

ETSI TS 138 508-2 V16.4.0 (2020-07)



**5G;
5GS;
User Equipment (UE) conformance specification;
Part 2: Common Implementation Conformance Statement (ICS)
proforma
(3GPP TS 38.508-2 version 16.4.0 Release 16)**



Reference

RTS/TSGR-0538508-2vg40

Keywords

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Contents

Intellectual Property Rights	2
Legal Notice	2
Modal verbs terminology.....	2
Foreword.....	5
1 Scope	6
2 References	6
3 Definitions, symbols and abbreviations	8
3.1 Definitions	8
3.2 Symbols.....	8
3.3 Abbreviations	8
Annex A (normative): ICS proforma for NR/5GS Generation User Equipment.....	9
A.1 Guidance for completing the ICS proforma	9
A.1.1 Purposes and structure.....	9
A.1.2 Abbreviations and conventions	9
A.1.3 Instructions for completing the ICS proforma.....	10
A.2 Identification of the User Equipment	10
A.2.1 Date of the statement	10
A.2.2 User Equipment Under Test (UEUT) identification.....	10
A.2.3 Product supplier.....	11
A.2.4 Client	11
A.2.5 ICS contact person.....	12
A.3 Identification of the protocol.....	12
A.4 ICS proforma tables.....	12
A.4.1 UE Implementation Types.....	12
A.4.2 UE Service Capabilities.....	14
A.4.2.1 3GPP Standardised UE Service Capabilities	14
A.4.2.1.1 Bearer Services	14
A.4.3 Baseline Implementation Capabilities	14
A.4.3.1 RF Baseline Implementation Capabilities.....	15
A.4.3.2 Physical Layer Baseline Implementation Capabilities.....	21
A.4.3.2A NR CA Physical Layer Baseline Implementation Capabilities.....	24
A.4.3.2A.1 General NR CA capabilities.....	24
A.4.3.2A.2 NR Intra-band contiguous CA.....	25
A.4.3.2A.2.1 NR Intra-band contiguous CA within FR1	25
A.4.3.2A.2.2 NR Intra-band contiguous CA within FR2	27
A.4.3.2A.3 NR Intra-band non-contiguous CA	31
A.4.3.2A.3.1 NR Intra-band non-contiguous CA within FR1	31
A.4.3.2A.3.2 NR Intra-band non-contiguous CA within FR2.....	32
A.4.3.2A.4 NR Inter-band CA	32
A.4.3.2A.4.1 NR Inter-band CA within FR1 (two bands)	32
A.4.3.2A.4.2 NR Inter-band CA within FR1 (three bands)	33
A.4.3.2B NR DC and EN-DC Physical Layer Baseline Implementation Capabilities.....	35
A.4.3.2B.1 NR DC between FR1 and FR2.....	35
A.4.3.2B.1.1 NR DC between FR1 and FR2 (two bands).....	35
A.4.3.2B.2 EN-DC Physical Layer Baseline Implementation Capabilities	36
A.4.3.2B.2.1 Intra-band contiguous EN-DC in FR1	36
A.4.3.2B.2.2 Intra-band non-contiguous EN-DC in FR1	36
A.4.3.2B.2.3 Inter-band EN-DC	37
A.4.3.2B.2.3.1 Inter-band EN-DC within FR1 (two bands).....	37
A.4.3.2B.2.3.2 Inter-band EN-DC within FR1 (three bands).....	39
A.4.3.2B.2.3.3 Inter-band EN-DC within FR1 (four bands).....	41

