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**5G;
5GS;
User Equipment (UE) conformance specification;
Part 2: Common Implementation Conformance Statement (ICS)
proforma
(3GPP TS 38.508-2 version 16.5.0 Release 16)**



Reference

RTS/TSGR-0538508-2vg50

Keywords

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Foreword

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

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

Version x.y.z

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- x the first digit:
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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is part 2 of a multi-part deliverable covering the 5G System (5GS) User Equipment (UE) protocol conformance specification, as identified below:

- 3GPP TS 38.508-1 [11]: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment".
- 3GPP TS 38.508-2: "**5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma**" (the present document).

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 5G New Radio (NR) User Equipment (UE), in compliance with the relevant requirements.

Special conformance testing functions can be found in 3GPP TS 38.509 [12] and 3GPP TS 36.509 [14] and the common test environments are included in 3GPP TS 38.508-1 [11] and 3GPP TS 36.508 [13].

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

2 References

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

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

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 38.523-1: "5GS; UE conformance specification; Part 1: Protocol conformance specification".
- [3] 3GPP TS 38.523-2: "5GS; User Equipment (UE) conformance specification; Part 2: Applicability of protocol test cases".
- [4] 3GPP TS 38.523-3: "5GS; User Equipment (UE) conformance specification; Part 3: Protocol Test Suites".
- [5] 3GPP TS 38.521-1: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone".
- [6] 3GPP TS 38.521-2: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 Standalone".
- [7] 3GPP TS 38.521-3: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios".
- [8] 3GPP TS 38.521-4: "NR; User Equipment conformance specification; Radio transmission and reception; Part 4: Performance".
- [9] 3GPP TS 38.522: "NR; User Equipment (UE) conformance specification; Applicability of radio transmission, radio reception and radio resource management test cases".
- [10] 3GPP TS 38.533: "NR; User Equipment (UE) conformance specification; Radio resource management".
- [11] 3GPP TS 38.508-1: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment".
- [12] 3GPP TS 38.509: "5GS; Special conformance testing functions for UE".
- [13] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Common Test Environments for User Equipment (UE) Conformance Testing".

- [14] 3GPP TS 36.509: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Special conformance testing functions for User Equipment (UE)".
- [15] 3GPP TS 34.229-2: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) specification".
- [16] 3GPP TS 36.523-2: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [17] 3GPP TS 38.306: "NR; User Equipment (UE) radio access capabilities".
- [18] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [19] 3GPP TS 38.307: "NR; User Equipments (UEs) supporting a release-independent frequency band".
- [20] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Multi-connectivity; Stage 2".
- [21] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".
- [22] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3"
- [23] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone"
- [24] 3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone"
- [25] 3GPP TS 38.101-3: "NR; User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios"

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [5] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [5].

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

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

<symbol> <Explanation>

3.3 Abbreviations

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

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

| | |
|-------|---|
| FFS | For Further Study |
| ICS | Implementation Conformance Statement |
| IXIT | Implementation extra Information for Testing |
| PICS | Protocol Implementation Conformance Statement |
| PIXIT | Protocol Implementation extra Information for Testing |
| SCS | System Conformance Statement |
| TC | Test Case |
| UEUT | User Equipment Under Test |

Annex A (normative): ICS proforma for NR/5GS Generation User Equipment

Notwithstanding the provisions of the copyright clause 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 [18].

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.

Mnemonic column

The Mnemonic column contains mnemonic identifiers for each item.

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.

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 | Mnemonic | Comments |
|------|-----------------------|-----------------------|---------|----------|----------|
| 1 | NR FDD | 38.101-1 | Rel-15 | pc_nrFDD | |
| 2 | NR TDD | 38.101-1, 38.101-2 | Rel-15 | pc_nrTDD | |

Table A.4.1-2: UE general functionality

| Item | UE Functionality | Ref. | Release | Mnemonic | Comments |
|------|----------------------------------|------------------------------|---------|--------------------|----------|
| 1 | Support of multiple NR FDD bands | 38.101-1, 5.2 | Rel-15 | pc_nrFDD_MultiBand | |
| 2 | Support of multiple NR TDD bands | 38.101-1, 5.2, 38.101-2, 5.2 | Rel-15 | pc_nrTDD_MultiBand | |
| 3 | NR SUL | 38.101-1 | Rel-15 | pc_nrSUL | |
| 4 | NR SDL | 38.101-1 | Rel-15 | pc_nrSDL | |
| 5 | Support of multiple NR SUL bands | 38.101-1, 5.2 | Rel-15 | pc_nrSUL_MultiBand | |
| 6 | Support of multiple NR SDL bands | 38.101-1, 5.2 | Rel-15 | pc_nrSDL_MultiBand | |
| 7 | Support of frequency range FR1 | 38.101-1, 5.1 | Rel-15 | pc_nrFR1 | |
| 8 | Support of frequency range FR2 | 38.101-2, 5.1 | Rel-15 | pc_nrFR2 | |

Table A.4.1-3: RAN-CN Interface Options

| Item | UE support of RAN-CN Interface Options | Ref. | Release | Mnemonic | Comments |
|------|--|--------|---------|-----------------|----------|
| 1 | NG-RAN NR | 38.300 | Rel-15 | pc_NG_RAN_NR | Option 2 |
| 2 | EN-DC | 37.340 | Rel-15 | pc_EN_DC | Option 3 |
| 3 | NE-DC | 37.340 | Rel-15 | pc_NE_DC | Option 4 |
| 4 | NG-RAN E-UTRA | 38.300 | Rel-15 | pc_NG_RAN_EUTRA | Option 5 |
| 5 | NGEN-DC | 37.340 | Rel-15 | pc_NGEN_DC | Option 7 |

Table A.4.1-4: NSA DC UE Radio Technologies

| Item | NSA UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
|------|---|------------------|---------|------------------------------------|----------|
| 1 | Intra-Band Contiguous EN-DC | 38.101-3, 5.5B.2 | Rel-15 | pc_IntraBand_Contiguous_ENDC | |
| 2 | Intra-Band Non-Contiguous EN-DC | 38.101-3, 5.5B.3 | Rel-15 | pc_IntraBand_Non_Contiguous_ENDC | |
| 3 | Inter-Band EN-DC within FR1 | 38.101-3, 5.5B.4 | Rel-15 | pc_InterBand_ENDC_WithinFR1 | |
| 4 | Inter-Band EN-DC including FR2 | 38.101-3, 5.5B.5 | Rel-15 | pc_InterBand_ENDC_IncludingFR2 | |
| 5 | Inter-band EN-DC including both FR1 and FR2 | 38.101-3, 5.5B.6 | Rel-15 | pc_InterBand_ENDC_IncludingFR1_FR2 | |
| 6 | Inter-band NR-DC between FR1 and FR2 | 38.101-3, 5.5B.7 | Rel-15 | pc_InterBand_NRDC_BetweenFR1_FR2 | |

Table A.4.1-4A: SA CA UE Radio Technologies

| Item | SA UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
|------|---|------------------|---------|---|----------|
| 1 | Intra-Band Contiguous CA within FR1 | 38.101-1, 5.5A.1 | Rel-15 | pc_IntraBand_Contiguous_CA_WithinFR1 | |
| 2 | Intra-Band Non-contiguous CA within FR1 | 38.101-1, 5.5A.2 | Rel-15 | pc_IntraBand_NonContiguous_CA_WithinFR1 | |
| 3 | Intra-Band Contiguous CA within FR2 | 38.101-2, 5.5A.1 | Rel-15 | pc_IntraBand_Contiguous_CA_WithinFR2 | |
| 4 | Intra-Band Non-contiguous CA within FR2 | 38.101-2, 5.5A.2 | Rel-15 | pc_IntraBand_NonContiguous_CA_WithinFR2 | |
| 5 | Inter-Band CA within FR1 | 38.101-1, 5.5A.3 | Rel-15 | pc_InterBand_CA_WithinFR1 | |
| 6 | Inter-Band CA within FR2 | TBD | TBD | pc_InterBand_CA_WithinFR2 | |
| 7 | Inter-band CA between FR1 and FR2 | 38.101-3, 5.5A.1 | Rel-15 | pc_InterBand_CA_BetweenFR1_FR2 | |

Table A.4.1-5: 5GS UE Core Technologies

| Item | 5GS UE Core Technologies | Ref. | Release | Mnemonic | Comments |
|------|--|-------------|---------|--------------|----------|
| 1 | UE Supports 5G Core Network | 24.501 | Rel-15 | pc_5GCN | |
| 2 | UE Supports 5G Core Network over non-3GPP Access Network | 24.501, 4.7 | Rel-15 | pc_5GCN_N3AN | |

A.4.2 UE Service Capabilities

A.4.2.1 3GPP Standardised UE Service Capabilities

A.4.2.1.1 Bearer Services

Table A.4.2.1.1-1: Definition of Bearer Services

| Item | Definition of Bearer Services | Ref. | Release | Mnemonic | Comments |
|------|-------------------------------|------|---------|----------|----------|
| 1 | FFS | | | | |

A.4.3 Baseline Implementation Capabilities

Table A.4.3-1: Supported protocols

| Item | Supported protocols | Ref. | Release | Mnemonic | Comments |
|------|----------------------------------|--------|---------|----------|----------|
| 1 | 5GS Mobility Management | 24.501 | Rel-15 | | |
| 2 | 5GS Session Management | 24.501 | Rel-15 | | |
| 3 | Radio Resource Control | 38.331 | Rel-15 | | |
| 4 | Service Data Adaptation Protocol | 37.324 | Rel-15 | | |
| 5 | Packet Data Convergence Protocol | 38.323 | Rel-15 | | |
| 6 | Radio Link Control | 38.322 | Rel-15 | | |
| 7 | Medium Access Control | 38.321 | Rel-15 | | |
| 8 | Physical Layer | 38.201 | Rel-15 | | |

Table A.4.3-2: Special Conformance Testing Functions

| Item | Special Conformance Testing Functions | Ref. | Release | Mnemonic | Comments |
|------|---------------------------------------|--------|---------|----------|----------|
| 1 | UE test loop | 38.509 | Rel-15 | | |

A.4.3.1 RF Baseline Implementation Capabilities

NOTE: The values indicated in column "Release" in tables A.4.3.1-1 and A.4.3.1-2 below 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 38.307 [19].

Table A.4.3.1-1: NR FDD FR1 RF Baseline Implementation Capabilities

| Item | NR FDD FR1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|----------|---|---------------|---------|------------------|------------|
| 1 | NR Frequency band: 1920-1980 MHz (UL), 2110-2170 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand1_Supp | NR Band 1 |
| 2 | NR Frequency band: 1850-1910 MHz (UL), 1930-1990 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand2_Supp | NR Band 2 |
| 3 | NR Frequency band: 1710-1785 MHz (UL), 1805-1880 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand3_Supp | NR Band 3 |
| 4 | NR Frequency band: 824-849 MHz (UL), 869-894 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand5_Supp | NR Band 5 |
| 5 | NR Frequency band: 2500-2570 MHz (UL), 2620-2690 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand7_Supp | NR Band 7 |
| 6 | NR Frequency band: 880-915 MHz (UL), 925-960 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand8_Supp | NR Band 8 |
| 6a to 6c | Reserved | | | | |
| 6d | NR Frequency band: 699-716 MHz (UL), 729-746 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand12_Supp | NR Band 12 |
| 6e | Reserved | | | | |
| 6f | NR Frequency band: 788-798 MHz (UL), 758-768 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand14_Supp | NR Band 14 |
| 6g to 6i | Reserved | | | | |
| 6j | NR Frequency band: 815-830 MHz (UL), 860-875 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand18_Supp | NR Band 18 |
| 6k | Reserved | | | | |
| 7 | NR Frequency band: 832-862 MHz (UL), 791-821 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand20_Supp | NR Band 20 |
| 7a to 7d | Reserved | | | | |
| 7e | NR Frequency band: 1850-1915 MHz (UL), 1930-1995 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand25_Supp | NR Band 25 |
| 7f | NR Frequency band: 814-849 MHz (UL), 859-894 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand26_Supp | NR Band 26 |
| 7g | Reserved | | | | |
| 8 | NR Frequency band: 703-748 MHz (UL), 758-803 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand28_Supp | NR Band 28 |
| 8a | Reserved | | | | |
| 8b | NR Frequency band: 2305-2315 MHz (UL), 2350-2360 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand30_Supp | NR Band 30 |
| 8c to 8d | Reserved | | | | |
| 8e | NR Frequency band: 1920-2010 MHz (UL), 2110-2200 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand65_Supp | NR Band 65 |
| 9 | NR Frequency band: 1710-1780 MHz (UL), 2110-2200 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand66_Supp | NR Band 66 |
| 9a to 9c | Reserved | | | | |
| 10 | NR Frequency band: 1695-1710 MHz (UL), 1995-2020 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand70_Supp | NR Band 70 |
| 11 | NR Frequency band: 663-698 MHz (UL), 617-652 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand71_Supp | NR Band 71 |
| 12 to 13 | Reserved | | | | |
| 14 | NR Frequency band: 1427-1470 MHz (UL), 1475-1518 MHz (DL) | 38.101-1, 5.2 | Rel-15 | pc_nrBand74_Supp | NR Band 74 |
| 15 | NR Frequency band: 832-862 MHz (UL), 1427-1432 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand91_Supp | NR Band 91 |
| 16 | NR Frequency band: 832-862 MHz (UL), 1432-1517 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand92_Supp | NR Band 92 |
| 17 | NR Frequency band: 880-915 MHz (UL), 1427-1432 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand93_Supp | NR Band 93 |
| 18 | NR Frequency band: 880-915 MHz (UL), 1432-1517 MHz (DL) | 38.101-1, 5.2 | Rel-16 | pc_nrBand94_Supp | NR Band 94 |

Table A.4.3.1-2: NR TDD FR1 RF Baseline Implementation Capabilities

| Item | NR TDD FR1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|----------|--|---------------|---------|------------------|------------|
| 0 | NR Frequency band: 2010-2025 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand34_Supp | NR Band 34 |
| 0a to 0c | Reserved | | | | |
| 1 | NR Frequency band: 2570-2620 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand38_Supp | NR Band 38 |
| 1a | NR Frequency band: 1880-1920 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand39_Supp | NR Band 39 |
| 1b | NR Frequency band: 2300-2400 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand40_Supp | NR Band 40 |
| 2 | NR Frequency band: 2496-2690 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand41_Supp | NR Band 41 |
| 2a to 2f | Reserved | | | | |
| 2g | NR Frequency band: 3550-3700 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand48_Supp | NR Band 48 |
| 2h | Reserved | | | | |
| 2i | NR Frequency band: 1432-1517 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand50_Supp | NR Band 50 |
| 2j | NR Frequency band: 1427-1432 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand51_Supp | NR Band 51 |
| 2k | Reserved | | | | |
| 2l | NR Frequency band: 2483.5-2495 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand53_Supp | NR Band 53 |
| 3 | NR Frequency band: 3300-4200 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand77_Supp | NR Band 77 |
| 4 | NR Frequency band: 3300-3800 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand78_Supp | NR Band 78 |
| 5 | NR Frequency band: 4400-5000 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand79_Supp | NR Band 79 |
| 6 | NR Frequency band: 2496-2690 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand90_Supp | NR Band 90 |

Table A.4.3.1-3: NR TDD FR2 RF Baseline Implementation Capabilities

| Item | NR TDD FR2 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|---------------|---------|-------------------|-------------|
| 1 | NR Frequency band: 26500-29500 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand257_Supp | NR Band 257 |
| 2 | NR Frequency band: 24250-27500 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand258_Supp | NR Band 258 |
| 3 | NR Frequency band: 37000-40000 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand260_Supp | NR Band 260 |
| 4 | NR Frequency band: 27500-28350 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand261_Supp | NR Band 261 |

Table A.4.3.1-4: NR FR1 PC2 RF Baseline Implementation Capabilities

| Item | NR FR1 PC2 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|----------------------|------------|
| 1 | NR Frequency band: 2496-2690 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand41_PC2_Supp | NR Band 41 |
| 2 | NR Frequency band: 3300-4200 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand77_PC2_Supp | NR Band 77 |
| 3 | NR Frequency band: 3300-3800 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand78_PC2_Supp | NR Band 78 |
| 4 | NR Frequency band: 4400-5000 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand79_PC2_Supp | NR Band 79 |

Table A.4.3.1-4a: NR FR2 PC2 RF Baseline Implementation Capabilities

| Item | NR FR2 PC2 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|-----------------------|-------------|
| 1 | NR Frequency band: 26500-29500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand257_PC2_Supp | NR Band 257 |
| 2 | NR Frequency band: 24250-27500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand258_PC2_Supp | NR Band 258 |
| 3 | NR Frequency band: 27500-28350 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand261_PC2_Supp | NR Band 261 |

Table A.4.3.1-4b: NR FR1 PC1 RF Baseline Implementation Capabilities

| Item | NR FR1 PC1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|----------------------|------------|
| 1 | NR Frequency band: 788-798 MHz, 758-768 MHz | 38.101-1, 6.2.1 | Rel-16 | pc_nrBand14_PC1_Supp | NR Band 14 |

Table A.4.3.1-4c: NR FR2 PC1 RF Baseline Implementation Capabilities

| Item | NR FR2 PC1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|-----------------------|-------------|
| 1 | NR Frequency band: 26500-29500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand257_PC1_Supp | NR Band 257 |
| 2 | NR Frequency band: 24250-27500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand258_PC1_Supp | NR Band 258 |
| 3 | NR Frequency band: 37000-40000 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand260_PC1_Supp | NR Band 260 |
| 4 | NR Frequency band: 27500–28350 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand261_PC1_Supp | NR Band 261 |

Table A.4.3.1-4d: NR FR2 PC4 RF Baseline Implementation Capabilities

| Item | NR FR2 PC4 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|-----------------------|-------------|
| 1 | NR Frequency band: 26500-29500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand257_PC4_Supp | NR Band 257 |
| 2 | NR Frequency band: 24250-27500 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand258_PC4_Supp | NR Band 258 |
| 3 | NR Frequency band: 37000-40000 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand260_PC4_Supp | NR Band 260 |
| 4 | NR Frequency band: 27500–28350 MHz | 38.101-2, 6.2.1 | Rel-15 | pc_nrBand261_PC4_Supp | NR Band 261 |

Table A.4.3.1-5: NR SUL FR1 RF Baseline Implementation Capabilities

| Item | NR SUL FR1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|----------|--|---------------|---------|------------------|------------|
| 1 | NR Frequency band: 1710-1785 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand80_Supp | NR Band 80 |
| 2 | NR Frequency band: 880-915 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand81_Supp | NR Band 81 |
| 3 | NR Frequency band: 832-862 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand82_Supp | NR Band 82 |
| 4 | NR Frequency band: 703-748 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand83_Supp | NR Band 83 |
| 5 | NR Frequency band: 1920-1980 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand84_Supp | NR Band 84 |
| 6 | NR Frequency band: 1710-1780 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand86_Supp | NR Band 86 |
| 6a to 6b | Reserved | | | | |
| 6c | NR Frequency band: 824-849 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand89_Supp | NR Band 89 |
| 7 | NR Frequency band: 2010-2025 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand95_Supp | NR Band 95 |

Table A.4.3.1-6: NR SDL FR1 RF Baseline Implementation Capabilities

| Item | NR SDL FR1 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|---------------|---------|------------------|------------|
| 0 | NR Frequency band: 717-728 MHz | 38.101-1, 5.2 | Rel-16 | pc_nrBand29_Supp | NR Band 29 |
| 1 | NR Frequency band: 1432-1517 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand75_Supp | NR Band 75 |
| 2 | NR Frequency band: 1427-1432 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand76_Supp | NR Band 76 |

Table A.4.3.1-7: UE Power Class implementation Capabilities (for one or more of the supported UE Power Class Implemented Capabilities in Table A.4.3.1-4, Table A.4.3.1-4a, Table A.4.3.1-4b, Table A.4.3.1-4c and Table A.4.3.1-4d)

| Item | UE Power Class implementation Capabilities | Ref. | Comments |
|------|--|--------------------|---|
| 1 | UE Power Class 1 in FR1 | 38.101-1, 6.2.1 | Applicable to the bands in Table A.4.3.1-4b |
| 1a | UE Power Class 1 in FR2 | 38.101-2, 6.2.1 | Applicable to the bands in Table A.4.3.1-4c |
| 2 | UE Power Class 2 in FR1 | 38.101-1, 6.2.1 | Applicable to the bands in Table A.4.3.1-4 |
| 2a | UE Power Class 2 in FR2 | 38.101-2, 6.2.1 | Applicable to the bands in Table A.4.3.1-4a |
| 3 | UE Power Class 3 in FR1 | 38.101-1, 6.2.1 | All applicable FR1 NR bands |
| 3a | UE Power Class 3 in FR2 | 38.101-2, 6.2.1 | All applicable FR2 NR bands |
| 4 | UE Power Class 4 in FR2 | 38.101-2, 6.2.1 | Applicable to the bands in Table A.4.3.1-4d |

