16.2.0 |
| 2019-12 | RAN#86 | R5-197759 | 0881 | - | Addition of test applicabilites for V2X test cases | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-197767 | 0882 | - | Adding test applicability for R13 CA RRM test cases | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-197956 | 0885 | - | Updating applicability for feMTC test case 8.11.1.2.1 and 8.11.1.2.2 | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-197957 | 0886 | - | Correcting feMTC condition numbering | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198023 | 0887 | - | Correction feMTC applicability spec | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198106 | 0889 | - | Editorial correction to the contents of several Notes in Annex A.4.6 | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198108 | 0890 | - | Update to applicability for 3DL/3UL TDD CA for UE Transmit Timing Accuracy and Non-Contention Based Random Access Tests for 2 SCells | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198293 | 0893 | - | Adding applicability for RF test cases 8.7.2.1\_A.6 and 8.7.2.1\_H.6 | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198348 | 0894 | - | Adding applicability for TC 7.5A.9 and 7.8.1A.9 | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198556 | 0895 | - | Added applicability condition to LTE RRM 6DL and 7DL CA test cases | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-198673 | 0897 | - | Introduction of applicability for new TDD FD-MIMO test cases | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-199448 | 0883 | 1 | Addition of new feMTC test cases - applicability | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-199449 | 0884 | 1 | Adding missing feMTC test cases to 36.521-2 | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-199454 | 0896 | 1 | Addition of applicability of RRM test cases | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-199456 | 0892 | 1 | Update of SDR joint CA test case applicability | 16.2.0 | 16.3.0 |
| 2019-12 | RAN#86 | R5-199505 | 0891 | 1 | Correction of release column in CA configuration tables | 16.2.0 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200535 | 0901 |  | Applicability of RRM feMTC Test Cases | 16.3.0 | 16.4.0 |
| 2020-03 | RAN#87 | R5-200991 | 0899 | 1 | Adding test case 8.11.1.2.3.2 and 8.11.1.2.3.2\_1 to applicability | 16.3.0 | 16.4.0 |
| 2020-03 | RAN#87 | R5-200994 | 0902 | 1 | Adding missing cat M2 test cases to applicability | 16.3.0 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201705 | 0906 | - | Correction to tables of UE categories in TS36.521-2 | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202180 | 0913 | - | Adding applicability for RF test cases 8.7.1.1\_A.7,8.7.1.1\_H.7,8.7.2.1\_A.7 and 8.7.2.1\_H.7 | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202232 | 0915 | - | Addition of UE applicability for TC 8.2.1.10 in 36.521-2 | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202444 | 0916 | - | Correction of the CA configuration exception for CA\_3A-7B | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202763 | 0908 | 1 | Addition of applicability for MOP, MPR, A-MPR & ACLR for CA HPUE | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202797 | 0909 | 1 | Correction to applicability table of NB-IoT tests | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202798 | 0912 | 1 | Update additional information for test applicability for skipping 2RX Test cases | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202818 | 0904 | 1 | Addition of Rel-14 capabilities of multiple CA in 36.521-2 | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202853 | 0905 | 1 | Addition of Rel-15 capabilities of multiple CA in 36.521-2 | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202868 | 0911 | 1 | Adding test applicability for Rel-15 NB1 and NB2 Test Cases | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202936 | 0903 | 1 | Addition of TS36.521-2 CA Band 5A-29A and 2A-5A-29A | 16.4.0 | 16.5.0 |