A.4.3.2B.2.3.4	Inter-band EN-DC within FR1 (five bands).....	43
A.4.3.2B.2.3.5	Inter-band EN-DC within FR1 (six bands)	44
A.4.3.2B.2.3.6	Inter-band EN-DC including FR2 (two bands)	45
A.4.3.2B.2.3.7	Inter-band EN-DC including FR2 (three bands)	48
A.4.3.2B.2.3.8	Inter-band EN-DC including FR2 (four bands)	51
A.4.3.2B.2.3.9	Inter-band EN-DC including FR2 (five bands).....	54
A.4.3.2B.2.3.10	Inter-band EN-DC including FR2 (six bands)	54
A.4.3.2B.2.3.11	Inter-band EN-DC including FR1 and FR2 (three bands)	55
A.4.3.2B.2.3.12	Inter-band EN-DC including FR1 and FR2 (four bands).....	55
A.4.3.2B.2.3.13	Inter-band EN-DC including FR1 and FR2 (five bands)	56
A.4.3.2B.2.3.14	Inter-band EN-DC including FR1 and FR2 (six bands).....	56
A.4.3.3	PDCP Implementation Capabilities	57
A.4.3.4	RLC Implementation Capabilities	57
A.4.3.5	MAC Implementation Capabilities	57
A.4.3.6	Measurement Capabilities.....	58
A.4.3.7	General Capabilities.....	61
A.4.3.8	Mobility Capabilities	62
A.4.4	Additional information	64
Annex B (informative):	Change history	66
History		69

Foreword

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

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

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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- 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 38.523: "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 to 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_Sup p	NR Band 257
2	NR Frequency band: 24250-27500 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand258_PC1_Sup p	NR Band 258
3	NR Frequency band: 37000-40000 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand260_PC1_Sup p	NR Band 260
4	NR Frequency band: 27500–28350 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand261_PC1_Sup p	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_Sup p	NR Band 257
2	NR Frequency band: 24250-27500 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand258_PC4_Sup p	NR Band 258
3	NR Frequency band: 37000-40000 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand260_PC4_Sup p	NR Band 260
4	NR Frequency band: 27500–28350 MHz	38.101-2, 6.2.1	Rel-15	pc_nrBand261_PC4_Sup p	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.4.3.1-8: Inter-band EN-DC within FR1 TDD-TDD PC2 UE RF Baseline Implementation Capabilities

Item	Inter-band EN-DC within FR1 TDD-TDD 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

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 aggregationFactorIUL > 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		

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 in Tables A.4.3.2A.2.1-3, A.4.3.2A.2.2-3, A.4.3.2A.3.2-3 and A.4.3.2A.4-3)

Item	Bandwidth Class	Ref.	Comments
1	DL NR CA with 2 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	(Note 1)
2	DL NR CA with 3 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
3	DL NR CA with 4 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
4	DL NR CA with 5 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
5	DL NR CA with 6 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
6	DL NR CA with 7 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
7	DL NR CA with 8 carriers	38.101-1, 5.3A 38.101-2, 5.3A 38.101-3, 5.3A	
Note 1: 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].			

Table A.4.3.2A.1-2: Uplink CA capabilities (for one or more of the supported NR CA configurations in Tables A.4.3.2A.2.1-3, A.4.3.2A.2.2-3, A.4.3.2A.3.2-3 and A.4.3.2A.4-3)

Item	Bandwidth Class	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_9CC	

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	Bandwidth Class	Ref.	Comments
1	DL NR FR1 Intra-band contiguous CA BW Class A	38.101-1, 5.3A.5	
2	DL NR FR1 Intra-band contiguous CA BW Class B	38.101-1, 5.3A.5	
3	DL NR FR1 Intra-band contiguous CA BW Class C	38.101-1, 5.3A.5	
4	DL NR FR1 Intra-band contiguous CA BW Class D	38.101-1, 5.3A.5	
5	DL NR FR1 Intra-band contiguous CA BW Class E	38.101-1, 5.3A.5	
6	DL NR FR1 Intra-band contiguous CA BW Class F	38.101-1, 5.3A.5	
7	DL NR FR1 Intra-band contiguous CA BW Class G	38.101-1, 5.3A.5	
8	DL NR FR1 Intra-band contiguous CA BW Class H	38.101-1, 5.3A.5	
9	DL NR FR1 Intra-band contiguous CA BW Class I	38.101-1, 5.3A.5	
10	DL NR FR1 Intra-band contiguous CA BW Class J	38.101-1, 5.3A.5	
11	DL NR FR1 Intra-band contiguous CA BW Class K	38.101-1, 5.3A.5	
12	DL NR FR1 Intra-band contiguous CA BW Class L	38.101-1, 5.3A.5	