Table A.4.3.1-7a: NR FR1 2Rx/4Rx implementation Capabilities

| Item | UE 2Rx/4Rx implementation Capabilities | Ref. | Comments |
|------|--|------------------|---|
| 1 | UE 2Rx in FR1 | 38.101-1, 7.3 | Applicable to the bands in Table A.4.3.9-4a |
| 2 | UE 4Rx in FR1 | 38.101-1, 7.3 | Applicable to the bands in Table A.4.3.9-4 |

Table A.4.3.1-8: Void

A.4.3.2 Physical Layer Baseline Implementation Capabilities

Table A.4.3.2-1: UE Physical Layer Baseline Implementation Capabilities

| Item | UE Physical Layer Baseline Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|------------------|---------|--------------------------------|-----|---|--|
| 1 | Support PDSCH reception based on semi-persistent scheduling | 38.306, 4.2.7.10 | Rel-15 | pc_downlinkSPS | No | | |
| 2 | Support 256QAM for PDSCH for FR1 | 38.306, 4.2.7.10 | Rel-15 | pc_pdsch_256QAM_FR1 | Yes | | |
| 3 | Support 256QAM for PDSCH for at least one NR FR2 band | 38.306, 4.2.7.2 | Rel-15 | pc_pdsch_256QAM_FR2 | No | | |
| 4 | Support 256QAM for PUSCH for at least one NR FR1 band | 38.306, 4.2.7.2 | Rel-15 | pc_pusch_256QAM_FR1 | No | | |
| 4a | Support 256QAM for PUSCH for at least one NR FR2 band | 38.306, 4.2.7.2 | Rel-15 | pc_pusch_256QAM_FR2 | No | | |
| 5 | Support receiving PDSCH using PDSCH mapping type A with less than seven symbols | 38.306, 4.2.7.10 | Rel-15 | pc_pdsch_MappingTypeA | Yes | | |
| 6 | Support receiving PDSCH using PDSCH mapping type B | 38.306, 4.2.7.10 | Rel-15 | pc_pdsch_MappingTypeB | Yes | | |
| 7 | Support resource allocation Type 0 for PUSCH | 38.306, 4.2.7.10 | Rel-15 | pc_ra_Type0_PUSCH | No | | |
| 8 | Support scaling factor 0.75 is applied to the band in the max data rate calculation | 38.306, 4.2.7 | Rel-15 | pc_scalingFactor0dot75 | | | |
| 9 | Support handover using a contention free random access on PRACH resources that are associated with CSI-RS resources of the target cell | 38.306, 4.2.7.10 | Rel-15 | pc_csi_RS_CFRA_ForHO | No | | |
| 10 | Support Type 1 PUSCH transmissions with configured grant | 38.306, 4.2.7.10 | Rel-15 | pc_configuredUL_GrantType1 | No | | |
| 11 | Support Type 2 PUSCH transmissions with configured grant | 38.306, 4.2.7.10 | Rel-15 | pc_configuredUL_GrantType2 | No | | |
| 12 | Support PDSCH Reception when configured with higher layer parameter aggregationFactorDL > 1 | 38.306, 4.2.7.10 | Rel-15 | pc_pdsch_RepetitionMultiSlots | No | | |
| 13 | Supports supplemental uplink with dynamic switch (DCI based selection of PUSCH carrier) | 38.306, 4.2.7.7 | Rel-15 | pc_dynamicSwitchSUL | No | | |
| 14 | Supports MIMO layers at the UE for PUSCH transmission with codebook precoding. UE indicating support of this feature shall also indicate support of PUSCH codebook coherency subset | 38.306, 4.2.7.8 | Rel-15 | pc_nrMIMO_CB_PUSCH | No | | Set to true if maxNumberMIMO-LayersCB-PUSCH has value |
| 15 | Supports MIMO layers at the UE for PUSCH transmission using non-codebook precoding | 38.306, 4.2.7.8 | Rel-15 | pc_nrMIMO_NonCB_PUSCH | No | | Set to true if maxNumberMIMO-LayersNonCB-PUSCH has value |
| 16 | Support receiving PDSCH with interleaved VRB-to-PRB mapping | 38.306, 4.2.7.10 | Rel-15 | pc_interleavingVRB_ToPRB_PDSCH | Yes | | |

| | | | | | | | |
|----|---|------------------|--------|---|-----|--|--|
| 17 | Support dynamic EN-DC power sharing for at least one EN-DC band combination | 38.306, 4.2.7.9 | Rel-15 | pc_dynamicPowerSharing | Yes | | If the UE supports this capability it will dynamically share the power between NR and LTE if $P_{LTE} + P_{NR} > P_{max}$. |
| 18 | Supports up to 10 search spaces in a SCell per BWP | 38.306, 4.2.7.10 | Rel-15 | pc_maxNumberSearchSpaces | No | | |
| 19 | Supports spatial bundling of HARQ-ACK bits carried on PUCCH or PUSCH per PUCCH group. With spatial bundling, two HARQ-ACK bits for a DL MIMO data is bundled into a single bit by logical "AND" operation | 38.306, 4.2.7.10 | Rel-15 | pc_spatialBundlingHARQ_ACK | Yes | | |
| 20 | Support alternative additional DMRS position for co-existence with LTE CRS | 38.306, 4.2.7.5 | Rel-15 | pc_additionalDMRS_DL_Alt | No | | |
| 21 | Supports transmitting PUSCH scheduled by DCI format 0_0 or 0_1 when configured with higher layer parameter aggregationFactorUL > 1 | 38.306, 4.2.7.10 | Rel-15 | pc_pusch_RepetitionMultiSlots | Yes | | |
| 22 | Support beam correspondence without UL beam sweeping | 38.306, 4.2.7.2 | Rel-15 | pc_beamCorrespondenceWithoutUL_BeamSweeping | Yes | | A UE that can fulfil the requirements without UL beam sweeping then set the bit to 1. A UE that can fulfil the requirements with UL beam sweeping then set the bit to 0. |
| 23 | The maximum number of spatial multiplexing layer(s) supported by the UE for DL reception. For single CC standalone NR, it is mandatory with capability signalling to support at least 4 MIMO layers in the bands where 4Rx is specified as mandatory for the given UE and at least 2 MIMO layers in FR2. If absent, the UE doesn't support MIMO on this carrier | 38.306, 4.2.7.6 | Rel-15 | pc_maxNumberMIMO-LayersPDSCH | CY | | |
| 24 | Supports DCI and timer based active BWP switching delay type1 or type2 | 38.306, 4.2.7.10 | Rel-15 | pc_bwp_SwitchingDelay | Yes | | |
| 25 | Support modified MPR behaviour | 38.306 4.2.7.2 | Rel-15 | pc_modifiedMPR_behaviour | No | | |
| 26 | Support dynamic switching between resource allocation Types 0 and 1 for PDSCH | 38.306, 4.2.7.10 | Rel-15 | pc_dynamicSwitchRA_Type 0_1_PDSCH | No | | |
| 27 | Support dynamic switching between resource allocation Types 0 and 1 for PUSCH | 38.306, 4.2.7.10 | Rel-15 | pc_dynamicSwitchRA_Type 0_1_PUSCH | No | | |
| 28 | Support almost contiguous UL CP-OFDM transmissions in FR1 | 38.306, 4.2.7.10 | Rel-15 | pc_almostContiguousCP_OFDM_UL_FR1 | No | | |

| | | | | | | | |
|----|---|------------------|--------|------------------------------------|----|--|--|
| 29 | Support almost contiguous UL CP-OFDM transmissions in FR2 | 38.306, 4.2.7.10 | Rel-15 | pc_almostContiguousCP_O FDM_UL_FR2 | No | | |
|----|---|------------------|--------|------------------------------------|----|--|--|

A.4.3.2A NR CA Physical Layer Baseline Implementation Capabilities

A.4.3.2A.1 General NR CA capabilities

Table A.4.3.2A.1-1: Downlink NR CA capabilities (for one or more of the supported NR CA configurations)

| Item | DL NR CA capability | Ref. | Mnemonic | Comments |
|------|--------------------------|--|-----------------|----------|
| 1 | DL NR CA with 2 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_2CC | |
| 2 | DL NR CA with 3 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_3CC | |
| 3 | DL NR CA with 4 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_4CC | |
| 4 | DL NR CA with 5 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_5CC | |
| 5 | DL NR CA with 6 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_6CC | |
| 6 | DL NR CA with 7 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_7CC | |
| 7 | DL NR CA with 8 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_DL_NR_CA_8CC | |

Table A.4.3.2A.1-2: Uplink NR CA capabilities (for one or more of the supported NR CA configurations)

| Item | UL NR CA capability | Ref. | Mnemonic | Comments |
|------|--------------------------|--|-----------------|----------|
| 1 | UL NR CA with 2 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_2CC | |
| 2 | UL NR CA with 3 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_3CC | |
| 3 | UL NR CA with 4 carriers | 38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_4CC | |
| 4 | UL NR CA with 5 carriers | 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_5CC | |
| 5 | UL NR CA with 6 carriers | 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_6CC | |
| 6 | UL NR CA with 7 carriers | 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_7CC | |
| 7 | UL NR CA with 8 carriers | 38.101-2, 5.3A 38.101-3, 5.3A | pc_UL_NR_CA_8CC | |

A.4.3.2A.2 NR Intra-band contiguous CA

A.4.3.2A.2.1 NR Intra-band contiguous CA within FR1

Table A.4.3.2A.2.1-1: Downlink Bandwidth Class capabilities for NR Intra-band contiguous CA configurations within FR1 (for one or more of the supported configurations in Table A.4.3.2A.2.1-3)

| Item | DL NR FR1 Intra-band contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|--|----------|
| 1 | DL NR FR1 Intra-band contiguous CA BW Class A | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_A | |
| 2 | DL NR FR1 Intra-band contiguous CA BW Class B | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_B | |
| 3 | DL NR FR1 Intra-band contiguous CA BW Class C | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_C | |
| 4 | DL NR FR1 Intra-band contiguous CA BW Class D | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_D | |
| 5 | DL NR FR1 Intra-band contiguous CA BW Class E | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_E | |
| 6 | void | void | void | |
| 7 | DL NR FR1 Intra-band contiguous CA BW Class G | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_G | |
| 8 | DL NR FR1 Intra-band contiguous CA BW Class H | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_H | |
| 9 | DL NR FR1 Intra-band contiguous CA BW Class I | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_NR_FR1_CA_Class_I | |
| 10 | DL NR FR1 Intra-band contiguous CA BW Class J | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_J | |
| 11 | DL NR FR1 Intra-band contiguous CA BW Class K | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_K | |
| 12 | DL NR FR1 Intra-band contiguous CA BW Class L | 38.101-1, 5.3A.5 | pc_DL_intra_contiguous_CA_NR_FR1_Class_L | |

Table A.4.3.2A.2.1-2: Uplink Bandwidth Class capabilities for NR Intra-band contiguous CA configurations within FR1 (for one or more of the supported configurations in Table A.4.3.2A.2.1-3)

| Item | UL NR FR1 Intra-band contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|--|----------|
| 1 | UL NR FR1 Intra-band contiguous CA BW Class A | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_A | |
| 2 | UL NR FR1 Intra-band contiguous CA BW Class B | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_B | |
| 3 | UL NR FR1 Intra-band contiguous CA BW Class C | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_C | |
| 4 | UL NR FR1 Intra-band contiguous CA BW Class D | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_D | |
| 5 | UL NR FR1 Intra-band contiguous CA BW Class E | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_E | |
| 6 | void | void | void | |
| 7 | UL NR FR1 Intra-band contiguous CA BW Class G | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_G | |
| 8 | UL NR FR1 Intra-band contiguous CA BW Class H | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_H | |
| 9 | UL NR FR1 Intra-band contiguous CA BW Class I | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_I | |
| 10 | UL NR FR1 Intra-band contiguous CA BW Class J | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_J | |
| 11 | UL NR FR1 Intra-band contiguous CA BW Class K | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_K | |
| 12 | UL NR FR1 Intra-band contiguous CA BW Class L | 38.101-1, 5.3A.5 | pc_UL_intra_contiguous_CA_NR_FR1_Class_L | |

Table A.4.3.2A.2.1-3: Supported configurations for NR Intra-band contiguous CA within FR1

| NR FR1 Intra-band contiguous CA configuration / Item (Note 1) | Release | Supported | Supported CA Bandwidth Class(es) in UL (Note 2,5) | Supported Bandwidth Combination Set(s) (Note 3) |
|---|---------|-----------|---|---|
| CA_n1B | Rel-16 | | | |
| CA_n7B | Rel-16 | | | |
| CA_n40B | Rel-16 | | | |
| CA_n41C | Rel-15 | | | |
| CA_n48B | Rel-16 | | | |
| CA_n48C | Rel-16 | | | |
| CA_n66B (Note 6) | Rel-16 | | | |
| CA_n71B | Rel-16 | | | |
| CA_n77C | Rel-15 | | | |
| CA_n77D | Rel-16 | | | |
| CA_n78B | Rel-16 | | | |
| CA_n78C | Rel-15 | | | |
| CA_n78D | Rel-16 | | | |
| CA_n79C | Rel-15 | | | |
| CA_n79D | Rel-16 | | | |
| <p>Note 1: Notation used for intra-band contiguous CA Bands is according to TS 38.101-1 [23] Table 5.5A.1-1, e.g. 'CA_n77C' indicates CA operation on NR band n77 with DL CA Bandwidth Class C.</p> <p>Note 2: The UL CA capabilities as per Table A.4.3.2A.2.1-2 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 38.101-1 [23] Table 5.5A.1-1. For this release of specification valid choices are 'N', 'nXB', 'nXC' and 'nXD', where nX is the NR band. For example, for CA_n1B, 'N' would mean only DL CA, 'n1B' would mean both DL and UL CA.</p> <p>Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-1 [23] Table 5.5A.1-1.</p> <p>Note 4: Reference to all items is 38.101-1, 5.5A.1 and 38.331, 6.3.4</p> <p>Note 5: UL(Table A.4.3.2A.2.1-3) 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(Table A.4.3.2A.2.1-3) 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(Table A.4.3.2A.2.1-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.</p> <p>Note 6: A UE that supports NR Band n66 (Table A.4.3.1-1) and CA operation in any CA band shall also support the DL CA configurations CA_n66B and CA_n66(2A), as per Note 7, in Table 5.2-1, in TS 38.521-1 [5].</p> | | | | |

A.4.3.2A.2.2 NR Intra-band contiguous CA within FR2

Table A.4.3.2A.2.2-1: Downlink Bandwidth Class capabilities for NR Intra-band contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.2.2-3)

| Item | DL NR FR2 Intra-band contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|--|----------|
| 1 | DL NR FR2 Intra-band contiguous CA BW Class A | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_A | |
| 2 | DL NR FR2 Intra-band contiguous CA BW Class B | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_B | |
| 3 | DL NR FR2 Intra-band contiguous CA BW Class C | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_C | |
| 4 | DL NR FR2 Intra-band contiguous CA BW Class D | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_D | |
| 5 | DL NR FR2 Intra-band contiguous CA BW Class E | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_E | |
| 6 | DL NR FR2 Intra-band contiguous CA BW Class F | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_F | |
| 7 | DL NR FR2 Intra-band contiguous CA BW Class G | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_G | |
| 8 | DL NR FR2 Intra-band contiguous CA BW Class H | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_H | |
| 9 | DL NR FR2 Intra-band contiguous CA BW Class I | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_I | |
| 10 | DL NR FR2 Intra-band contiguous CA BW Class J | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_J | |
| 11 | DL NR FR2 Intra-band contiguous CA BW Class K | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_K | |
| 12 | DL NR FR2 Intra-band contiguous CA BW Class L | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_L | |
| 13 | DL NR FR2 Intra-band contiguous CA BW Class M | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_M | |
| 14 | DL NR FR2 Intra-band contiguous CA BW Class O | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_O | |
| 15 | DL NR FR2 Intra-band contiguous CA BW Class P | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_P | |
| 16 | DL NR FR2 Intra-band contiguous CA BW Class Q | 38.101-2, 5.3A.4 | pc_DL_intra_contiguous_CA_NR_FR2_Class_Q | |

Table A.4.3.2A.2.2-2: Uplink Bandwidth Class capabilities for NR Intra-band contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.2.2-3)

| Item | UL NR FR2 Intra-band contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|--|----------|
| 0 | UL NR FR2 Intra-band contiguous CA BW Class A | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_A | |
| 1 | UL NR FR2 Intra-band contiguous CA BW Class B | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_B | |
| 2 | UL NR FR2 Intra-band contiguous CA BW Class C | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_C | |
| 3 | UL NR FR2 Intra-band contiguous CA BW Class D | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_D | |
| 4 | UL NR FR2 Intra-band contiguous CA BW Class E | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_E | |
| 5 | UL NR FR2 Intra-band contiguous CA BW Class F | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_F | |
| 6 | UL NR FR2 Intra-band contiguous CA BW Class G | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_G | |
| 7 | UL NR FR2 Intra-band contiguous CA BW Class H | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_H | |
| 8 | UL NR FR2 Intra-band contiguous CA BW Class I | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_I | |
| 9 | UL NR FR2 Intra-band contiguous CA BW Class J | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_J | |
| 10 | UL NR FR2 Intra-band contiguous CA BW Class K | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_K | |
| 11 | UL NR FR2 Intra-band contiguous CA BW Class L | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_L | |
| 12 | UL NR FR2 Intra-band contiguous CA BW Class M | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_M | |
| 13 | UL NR FR2 Intra-band contiguous CA BW Class O | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_O | |
| 14 | UL NR FR2 Intra-band contiguous CA BW Class P | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_P | |
| 15 | UL NR FR2 Intra-band contiguous CA BW Class Q | 38.101-2, 5.3A.4 | pc_UL_intra_contiguous_CA_NR_FR2_Class_Q | |

Table A.4.3.2A.2.2-3: Supported configurations for NR Intra-band contiguous CA within FR2

| NR FR2 Intra-band contiguous CA configuration / Item (Note 1) | Release | Supported | Supported CA Bandwidth Class(es) in UL (Note 2,5) | Supported Bandwidth Combination Set(s) (Note 3) |
|---|---------|-----------|---|---|
| CA_n257B | Rel-15 | | | |
| CA_n257C | Rel-16 | | | |
| CA_n257D | Rel-15 | | | |
| CA_n257E | Rel-15 | | | |
| CA_n257F | Rel-15 | | | |
| CA_n257G | Rel-15 | | | |
| CA_n257H | Rel-15 | | | |
| CA_n257I | Rel-15 | | | |
| CA_n257J | Rel-15 | | | |
| CA_n257K | Rel-15 | | | |
| CA_n257L | Rel-15 | | | |
| CA_n257M | Rel-15 | | | |
| CA_n258B | Rel-16 | | | |
| CA_n258C | Rel-16 | | | |
| CA_n258D | Rel-16 | | | |
| CA_n258E | Rel-16 | | | |
| CA_n258F | Rel-16 | | | |
| CA_n258G | Rel-16 | | | |
| CA_n258H | Rel-16 | | | |
| CA_n258I | Rel-16 | | | |
| CA_n258J | Rel-16 | | | |
| CA_n258K | Rel-16 | | | |
| CA_n258L | Rel-16 | | | |
| CA_n258M | Rel-16 | | | |
| CA_n260B | Rel-15 | | | |
| CA_n260C | Rel-15 | | | |
| CA_n260D | Rel-15 | | | |
| CA_n260E | Rel-15 | | | |
| CA_n260F | Rel-15 | | | |
| CA_n260G | Rel-15 | | | |
| CA_n260H | Rel-15 | | | |
| CA_n260I | Rel-15 | | | |
| CA_n260J | Rel-15 | | | |
| CA_n260K | Rel-15 | | | |
| CA_n260L | Rel-15 | | | |
| CA_n260M | Rel-15 | | | |
| CA_n260O | Rel-15 | | | |
| CA_n260P | Rel-15 | | | |
| CA_n260Q | Rel-15 | | | |
| CA_n261B | Rel-15 | | | |
| CA_n261C | Rel-15 | | | |
| CA_n261D | Rel-15 | | | |
| CA_n261E | Rel-15 | | | |
| CA_n261F | Rel-15 | | | |
| CA_n261G | Rel-15 | | | |
| CA_n261H | Rel-15 | | | |
| CA_n261I | Rel-15 | | | |
| CA_n261J | Rel-15 | | | |
| CA_n261K | Rel-15 | | | |
| CA_n261L | Rel-15 | | | |
| CA_n261M | Rel-15 | | | |
| CA_n261O | Rel-15 | | | |
| CA_n261P | Rel-15 | | | |
| CA_n261Q | Rel-15 | | | |

| | |
|---------|--|
| Note 1: | Notation used for intra-band contiguous CA Bands is according to TS 38.101-2 [24] Table 5.5A.1-1, e.g. 'CA_n257C' indicates CA operation on NR band n257 with DL CA Bandwidth Class C. |
| Note 2: | The UL CA capabilities as per Table A.4.3.2A.2.2-2 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 38.101-2 [24] Table 5.5A.1-1. For this release of specification valid choices are 'N', 'nXB' ~ 'nXM' and 'nXO' ~ 'nXQ', where nX is the NR band. For example, for CA_n257C, 'N' would mean only DL CA, 'n257C' would mean both DL and UL CA. |
| Note 3: | The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-2 [24] Table 5.5A.1-1. |
| Note 4: | Reference to all items is 38.101-2, 5.5A.1 and 38.331, 6.3.4 |
| Note 5: | UL(Table A.4.3.2A.2.2-3) 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(Table A.4.3.2A.2.2-3) 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(Table A.4.3.2A.2.2-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared. |