| 2020-06 | RAN#88 | R5-202937 | 0910 | 1 | Correction of UE Category 1bis test case applicability | 16.4.0 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203229 | 0917 | - | Introduction of Baseline Implementation Capabilities for PC2 in LTE Bands 31 and 72 | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-203573 | 0919 | - | Addition of applicability for newly introduced 6DL TCs | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-203744 | 0920 | - | Editorial correcting of format for table headings | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-203773 | 0921 | - | Adding applicability for new efeMTC test cases 9.8.3.1, 9.8.3.2, 9.8.4.1, 9.8.4.2 | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-203860 | 0923 | - | Update of capability for HPUE | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-203889 | 0924 | - | Adding branch of PC3 and HPUE for 6.6.2.1 and 6.6.2.2 in Table 4.1-1 | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-204000 | 0926 | - | Correction Additional Information in Table 4.2-1 of test case 9.2.56 and 9.2.57 | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-204159 | 0927 | - | Correction to applicability table of NB-IoT tests | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-204163 | 0928 | - | Updated to applicability table of R15 NB-IoT tests | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-204976 | 0918 | 1 | Correction of UE Category 1bis test case applicability | 16.5.0 | 16.6.0 |
| 2020-09 | RAN#89 | R5-204977 | 0925 | 1 | Correction title and description of 6.2.3A.1\_3 and 6.2.4A.1\_3 | 16.5.0 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205077 | 0929 |  | Void obsolete RRM test cases - Applicability | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205086 | 0930 |  | Introduction of Baseline Implementation Capability for LTE Bands 87 and 88 | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205118 | 0932 |  | Addition of 48C/D to Table A.4.6.1-3 | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205246 | 0933 |  | Correction to title of test case 6.2.5A.3 and TC 6.2.5A.4 in Table 4.1-1 | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205247 | 0934 |  | Correction to Condition C20h in Table 4.1-1a | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205270 | 0935 |  | Update to applicability 6 DL CA test cases | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205527 | 0936 |  | Correction Table 4.1-1 for Applicability of 6.6.2.2A.2 and increase Condition in Table 4.1-1a | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205691 | 0937 |  | Update to applicability of NB-IoT ICS and RF tests | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-205692 | 0938 |  | Update to applicability of NB-IoT RRM tests | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206610 | 0946 |  | Addition of new combo to Table A.4.6.3-1 and 41-48 combos to Table A.4.6.3-3 | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206753 | 0941 | 1 | Addition of Test applicability for NB-IoT RRM Test Cases in TDD mode | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206754 | 0943 | 1 | Addition of test applicability of NB-IOT TDD RRM test cases 4.2.35 to 4.2.38 | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206778 | 0942 | 1 | Correction of test applicability of DL CA Test Case | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206779 | 0944 | 1 | Removing V2X MOP test cases | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206877 | 0939 | 1 | Addition of test applicability for RF and Demod test cases for sTTI | 16.6.0 | 16.7.0 |