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	Bandwidth Class	Ref.	Comments
1	UL NR FR1 Intra-band contiguous CA BW Class A	38.101-1, 5.3A.5	
2	UL NR FR1 Intra-band contiguous CA BW Class B	38.101-1, 5.3A.5	
3	UL NR FR1 Intra-band contiguous CA BW Class C	38.101-1, 5.3A.5	
4	UL NR FR1 Intra-band contiguous CA BW Class D	38.101-1, 5.3A.5	
5	UL NR FR1 Intra-band contiguous CA BW Class E	38.101-1, 5.3A.5	
6	UL NR FR1 Intra-band contiguous CA BW Class F	38.101-1, 5.3A.5	
7	UL NR FR1 Intra-band contiguous CA BW Class G	38.101-1, 5.3A.5	
8	UL NR FR1 Intra-band contiguous CA BW Class H	38.101-1, 5.3A.5	
9	UL NR FR1 Intra-band contiguous CA BW Class I	38.101-1, 5.3A.5	
10	UL NR FR1 Intra-band contiguous CA BW Class J	38.101-1, 5.3A.5	
11	UL NR FR1 Intra-band contiguous CA BW Class K	38.101-1, 5.3A.5	
12	UL NR FR1 Intra-band contiguous CA BW Class L	38.101-1, 5.3A.5	

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

NR 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_n78B	Rel-16			
CA_n78C	Rel-15			
CA_n79C	Rel-15			
CA_n77D	Rel-15			
CA_n78D	Rel-15			
CA_n79D	Rel-15			
<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.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 X is the 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	Bandwidth Class	Ref.	Comments
1	DL NR FR2 Intra-band contiguous CA BW Class A	38.101-2, 5.3A.4	
2	DL NR FR2 Intra-band contiguous CA BW Class B	38.101-2, 5.3A.4	
3	DL NR FR2 Intra-band contiguous CA BW Class C	38.101-2, 5.3A.4	
4	DL NR FR2 Intra-band contiguous CA BW Class D	38.101-2, 5.3A.4	
5	DL NR FR2 Intra-band contiguous CA BW Class E	38.101-2, 5.3A.4	
6	DL NR FR2 Intra-band contiguous CA BW Class F	38.101-2, 5.3A.4	
7	DL NR FR2 Intra-band contiguous CA BW Class G	38.101-2, 5.3A.4	
8	DL NR FR2 Intra-band contiguous CA BW Class H	38.101-2, 5.3A.4	
9	DL NR FR2 Intra-band contiguous CA BW Class I	38.101-2, 5.3A.4	
10	DL NR FR2 Intra-band contiguous CA BW Class J	38.101-2, 5.3A.4	
11	DL NR FR2 Intra-band contiguous CA BW Class K	38.101-2, 5.3A.4	
12	DL NR FR2 Intra-band contiguous CA BW Class L	38.101-2, 5.3A.4	
13	DL NR FR2 Intra-band contiguous CA BW Class M	38.101-2, 5.3A.4	
14	DL NR FR2 Intra-band contiguous CA BW Class O	38.101-2, 5.3A.4	
15	DL NR FR2 Intra-band contiguous CA BW Class P	38.101-2, 5.3A.4	
16	DL NR FR2 Intra-band contiguous CA BW Class Q	38.101-2, 5.3A.4	