A.4.3.2A.3 NR Intra-band non-contiguous CA

A.4.3.2A.3.1 NR Intra-band non-contiguous CA within FR1

Table A.4.3.2A.3.1-1: Downlink Bandwidth Class capabilities for NR Intra-band non-contiguous CA configurations within FR1 (for one or more of the supported configurations in Table A.4.3.2A.3.1-3)

| Item | DL NR FR1 Intra-band non-contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | DL NR FR1 Intra-band non-contiguous CA BW Class Combination (2A) | 38.101-2, 5.3A.5 | pc_DL_intra_n on_contiguous _CA_NR_FR1 _Class_(2A) | |

Table A.4.3.2A.3.1-2: Uplink Bandwidth Class capabilities for NR Intra-band non-contiguous CA configurations within FR1 (for one or more of the supported configurations in Table A.4.3.2A.3.1-3)

| Item | UL NR FR1 Intra-band non-contiguous CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | UL NR FR1 Intra-band non-contiguous CA BW Class Combination (2A) | 38.101-2, 5.3A.5 | pc_UL_intra_n on_contiguous _CA_NR_FR1 _Class_(2A) | |

Table A.4.3.2A.3.1-3: Supported configurations for NR Intra-band non-contiguous CA within FR1

| NR FR1 Intra-band non-contiguous CA configuration / Item | Release | Supported | Supported CA Bandwidth Class(es) in UL (Note 3) | Supported Bandwidth Combination Set(s) (Note 1) |
|---|---------|-----------|---|---|
| CA_n66(2A) (Note 4) | Rel-16 | | | |
| Note 1: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-1 [23] Table 5.5A.2-1. Note 2: Reference to all items is 38.101-1 [23], 5.5A.2 and 38.331, 6.3.4 Note 3: UL(Table A.4.3.2A.3.1-3) 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(Table A.4.3.2A.3.1-3) 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(Table A.4.3.2A.3.1-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared. Note 4: A UE that supports NR Band n66 (Table A.4.3.1-1) and CA operation in any CA band shall also support the DL CA configurations CA_n66B and CA_n66(2A), as per Note 7, in Table 5.2-1, in TS 38.521-1 [5]. | | | | |

A.4.3.2A.3.2 NR Intra-band non-contiguous CA within FR2

Table A.4.3.2A.3.2-1: Downlink Bandwidth Class capabilities with single bandwidth class for NR Intra-band non-contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.3.2-3)

| Item | DL NR FR2 Intra-band non-contiguous CA Bandwidth Class (with single bandwidth class) | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | DL NR FR2 Intra-band non-contiguous CA BW Class Combination (2A) | 38.101-2, 5.3A.5 | pc_DL_intra_n on_contiguous _CA_NR_FR2 _Class_(2A) | |

Table A.4.3.2A.3.2-1a: Downlink Bandwidth Class capabilities with multiple bandwidth classes for NR Intra-band non-contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.3.2-3a)

| Item | DL NR FR2 Intra-band non-contiguous CA Bandwidth Class (with multiple bandwidth classes) | Ref. | Mnemonic | Comments |
|------|--|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2A.3.2-2: Uplink Bandwidth Class capabilities with single bandwidth class for NR Intra-band non-contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.3.2-3)

| Item | UL NR FR2 Intra-band non-contiguous CA Bandwidth Class (with single bandwidth class) | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | UL NR FR2 Intra-band non-contiguous CA BW Class Combination (2A) | 38.101-2, 5.3A.5 | pc_UL_intra_n on_contiguous _CA_NR_FR2 _Class_(2A) | |

Table A.4.3.2A.3.2-2a: Uplink Bandwidth Class capabilities with multiple bandwidth classes for NR Intra-band non-contiguous CA configurations within FR2 (for one or more of the supported configurations in Table A.4.3.2A.3.2-3a)

| Item | UL NR FR2 Intra-band non-contiguous CA Bandwidth Class (with multiple bandwidth classes) | Ref. | Mnemonic | Comments |
|------|--|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2A.3.2-3: Supported configurations with single bandwidth class for NR Intra-band non-contiguous CA within FR2

TBD

Table A.4.3.2A.3.2-3a: Supported configurations with multiple bandwidth classes for NR Intra-band non-contiguous CA within FR2

TBD

A.4.3.2A.4 NR Inter-band CA within FR1

A.4.3.2A.4.1 NR Inter-band CA within FR1 (two bands)

Table A.4.3.2A.4.1-1: Downlink Bandwidth Class Combination capabilities for NR Inter-band CA configuration within FR1 and two bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.1-3)

| Item | DL NR FR1 Inter-band CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | DL NR FR1 Inter-band CA BW Class Combination A-A (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_A-A | |
| 2 | DL NR FR1 Inter-band CA BW Class Combination A-(2A) (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_A-(2A) | |
| 3 | DL NR FR1 Inter-band CA BW Class Combination A-B (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_A-B | |
| 4 | DL NR FR1 Inter-band CA BW Class Combination A-C (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_A-C | |
| 5 | DL NR FR1 Inter-band CA BW Class Combination (2A)-A (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_(2A)-A | |
| 6 | DL NR FR1 Inter-band CA BW Class Combination (2A)-(2A) (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_(2A)-(2A) | |
| 7 | DL NR FR1 Inter-band CA BW Class Combination (2A)-B (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_(2A)-B | |
| 8 | DL NR FR1 Inter-band CA BW Class Combination B-A (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_B-A | |
| 9 | DL NR FR1 Inter-band CA BW Class Combination C-A (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_C-A | |
| 10 | DL NR FR1 Inter-band CA BW Class Combination C-B (two bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_2B_Class_C-B | |

Table A.4.3.2A.4.1-2: Uplink Bandwidth Class Combination capabilities for NR Inter-band CA within FR1 and two bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.1-3)

| Item | UL NR FR1 Inter-band CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|--|----------|
| 1 | UL NR FR1 Inter-band CA BW Class Combination A-A (two bands) | 38.101-1, 5.3A.5 | pc_UL_inter_band_CANR_FR1_2B_Class_A-A | |

Table A.4.3.2A.4.1-3: Supported configurations for NR Inter-band CA within FR1 and two bands

| NR FR1 Inter-band CA configuration / Item (Note 1) | Release | Supported | Supported CA Bandwidth Class(es) in UL (Note 2,5) | Supported Bandwidth Combination Set(s) (Note 3) |
|--|--|-----------|---|---|
| CA_n1A-n77A | Rel-16 | | | |
| CA_n1A-n78A | Rel-16 | | | |
| CA_n1A-n78C | Rel-16 | | | |
| CA_n3A-n78A | Rel-15 | | | |
| CA_n8A-n78A | Rel-15 | | | |
| CA_n29A-n66A | Rel-16 | | | |
| CA_n29A-n66B | Rel-16 | | | |
| CA_n29A-n66(2A) | Rel-16 | | | |
| CA_n29A-n70A | Rel-16 | | | |
| CA_n41A-n79A | Rel-16 | | | |
| CA_n66A-n70A (Note 6) | Rel-16 | | | |
| CA_n66B-n70A (Note 6) | Rel-16 | | | |
| CA_n66(2A)-n70A (Note 6) | Rel-16 | | | |
| CA_n66A-n71A (Note 6) | Rel-16 | | | |
| CA_n66B-n71A (Note 6) | Rel-16 | | | |
| CA_n66(2A)-n71A (Note 6) | Rel-16 | | | |
| CA_n70A-n71A | Rel-16 | | | |
| CA_n78A-n79A | Rel-15 | | | |
| Note 1: | Notation used for inter-band CA Bands is according to TS 38.101-1 [23] Table 5.5A.3-1, e.g. 'CA_n1A-n78C' indicates CA operation on NR band n1 and n78 with DL CA Bandwidth Class A and C respectively. | | | |
| Note 2: | The UL CA capabilities as per Table A.4.3.2A.4.1-2 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 38.101-1 [23] Table 5.5A.1-1. For this release of specification valid choices are 'N', 'nXB' and 'nXC', where nX is the NR band. For example, for CA_n1B, N would mean only DL CA, 'n1B' would mean both DL and UL CA. | | | |
| Note 3: | The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-1 [23] Table 5.5A.3-1. | | | |
| Note 4: | Reference to all items is 38.101-1 [23], 5.5A.3 and 38.331, 6.3.4 | | | |
| Note 5: | UL(Table A.4.3.2A.4.1-3) 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(Table A.4.3.2A.4.1-3) 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(Table A.4.3.2A.4.1-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared. | | | |
| Note 6: | A UE that supports NR Band n66 (Table A.4.3.1-1) and CA operation in any CA band shall also support the DL CA configurations CA_n66B and CA_n66(2A), as per Note 7, in Table 5.2-1, in TS 38.521-1 [5]. | | | |

A.4.3.2A.4.2 NR Inter-band CA within FR1 (three bands)

Table A.4.3.2A.4.2-1: Downlink Bandwidth Class Combination capabilities for NR Inter-band CA configuration within FR1 and three bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.2-3)

| Item | DL NR FR1 Inter-band CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------------------|--|----------|
| 1 | DL NR FR1 Inter-band CA BW Class Combination A-A-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-A-A | |
| 2 | DL NR FR1 Inter-band CA BW Class Combination A-A-(2A) (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-A-(2A) | |
| 3 | DL NR FR1 Inter-band CA BW Class Combination A-A-B (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-A-B | |
| 4 | DL NR FR1 Inter-band CA BW Class Combination A-(2A)-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-(2A)-A | |
| 5 | DL NR FR1 Inter-band CA BW Class Combination A-B-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-B-A | |
| 6 | DL NR FR1 Inter-band CA BW Class Combination A-C-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_A-C-A | |
| 7 | DL NR FR1 Inter-band CA BW Class Combination (2A)-A-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_(2A)-A-A | |
| 8 | DL NR FR1 Inter-band CA BW Class Combination B-A-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_B-A-A | |
| 9 | DL NR FR1 Inter-band CA BW Class Combination C-A-A (three bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_3B_Class_C-A-A | |

Table A.4.3.2A.4.2-2: Uplink Bandwidth Class Combination capabilities for NR Inter-band CA within FR1 and three bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.2-3)

| Item | UL NR FR1 Inter-band CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|------------------|---|----------|
| 1 | UL NR FR1 Inter-band CA BW Class Combination A-A-A (three bands) | 38.101-1, 5.3A.5 | pc_UL_inter_band_CA_NR_FR1_3B_Class_A-A-A | |

Table A.4.3.2A.4.2-3: Supported configurations for NR Inter-band CA within FR1 and three bands

| NR FR1 Inter-band CA configuration / Item (Note 1) | Release | Supported | Supported CA Bandwidth Class(es) in UL (Note 2,5) | Supported Bandwidth Combination Set(s) (Note 3) |
|---|---------|-----------|---|---|
| CA_n29A-n66A-n70A | Rel-16 | | | |
| CA_n66A-n70A-n71A (Note 6) | Rel-16 | | | |
| CA_n66B-n70A-n71A (Note 6) | Rel-16 | | | |
| CA_n66(2A)-n70A-n71A (Note 6) | Rel-16 | | | |
| <p>Note 1: Notation used for inter-band CA Bands is according to TS 38.101-1 [23] Table 5.5A.3-2, e.g. 'CA_n66B-n70A-n71A' indicates CA operation on NR band n66, n70 and n71 with DL CA Bandwidth Class B, A and A respectively.</p> <p>Note 2: The UL CA capabilities as per Table A.4.3.2A.4.2-2 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 38.101-1 [23] Table 5.5A.1-1. For this release of specification valid choices are 'N', 'nXB' and 'nXC', where nX is the NR band. For example, for CA_n1B, N would mean only DL CA, 'n1B' would mean both DL and UL CA.</p> <p>Note 3: The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-1 [23] Table 5.5A.3-2.</p> <p>Note 4: Reference to all items is 38.101-1 [23], 5.5A.3 and 38.331, 6.3.4</p> <p>Note 5: UL(Table A.4.3.2A.4.2-3) 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(Table A.4.3.2A.4.2-3) 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(Table A.4.3.2A.4.2-3) shall return all supported CA Configurations where at least one 3 Carrier UL CA Bandwidth Class was declared.</p> <p>Note 6: A UE that supports NR Band n66 (Table A.4.3.1-1) and CA operation in any CA band shall also support the DL CA configurations CA_n66B and CA_n66(2A), as per Note 7, in Table 5.2-1, in TS 38.521-1 [5].</p> | | | | |

A.4.3.2A.4.3 NR Inter-band CA within FR1 (four bands)

Table A.4.3.2A.4.3-1: Downlink Bandwidth Class Combination capabilities for NR Inter-band CA configuration within FR1 and four bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.3-3)

| Item | DL NR FR1 Inter-band CA Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------------------|---|----------|
| 1 | DL NR FR1 Inter-band CA BW Class Combination A-A-A-A (four bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_4B_Class_A-A-A-A | |
| 2 | DL NR FR1 Inter-band CA BW Class Combination A-A-B-A (four bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_4B_Class_A-A-B-A | |
| 3 | DL NR FR1 Inter-band CA BW Class Combination A-B-A-A (four bands) | 38.101-1, 5.3A.5 | pc_DL_inter_band_CA_NR_FR1_4B_Class_A-B-A-A | |

Table A.4.3.2A.4.3-2: Uplink Bandwidth Class Combination capabilities for NR Inter-band CA within FR1 and four bands (for one or more of the supported CA configurations in Table A.4.3.2A.4.3-3)

TBD

Table A.4.3.2A.4.2-3: Supported configurations for NR Inter-band CA within FR1 and four bands

TBD

A.4.3.2B NR-DC and EN-DC Physical Layer Baseline Implementation Capabilities

A.4.3.2B.1 NR-DC between FR1 and FR2

A.4.3.2B.1.1 NR-DC between FR1 and FR2 (two bands)

Table A.4.3.2B.1.1-1: Downlink NR-DC Bandwidth Class Combination capabilities between FR1 and FR2 and two bands (for one or more of the supported DC configurations in Table A.4.3.2B.1.1-2)

| Item | DL NR-DC between FR1 and FR2 Bandwidth Class (two bands) | Ref. | Mnemonic | Comments |
|------|--|--|---------------------------------------|----------|
| 1 | DL NR-DC FR1 and FR2 BW Class Combination A-A (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-A | |
| 2 | DL NR-DC FR1 and FR2 BW Class Combination A-(2A) (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-(2A) | |
| 3 | DL NR-DC FR1 and FR2 BW Class Combination A-(3A) (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-(3A) | |
| 4 | DL NR-DC FR1 and FR2 BW Class Combination A-(4A) (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-(4A) | |
| 5 | DL NR-DC FR1 AND FR2 BW Class Combination A-D (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-D | |
| 6 | DL NR-DC FR1 AND FR2 BW Class Combination A-E (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-E | |
| 7 | DL NR-DC FR1 AND FR2 BW Class Combination A-F (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-F | |
| 8 | DL NR-DC FR1 AND FR2 BW Class Combination A-G (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-G | |
| 9 | DL NR-DC FR1 AND FR2 BW Class Combination A-(2G) (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-(2G) | |
| 10 | DL NR-DC FR1 AND FR2 BW Class Combination A-H (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-H | |
| 11 | DL NR-DC FR1 AND FR2 BW Class Combination A-I (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-I | |
| 12 | DL NR-DC FR1 AND FR2 BW Class Combination A-(2I) (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-(2I) | |
| 13 | DL NR-DC FR1 AND FR2 BW Class Combination A-J (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-J | |
| 14 | DL NR-DC FR1 AND FR2 BW Class Combination A-K (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-K | |
| 15 | DL NR-DC FR1 AND FR2 BW Class Combination A-L (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-L | |
| 16 | DL NR-DC FR1 AND FR2 BW Class Combination A-M (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_A-M | |
| 17 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-A (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-A | |
| 18 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-G (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-G | |
| 19 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-H (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-H | |
| 20 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-I (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-I | |
| 21 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-J (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-J | |

| | | | | |
|----|--|--|---------------------------------------|--|
| 22 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-K (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-K | |
| 23 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-L (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-L | |
| 24 | DL NR-DC FR1 AND FR2 BW Class Combination (2A)-M (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_(2A)-M | |
| 25 | DL NR-DC FR1 AND FR2 BW Class Combination C-A (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_C-A | |
| 26 | DL NR-DC FR1 AND FR2 BW Class Combination C-D (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_C-D | |
| 27 | DL NR-DC FR1 AND FR2 BW Class Combination C-E (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_C-E | |
| 28 | DL NR-DC FR1 AND FR2 BW Class Combination C-F (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_DL_NR_DC_FR1_FR2_2B_Classes_C-F | |

Table A.4.3.2B.1.1-1a: Uplink NR-DC Bandwidth Class Combination capabilities between FR1 and FR2 and two bands (for one or more of the supported DC configurations in Table A.4.3.2B.1.1-2)

| Item | UL NR-DC between FR1 and FR2 Bandwidth Class (two bands) | Ref. | Mnemonic | Comments |
|------|---|--|------------------------------------|----------|
| 1 | UL NR-DC FR1 and FR2 BW Class Combination A-A (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-A | |
| 2 | UL NR-DC FR1 and FR2 BW Class Combination A-D (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-D | |
| 3 | UL NR-DC FR1 and FR2 BW Class Combination A-G (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-G | |
| 4 | UL NR-DC FR1 and FR2 BW Class Combination A-H (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-H | |
| 5 | UL NR-DC FR1 and FR2 BW Class Combination A-I (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-I | |
| 6 | UL NR-DC FR1 and FR2 BW Class Combination A-J (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-J | |
| 7 | UL NR-DC FR1 and FR2 BW Class Combination A-K (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-K | |
| 8 | UL NR-DC FR1 and FR2 BW Class Combination A-L (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-L | |
| 9 | UL NR-DC FR1 and FR2 BW Class Combination A-M (two bands) | 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.7 | pc_UL_NR_DC_FR1_FR2_2B_Classes_A-M | |

Table A.4.3.2B.1.1-2: Supported NR-DC configurations between FR1 and FR2 (two bands)

| NR-DC configuration / Item (Note 1) | Release | Supported | Supported DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|--|---------|-----------|---|---|
| DC_n78A-n257G | Rel-15 | | | |
| DC_n78A-n257H | Rel-15 | | | |
| DC_n78A-n257I | Rel-15 | | | |
| DC_n79A-n257G | Rel-15 | | | |
| DC_n79A-n257H | Rel-15 | | | |
| DC_n79A-n257I | Rel-15 | | | |

Note 1: Notation used NR-DC Bands is according to TS 38.101-3 [25] Table 5.5B.7-1, e.g. 'DC_n78A-n257G' indicates NR-DC operation on NR bands n78 and n257 with DL CA Bandwidth Class A and G respectively.