| 2020-12 | RAN#90 | R5-206878 | 0940 | 1 | Addition of test applicability for RRM test cases for sTTI and short processing time | 16.6.0 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210482 | 0949 | - | Addition of the Additional Information for some RF test cases in 9.6.1 | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-210598 | 0950 | - | Correction to Additional Information of 8.2.1.3.1\_A and 8.7.1.1\_A in Table 4.1-1 | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-210889 | 0952 | - | Addition of applicability for NB-IoT RRM TDD Test Cases | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-210990 | 0954 | - | Addition of Note 7 in the Additional Information column of RF conformance test cases with 2Rx and 4Rx Branch in section 8 and section 9 | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211752 | 0947 | 1 | Update to applicability TDD FDD 7DL CA Performance test cases | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211757 | 0957 | 1 | Introduction of CA Idle Mode Measurement RRM Testcase Applicabilities | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211803 | 0955 | 1 | Correction of Table 4.1-1 | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211844 | 0948 | 1 | Correction of applicability definition for 2Rx related test cases to exclude category 1bis UEs equipped with single Rx antenna | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211845 | 0953 | 1 | Correct of test applicability for TC with and without UL CA | 16.7.0 | 16.8.0 |
| 2021-03 | RAN#91 | R5-211846 | 0956 | 1 | Correction of Table A.4.3-3d | 16.7.0 | 16.8.0 |
| 2021-06 | RAN#92 | R5-212756 | 0959 | - | Addition of Table 4.1-7 7DL CA Name and Release mapping | 16.8.0 | 16.9.0 |
| 2021-06 | RAN#92 | R5-212759 | 0960 | - | Update to applicability for 7DL CA TCs 7.6.1A.10 7.6.2A.10 7.6.3A.10 and 7.7A.10 | 16.8.0 | 16.9.0 |
| 2021-06 | RAN#92 | R5-212878 | 0961 | - | Addition of applicability for NB-IoT RRM TDD Test Cases | 16.8.0 | 16.9.0 |
| 2021-06 | RAN#92 | R5-212881 | 0962 | - | Correct of test applicability for TC with ULCA | 16.8.0 | 16.9.0 |
| 2021-06 | RAN#92 | R5-213197 | 0963 | - | Introduction of CA Idle Mode Measurement RSRQ RRM Testcase Applicabilities | 16.8.0 | 16.9.0 |
| 2021-06 | RAN#92 | R5-213832 | 0958 | 1 | Update to applicability TDD 5DL CA sustained data rate performance for CA test case | 16.8.0 | 16.9.0 |
| 2021-09 | RAN#93 | R5-214331 | 0964 | - | Applicability for eFD-MIMO demod test cases | 16.9.0 | 16.10.0 |
| 2021-09 | RAN#93 | R5-215375 | 0966 | - | Update to applicability table of V2X test cases | 16.9.0 | 16.10.0 |
| 2021-09 | RAN#93 | R5-215577 | 0967 | - | Introduction of SCell hibernation RRM Testcase Applicabilities | 16.9.0 | 16.10.0 |
| 2021-09 | RAN#93 | R5-215923 | 0965 | 1 | Update to applicability TDD FDD 6DL CA Performance test cases | 16.9.0 | 16.10.0 |
| 2021-12 | RAN#94 | R5-216831 | 0968 | - | Update to applicability TDD FDD 6DL and 7DL CA conformance test cases | 16.10.0 | 16.11.0 |
| 2021-12 | RAN#94 | R5-217292 | 0970 | - | Addition of applicability for 6 DL CA test cases 7.4A.9 and 7.4A\_9\_H | 16.10.0 | 16.11.0 |
| 2021-12 | RAN#94 | R5-217628 | 0973 | - | Adding Rel 15 band 14 and 71 to Cat M1 Centre Frequency Implementation table | 16.10.0 | 16.11.0 |
| 2021-12 | RAN#94 | R5-217629 | 0974 | - | Adding Rel 16 band 42 and 43 to Cat M1 Centre Frequency Implementation table | 16.10.0 | 16.11.0 |
| 2021-12 | RAN#94 | R5-218265 | 0972 | 1 | Addition of new LTE\_CA\_R15 test cases - applicability | 16.10.0 | 16.11.0 |
| 2021-12 | RAN#94 | R5-218266 | 0969 | 1 | Cleanup CR removing not completed E-UTRA CA configurations from clause A.4.6 | 16.10.0 | 16.11.0 |
| 2022-03 | RAN#95 | R5-221177 | 0977 | - | Update to Inter Band UL CA Band combo 2A-46A | 16.11.0 | 16.12.0 |
| 2022-03 | RAN#95 | R5-221799 | 0975 | 1 | Add applicability of new feMob RRM test cases | 16.11.0 | 16.12.0 |
| 2022-03 | RAN#95 | R5-221800 | 0978 | 1 | Addition conditional handover test cases applicability | 16.11.0 | 16.12.0 |
| 2022-06 | RAN#96 | R5-222184 | 0979 | - | Correction to Condition of Applicability for TC9.2.1.7 and TC9.2.1.8 | 16.12.0 | 16.13.0 |
| 2022-06 | RAN#96 | R5-222694 | 0981 | - | Correction to CA test cases applicability and band selection criteria | 16.12.0 | 16.13.0 |
| 2022-06 | RAN#96 | R5-222699 | 0982 | - | Removal of MPR and A-MPR for category 1bis from applicability table | 16.12.0 | 16.13.0 |
| 2022-06 | RAN#96 | R5-223194 | 0984 | - | Applicability of 6DL and 7DL CA RRM test cases | 16.12.0 | 16.13.0 |