A.4.3.2B.2 EN-DC Physical Layer Baseline Implementation Capabilities

A.4.3.2B.2.0 General EN-DC capabilities

Table A.4.3.2B.2.0-1: Downlink EN-DC capabilities (for one or more of the supported EN-DC configurations)

| Item | Bandwidth Class | Ref. | Comments |
|------|--------------------------|----------------|----------|
| 1 | DL EN-DC with 2 carriers | 38.101-3, 5.3B | |
| 2 | DL EN-DC with 3 carriers | 38.101-3, 5.3B | |
| 3 | DL EN-DC with 4 carriers | 38.101-3, 5.3B | |
| 4 | DL EN-DC with 5 carriers | 38.101-3, 5.3B | |
| 5 | DL EN-DC with 6 carriers | 38.101-3, 5.3B | |
| 6 | DL EN-DC with 7 carriers | 38.101-3, 5.3B | |
| 7 | DL EN-DC with 8 carriers | 38.101-3, 5.3B | |

Table A.4.3.2B.2.0-2: Uplink EN-DC capabilities (for one or more of the supported NR CA configurations)

| Item | Bandwidth Class | Ref. | Comments |
|------|--------------------------|----------------|----------|
| 1 | UL EN-DC with 2 carriers | 38.101-3, 5.3B | |
| 2 | UL EN-DC with 3 carriers | 38.101-3, 5.3B | |
| 3 | UL EN-DC with 4 carriers | 38.101-3, 5.3B | |
| 4 | UL EN-DC with 5 carriers | 38.101-3, 5.3B | |
| 5 | UL EN-DC with 6 carriers | 38.101-3, 5.3B | |
| 6 | UL EN-DC with 7 carriers | 38.101-3, 5.3B | |
| 7 | UL EN-DC with 8 carriers | 38.101-3, 5.3B | |

A.4.3.2B.2.1 Intra-band contiguous EN-DC in FR1

Table A.4.3.2B.2.1-1: Downlink Bandwidth Class Combination capabilities for Intra-band contiguous EN-DC configurations in FR1 (for one or more of the supported configurations in Table A.4.3.2B.2.1-2)

| Item | DL Intra-band contiguous EN-DC Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---------------------------------------|----------|
| 1 | DL Intra-band contiguous EN-DC in FR1 BW Class Combination AA | 36.101, 5.6A.1 38.101-3, 5.3B.1.2 | pc_DL_intra_contiguous_EN_DC_Class_AA | |
| 2 | DL Intra-band contiguous EN-DC in FR1 BW Class Combination CA | 36.101, 5.6A.1 38.101-3, 5.3B.1.2 | pc_DL_intra_contiguous_EN_DC_Class_CA | |
| 3 | DL Intra-band contiguous EN-DC in FR1 BW Class Combination DA | 36.101, 5.6A.1 38.101-3, 5.3B.1.2 | pc_DL_intra_contiguous_EN_DC_Class_DA | |

Table A.4.3.2B.2.1-1a: Uplink Bandwidth Class Combination capabilities for Intra-band contiguous EN-DC configurations in FR1 (for one or more of the supported configurations in Table A.4.3.2B.2.1-2)

| Item | UL Intra-band contiguous EN-DC Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | UL Intra-band contiguous EN-DC in FR1 BW Class Combination AA | 36.101, 5.6A.1 38.101-3, 5.3B.1.2 | pc_UL_intra_contiguous_EN_DC_Class_AA | |
| 2 | UL Intra-band contiguous EN-DC in FR1 BW Class Combination A_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.2 | pc_UL_intra_contiguous_EN_DC_Class_A_A | |

Table A.4.3.2B.2.1-2: Supported Intra-band contiguous EN-DC configurations in FR1

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|-------------------------------------|---------|-----------|---|--|
| DC_(n)41AA | Rel-15 | | | |
| DC_(n)71AA | Rel-15 | | | |

Note 1: Notation used for intra-band contiguous EN-DC Bands is according to TS 38.101-3 [25] Table 5.3B.1.2-1, e.g. 'DC_(n)41AA' indicates contiguous EN-DC operation on E-UTRA band 41 with DL Bandwidth Class A and NR band n41 with DL CA Bandwidth Class A.

Table A.4.3.2B.2.1-3: Intra-band contiguous EN-DC PC2 UE RF Baseline Implementation Capabilities

| Item | Intra-band contiguous EN-DC PC2 UE RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------------|---------|-------------------------------|------------|
| 1 | LTE Frequency band: 2496-2690 MHz NR Frequency band: 2496-2690 MHz | 38.101-3, 6.2B.1.1 | Rel-15 | pc_Band41_nrBand41_C_PC2_Supp | DC_(n)41AA |

A.4.3.2B.2.2 Intra-band non-contiguous EN-DC in FR1

Table A.4.3.2B.2.2-1: Downlink Bandwidth Class Combination capabilities for Intra-band non-contiguous EN-DC configurations in FR1 (for one or more of the supported configurations in Table A.4.3.2B.2.2-2)

| Item | DL Intra-band non-contiguous EN-DC Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | DL Intra-band non-contiguous EN-DC in FR1 BW Class Combination A_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_DL_intra_non_ contiguous_EN_D C_Class_A_A | |
| 2 | DL Intra-band non-contiguous EN-DC in FR1 BW Class Combination A_AA | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_DL_intra_non_ contiguous_EN_D C_Class_A_AA | |
| 3 | DL Intra-band non-contiguous EN-DC in FR1 BW Class Combination A-A_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_DL_intra_non_ contiguous_EN_D C_Class_A-A_A | |
| 4 | DL Intra-band non-contiguous EN-DC in FR1 BW Class Combination C_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_DL_intra_non_ contiguous_EN_D C_Class_C_A | |
| 5 | DL Intra-band non-contiguous EN-DC in FR1 BW Class Combination D_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_DL_intra_non_ contiguous_EN_D C_Class_D_A | |

Table A.4.3.2B.2.2-1a: Uplink Bandwidth Class Combination capabilities for Intra-band non-contiguous EN-DC configurations in FR1 (for one or more of the supported configurations in Table A.4.3.2B.2.2-2)

| Item | UL Intra-band non-contiguous EN-DC Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | UL Intra-band non-contiguous EN-DC in FR1 BW Class Combination A_A | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_UL_intra_non_ contiguous_EN_D C_Class_A_A | |
| 2 | UL Intra-band non-contiguous EN-DC in FR1 BW Class Combination AA | 36.101, 5.6A.1 38.101-3, 5.3B.1.3 | pc_UL_intra_non_ contiguous_EN_D C_Class_AA | |

Table A.4.3.2B.2.2-2: Supported Intra-band non-contiguous EN-DC configurations in FR1

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|-------------------------------------|---------|-----------|---|--|
| DC_41A_n41A | Rel-15 | | | |
| DC_41C_n41A | Rel-15 | | | |
| DC_41D_n41A | Rel-15 | | | |

Note 1: Notation used for intra-band non-contiguous EN-DC Bands is according to TS 38.101-3 [25] Table 5.3B.1.3-1, e.g. 'DC_41A_n41A' indicates non-contiguous EN-DC operation on E-UTRA band 41 with DL Bandwidth Class A and NR band n41 with DL CA Bandwidth Class A.

Table A.4.3.2B.2.2-3: Intra-band non-contiguous EN-DC PC2 UE RF Baseline Implementation Capabilities

| Item | Intra-band non-contiguous EN-DC PC2 UE RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------------|---------|------------------------------------|-----------------|
| 1 | LTE Frequency band: 2496-2690 MHz NR Frequency band: 2496-2690 MHz | 38.101-3, 6.2B.1.2 | Rel-15 | pc_Band41_nrBand41_N C_PC2_Supp | DC_41A_n41 A |

A.4.3.2B.2.3 Inter-band EN-DC

A.4.3.2B.2.3.1 Inter-band EN-DC within FR1 (two bands)

Table A.4.3.2B.2.3.1-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and two bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.1-2)

| Item | DL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | Inter-band EN-DC within FR1 BW Class Combination A_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_A_A | |
| 2 | Inter-band EN-DC within FR1 BW Class Combination A_(2A) (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_A_(2A) | |
| 3 | Inter-band EN-DC within FR1 BW Class Combination A_B (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_A_B | |
| 4 | Inter-band EN-DC within FR1 BW Class Combination A_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_A_C | |
| 5 | Inter-band EN-DC within FR1 BW Class Combination (2A)_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_(2A)_A | |
| 6 | Inter-band EN-DC within FR1 BW Class Combination (2A)_(2A) (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_(2A)_(2A) | |
| 7 | Inter-band EN-DC within FR1 BW Class Combination (2A)_B (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_(2A)_B | |
| 8 | Inter-band EN-DC within FR1 BW Class Combination (3A)_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_(3A)_A | |
| 9 | Inter-band EN-DC within FR1 BW Class Combination B_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_B_A | |
| 10 | Inter-band EN-DC within FR1 BW Class Combination C_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_C_A | |
| 11 | Inter-band EN-DC within FR1 BW Class Combination C_(2A) (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_C_(2A) | |
| 12 | Inter-band EN-DC within FR1 BW Class Combination C_B (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_C_B | |
| 13 | Inter-band EN-DC within FR1 BW Class Combination C_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_C_C | |
| 14 | Inter-band EN-DC within FR1 BW Class Combination D_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_D_A | |
| 15 | Inter-band EN-DC within FR1 BW Class Combination D_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_D_C | |
| 16 | Inter-band EN-DC within FR1 BW Class Combination E_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_E_A | |
| 17 | Inter-band EN-DC within FR1 BW Class Combination E_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_DL_inter_band _EN_DC_FR1_2B _Class_E_C | |

Table A.4.3.2B.2.3.1-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and two bands (for one or more of the supported configurations in Table A.4.3.2B.2.3.1-2)

| Item | UL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | UL Inter-band EN-DC within FR1 BW Class Combination A_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_UL_inter_band _EN_DC_FR1_2B _Class_A_A | |
| 2 | UL Inter-band EN-DC within FR1 BW Class Combination A_B (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_UL_inter_band _EN_DC_FR1_2B _Class_A_B | |
| 3 | UL Inter-band EN-DC within FR1 BW Class Combination A_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_UL_inter_band _EN_DC_FR1_2B _Class_A_C | |
| 4 | UL Inter-band EN-DC within FR1 BW Class Combination (2A)_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_UL_inter_band _EN_DC_FR1_2B _Class_(2A)_A | |
| 5 | UL Inter-band EN-DC within FR1 BW Class Combination C_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.1 | pc_UL_inter_band _EN_DC_FR1_2B _Class_C_A | |

Table A.4.3.2B.2.3.1-2: Supported Inter-band EN-DC configurations within FR1 (two bands)

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|--|---------|-----------|--|---|
| DC_1A_n3A | Rel-16 | | | |
| DC_1A_n28A | Rel-15 | | | |
| DC_1A_n77A | Rel-15 | | | |
| DC_1A_n78A | Rel-15 | | | |
| DC_1A_n78C | Rel-15 | | | |
| DC_1A_n79A | Rel-15 | | | |
| DC_2A_n5A | Rel-15 | | | |
| DC_2A_n41A | Rel-16 | | | |
| DC_2C_n41A | Rel-16 | | | |
| DC_2A_n71A | Rel-15 | | | |
| DC_3A_n1A | Rel-16 | | | |
| DC_3A_n28A | Rel-15 | | | |
| DC_3A_n41A | Rel-16 | | | |
| DC_3A_n77A | Rel-15 | | | |
| DC_3A_n78A | Rel-15 | | | |
| DC_3A_n79A | Rel-15 | | | |
| DC_3C_n78A | Rel-15 | | | |
| DC_5A_n2A | Rel-16 | | | |
| DC_5A_n66A | Rel-15 | | | |
| DC_5A_n78A | Rel-15 | | | |
| DC_7A_n1A | Rel-16 | | | |
| DC_7A_n3A | Rel-16 | | | |
| DC_7A_n28A | Rel-15 | | | |
| DC_7A_n78A | Rel-15 | | | |
| DC_7A_n66A | Rel-15 | | | |
| DC_7C_n66A | Rel-15 | | | |
| DC_7C_n78A | Rel-15 | | | |
| DC_8A_n1A | Rel-16 | | | |
| DC_8A_n3A | Rel-16 | | | |
| DC_8A_n41A | Rel-16 | | | |
| DC_8A_n78A | Rel-15 | | | |
| DC_12A_n66A | Rel-15 | | | |
| DC_12A_n78A | Rel-15 | | | |
| DC_13A_n2A | Rel-16 | | | |
| DC_13A_n66A | Rel-15 | | | |
| DC_14A_n2A | Rel-16 | | | |
| DC_14A_n66A | Rel-16 | | | |
| DC_48A_n5A | Rel-16 | | | |
| DC_48A_n66A | Rel-16 | | | |
| DC_19A_n77A | Rel-15 | | | |
| DC_19A_n78A | Rel-15 | | | |
| DC_19A_n79A | Rel-15 | | | |
| DC_20A_n28A | Rel-15 | | | |
| DC_20A_n78A | Rel-15 | | | |
| DC_21A_n77A | Rel-15 | | | |
| DC_21A_n78A | Rel-15 | | | |
| DC_21A_n79A | Rel-15 | | | |
| DC_25A_n41A | Rel-15 | | | |
| DC_28A_n77A | Rel-15 | | | |
| DC_28A_n78A | Rel-15 | | | |
| DC_28A_n79A | Rel-15 | | | |
| DC_30A_n5A | Rel-15 | | | |
| DC_39A_n41A | Rel-16 | | | |
| DC_39A_n79A | Rel-15 | | | |
| DC_40A_n1A | Rel-16 | | | |
| DC_40A_n41A | Rel-16 | | | |
| DC_40A_n78A | Rel-16 | | | |
| DC_40C_n78A | Rel-16 | | | |
| DC_41A_n79A | Rel-15 | | | |
| DC_66A_n2A | Rel-16 | | | |

| | | | | |
|--|--------|--|--|--|
| DC_66A_n5A | Rel-15 | | | |
| DC_66A_n41A | Rel-16 | | | |
| DC_66A_n71A | Rel-15 | | | |
| DC_66A_n78A | Rel-15 | | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.4.1-1, e.g. 'DC_1A_n28A' indicates EN-DC operation on E-UTRA band 1 with E-UTRA DL Bandwidth Class A and NR band n28 with NR DL CA Bandwidth Class A. | | | | |

Table A.4.3.2B.2.3.1-3: Inter-band EN-DC within FR1 (two bands) PC2 UE RF Baseline Implementation Capabilities

| Item | Inter-band EN-DC within FR1 (two bands) PC2 UE RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------------|---------|---------------------------------|-----------------|
| 1 | LTE Frequency band: 1880-1920 MHz NR Frequency band: 2496-2690 MHz | 38.101-3, 6.2B.1.3 | Rel-16 | pc_Band39_nrBand41_ PC2_Supp | DC_39A- n41A |
| 2 | LTE Frequency band: 1880-1920 MHz NR Frequency band: 4400-5000 MHz | 38.101-3, 6.2B.1.3 | Rel-16 | pc_Band39_nrBand79_ PC2_Supp | DC_39A- n79A |
| 3 | LTE Frequency band: 2496-2690 MHz NR Frequency band: 4400-5000 MHz | 38.101-3, 6.2B.1.3 | Rel-16 | pc_Band41_nrBand79_ PC2_Supp | DC_41A- n79A |

Table A.4.3.2B.2.3.1-4: UE Power Class implementation Capabilities for inter-band EN-DC within FR1 (two bands)

| Item | UE Power Class implementation Capabilities | Ref. | Comments |
|------|--|-----------------------|---|
| 1 | UE Power Class 2 for Inter-band EN-DC within FR1 (two bands) | 38.101-3, 6.2B.1.3 | Applicable to the bands in Table A.4.3.2B.2.3.1-3 |
| 2 | UE Power Class 3 for Inter-band EN-DC within FR1 (two bands) | 38.101-3, 6.2B.1.3 | Applicable to the bands in Table A.4.3.2B.2.3.1-2 |

A.4.3.2B.2.3.2 Inter-band EN-DC within FR1 (three bands)

Table A.4.3.2B.2.3.2-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and three bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.2-2)

| Item | DL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic |
|------|--|---|---|
| 1 | Inter-band EN-DC within FR1 BW Class Combination A-A_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-A_A |
| 2 | Inter-band EN-DC within FR1 BW Class Combination A-A_B (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-A_B |
| 3 | Inter-band EN-DC within FR1 BW Class Combination A-A_C (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-A_C |
| 4 | Inter-band EN-DC within FR1 BW Class Combination A-C_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-C_A |
| 5 | Inter-band EN-DC within FR1 BW Class Combination A-C_C (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-C_C |
| 6 | Inter-band EN-DC within FR1 BW Class Combination A-D_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-D_A |
| 7 | Inter-band EN-DC within FR1 BW Class Combination A-E_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A-E_A |
| 8 | Inter-band EN-DC within FR1 BW Class Combination A_A-A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A_A-A |
| 9 | Inter-band EN-DC within FR1 BW Class Combination C-A_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_C-A_A |
| 10 | Inter-band EN-DC within FR1 BW Class Combination C-C_A (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_C-C_A |
| 11 | Inter-band EN-DC within FR1 BW Class Combination A_(n)AA (three bands) | 36.101, 5.6A.1 38.101-3. 5.5B.4.2 | pc_DL_inter_band _EN_DC_FR1_3B _Class_A_(n)AA |

Table A.4.3.2B.2.3.2-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and three bands (for one or more of the supported configurations in Table A.4.3.2B.2.3.2-2)

| Item | UL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | UL Inter-band EN-DC within FR1 BW Class Combination A_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.2 | pc_UL_inter_band _EN_DC_FR1_3B _Class_A_A | |
| 2 | UL Inter-band EN-DC within FR1 BW Class Combination C_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.2 | pc_UL_inter_band _EN_DC_FR1_3B _Class_C_A | |
| 3 | UL Inter-band EN-DC within FR1 BW Class Combination C_B (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.2 | pc_UL_inter_band _EN_DC_FR1_3B _Class_C_B | |
| 4 | UL Inter-band EN-DC within FR1 BW Class Combination (n)AA (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.2 | pc_UL_inter_band _EN_DC_FR1_3B _Class_(n)AA | |

Table A.4.3.2B.2.3.2-2: Supported Inter-band EN-DC configurations within FR1 (three bands)

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|--|---------|-----------|--|---|
| DC_1A-3A_n28A | Rel-15 | | | |
| DC_1A-3A_n78A | Rel-15 | | | |
| DC_1A-3C_n78A | Rel-15 | | | |
| DC_1A-3A_n79A | Rel-15 | | | |
| DC_1A-7A_n3A | Rel-16 | | | |
| DC_1A-7A_n78A | Rel-15 | | | |
| DC_1A-8A_n3A | Rel-16 | | | |
| DC_1A-19A_n78A | Rel-15 | | | |
| DC_1A-19A_n79A | Rel-15 | | | |
| DC_1A-20A_n3A | Rel-16 | | | |
| DC_1A-20A_n78A | Rel-15 | | | |
| DC_1A-21A_n78A | Rel-15 | | | |
| DC_1A-21A_n79A | Rel-15 | | | |
| DC_1A_n28A-n78A | Rel-15 | | | |
| DC_1A-42A_n78A | Rel-15 | | | |
| DC_1A-42C_n78A | Rel-15 | | | |
| DC_1A-42D_n78A | Rel-15 | | | |
| DC_1A-42E_n78A | Rel-15 | | | |
| DC_1A-42A_n79A | Rel-15 | | | |
| DC_1A-42C_n79A | Rel-15 | | | |
| DC_1A-42D_n79A | Rel-15 | | | |
| DC_1A-42E_n79A | Rel-15 | | | |
| DC_1A_n78A-n79A | Rel-15 | | | |
| DC_2A-2A-14A_n66A | Rel-16 | | | |
| DC_2A-14A_n2A | Rel-16 | | | |
| DC_2A-14A_n66A | Rel-16 | | | |
| DC_2A-66A_n41A | Rel-16 | | | |
| DC_2A-66A_n5A | Rel-15 | | | |
| DC_2A-66A_n71A | Rel-15 | | | |
| DC_2A-(n)71AA | Rel-15 | | | |
| DC_3A-7A_n78A | Rel-15 | | | |
| DC_3A-19A_n78A | Rel-15 | | | |
| DC_3A-19A_n79A | Rel-15 | | | |
| DC_3A-20A_n1A | Rel-16 | | | |
| DC_3A-20A_n78A | Rel-15 | | | |
| DC_3A-21A_n78A | Rel-15 | | | |
| DC_3A-21A_n79A | Rel-15 | | | |
| DC_3A_n28A-n78A | Rel-15 | | | |
| DC_3A-40A_n1A | Rel-16 | | | |
| DC_3A-42A_n78A | Rel-15 | | | |
| DC_3A-42C_n78A | Rel-15 | | | |
| DC_3A-42D_n78A | Rel-15 | | | |
| DC_3A-42E_n78A | Rel-15 | | | |
| DC_3A-42A_n79A | Rel-15 | | | |
| DC_3A-42C_n79A | Rel-15 | | | |
| DC_3A-42D_n79A | Rel-15 | | | |
| DC_3A-42E_n79A | Rel-15 | | | |
| DC_3A_n78A-n79A | Rel-15 | | | |
| DC_5A-7A_n78A | Rel-15 | | | |
| DC_7A-20A_n3A | Rel-16 | | | |
| DC_7A-20A_n78A | Rel-15 | | | |
| DC_7A_n28A-n78A | Rel-15 | | | |
| DC_14A-66A_n2A | Rel-16 | | | |
| DC_14A-66A-66A_n2A | Rel-16 | | | |
| DC_14A-66A_n66A | Rel-16 | | | |
| DC_19A-21A_n78A | Rel-15 | | | |
| DC_19A-21A_n79A | Rel-15 | | | |
| DC_19A-42A_n78A | Rel-15 | | | |
| DC_19A-42A_n79A | Rel-15 | | | |
| DC_19A-42C_n78A | Rel-15 | | | |

| | | | |
|---|--------|--|--|
| DC_19A-42C_n79A | Rel-15 | | |
| DC_19A_n78A-n79A | Rel-15 | | |
| DC_20A_n28A-n78A | Rel-15 | | |
| DC_21A-42A_n78A | Rel-15 | | |
| DC_21A-42C_n78A | Rel-15 | | |
| DC_21A-42A_n79A | Rel-15 | | |
| DC_21A-42C_n79A | Rel-15 | | |
| DC_21A_n78A-n79A | Rel-15 | | |
| DC_66A_(n)71AA | Rel-15 | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.4.2-1, e.g. 'DC_1A-3C_n78A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3C with E-UTRA DL Bandwidth Classes A, C for the E-UTRA bands 1 and 3 respectively and NR band n78 with NR DL CA Bandwidth Class A. | | | |

A.4.3.2B.2.3.3 Inter-band EN-DC within FR1 (four bands)

Table A.4.3.2B.2.3.3-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and four bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.3-2)

| Item | DL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | Inter-band EN-DC within FR1 BW Class Combination A-A-A_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-A-A_A | |
| 2 | Inter-band EN-DC within FR1 BW Class Combination A-A-C_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-A-C_A | |
| 3 | Inter-band EN-DC within FR1 BW Class Combination A-A-D_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-A-D_A | |
| 4 | Inter-band EN-DC within FR1 BW Class Combination A-C-A_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-C-A_A | |
| 5 | Inter-band EN-DC within FR1 BW Class Combination A-(2A)-A_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-(2A)- A_A | |
| 6 | Inter-band EN-DC within FR1 BW Class Combination A-A_A-A (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A-A_A-A | |
| 7 | Inter-band EN-DC within FR1 BW Class Combination A-A_(n)AA (four bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.3 | pc_DL_inter_band _EN_DC_FR1_4B _Class_A- A_(n)AA | |

Table A.4.3.2B.2.3.3-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and four bands (for one or more of the supported configurations in Table A.4.3.2B.2.3.3-2)

| Item | UL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | UL Inter-band EN-DC within FR1 BW Class Combination A_A (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.3 | pc_UL_inter_band _EN_DC_FR1_4B _Class_A_A | |
| 2 | UL Inter-band EN-DC within FR1 BW Class Combination A_B (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.3 | pc_UL_inter_band _EN_DC_FR1_4B _Class_A_B | |
| 3 | UL Inter-band EN-DC within FR1 BW Class Combination (n)AA (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.3 | pc_UL_inter_band _EN_DC_FR1_4B _Class_(n)AA | |
| 4 | UL Inter-band EN-DC within FR1 BW Class Combination C_A (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.3 | pc_UL_inter_band _EN_DC_FR1_4B _Class_C_A | |
| 5 | UL Inter-band EN-DC within FR1 BW Class Combination C_B (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.3 | pc_UL_inter_band _EN_DC_FR1_4B _Class_C_B | |

Table A.4.3.2B.2.3.3-2: Supported Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|-------------------------------------|---------|-----------|---|--|
| DC_1A-3A-7A_n28A | Rel-15 | | | |
| DC_1A-3A-7A_n78A | Rel-15 | | | |
| DC_1A-3A-19A_n78A | Rel-15 | | | |
| DC_1A-3A-19A_n79A | Rel-15 | | | |
| DC_1A-3A-20A_n78A | Rel-15 | | | |
| DC_1A-3A-21A_n78A | Rel-15 | | | |
| DC_1A-3A-21A_n79A | Rel-15 | | | |
| DC_1A-3A_n28A-n78A | Rel-15 | | | |
| DC_1A-3A-42A_n78A | Rel-15 | | | |
| DC_1A-3A-42C_n78A | Rel-15 | | | |
| DC_1A-3A-42D_n78A | Rel-16 | | | |
| DC_1A-3A-42D_n79A | Rel-16 | | | |
| DC_1A-3A-42A_n79A | Rel-15 | | | |
| DC_1A-3A-42C_n79A | Rel-15 | | | |
| DC_1A-7A_n28A-n78A | Rel-15 | | | |
| DC_1A-7A-20A_n78A | Rel-15 | | | |
| DC_1A-19A-21A_n78A | Rel-15 | | | |
| DC_1A-19A-21A_n79A | Rel-15 | | | |
| DC_1A-19A-42A_n78A | Rel-15 | | | |
| DC_1A-19A-42C_n78A | Rel-15 | | | |
| DC_1A-19A-42A_n79A | Rel-15 | | | |
| DC_1A-19A-42C_n79A | Rel-15 | | | |
| DC_1A-20A_n28A-n78A | Rel-15 | | | |
| DC_1A-21A-42A_n78A | Rel-15 | | | |
| DC_1A-21A-42C_n78A | Rel-15 | | | |
| DC_1A-21A-42A_n79A | Rel-15 | | | |
| DC_1A-21A-42C_n79A | Rel-15 | | | |
| DC_2A-2A-14A-66A_n66A | Rel-16 | | | |
| DC_2A-7A-7A-13A_n66A | Rel-16 | | | |
| DC_2A-7A-7A-66A_n78A | Rel-15 | | | |
| DC_2A-7C-13A_n66A | Rel-16 | | | |
| DC_2A-7C-66A_n66A | Rel-16 | | | |
| DC_2A-7C-66A_n78A | Rel-15 | | | |
| DC_2A-7A-7A-66A_n66A | Rel-16 | | | |
| DC_2A-14A-66A_n2A | Rel-16 | | | |
| DC_2A-14A-66A_n66A | Rel-16 | | | |
| DC_2A-14A-66A-66A_n2A | Rel-16 | | | |
| DC_2A-66A-(n)71AA | Rel-15 | | | |
| DC_3A-7A-20A_n78A | Rel-15 | | | |
| DC_3A-7A_n28A-n78A | Rel-15 | | | |
| DC_3A-19A-21A_n78A | Rel-15 | | | |
| DC_3A-19A-21A_n79A | Rel-15 | | | |
| DC_3A-19A-42A_n78A | Rel-15 | | | |
| DC_3A-19A-42C_n78A | Rel-15 | | | |
| DC_3A-19A-42A_n79A | Rel-15 | | | |
| DC_3A-19A-42C_n79A | Rel-15 | | | |
| DC_3A-20A_n28A-n78A | Rel-15 | | | |
| DC_3A-21A-42A_n78A | Rel-15 | | | |
| DC_3A-21A-42C_n78A | Rel-15 | | | |
| DC_3A-21A-42A_n79A | Rel-15 | | | |
| DC_3A-21A-42C_n79A | Rel-15 | | | |
| DC_7A-20A_n28A-n78A | Rel-15 | | | |
| DC_19A-21A-42A_n78A | Rel-15 | | | |
| DC_19A-21A-42C_n78A | Rel-15 | | | |
| DC_19A-21A-42A_n79A | Rel-15 | | | |
| DC_19A-21A-42C_n79A | Rel-15 | | | |

Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.4.3-1, e.g. 'DC_2A-7C-13A_n66A' indicates EN-DC operation on E-UTRA CA configuration CA_2A-7C-13A with E-UTRA DL Bandwidth Classes A, C, A for the E-UTRA bands 2, 7 and 13 respectively and NR band n66 with NR DL CA Bandwidth Class A.

A.4.3.2B.2.3.4 Inter-band EN-DC within FR1 (five bands)

Table A.4.3.2B.2.3.4-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and five bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.4-2)

| Item | DL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | Inter-band EN-DC within FR1 BW Class Combination A-A-A-A_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_A-A-A- A_A | |
| 2 | Inter-band EN-DC within FR1 BW Class Combination A-A-A-A_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_A-A-A-A- A | |
| 3 | Inter-band EN-DC within FR1 BW Class Combination A-A-A-C_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_A-A-A- C_A | |
| 4 | Inter-band EN-DC within FR1 BW Class Combination A-A-C-A_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_A-A-C- A_A | |
| 5 | Inter-band EN-DC within FR1 BW Class Combination A-C-A-A_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_A-C-A- A_A | |
| 6 | Inter-band EN-DC within FR1 BW Class Combination C-A-A-A_A (five bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.4 | pc_DL_inter_band _EN_DC_FR1_5B _Class_C-A-A- A_A | |

Table A.4.3.2B.2.3.4-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and five bands (for one or more of the supported configurations in Table A.4.3.2B.2.3.4-2)

| Item | UL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | UL Inter-band EN-DC within FR1 BW Class Combination A_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.4 | pc_UL_inter_band _EN_DC_FR1_5B _Class_A_A | |
| 2 | UL Inter-band EN-DC within FR1 BW Class Combination A_B (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.4 | pc_UL_inter_band _EN_DC_FR1_5B _Class_A_B | |
| 3 | UL Inter-band EN-DC within FR1 BW Class Combination C_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.4 | pc_UL_inter_band _EN_DC_FR1_5B _Class_C_A | |
| 4 | UL Inter-band EN-DC within FR1 BW Class Combination C_B (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.4.4 | pc_UL_inter_band _EN_DC_FR1_5B _Class_C_B | |

Table A.4.3.2B.2.3.4-2: Supported Inter-band EN-DC configurations within FR1 (five bands)

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|-------------------------------------|---------|-----------|---|--|
| DC_1A-3A-5A-41A_n79A | Rel-16 | | | |
| DC_1A-3A-7A-20A_n28A | Rel-15 | | | |
| DC_1A-3A-7A-20A_n78A | Rel-15 | | | |
| DC_1A-3A-7A_n28A-n78A | Rel-15 | | | |
| DC_1A-3A-19A-42A_n78A | Rel-15 | | | |
| DC_1A-3A-19A-42C_n78A | Rel-15 | | | |
| DC_1A-3A-19A-42A_n79A | Rel-15 | | | |
| DC_1A-3A-19A-42C_n79A | Rel-15 | | | |
| DC_1A-3A-19A-42C_n78A | Rel-16 | | | |
| DC_1A-3A-19A-42C_n79A | Rel-16 | | | |
| DC_1A-3A-20A_n28A-n78A | Rel-15 | | | |
| DC_1A-3A-21A-42A_n78A | Rel-15 | | | |
| DC_1A-3A-21A-42C_n78A | Rel-15 | | | |
| DC_1A-3A-21A-42A_n79A | Rel-15 | | | |
| DC_1A-3A-21A-42C_n79A | Rel-15 | | | |
| DC_1A-3A-21A-42C_n78A | Rel-16 | | | |
| DC_1A-3A-21A-42C_n79A | Rel-16 | | | |
| DC_1A-7A-20A_n28A-n78A | Rel-15 | | | |
| DC_1A-19A-21A-42A_n78A | Rel-15 | | | |
| DC_1A-19A-21A-42C_n78A | Rel-15 | | | |
| DC_1A-19A-21A-42A_n79A | Rel-15 | | | |
| DC_1A-19A-21A-42C_n78A | Rel-16 | | | |
| DC_1A-19A-21A-42C_n79A | Rel-15 | | | |
| DC_1A-19A-21A-42C_n79A | Rel-16 | | | |
| DC_3A-7A-20A_n28A-n78A | Rel-15 | | | |
| DC_3A-19A-21A-42A_n78A | Rel-16 | | | |
| DC_3A-19A-21A-42C_n78A | Rel-16 | | | |
| DC_3A-19A-21A-42A_n79A | Rel-16 | | | |
| DC_3A-19A-21A-42C_n79A | Rel-16 | | | |

Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.4.4-1, e.g. 'DC_1A-3A-5A-41A_n79A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A-5A-41A with E-UTRA DL Bandwidth Classes A for all the E-UTRA bands 1, 3, 5 and 41 and NR band n79 with NR DL CA Bandwidth Class A.

A.4.3.2B.2.3.5 Inter-band EN-DC within FR1 (six bands)

Table A.4.3.2B.2.3.5-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.5-2)

| Item | DL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | EN-DC Inter-band with NR FR1 BW Class Combination A-A-A-A_A-A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_DL_inter_band _EN_DC_FR1_6B _Class_A-A-A- A_A-A | |
| 2 | EN-DC Inter-band with NR FR1 BW Class Combination A-A-C-A_A-A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_DL_inter_band _EN_DC_FR1_6B _Class_A-A-C- A_A-A | |
| 3 | EN-DC Inter-band with NR FR1 BW Class Combination A-C-A-A_A-A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_DL_inter_band _EN_DC_FR1_6B _Class_A-C-A- A_A-A | |
| 4 | EN-DC Inter-band with NR FR1 BW Class Combination A-C-C-A_A-A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_DL_inter_band _EN_DC_FR1_6B _Class_A-C-C- A_A-A | |

Table A.4.3.2B.2.3.5-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC within FR1 and six bands (for one or more of the supported configurations in Table A.4.3.2B.2.3.5-2)

| Item | UL inter-band EN-DC within FR1 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | UL Inter-band EN-DC within FR1 BW Class Combination A_A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_UL_inter_band _EN_DC_FR1_6B _Class_A_A | |
| 2 | UL Inter-band EN-DC within FR1 BW Class Combination C_A (six bands) | 36.101, 5.6A.1 38.101-1, 5.5B.4.5 | pc_UL_inter_band _EN_DC_FR1_6B _Class_C_A | |

Table A.4.3.2B.2.3.5-2: Supported Inter-band EN-DC configurations within FR1 (six bands)

| EN-DC configuration / Item (Note 1) | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|---|---------|-----------|---|--|
| DC_1A-3A-7A-20A_n28A-n78A | Rel-15 | | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.4.5-1, e.g. 'DC_1A-3A-7A-20A_n28A-n78A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A-7A-20A with E-UTRA DL Bandwidth Class A for all the E-UTRA bands 1, 3, 7 and 20 and NR CA configuration CA_n28A-n78A with NR DL CA Bandwidth Class A for all the NR bands n28 and n78. | | | | |

A.4.3.2B.2.3.6 Inter-band EN-DC including FR2 (two bands)

Table A.4.3.2B.2.3.6-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and two bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.6-2)

| Item | DL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|--|----------|
| 1 | Inter-band EN-DC including FR2 BW Class Combination A_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_A | |
| 2 | Inter-band EN-DC including FR2 BW Class Combination A_B (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_B | |
| 3 | Inter-band EN-DC including FR2 BW Class Combination A_C (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_C | |
| 4 | Inter-band EN-DC including FR2 BW Class Combination A_D (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_D | |
| 5 | Inter-band EN-DC including FR2 BW Class Combination A_E (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_E | |
| 6 | Inter-band EN-DC including FR2 BW Class Combination A_F (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_F | |
| 7 | Inter-band EN-DC including FR2 BW Class Combination A_G (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_G | |
| 8 | Inter-band EN-DC including FR2 BW Class Combination A_H (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_H | |
| 9 | Inter-band EN-DC including FR2 BW Class Combination A_I (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_I | |
| 10 | Inter-band EN-DC including FR2 BW Class Combination A_J (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_J | |
| 11 | Inter-band EN-DC including FR2 BW Class Combination A_K (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_K | |
| 12 | Inter-band EN-DC including FR2 BW Class Combination A_L (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_L | |
| 13 | Inter-band EN-DC including FR2 BW Class Combination A_M (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_M | |
| 14 | Inter-band EN-DC including FR2 BW Class Combination A_O (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_O | |
| 15 | Inter-band EN-DC including FR2 BW Class Combination A_P (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_P | |
| 16 | Inter-band EN-DC including FR2 BW Class Combination A_Q (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_A_Q | |
| 17 | Inter-band EN-DC including FR2 BW Class Combination (2A)_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_(2A)_A | |
| 18 | Inter-band EN-DC including FR2 BW Class Combination C_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_C_A | |
| 19 | Inter-band EN-DC including FR2 BW Class Combination C_E (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_C_E | |
| 20 | Inter-band EN-DC including FR2 BW Class Combination C_F (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_C_F | |
| 21 | Inter-band EN-DC including FR2 BW Class Combination D_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_DL_inter_band _EN_DC_FR2_2B _Class_D_A | |

| | | | | |
|----|---|---|--|--|
| 22 | Inter-band EN-DC including FR2 BW Class Combination E_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | c_DL_inter_band_ EN_DC_FR2_2B_ Class_E_A | |
|----|---|---|--|--|

Table A.4.3.2B.2.3.6-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and two bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.6-2)

| Item | UL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | UL Inter-band EN-DC including FR2 BW Class Combination A_A (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_A | |
| 2 | UL Inter-band EN-DC including FR2 BW Class Combination A_D (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_D | |
| 3 | UL Inter-band EN-DC including FR2 BW Class Combination A_G (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_G | |
| 4 | UL Inter-band EN-DC including FR2 BW Class Combination A_H (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_H | |
| 5 | UL Inter-band EN-DC including FR2 BW Class Combination A_I (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_I | |
| 6 | UL Inter-band EN-DC including FR2 BW Class Combination A_J (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_J | |
| 7 | UL Inter-band EN-DC including FR2 BW Class Combination A_K (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_K | |
| 8 | UL Inter-band EN-DC including FR2 BW Class Combination A_L (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_L | |
| 9 | UL Inter-band EN-DC including FR2 BW Class Combination A_M (two bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.1 | pc_UL_inter_band_ _EN_DC_FR2_2B_ _Class_A_M | |

Table A.4.3.2B.2.3.6-2: Supported Inter-band EN-DC configurations including FR2 (two bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|----------------------------|--|-----------|---|--|
| DC_1A_n257A | Rel-15 | | | |
| DC_1A_n257G | Rel-16 | | | |
| DC_1A_n257H | Rel-16 | | | |
| DC_1A_n257I | Rel-16 | | | |
| DC_1A_n257J | Rel-16 | | | |
| DC_1A_n257K | Rel-16 | | | |
| DC_1A_n257L | Rel-16 | | | |
| DC_1A_n257M | Rel-16 | | | |
| DC_2A_n257A | Rel-15 | | | |
| DC_2A_n260A | Rel-15 | | | |
| DC_2A-2A_n260A | Rel-15 | | | |
| DC_3A_n257A | Rel-15 | | | |
| DC_3A_n257G | Rel-16 | | | |
| DC_3A_n257H | Rel-16 | | | |
| DC_3A_n257I | Rel-16 | | | |
| DC_5A_n257A | Rel-15 | | | |
| DC_5A_n260A | Rel-15 | | | |
| DC_5A_n261A | Rel-15 | | | |
| DC_7A_n257A | Rel-15 | | | |
| DC_7A-7A_n257A | Rel-15 | | | |
| DC_12A_n260A | Rel-15 | | | |
| DC_13A_n257A | Rel-15 | | | |
| DC_19A_n257A | Rel-15 | | | |
| DC_19A_n257G | Rel-16 | | | |
| DC_19A_n257H | Rel-16 | | | |
| DC_19A_n257I | Rel-16 | | | |
| DC_21A_n257A | Rel-15 | | | |
| DC_21A_n257G | Rel-16 | | | |
| DC_21A_n257H | Rel-16 | | | |
| DC_21A_n257I | Rel-16 | | | |
| DC_30A_n260A | Rel-15 | | | |
| DC_66A-66A_n257A | Rel-15 | | | |
| DC_66A_n260A | Rel-15 | | | |
| DC_66A_n261A | Rel-15 | | | |
| DC_66A_n261G | Rel-15 | | | |
| DC_66A_n261H | Rel-15 | | | |
| DC_66A_n261I | Rel-15 | | | |
| DC_66A_n261J | Rel-15 | | | |
| DC_66A_n261K | Rel-15 | | | |
| DC_66A_n261L | Rel-15 | | | |
| DC_66A_n261M | Rel-15 | | | |
| Note 1: | Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.5.1-1, e.g. 'DC_1A_n257A' indicates EN-DC operation on E-UTRA band 1 with E-UTRA DL Bandwidth Class A and NR band n257 with NR DL CA Bandwidth Class A. | | | |