| 2022-06 | RAN#96 | R5-223195 | 0985 | - | Correction of applicabilty for sTTI test cases | 16.12.0 | 16.13.0 |
| 2022-06 | RAN#96 | R5-223868 | 0980 | 1 | Alignment of euCA RRM testcase numbering according to 36.133 | 16.12.0 | 16.13.0 |
| 2022-09 | RAN#97 | R5-224416 | 0987 | - | Update of applicability 7DL CA Sustained data rate performance test cases | 16.13.0 | 16.14.0 |
| 2022-09 | RAN#97 | R5-225836 | 0991 | 1 | Test case 9.8.1.1 to be applicable for any UE supporting ce-ModeA | 16.13.0 | 16.14.0 |
| 2022-09 | RAN#97 | R5-224826 | 0988 | - | Introduction of Baseline Implementation Capability for LTE Band 103 | 16.14.0 | 17.0.0 |
| 2022-12 | RAN#98 | R5-226276 | 0993 | - | Correction of applicable release for test case 7.1.4 in 36.521-3 | 17.0.0 | 17.1.0 |
| 2022-12 | RAN#98 | R5-226578 | 0994 | - | Correction to applicability for 8.7.1.1\_H.5 | 17.0.0 | 17.1.0 |
| 2023-03 | RAN#99 | R5-230454 | 1001 | - | Add CA\_XA-YA-YA-ZA and the Fallback Configuration to Table 4.1-2 | 17.1.0 | 17.2.0 |
| 2023-03 | RAN#99 | R5-231184 | 1003 | - | Editorial correction to title of test case 6.5.2.4G.1 | 17.1.0 | 17.2.0 |
| 2023-03 | RAN#99 | R5-231828 | 1004 | 1 | Editorial update of formats and data correction of the applicability table | 17.1.0 | 17.2.0 |
| 2023-03 | RAN#99 | R5-231970 | 1002 | 2 | Introduction of informative Annex for status of LTE CA configurations | 17.1.0 | 17.2.0 |
| 2023-03 | RAN#99 | R5-230398 | 0996 | - | Update to scope and reference of E-UTRA test applicability and ICS for IoT-NTN | 17.2.0 | 18.0.0 |
| 2023-03 | RAN#99 | R5-231829 | 1000 | 1 | Option 3 for Disc on handling of R18 NB-IoT/eMTC NTN RF Perf RRM WI | 17.2.0 | 18.0.0 |
| 2023-03 | RAN#99 | R5-231970 | 1002 | 2 | addition of missing attachment "PRD20 E-UTRA CA list v1.2.0" | 18.0.0 | 18.0.1 |
| 2023-06 | RAN#100 | R5-232323 | 1006 | - | Updates to test case applicability as part of introduction of LTE Band 54 | 18.0.1 | 18.1.0 |
| 2023-06 | RAN#100 | R5-232449 | 1007 | - | Correct of condition for intra-band contiguous DL CA and UL CA | 18.0.1 | 18.1.0 |
| 2023-06 | RAN#100 | R5-233187 | 1008 | - | Editorial correction to table ID reference in Table A.4.5-1 | 18.0.1 | 18.1.0 |
| 2023-09 | RAN#101 | R5-233888 | 1009 | - | Add PICS and test applicability for NB-IOT NTN RRM new cases. | 18.1.0 | 18.2.0 |
| 2023-09 | RAN#101 | R5-235816 | 1012 | 1 | Additional supported capabilities for CA\_2-5-30-66-66 and CA\_2-2-12-66-66 | 18.1.0 | 18.2.0 |
| 2023-12 | RAN#102 | R5-236205 | 1014 | - | Update applicability for NB-IOT NTN test cases | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236400 | 1015 | - | Correct the Release of CA\_2A-2A-12A-66A-66A and CA\_2A-5A-30A-66A-66A | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236464 | 1016 | - | Addition of CA Configuration of CA\_2A-2A-66A | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236471 | 1017 | - | Adding CA configurations CA\_1A-7A-28A and CA\_1A-3A-7A-28A | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236552 | 1018 | - | Additional supported capabilities for CA\_2-66-66-66 and CA\_29-30-66-66 | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236556 | 1019 | - | Updated to clause 8.x of RRM test conditions | 18.2.0 | 18.3.0 |
| 2023-12 | RAN#102 | R5-236924 | 1020 | - | Update PRD20 E-UTRA CA list v150 | 18.2.0 | 18.3.0 |
| 2024-03 | RAN#103 | R5-240770 | 1023 | - | Correction to applicability for handover test cases | 18.3.0 | 18.4.0 |
| 2024-03 | RAN#103 | R5-240833 | 1024 | - | Update PRD20 E-UTRA CA list v160 | 18.3.0 | 18.4.0 |
| 2024-03 | RAN#103 | R5-240937 | 1025 | - | Additional supported capabilities for multiple CA combos | 18.3.0 | 18.4.0 |
| 2024-03 | RAN#103 | R5-241203 | 1026 | - | Add information in Power Control test cases specific to Power Class 3 | 18.3.0 | 18.4.0 |
| 2024-03 | RAN#103 | R5-241918 | 1021 | 1 | Update to R18 IoT NTN test cases applicability | 18.3.0 | 18.4.0 |
| 2024-03 | RAN#103 | R5-241953 | 1027 | 1 | Aligning the applicability for IoT NTN frequency error | 18.3.0 | 18.4.0 |