A.4.3.2B.2.3.7 Inter-band EN-DC including FR2 (three bands)

Table A.4.3.2B.2.3.7-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and three bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.7-2)

| Item | DL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | Inter-band EN-DC including FR2 BW Class Combination A-A_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-A_A | |
| 2 | Inter-band EN-DC including FR2 BW Class Combination A-A_G (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-A_G | |
| 3 | Inter-band EN-DC including FR2 BW Class Combination A-A_H (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-A_H | |
| 4 | Inter-band EN-DC including FR2 BW Class Combination A-A_I (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-A_I | |
| 5 | Inter-band EN-DC including FR2 BW Class Combination A-C_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-C_A | |
| 6 | Inter-band EN-DC including FR2 BW Class Combination A-C_G (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-C_G | |
| 7 | Inter-band EN-DC including FR2 BW Class Combination A-C_H (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-C_H | |
| 8 | Inter-band EN-DC including FR2 BW Class Combination A-C_I (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-C_I | |
| 9 | Inter-band EN-DC including FR2 BW Class Combination A-D_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-D_A | |
| 10 | Inter-band EN-DC including FR2 BW Class Combination A-D_G (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-D_G | |
| 11 | Inter-band EN-DC including FR2 BW Class Combination A-D_H (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-D_H | |
| 12 | Inter-band EN-DC including FR2 BW Class Combination A-D_I (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-D_I | |
| 13 | Inter-band EN-DC including FR2 BW Class Combination A-E_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-E_A | |
| 14 | Inter-band EN-DC including FR2 BW Class Combination A-E_G (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-E_G | |
| 15 | Inter-band EN-DC including FR2 BW Class Combination A-E_H (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-E_H | |
| 16 | Inter-band EN-DC including FR2 BW Class Combination A-E_I (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_DL_inter_band _EN_DC_FR2_3B _Class_A-E_I | |

Table A.4.3.2B.2.3.7-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and three bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.7-2)

| Item | UL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | UL Inter-band EN-DC including FR2 BW Class Combination A_A (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_A | |
| 2 | UL Inter-band EN-DC including FR2 BW Class Combination A_D (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_D | |
| 3 | UL Inter-band EN-DC including FR2 BW Class Combination A_G (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_G | |
| 4 | UL Inter-band EN-DC including FR2 BW Class Combination A_H (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_H | |
| 5 | UL Inter-band EN-DC including FR2 BW Class Combination A_I (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_I | |
| 6 | UL Inter-band EN-DC including FR2 BW Class Combination A_J (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_J | |
| 7 | UL Inter-band EN-DC including FR2 BW Class Combination A_K (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_K | |
| 8 | UL Inter-band EN-DC including FR2 BW Class Combination A_L (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_L | |
| 9 | UL Inter-band EN-DC including FR2 BW Class Combination A_M (three bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.2 | pc_UL_inter_band _EN_DC_FR2_3B _Class_A_M | |

Table A.4.3.2B.2.3.7-2: Supported Inter-band EN-DC configurations including FR2 (three bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|----------------------------|---------|-----------|---|--|
| DC_1A-3A_n257A | Rel-15 | | | |
| DC_1A-19A_n257A | Rel-15 | | | |
| DC_1A-21A_n257A | Rel-15 | | | |
| DC_1A-42A_n257A | Rel-15 | | | |
| DC_1A-42C_n257A | Rel-15 | | | |
| DC_1A-42D_n257A | Rel-15 | | | |
| DC_1A-42E_n257A | Rel-15 | | | |
| DC_2A-5A_n257A | Rel-15 | | | |
| DC_2A-5A_n260A | Rel-15 | | | |
| DC_2A-12A_n260A | Rel-15 | | | |
| DC_2A-30A_n260A | Rel-15 | | | |
| DC_2A-66A_n257A | Rel-15 | | | |
| DC_2A-66A_n260A | Rel-15 | | | |
| DC_3A-19A_n257A | Rel-15 | | | |
| DC_3A-21A_n257A | Rel-15 | | | |
| DC_3A-42A_n257A | Rel-15 | | | |
| DC_3A-42C_n257A | Rel-15 | | | |
| DC_5A-7A_n257A | Rel-15 | | | |
| DC_5A-30A_n260A | Rel-15 | | | |
| DC_5A-66A_n257A | Rel-15 | | | |
| DC_5A-66A_n260A | Rel-15 | | | |
| DC_12A-30A_n260A | Rel-15 | | | |
| DC_12A-66A_n260A | Rel-15 | | | |
| DC_19A-21A_n257A | Rel-15 | | | |
| DC_19A-42A_n257A | Rel-15 | | | |
| DC_19A-42C_n257A | Rel-15 | | | |
| DC_21A-42A_n257A | Rel-15 | | | |
| DC_21A-42C_n257A | Rel-15 | | | |
| DC_1A-3A_n257G | Rel-16 | | | |
| DC_1A-3A_n257H | Rel-16 | | | |
| DC_1A-3A_n257I | Rel-16 | | | |
| DC_1A-19A_n257G | Rel-16 | | | |
| DC_1A-19A_n257H | Rel-16 | | | |
| DC_1A-19A_n257I | Rel-16 | | | |
| DC_1A-21A_n257G | Rel-16 | | | |
| DC_1A-21A_n257H | Rel-16 | | | |
| DC_1A-21A_n257I | Rel-16 | | | |
| DC_1A-42A_n257G | Rel-16 | | | |
| DC_1A-42A_n257H | Rel-16 | | | |
| DC_1A-42A_n257I | Rel-16 | | | |
| DC_1A-42D_n257G | Rel-16 | | | |
| DC_1A-42D_n257H | Rel-16 | | | |
| DC_1A-42D_n257I | Rel-16 | | | |
| DC_1A-42E_n257G | Rel-16 | | | |
| DC_1A-42E_n257H | Rel-16 | | | |
| DC_1A-42E_n257I | Rel-16 | | | |
| DC_3A-19A_n257G | Rel-16 | | | |
| DC_3A-19A_n257H | Rel-16 | | | |
| DC_3A-19A_n257I | Rel-16 | | | |
| DC_3A-21A_n257G | Rel-16 | | | |
| DC_3A-21A_n257H | Rel-16 | | | |
| DC_3A-21A_n257I | Rel-16 | | | |
| DC_3A-42A_n257G | Rel-16 | | | |
| DC_3A-42A_n257H | Rel-16 | | | |
| DC_3A-42A_n257I | Rel-16 | | | |
| DC_3A-42C_n257G | Rel-16 | | | |
| DC_3A-42C_n257H | Rel-16 | | | |
| DC_3A-42C_n257I | Rel-16 | | | |
| DC_3A-42D_n257G | Rel-16 | | | |
| DC_3A-42D_n257H | Rel-16 | | | |

| | | | |
|------------------|--------|--|--|
| DC_3A-42D_n257I | Rel-16 | | |
| DC_3A-42E_n257G | Rel-16 | | |
| DC_3A-42E_n257H | Rel-16 | | |
| DC_3A-42E_n257I | Rel-16 | | |
| DC_19A-21A_n257G | Rel-16 | | |
| DC_19A-21A_n257H | Rel-16 | | |
| DC_19A-21A_n257I | Rel-16 | | |
| DC_19A-42A_n257G | Rel-16 | | |
| DC_19A-42A_n257H | Rel-16 | | |
| DC_19A-42A_n257I | Rel-16 | | |
| DC_19A-42C_n257G | Rel-16 | | |
| DC_19A-42C_n257H | Rel-16 | | |
| DC_19A-42C_n257I | Rel-16 | | |
| DC_21A-42A_n257G | Rel-16 | | |
| DC_21A-42A_n257H | Rel-16 | | |
| DC_21A-42A_n257I | Rel-16 | | |
| DC_21A-42C_n257G | Rel-16 | | |
| DC_21A-42C_n257H | Rel-16 | | |
| DC_21A-42C_n257I | Rel-16 | | |

Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.5.2-1, e.g. 'DC_1A-3A_n257A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A with E.UTRA DL Bandwidth Class A for both the E-UTRA bands 1 and 3 and NR band n257 with NR DL CA Bandwidth Class A.

A.4.3.2B.2.3.8 Inter-band EN-DC including FR2 (four bands)

Table A.4.3.2B.2.3.8-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and four bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.8-2)

| Item | DL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | Inter-band EN-DC including FR2 BW Class Combination A-A-A_A (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-A_A | |
| 2 | Inter-band EN-DC including FR2 BW Class Combination A-A-A_G (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-A_G | |
| 3 | Inter-band EN-DC including FR2 BW Class Combination A-A-A_H (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-A_H | |
| 4 | Inter-band EN-DC including FR2 BW Class Combination A-A-A_I (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-A_I | |
| 5 | Inter-band EN-DC including FR2 BW Class Combination A-A-C_A (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-C_A | |
| 6 | Inter-band EN-DC including FR2 BW Class Combination A-A-C_G (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-C_G | |
| 7 | Inter-band EN-DC including FR2 BW Class Combination A-A-C_H (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-C_H | |
| 8 | Inter-band EN-DC including FR2 BW Class Combination A-A-C_I (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-C_I | |
| 9 | Inter-band EN-DC including FR2 BW Class Combination A-A-D_G (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-D_G | |
| 10 | Inter-band EN-DC including FR2 BW Class Combination A-A-D_H (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-D_H | |
| 11 | Inter-band EN-DC including FR2 BW Class Combination A-A-D_I (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_DL_inter_band _EN_DC_FR2_4B _Class_A-A-D_I | |

Table A.4.3.2B.2.3.8-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and four bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.8-2)

| Item | UL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | UL Inter-band EN-DC including FR2 BW Class Combination A_A (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_A | |
| 2 | UL Inter-band EN-DC including FR2 BW Class Combination A_D (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_D | |
| 3 | UL Inter-band EN-DC including FR2 BW Class Combination A_G (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_G | |
| 4 | UL Inter-band EN-DC including FR2 BW Class Combination A_H (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_H | |
| 5 | UL Inter-band EN-DC including FR2 BW Class Combination A_I (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_I | |
| 6 | UL Inter-band EN-DC including FR2 BW Class Combination A_J (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_J | |
| 7 | UL Inter-band EN-DC including FR2 BW Class Combination A_K (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_K | |
| 8 | UL Inter-band EN-DC including FR2 BW Class Combination A_L (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_L | |
| 9 | UL Inter-band EN-DC including FR2 BW Class Combination A_M (four bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.3 | pc_UL_inter_band _EN_DC_FR2_4B _Class_A_M | |

Table A.4.3.2B.2.3.8-2: Supported Inter-band EN-DC configurations including FR2 (four bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|----------------------------|---------|-----------|---|--|
| DC_1A-3A-19A_n257A | Rel-15 | | | |
| DC_1A-3A-21A_n257A | Rel-15 | | | |
| DC_1A-3A-42A_n257A | Rel-15 | | | |
| DC_1A-3A-42C_n257A | Rel-15 | | | |
| DC_1A-19A-21A_n257A | Rel-15 | | | |
| DC_1A-19A-42A_n257A | Rel-15 | | | |
| DC_1A-19A-42C_n257A | Rel-15 | | | |
| DC_1A-21A-42A_n257A | Rel-15 | | | |
| DC_1A-21A-42C_n257A | Rel-15 | | | |
| DC_3A-19A-21A_n257A | Rel-15 | | | |
| DC_3A-19A-42A_n257A | Rel-15 | | | |
| DC_3A-19A-42C_n257A | Rel-15 | | | |
| DC_3A-21A-42A_n257A | Rel-15 | | | |
| DC_3A-21A-42C_n257A | Rel-15 | | | |
| DC_19A-21A-42A_n257A | Rel-15 | | | |
| DC_19A-21A-42C_n257A | Rel-15 | | | |
| DC_1A-3A-19A_n257G | Rel-16 | | | |
| DC_1A-3A-19A_n257H | Rel-16 | | | |
| DC_1A-3A-19A_n257I | Rel-16 | | | |
| DC_1A-3A-21A_n257G | Rel-16 | | | |
| DC_1A-3A-21A_n257H | Rel-16 | | | |
| DC_1A-3A-21A_n257I | Rel-16 | | | |
| DC_1A-3A-42A_n257G | Rel-16 | | | |
| DC_1A-3A-42A_n257H | Rel-16 | | | |
| DC_1A-3A-42A_n257I | Rel-16 | | | |
| DC_1A-3A-42C_n257G | Rel-16 | | | |
| DC_1A-3A-42C_n257H | Rel-16 | | | |
| DC_1A-3A-42C_n257I | Rel-16 | | | |
| DC_1A-3A-42D_n257G | Rel-16 | | | |
| DC_1A-3A-42D_n257H | Rel-16 | | | |
| DC_1A-3A-42D_n257I | Rel-16 | | | |
| DC_1A-19A-21A_n257G | Rel-16 | | | |
| DC_1A-19A-21A_n257H | Rel-16 | | | |
| DC_1A-19A-21A_n257I | Rel-16 | | | |
| DC_1A-19A-42A_n257G | Rel-16 | | | |
| DC_1A-19A-42A_n257H | Rel-16 | | | |
| DC_1A-19A-42A_n257I | Rel-16 | | | |
| DC_1A-19A-42C_n257G | Rel-16 | | | |
| DC_1A-19A-42C_n257H | Rel-16 | | | |
| DC_1A-19A-42C_n257I | Rel-16 | | | |
| DC_1A-21A-42A_n257G | Rel-16 | | | |
| DC_1A-21A-42A_n257H | Rel-16 | | | |
| DC_1A-21A-42A_n257I | Rel-16 | | | |
| DC_1A-21A-42C_n257G | Rel-16 | | | |
| DC_1A-21A-42C_n257H | Rel-16 | | | |
| DC_1A-21A-42C_n257I | Rel-16 | | | |
| DC_3A-19A-42A_n257G | Rel-16 | | | |
| DC_3A-19A-42A_n257H | Rel-16 | | | |
| DC_3A-19A-42A_n257I | Rel-16 | | | |
| DC_3A-19A-42C_n257G | Rel-16 | | | |
| DC_3A-19A-42C_n257H | Rel-16 | | | |
| DC_3A-19A-42C_n257I | Rel-16 | | | |
| DC_3A-21A-42A_n257G | Rel-16 | | | |
| DC_3A-21A-42A_n257H | Rel-16 | | | |
| DC_3A-21A-42A_n257I | Rel-16 | | | |
| DC_3A-21A-42C_n257G | Rel-16 | | | |
| DC_3A-21A-42C_n257H | Rel-16 | | | |
| DC_3A-21A-42C_n257I | Rel-16 | | | |
| DC_19A-21A-42A_n257G | Rel-16 | | | |
| DC_19A-21A-42A_n257H | Rel-16 | | | |

| | | | |
|---|--------|--|--|
| DC_19A-21A-42A_n257I | Rel-16 | | |
| DC_19A-21A-42C_n257G | Rel-16 | | |
| DC_19A-21A-42C_n257H | Rel-16 | | |
| DC_19A-21A-42C_n257I | Rel-16 | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.5.3-1, e.g. 'DC_1A-3A-19A_n257A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A-19A with E-UTRA DL Bandwidth Class A for all the E-UTRA bands 1, 3 and 19 and NR band n257 with NR DL CA Bandwidth Class A. | | | |

A.4.3.2B.2.3.9 Inter-band EN-DC including FR2 (five bands)

Table A.4.3.2B.2.3.9-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and five bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.9-2)

| Item | DL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-A_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- A_A | |
| 2 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-A_G (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- A_G | |
| 3 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-A_H (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- A_H | |
| 4 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-A_I (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A-A_I | |
| 5 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-C_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- C_A | |
| 6 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-C_G (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- C_G | |
| 7 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-C_H (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A- C_H | |
| 8 | Inter-band EN-DC including FR2 BW Class Combination A-A-A-C_I (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_DL_inter_band _EN_DC_FR2_5B _Class_A-A-A-C_I | |

Table A.4.3.2B.2.3.9-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and five bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.9-2)

| Item | UL inter-band EN-DC including FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | Inter-band EN-DC including FR2 BW Class Combination A_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_A | |
| 2 | Inter-band EN-DC including FR2 BW Class Combination A_D (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_D | |
| 3 | Inter-band EN-DC including FR2 BW Class Combination A_G (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_G | |
| 4 | Inter-band EN-DC including FR2 BW Class Combination A_H (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_H | |
| 5 | Inter-band EN-DC including FR2 BW Class Combination A_I (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_I | |
| 6 | Inter-band EN-DC including FR2 BW Class Combination A_J (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_J | |
| 7 | Inter-band EN-DC including FR2 BW Class Combination A_K (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_K | |
| 8 | Inter-band EN-DC including FR2 BW Class Combination A_L (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_L | |
| 9 | Inter-band EN-DC including FR2 BW Class Combination A_M (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_A_M | |
| 10 | Inter-band EN-DC including FR2 BW Class Combination C_A (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_C_A | |
| 11 | Inter-band EN-DC including FR2 BW Class Combination C_G (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_C_G | |
| 12 | Inter-band EN-DC including FR2 BW Class Combination C_H (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_C_H | |
| 13 | Inter-band EN-DC including FR2 BW Class Combination C_I (five bands) | 36.101, 5.6A.1 38.101-3, 5.5B.5.4 | pc_UL_inter_band _EN_DC_FR2_5B _Class_C_I | |

Table A.4.3.2B.2.3.9-2: Supported Inter-band EN-DC configurations including FR2 (five bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|---|---------|-----------|---|--|
| DC_1A-3A-19A-42A_n257A | Rel-15 | | | |
| DC_1A-3A-19A-42C_n257A | Rel-15 | | | |
| DC_1A-3A-21A-42A_n257A | Rel-15 | | | |
| DC_1A-3A-21A-42C_n257A | Rel-15 | | | |
| DC_1A-19A-21A-42A_n257A | Rel-15 | | | |
| DC_1A-19A-21A-42C_n257A | Rel-15 | | | |
| DC_1A-3A-19A-42A_n257G | Rel-16 | | | |
| DC_1A-3A-19A-42C_n257G | Rel-16 | | | |
| DC_1A-3A-19A-42C_n257H | Rel-16 | | | |
| DC_1A-3A-19A-42C_n257I | Rel-16 | | | |
| DC_1A-3A-21A-42C_n257G | Rel-16 | | | |
| DC_1A-3A-21A-42C_n257H | Rel-16 | | | |
| DC_1A-3A-21A-42C_n257I | Rel-16 | | | |
| DC_1A-19A-21A-42A_n257G | Rel-16 | | | |
| DC_1A-19A-21A-42A_n257H | Rel-16 | | | |
| DC_1A-19A-21A-42A_n257I | Rel-16 | | | |
| DC_1A-19A-21A-42C_n257G | Rel-16 | | | |
| DC_1A-19A-21A-42C_n257H | Rel-16 | | | |
| DC_1A-19A-21A-42C_n257I | Rel-16 | | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.5.4-1, e.g. 'DC_1A-3A-19A-42A_n257A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A-19A-42A with E-UTRA DL Bandwidth Class A for all the E-UTRA bands 1, 3, 19 and 42 and NR band n257 with NR DL CA Bandwidth Class A. | | | | |

A.4.3.2B.2.3.10 Void

A.4.3.2B.2.3.11 Inter-band EN-DC including FR1 and FR2 (three bands)

Table A.4.3.2B.2.3.11-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and three bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.11-2)

| Item | DL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A-A (three bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.2 | pc_DL_inter_band _EN_DC_FR1_F R2_3B_Class_A_ A-A | |

Table A.4.3.2B.2.3.11-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and three bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.11-2)

| Item | UL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A (three bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.2 | pc_UL_inter_band _EN_DC_FR1_F R2_3B_Class_A_ A | |

Table A.4.3.2B.2.3.11-2: Supported Inter-band EN-DC configurations including FR1 and FR2 (three bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|---|---------|-----------|---|--|
| DC_1A_n78A-n257A | Rel-15 | | | |
| DC_1A_n79A-n257A | Rel-15 | | | |
| DC_3A_n78A-n257A | Rel-15 | | | |
| DC_3A_n79A-n257A | Rel-15 | | | |
| DC_19A_n78A-n257A | Rel-15 | | | |
| DC_19A_n79A-n257A | Rel-15 | | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.6.2-1, e.g. 'DC_1A_n78A-n257A' indicates EN-DC operation on E-UTRA band 1 with E-UTRA DL Bandwidth Class A and NR CA configuration CA_n78A-n257A on NR band n78 and n257 both with NR DL CA Bandwidth Class A. | | | | |

A.4.3.2B.2.3.12 Inter-band EN-DC including FR1 and FR2 (four bands)

Table A.4.3.2B.2.3.12-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and four bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.12-2)

| Item | DL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|--|---|---|----------|
| 1 | Inter-band EN-DC including FR1 and FR2 BW Class Combination A-A_A-A (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_DL_inter_band _EN_DC_FR1_F R2_4B_Class_A- A_A-A | |
| 2 | Inter-band EN-DC including FR1 and FR2 BW Class Combination A-A_A-G (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_DL_inter_band _EN_DC_FR1_F R2_4B_Class_A- A_A-G | |
| 3 | Inter-band EN-DC including FR1 and FR2 BW Class Combination A-A_A-H (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_DL_inter_band _EN_DC_FR1_F R2_4B_Class_A- A_A-H | |
| 3 | Inter-band EN-DC including FR1 and FR2 BW Class Combination A-A_A-I (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_DL_inter_band _EN_DC_FR1_F R2_4B_Class_A- A_A-I | |

Table A.4.3.2B.2.3.12-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and four bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.12-2)

| Item | UL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|---|---|----------|
| 1 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ A | |
| 2 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_G (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ G | |
| 3 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_H (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ H | |
| 4 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_I (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ I | |
| 5 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A-A (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ A-A | |
| 6 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A-G (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ A-G | |
| 7 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A-H (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ A-H | |
| 8 | UL Inter-band EN-DC including FR1 and FR2 BW Class Combination A_A-I (four bands) | 36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4 38.101-3, 5.5B.6.3 | pc_UL_inter_band _EN_DC_FR1_F R2_4B_Class_A_ A-I | |

Table A.4.3.2B.2.3.12-2: Supported Inter-band EN-DC configurations including FR1 and FR2 (four bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|--|---------|-----------|---|--|
| DC_1A-3A_n78A-n257A | Rel-15 | | | |
| DC_1A-3A_n78A-n257G | Rel-16 | | | |
| DC_1A-3A_n78A-n257H | Rel-16 | | | |
| DC_1A-3A_n78A-n257I | Rel-16 | | | |
| Note 1: Notation used for inter-band EN-DC Bands is according to TS 38.101-3 [25] Table 5.5B.6.3-1, e.g. 'DC_1A-3A_n78A-n257G' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A with E-UTRA DL Bandwidth Class A for all the E-UTRA bands 1 and 3 and NR bands n78 and n257 with NR DL CA Bandwidth Class A and G respectively. | | | | |

A.4.3.2B.2.3.13 Inter-band EN-DC including FR1 and FR2 (five bands)

Table A.4.3.2B.2.3.13-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and five bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.13-2)

| Item | DL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2B.2.3.13-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and five bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.13-2)

| Item | UL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2B.2.3.13-2: Supported Inter-band EN-DC configurations including FR1 and FR2 (five bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|----------------------------|---------|-----------|---|--|
| TBD | TBD | | | |

A.4.3.2B.2.3.14 Inter-band EN-DC including FR1 and FR2 (six bands)

Table A.4.3.2B.2.3.14-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.14-2)

| Item | DL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2B.2.3.14-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.14-2)

| Item | UL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
|------|---|------|----------|----------|
| 1 | TBD | TBD | TBD | |

Table A.4.3.2B.2.3.14-2: Supported Inter-band EN-DC configurations including FR1 and FR2 (six bands)

| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
|----------------------------|---------|-----------|---|--|
| TBD | TBD | | | |

A.4.3.3 PDCP Implementation Capabilities

Table A.4.3.3-1: UE PDCP Implementation Capabilities

| Item | UE PDCP Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|--|---------------|---------|----------------------------------|-----|---|----------|
| 1 | Support 12 bit length of PDCP sequence number | 38.306, 4.2.4 | Rel-15 | pc_shortSN | Yes | | |
| 2 | Supports Out of order delivery of data to upper layers by PDCP | 38.306, 4.2.4 | Rel-15 | pc_outOfOrderDelivery | No | | |
| 3 | Support CA-based PDCP duplication over MCG or SCG DRB | 38.306, 4.2.4 | Rel-15 | pc_pdcp_DuplicationMCG_OrSCG_DRB | No | | |
| 4 | Support PDCP duplication over split DRB | 38.306, 4.2.4 | Rel-15 | pc_pdcp_DuplicationSplitDRB | No | | |
| 5 | Support PDCP duplication over split SRB1/2 | 38.306, 4.2.4 | Rel-15 | pc_pdcp_DuplicationSplitSRB | No | | |

A.4.3.4 RLC Implementation Capabilities

Table A.4.3.4-1: UE RLC Implementation Capabilities

| Item | UE RLC Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|--|---------------|---------|-------------------|-----|---|----------|
| 1 | Support RLC AM with 12 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_am_WithShortSN | Yes | | |
| 2 | Support RLC UM with 12 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_um_WithLongSN | Yes | | |
| 3 | Support RLC UM with 6 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_um_WithShortSN | Yes | | |

A.4.3.5 MAC Implementation Capabilities

Table A.4.3.5-1: UE MAC Implementation Capabilities

| Item | UE MAC Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|--------------------------------|-----|---|----------|
| 1 | Support long DRX cycle | 38.306, 4.2.6 | Rel-15 | pc_longDRX_Cycle | Yes | | |
| 2 | Support short DRX cycle | 38.306, 4.2.6 | Rel-15 | pc_shortDRX_Cycle | Yes | | |
| 3 | Support skipping of UL transmission for an uplink grant indicated on PDCCH if no data is available for transmission | 38.306, 4.2.6 | Rel-15 | pc_skipUplinkTxDynamic | No | | |
| 4 | Supports the logicalChannelSR-DelayTimer | 38.306, 4.2.6 | Rel-15 | pc_logicalChannelSR_DelayTimer | No | | |

A.4.3.6 Measurement Capabilities

Table A.4.3.6-1: UE Measurement Capabilities

| Item | UE Measurement Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|---------------------------------|-----|---|----------|
| 1 | Support NR measurements and events A triggered reporting | 38.306, 4.2.9 | Rel-15 | pc_eventA_MeasAndReport | Yes | | |
| 2 | Support two independent measurement gap configurations for FR1 and FR2 | 38.306, 4.2.9 | Rel-15 | pc_independentGapConfig | No | | |
| 3 | Support NR intra-frequency and inter-frequency measurements and at least periodical reporting | 38.306, 4.2.9 | Rel-15 | pc_intraAndInterF_MeasAndReport | Yes | | |
| 4 | Support CSI-RSRP and CSI-RSRQ measurement as specified in TS38.215 [21], where CSI-RS resource is configured with an associated SS/PBCH | 38.306, 4.2.9 | Rel-15 | pc_csi_RSRP_AndRSRQ_MeasWithSSB | No | | |
| 5 | Support inter-RAT E-UTRA measurements and events B triggered reporting | 38.306, 4.2.9 | Rel-15 | pc_eventB_MeasAndReport | Yes | | |
| 6 | Support SS-SINR measurements | 38.306, 4.2.9 | Rel-15 | pc_ss_SINR_Meas | No | | |
| 7 | Support acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the EN-DC is not configured. | 38.306, 4.2.9 | Rel-15 | pc_utra_CGI_Reporting | Yes | | |
| 8 | Support acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when EN-DC is not configured. | 38.306, 4.2.9 | Rel-15 | pc_nr_CGI_Reporting | Yes | | |
| 9 | Support acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the EN-DC is configured. | 38.306, 4.2.9 | Rel-15 | pc_nr_CGI_Reporting_ENDC | Yes | | |
| 10 | Support shorter measurement gap length (i.e. <i>gp2</i> and <i>gp3</i>) for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC. | 36.331, 6.3.6 | Rel-15 | pc_gp2_gp3_en_dc | No | | |
| 11 | Support NR supports gap pattern 4 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp4_en_dc | No | | |
| 12 | Support NR supports gap pattern 5 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp5_en_dc | No | | |
| 13 | Support NR supports gap pattern 6 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp6_en_dc | No | | |
| 14 | Support NR supports gap pattern 7 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp7_en_dc | No | | |
| 15 | Support NR supports gap pattern 8 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp8_en_dc | No | | |

| | | | | | | | |
|----|--|---------------|--------|-------------------------------------|----|--|--|
| 16 | Support NR supports gap pattern 9 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp9_en_dc | No | | |
| 17 | Support NR supports gap pattern 10 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp10_en_dc | No | | |
| 18 | Support NR supports gap pattern 11 for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC | 36.331, 6.3.6 | Rel-15 | pc_gp11_en_dc | No | | |
| 19 | Support measurement gap pattern 2 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp2_nr | No | | |
| 20 | Support measurement gap pattern 3 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp3_nr | No | | |
| 21 | Support measurement gap pattern 4 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp4_nr | No | | |
| 22 | Support measurement gap pattern 5 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp5_nr | No | | |
| 23 | Support measurement gap pattern 6 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp6_nr | No | | |
| 24 | Support measurement gap pattern 7 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp7_nr | No | | |
| 25 | Support measurement gap pattern 8 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp8_nr | No | | |
| 26 | Support measurement gap pattern 9 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp9_nr | No | | |
| 27 | Support measurement gap pattern 10 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp10_nr | No | | |
| 28 | Support measurement gap pattern 11 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp11_nr | No | | |
| 29 | Support measurement gap pattern 12 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp12_nr | No | | |
| 30 | Support measurement gap pattern 15 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp15_nr | No | | |
| 31 | Support measurement gap pattern 16 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp16_nr | No | | |
| 32 | Support measurement gap pattern 17 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp17_nr | No | | |
| 34 | Support measurement gap pattern 18 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp18_nr | No | | |
| 35 | Support measurement gap pattern 19 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp19_nr | No | | |
| 36 | Support measurement gap pattern 20 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp20_nr | No | | |
| 37 | Support measurement gap pattern 21 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp21_nr | No | | |
| 38 | Support measurement gap pattern 22 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp22_nr | No | | |
| 39 | Support measurement gap pattern 23 configured by NR RRC. | 38.306, 4.2.9 | Rel-15 | pc_gp23_nr | No | | |
| 40 | Support CSI-RSRP and CSI-RSRQ measurement as specified in TS38.215 [21], where CSI-RS resource is configured without an associated SS/PBCH | 38.306, 4.2.9 | Rel-15 | pc_csi_RSRP_And_RSRQ_MeasWithoutSSB | No | | |

| | | | | | | | |
|----|--|---------------|--------|-------------------|-----|--|---|
| 41 | Support CSI-RS based Radio Link Monitoring for FR1 | 38.306, 4.2.9 | Rel-15 | pc_CSI_RS_RLM_FR1 | Yes | | If the UE supports this feature, the UE needs to report maxNumberResourcelinkMonitoring in its capability report. If the UE doesn't support CSI-RS based RLM, it will not include this IE in its capability report. |
|----|--|---------------|--------|-------------------|-----|--|---|

A.4.3.7 General Capabilities

Table A.4.3.7-1: UE General Capabilities

| Item | UE General Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|-------------------------------|---------|-------------------------------------|-----|---|---|
| 1 | Support UL transmission via either MCG path or SCG path for the split SRB as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_splitSRB_WithOneUL_Path | No | | |
| 2 | Support UL transmission via both MCG path and SCG path for the split DRB as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_splitDRB_withUL_Both_MCG_SCG | Yes | | |
| 3 | Support direct SRB between the SN and the UE as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_srb3 | Yes | | |
| 4 | Support of reflective QoS | 38.306, 4.2.2 | Rel-15 | pc_as_ReflectiveQoS | No | | |
| 5 | Support of NAS reflective QoS | 24.501, 6.2.5.1.4.1, 9.11.4.1 | Rel-15 | pc_nas_ReflectiveQoS | No | | |
| 6 | Support of SMS over NAS | 24.501, 5.5.1.2 | Rel-15 | pc_sms_over_NAS | No | | |
| 7 | Support of CMAS message on NR | 38.331, 5.2.2.2.2 | Rel-15 | pc_CMAS_NR | No | | |
| 8 | Support of ETWS message on NR | 38.331, 5.2.2.2.2 | Rel-15 | pc_ETWS_NR | No | | |
| 9 | The UE supports additional UE-requested PDU establishment | 24.501, 6.4.1.5 | Rel-15 | pc_Additional_PDU_establishment | No | | pc_ExpectedNoOfPDUSessionsAtRegistration +1 |
| 10 | The UE includes the SM PDU DN request container IE in the PDU SESSION ESTABLISHMENT REQUEST message | 24.501, 6.4.1.2 | Rel-15 | pc_SM_PDU_DN_RequestContainer | No | | |
| 11 | Support of emergency services fallback in NR connected to 5GCN | 24.501 | Rel-15 | pc_NR_5GC_EmergencyService_fallback | No | | |
| 12 | Support of EPS fallback | 24.501, | Rel-15 | pc_EPS_fallback | No | | |
| 13 | Support of UE requested PDU session modification | 24.501, 6.4.2.2 | Rel-15 | pc_MO_PDU_Session_Modification | Yes | | |
| 14 | Support of emergency services in NR connected to 5GCN | 24.501 | Rel-15 | pc_NR_5GC_EmergencyServices | No | | |
| 15 | Support of voiceFallbackIndication | 38.306, 4.2.13 | Rel-16 | pc_voiceFallbackIndication | No | | |

A.4.3.8 Mobility Capabilities

Table A.4.3.8-1: UE Mobility Capabilities

| Item | UE Mobility Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|--|---------------|---------|----------------------------|-----|---|----------|
| 1 | Support inter-RAT Handover to EUTRA connected to EPC | 38.306, 4.2.9 | Rel-15 | pc_interRAT_EUTRA_Handover | Yes | | |
| 2 | Support inter-frequency Handover from the corresponding duplex mode or from the corresponding frequency range. | 38.306, 4.2.9 | Rel-15 | pc_handoverInterF | Yes | | |
| 3 | Support Handover between FR1 and FR2 | 38.306, 4.2.9 | Rel-15 | pc_FR1toFR2_Handover | Yes | | |
| 4 | Support Handover between FDD and TDD | 38.306, 4.2.9 | Rel-15 | pc_FDDtoTDD_Handover | Yes | | |
| 5 | Support inter-RAT Handover to E-UTRA connected to 5GC | 38.306, 4.2.9 | Rel-15 | pc_interRAT_eLTE_Handover | Yes | | |

A.4.3.9 Additional capabilities for UE declared capability

Table A.4.3.9-1: UE declared capabilities

| Item | UE declared capabilities | Ref. | Release | Mnemonic | Comments |
|------|---------------------------------|-------------|---------|--------------------------|--------------------------------------|
| 1 | Enhanced Type X Receiver for NR | 38.101-4, 5 | Rel-15 | pc_nr_enh_typeX_receiver | Support for Enhanced Type X Receiver |
| 2 | Vehicular UE | 38.101-1, 3 | Rel-15 | pc_nr_vehicular_ue | |

Table A.4.3.9-2: UE declared multi-band peak EIRP relaxation factors for FR2 power class 3

| Item | Supported FR2 bands set | Ref. | Release | peak EIRP relaxation factor per band, MB _p (dB) (Note 1) | | | | Maximum sum of MB _p , ∑MB _p (dB) (Note 2) | Comments |
|------|-------------------------|-------------------|---------|---|------|------|------|---|------------------------------|
| | | | | n257 | n258 | n260 | n261 | | |
| 1 | n257, n258 | 38.101-2, 6.2.1.3 | Rel-15 | | | N/A | N/A | 1.3 | |
| 2 | n257, n260 | | | | N/A | | N/A | 1.0 | |
| 3 | n258, n260 | | | N/A | | | N/A | 1.0 | |
| 4 | n258, n261 | | | N/A | | N/A | | 1.0 | |
| 5 | n260, n261 | | | N/A | N/A | N/A | N/A | 0.0 | No relaxation factor allowed |
| 6 | n257, n258, n260 | | | | | | N/A | 1.7 | |
| 7 | n257, n258, n261 | | | | | | N/A | 1.7 | |
| 8 | n257, n260, n261 | | | | | N/A | | 0.5 | |
| 9 | n258, n260, n261 | | | N/A | | | | 1.5 | |
| 10 | n257, n258, n260, n261 | | | | | | | 1.7 | |

Note 1: UE vendor to fill in the needed relaxation factor per band that is ≥ 0 . One row to be filled in, the one matching the supported FR2 bands of the UE as declared in Table A.4.3.1-3.

Note 2: Max allowed sum of MB_p over all supported FR2 bands as defined in TS 38.521-2 clause 6.2.1.1.3.3

Table A.4.3.9-3: UE declared multi-band peak EIRP Spherical coverage relaxation factors for FR2 power class 3

| Item | Supported FR2 bands set | Ref. | Release | EIRP Spherical coverage relaxation factor per band, MB _s (dB) (Note 1) | | | | Maximum sum of MB _s , ∑MB _s (dB) (Note 2) | Comments |
|------|-------------------------|-------------------|---------|---|------|------|------|---|--|
| | | | | n257 | n258 | n260 | n261 | | |
| 1 | n257, n258 | 38.101-2, 6.2.1.3 | Rel-15 | | | N/A | N/A | 1.25 | |
| 2 | n257, n260 | | | | N/A | | N/A | 0.75 | Maximum 0.4 dB relaxation allowed for n260 |
| 3 | n258, n260 | | | N/A | | | N/A | 0.75 | Maximum 0.4 dB relaxation allowed for n260 |
| 4 | n258, n261 | | | N/A | | N/A | | 1.25 | |
| 5 | n260, n261 | | | N/A | N/A | | | 0.75 | No relaxation allowed for n260 |
| 6 | n257, n258, n260 | | | | | | N/A | 1.75 | Maximum 0.4 dB relaxation allowed for n260 |
| 7 | n257, n258, n261 | | | | | N/A | | 1.75 | |
| 8 | n257, n260, n261 | | | | | N/A | | 1.25 | Maximum 0.4 dB relaxation allowed for n260 |
| 9 | n258, n260, n261 | | | N/A | | | | 1.25 | Maximum 0.4 dB relaxation allowed for n260 |
| 10 | n257, n258, n260, n261 | | | | | | | 1.75 | Maximum 0.4 dB relaxation allowed for n260 |

Note 1: UE vendor to fill in the needed relaxation factor per band that is ≥0. One row to be filled in, the one matching the supported FR2 bands of the UE as declared in Table A.4.3.1-3

Note 2: Max allowed sum of MB_s over all supported FR2 bands as defined in TS 38.521-2 clause 6.2.1.1.3.3

Table A.4.3.9-4a: FDD 4 Rx antenna ports Capabilities

| Item | Band | Ref. | Release | Comments |
|------|--------------|---------------|---------|--|
| 1 | FDD Band n1 | 38.101-1, 7.2 | Rel-15 | |
| 2 | FDD Band n2 | 38.101-1, 7.2 | Rel-15 | |
| 3 | FDD Band n3 | 38.101-1, 7.2 | Rel-15 | |
| ... | | | | |
| 7 | FDD Band n7 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-1 |
| ... | | | | |
| 28 | FDD Band n28 | 38.101-1, 7.2 | Rel-16 | 4 Rx operation is targeted for FWA form factor |
| ... | | | | |
| 30 | FDD Band n30 | 38.101-1, 7.2 | Rel-16 | |
| ... | | | | |
| 66 | FDD Band n66 | 38.101-1, 7.2 | Rel-15 | |
| ... | | | | |
| 70 | FDD Band n70 | 38.101-1, 7.2 | Rel-15 | |
| 71 | FDD Band n71 | 38.101-1, 7.2 | Rel-16 | 4 Rx operation is targeted for FWA form factor |

Table A.4.3.9-4b: TDD 4 Rx antenna ports Capabilities

| Item | Band | Ref. | Release | Comments |
|------|--------------|---------------|---------|--|
| 34 | TDD Band n34 | 38.101-1, 7.2 | Rel-15 | |
| ... | | | | |
| 38 | TDD Band n38 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |
| 39 | TDD Band n39 | 38.101-1, 7.2 | Rel-15 | |
| ... | | | | |
| 40 | TDD Band n40 | 38.101-1, 7.2 | Rel-15 | |
| 41 | TDD Band n41 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |
| ... | | | | |
| 48 | TDD Band n48 | 38.101-1, 7.2 | Rel-16 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |
| ... | | | | |
| 77 | TDD Band n77 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |
| 78 | TDD Band n78 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |
| 79 | TDD Band n79 | 38.101-1, 7.2 | Rel-15 | Mandatory for non-vehicular UE if band support is indicated in Table A.4.3.1-2 |

Table A.4.3.9-4c: 2 Rx antenna ports Capabilities

| Item | Band | Ref. | Comments |
|------|--------------|-----------------|----------|
| 1 | FDD Band n1 | 38.101-1, 7.3.2 | |
| 2 | FDD Band n2 | 38.101-1, 7.3.2 | |
| 3 | FDD Band n3 | 38.101-1, 7.3.2 | |
| 4 | FDD Band n5 | 38.101-1, 7.3.2 | |
| 5 | FDD Band n7 | 38.101-1, 7.3.2 | |
| 6 | FDD Band n8 | 38.101-1, 7.3.2 | |
| 7 | FDD Band n12 | 38.101-1, 7.3.2 | |
| 8 | FDD Band n20 | 38.101-1, 7.3.2 | |
| 9 | FDD Band n25 | 38.101-1, 7.3.2 | |
| 10 | FDD Band n28 | 38.101-1, 7.3.2 | |
| 11 | TDD Band n34 | 38.101-1, 7.3.2 | |
| 12 | TDD Band n38 | 38.101-1, 7.3.2 | |
| 13 | TDD Band n39 | 38.101-1, 7.3.2 | |
| 14 | TDD Band n40 | 38.101-1, 7.3.2 | |
| 15 | TDD Band n41 | 38.101-1, 7.3.2 | |
| 16 | TDD Band n48 | 38.101-1, 7.3.2 | |
| 17 | TDD Band n50 | 38.101-1, 7.3.2 | |
| 18 | TDD Band n51 | 38.101-1, 7.3.2 | |
| 19 | FDD Band n65 | 38.101-1, 7.3.2 | |
| 20 | FDD Band n66 | 38.101-1, 7.3.2 | |
| 21 | FDD Band n70 | 38.101-1, 7.3.2 | |
| 22 | FDD Band n71 | 38.101-1, 7.3.2 | |
| 23 | FDD Band n74 | 38.101-1, 7.3.2 | |
| 24 | TDD Band n77 | 38.101-1, 7.3.2 | |
| 25 | TDD Band n78 | 38.101-1, 7.3.2 | |
| 26 | TDD Band n79 | 38.101-1, 7.3.2 | |

Table A.4.3.9-5: Beam Peak Search Vendor Declarations with respect to test frequency range for single CC

| Item | Band | Intent | Ref. | Release | Comments |
|--|------|--|-------------------------|---------|----------|
| 1 | n257 | n257 single CC beam peak is leveraged from mid to low and high channels | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 2 | n258 | n258 single CC beam peak is leveraged from mid to low and high channels | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1. |
| 3 | n260 | n260 single CC beam peak is leveraged from mid to low and high channels | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 4 | n261 | n261 single CC beam peak is leveraged from mid to low and high channels | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 5 | n261 | n261 single CC beam peak is leveraged from n257 single CC mid channel to n261 low, mid and high channels | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 2 |
| <p>NOTE 1: The beam peak searches shall be performed for every test frequency range by default unless the device manufacturer explicitly declares that the beam peak at the mid test frequency range is applicable for the remaining (low, high) test frequency ranges.</p> <p>NOTE 2: Beam peak search results can be re-used from bands that completely contain the target bands if explicitly declared by the manufacturer.</p> | | | | | |

Table A.4.3.9-6: Beam Peak Search Vendor Declarations with respect to test frequency range for different CA BW classes

| Item | Bands | NR CA bandwidth class | Intent | Ref. | Release | Comments |
|------|------------------------|---|---|-------------------------|---------|--|
| 1 | n257, n258, n260, n261 | A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q | The beam peak is leveraged from a reference (frequency band, CBW) or (frequency band combination, CA BW class) to a group of other intra-band contiguous combinations and CA BW classes | 38.521-2, K.1.1 & K.1.2 | Rel-15 | A beam peak search shall be performed for every intra-band contiguous combination and CA BW class by default unless the device manufacturer explicitly declares that the beam peak for a reference (frequency band, CBW) or (frequency band combination, CA BW class) is applicable for a group of other intra-band contiguous combinations and CA BW classes. |

Table A.4.3.9-7: Beam Peak Search Vendor Declarations with respect to modulation for single CC

| Item | Band | Intent | Ref. | Release | Comments |
|---|------|---|-------------------------|---------|----------|
| 1 | n257 | n257 single CC beam peak is leveraged from QPSK modulation to 16QAM and 64QAM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 2 | n258 | n258 single CC beam peak is leveraged from QPSK modulation to 16QAM and 64QAM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 3 | n260 | n260 single CC beam peak is leveraged from QPSK modulation to 16QAM and 64QAM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 4 | n261 | n261 single CC beam peak is leveraged from QPSK modulation to 16QAM and 64QAM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| NOTE 1: The beam peak searches shall be performed for every modulation by default unless the device manufacturer explicitly declares that the beam peak at the QPSK modulation is applicable for the remaining 16QAM and 64QAM modulations. | | | | | |

Table A.4.3.9-8: Beam Peak Search Vendor Declarations with respect to waveform for single CC

| Item | Band | Intent | Reference Waveform | Ref. | Release | Comments |
|---|------|---|-----------------------|-------------------------|---------|----------|
| 1 | n257 | n257 single CC beam peak is leveraged from the reference waveform to the other waveform | CP-OFDM or DFT-s-OFDM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 2 | n258 | n258 single CC beam peak is leveraged from the reference waveform to the other waveform | CP-OFDM or DFT-s-OFDM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 3 | n260 | n260 single CC beam peak is leveraged from the reference waveform to the other waveform | CP-OFDM or DFT-s-OFDM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| 4 | n261 | n261 single CC beam peak is leveraged from the reference waveform to the other waveform | CP-OFDM or DFT-s-OFDM | 38.521-2, K.1.1 & K.1.2 | Rel-15 | NOTE 1 |
| NOTE 1: The beam peak searches shall be performed for every waveform by default unless the device manufacturer explicitly declares that the beam peak from one waveform is applicable for the other waveform. | | | | | | |

A.4.4 Additional information

Table A.4.4-1: Additional information

| Item | Additional information | Ref. | Release | Mnemonic | Comments |
|------|------------------------------|-------------------------------------|---------|------------|---|
| 1 | Support of ICMP or ICMP IPv6 | RFC 792 OR RFC 4443, RFC 4884 | NA | pc_IP_Ping | UE supports ICMP or ICMPv6 protocol to enable IP Ping Operation |
| 2 | Support of IMS | 24.229, Annex U | Rel-15 | pc_IMS_5GS | |

Table A.4.4-2: Definition of UE implementation capabilities

| Item | Definition of UE implementation capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|--------|---------|-----------------------------|---|
| 1 | UE-requested PDU session establishment for IMS after REGISTRATION | 24.501 | Rel-15 | pc_PDU_IMS | Configured to initiate PDU session establishment for IMS after REGISTRATION. |
| 2 | UE-requested PDU session establishment for Internet after REGISTRATION | 24.501 | Rel-15 | pc_PDU_Internet | Configured to initiate PDU session establishment for Internet after REGISTRATION during the same signalling connection as the REGISTRATION procedure. |
| 3 | Number of UE-requested PDU session establishments after REGISTRATION during the same signalling connection | 24.501 | Rel-15 | pc_noOf_PDUsSame Connection | |
| 4 | Number of UE-requested PDU session establishments after REGISTRATION in a new signalling connection | 24.501 | Rel-15 | pc_noOf_PDUsNewC onnection | |
| 5 | Number of UE-requested PDN connection establishments after ATTACH during the same signalling connection | 24.301 | Rel-15 | pc_noOf_PDNsSame Connection | |
| 6 | Number of UE-requested PDN connection establishments after ATTACH in a new signalling connection | 24.301 | Rel-15 | pc_noOf_PDNsNewC onnection | |
| 7 | IMS DNN configured as default DNN | 24.501 | Rel-15 | pc_IMS_DNN_default | |

Annex B (informative): Change history

| Change history | | | | | | | |
|----------------|--------------------|-----------|------|-----|-----|---|-------------|
| Date | Meeting | TDoc | CR | Rev | Cat | Subject/Comment | New version |
| 2017-12 | RAN5#77 | R5-176852 | - | - | - | Introduction of TS 38.508-2 | 0.1.0 |
| 2018-04 | RAN5#2-5G-NR Adhoc | R5-182069 | - | - | - | Addition of several required PICS | 0.2.1 |
| 2018-05 | RAN5#79 | R5-183271 | - | - | - | Addition of Missing PICS | 1.0.0 |
| 2018-06 | RAN#80 | RP-181208 | - | - | - | put under revision control as v15.0.0 with small editorial changes | 15.0.0 |
| 2018-09 | RAN#81 | R5-185161 | 0001 | 1 | F | Addition of PICS | 15.1.0 |
| 2018-12 | RAN#82 | R5-187040 | 0010 | - | F | Addition of new band into RF baseline implementation capabilities | 15.2.0 |
| 2018-12 | RAN#82 | R5-187777 | 0011 | 1 | F | Addition of PICS | 15.2.0 |
| 2019-03 | RAN#83 | R5-192365 | 0020 | 1 | F | Introduction of Physical Layer Baseline Implementation Capabilities for NR CA, NR DC and EN-DC | 15.3.0 |
| 2019-03 | RAN#83 | R5-192706 | 0019 | 1 | F | Introduction of Non 3GPP Access over WLAN PICS | 15.3.0 |
| 2019-03 | RAN#83 | R5-192746 | 0017 | 1 | F | Addition of Capability for test cases | 15.3.0 |
| 2019-03 | RAN#83 | R5-192747 | 0018 | 1 | F | PICS Update | 15.3.0 |
| 2019-03 | RAN#83 | R5-192748 | 0021 | 1 | F | Add UE capability PDU | 15.3.0 |
| 2019-06 | RAN#84 | R5-193576 | 0027 | - | F | Update of Clause 2 References of 38.508-2 | 15.4.0 |
| 2019-06 | RAN#84 | R5-193577 | 0028 | - | F | Introduction of Table A.4.3.2A.2.1-3 configuration for FR1 Intra-band contiguous CA | 15.4.0 |
| 2019-06 | RAN#84 | R5-193756 | 0030 | - | F | Addition of UE capability for mobility | 15.4.0 |
| 2019-06 | RAN#84 | R5-195137 | 0036 | 1 | F | Addition of ICS for FR2 Multiband Relaxation declaration | 15.4.0 |
| 2019-06 | RAN#84 | R5-195331 | 0031 | 1 | F | PICS update | 15.4.0 |
| 2019-06 | RAN#84 | R5-195428 | 0035 | 2 | F | Resubmission: Addition of optional UE capabilities for Demod | 15.4.0 |
| 2019-06 | RAN#84 | R5-195052 | 0029 | 1 | F | Addition of CA_n41C CA_n66B and CA_n71B | 16.0.0 |
| 2019-09 | RAN#85 | R5-197225 | 0037 | 1 | F | Addition and Update of PICS | 16.1.0 |
| 2019-09 | RAN#85 | R5-197440 | 0038 | 1 | F | Addition of NR FR1 intraband non-contiguous and interband CA tables with combinations CA_66(2A), CA_n66A-n70A, CA_n66A-n71A, CA_n70A-n71a, CA_n66B-n70A, CA_n66(2A)-n70A, CA_n66(2A)-n71A to 38.508-2 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197442 | 0045 | - | F | Updates of SA and NSA information | 16.1.0 |
| 2019-09 | RAN#85 | R5-197510 | 0044 | 1 | F | Update to 38.508-2 for 4Rx handling | 16.1.0 |
| 2019-12 | RAN#86 | R5-198169 | 0049 | | F | Introduction of UE capabilities for Rel-16 NR CA and EN-DC configurations | 16.2.0 |
| 2019-12 | RAN#86 | R5-198349 | 0051 | | F | Addition of NR FR1 intraband non-contiguous and interband CA tables with combinations CA_n66B-n71A, CA_n66A-n70A-n71A, CA_n66B-n70A-n71A, CA_n66(2A)-n70A-n71A to 38.508-2 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198873 | 0047 | 1 | F | Add GAP pattern to PICS | 16.2.0 |
| 2019-12 | RAN#86 | R5-198963 | 0048 | 1 | F | Introduction of UE capabilities for Rel-15 NR CA, NR DC and EN-DC configurations | 16.2.0 |
| 2019-12 | RAN#86 | R5-198964 | 0050 | 1 | F | Introduction of UE capabilities for new Rel-16 NR bands and new SDL band n29 associated NR CA configuration CA_n29A-n66A | 16.2.0 |
| 2019-12 | RAN#86 | R5-199076 | 0056 | 2 | F | Addition of new PICS needed for testing | 16.2.0 |
| 2019-12 | RAN#86 | R5-199305 | 0052 | 1 | F | Update to 38.508-2 regarding 4Rx antenna ports capability | 16.2.0 |
| 2019-12 | RAN#86 | R5-199312 | 0058 | | F | Correction to n66 intra-band CA Physical Layer Baseline Implementation Capabilities | 16.2.0 |
| 2019-12 | RAN#86 | R5-199462 | 0054 | 2 | F | EN-DC bands Implementation Conformance Statement (ICS) proforma Updates | 16.2.0 |
| 2019-12 | RAN#86 | R5-199482 | 0053 | 1 | F | Physical Layer Baseline Implementation Capabilities for Beam Correspondence | 16.2.0 |
| 2020-03 | RAN#87 | R5-200558 | 0065 | | F | Beam Correspondence Mnemonic name update | 16.3.0 |
| 2020-03 | RAN#87 | R5-200592 | 0067 | | F | Corrections on categories of NR DC and EN-DC physical layer capabilities in 38.508-2 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200598 | 0068 | | F | Introduction on supported inter-band EN-DC configurations in 38.508-2 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200636 | 0070 | | F | Corrections and Addition of NR PICS | 16.3.0 |
| 2020-03 | RAN#87 | R5-200903 | 0059 | 1 | F | Additional UE Power Class declaration | 16.3.0 |
| 2020-03 | RAN#87 | R5-200923 | 0062 | 1 | F | Introduction of UE capabilities for n95 SUL band | 16.3.0 |
| 2020-03 | RAN#87 | R5-200969 | 0066 | 1 | F | Corrections on categories of NR CA physical layer capabilities in 38.508-2 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200970 | 0069 | 1 | F | Adding modified MPR behaviour to physical layer capabilities | 16.3.0 |
| 2020-03 | RAN#87 | R5-201062 | 0064 | 1 | F | Introduction of UE capabilities for Rel-16 EN-DC configurations | 16.3.0 |
| 2020-03 | RAN#87 | R5-201123 | 0060 | 1 | F | Correction to NR TC PICS | 16.3.0 |
| 2020-06 | RAN#88 | R5-201923 | 0075 | - | F | Addition of TDD-TDD PC2 inter-band EN-DC UE RF Baseline implementation Capabilities declaration | 16.4.0 |
| 2020-06 | RAN#88 | R5-202108 | 0077 | - | F | Updates on UE capability for Rel-15 NR CA configuration | 16.4.0 |
| 2020-06 | RAN#88 | R5-202226 | 0079 | - | F | Update NR intra-band contiguous CA implementation capabilities in 38.508-2 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202228 | 0080 | - | F | Update RF baseline implementation capabilities in 38.508-2 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202446 | 0082 | - | F | Addition of EN-DC configurations DC_41C_n41A and DC_41D_n41A | 16.4.0 |

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|---------|--------|-----------|------|---|---|---|--------|
| 2020-06 | RAN#88 | R5-202709 | 0078 | 1 | F | Update ICS proforma tables for UE implementation types in A.4.1 of 38.508-2 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202871 | 0074 | 1 | F | Introduction of several new NR 2CA and 3CA combinations | 16.4.0 |
| 2020-06 | RAN#88 | R5-203113 | 0076 | 2 | F | Additions and corrections to PICS | 16.4.0 |
| 2020-09 | RAN#89 | R5-203279 | 0085 | - | F | n26 Implementation baseline capabilities in 38.508-2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203457 | 0088 | - | F | Fixing References | 16.5.0 |
| 2020-09 | RAN#89 | R5-203463 | 0089 | - | F | Addition of PICs for CSI-RS measurement without associated SSB | 16.5.0 |
| 2020-09 | RAN#89 | R5-203632 | 0090 | - | F | Introduction of UE capabilities for additional Rel-15 band EN-DC inter-band configurations | 16.5.0 |
| 2020-09 | RAN#89 | R5-203635 | 0091 | - | F | Introduction of UE capabilities for additional Rel-16 EN-DC inter-band configurations | 16.5.0 |
| 2020-09 | RAN#89 | R5-203911 | 0094 | - | F | Update of A.4.3.2A for intra-band contiguous CA capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-203912 | 0095 | - | F | Update of A.4.3.2A.3 for intra-band non-contiguous CA capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-203914 | 0097 | - | F | Update of A.4.3.2B for NR-DC capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-203917 | 0100 | - | F | Update of A.4.3.2B.2.3 for inter-band EN-DC including FR2 capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204332 | 0108 | - | F | Adding new ICS for handling inter-system change S1-N1 and aligning PDN and PDU handling | 16.5.0 |
| 2020-09 | RAN#89 | R5-204511 | 0109 | 1 | F | Addition of UE capability for voiceFallbackIndicationEPS-r16 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204544 | 0106 | 1 | F | Addition and update of PICS | 16.5.0 |
| 2020-09 | RAN#89 | R5-204710 | 0105 | 1 | F | CR to 38.508-2 to allow vendor declarations related to beam peak searches | 16.5.0 |
| 2020-09 | RAN#89 | R5-204759 | 0102 | 1 | F | Addition of PICS for intra-band EN-DC PC2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204801 | 0084 | 1 | F | Introduction of Rel-16 inter-band EN-DC configurations within FR1 for physical layer baseline implementation capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204802 | 0096 | 1 | F | Update of A.4.3.2A.4 for inter-band CA within FR1 capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204803 | 0098 | 1 | F | Update of A.4.3.2B.2 for intra-band EN-DC capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204804 | 0099 | 1 | F | Update of A.4.3.2B.2.3 for inter-band EN-DC including FR1 and FR2 capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204805 | 0101 | 1 | F | Update of A.4.3.2B.2.3 for inter-band EN-DC within FR1 capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204806 | 0104 | 1 | F | Introduction of UE capabilities for Rel-16 EN-DC configurations | 16.5.0 |
| 2020-09 | RAN#89 | R5-204853 | 0086 | 1 | F | Added UE Phy layer capability into 38.508-2 from 38.306 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204902 | 0087 | 1 | F | Updated table A.4.3.9-4 - 4 Rx antenna ports capabilities | 16.5.0 |
| 2020-09 | RAN#89 | R5-204903 | 0092 | 1 | F | Introduction and correction of general capabilities and some band-combo information for EN-DC | 16.5.0 |
| 2020-09 | RAN#89 | R5-204904 | 0107 | 1 | F | Add new PICS | 16.5.0 |

History

| Document history | | |
|-------------------------|---------------|-------------|
| V16.4.0 | July 2020 | Publication |
| V16.5.0 | November 2020 | Publication |
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