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	Bandwidth Class	Ref.	Comments
0	UL NR FR2 Intra-band contiguous CA BW Class A	38.101-2, 5.3A.4	
1	UL NR FR2 Intra-band contiguous CA BW Class B	38.101-2, 5.3A.4	
2	UL NR FR2 Intra-band contiguous CA BW Class C	38.101-2, 5.3A.4	
3	UL NR FR2 Intra-band contiguous CA BW Class D	38.101-2, 5.3A.4	
4	UL NR FR2 Intra-band contiguous CA BW Class E	38.101-2, 5.3A.4	
5	UL NR FR2 Intra-band contiguous CA BW Class F	38.101-2, 5.3A.4	
6	UL NR FR2 Intra-band contiguous CA BW Class G	38.101-2, 5.3A.4	
7	UL NR FR2 Intra-band contiguous CA BW Class H	38.101-2, 5.3A.4	
8	UL NR FR2 Intra-band contiguous CA BW Class I	38.101-2, 5.3A.4	
9	UL NR FR2 Intra-band contiguous CA BW Class J	38.101-2, 5.3A.4	
10	UL NR FR2 Intra-band contiguous CA BW Class K	38.101-2, 5.3A.4	
11	UL NR FR2 Intra-band contiguous CA BW Class L	38.101-2, 5.3A.4	
12	UL NR FR2 Intra-band contiguous CA BW Class M	38.101-2, 5.3A.4	
13	UL NR FR2 Intra-band contiguous CA BW Class O	38.101-2, 5.3A.4	
14	UL NR FR2 Intra-band contiguous CA BW Class P	38.101-2, 5.3A.4	
15	UL NR FR2 Intra-band contiguous CA BW Class Q	38.101-2, 5.3A.4	

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

NR 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 [x1] 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 [x1] Table 5.5A.1-1. For this release of specification valid choices are 'N', 'XB' and 'XC', where X is the band. For example, for CA_1C, N would mean only DL CA, '1C' would mean both DL and UL CA.
Note 3:	The UE supplier shall indicate the supported Bandwidth Combination Set(s) as per TS 38.101-2 [x1] 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	Bandwidth Class	Ref.	Comments
1	DL NR FR1 Intra-band non-contiguous CA BW Class Combination 2A	38.101-2, 5.3A.5	

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	Bandwidth Class	Ref.	Comments
1	UL NR FR1 Intra-band non-contiguous CA BW Class Combination 2A	38.101-2, 5.3A.5	

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

NR 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 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	Bandwidth Class	Ref.	Comments
1	DL NR FR2 Intra-band non-contiguous CA BW Class Combination 2A	38.101-2, 5.3A.5	

Table A.4.3.2A.3.2-2: Uplink Bandwidth Class capabilities 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	Bandwidth Class	Ref.	Comments
1	UL NR FR2 Intra-band non-contiguous CA BW Class Combination 2A	38.101-2, 5.3A.5	

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

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A.4.3.2A.4 NR Inter-band CA

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	Bandwidth Class	Ref.	Comments
1	DL NR FR1 Inter-band CA BW Class Combination A-A (two bands)	38.101-1, 5.3A.5	
2	DL NR FR1 Inter-band CA BW Class Combination A-C (two bands)	38.101-1, 5.3A.5	
3	DL NR FR1 Inter-band CA BW Class Combination 2A-C (two bands)	38.101-1, 5.3A.5	
4	DL NR FR1 Inter-band CA BW Class Combination B-A (two bands)	38.101-1, 5.3A.5	

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

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

NR 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	Rel-16			
CA_n66B-n70A	Rel-16			
CA_n66(2A)-n70A	Rel-16			
CA_n66A-n71A	Rel-16			
CA_n66B-n71A	Rel-16			
CA_n66(2A)-n71A	Rel-16			
CA_n70A-n71A	Rel-16			
CA_n78A-n79A	Rel-15			
<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.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 X is the 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.3-1.</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.4.1-3) 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.</p>				

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	Bandwidth Class	Ref.	Comments
1	DL NR FR1 Inter-band CA BW Class Combination A-A-A (three bands)	38.101-1, 5.3A.5	

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

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

NR 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	Rel-16			
CA_n66B-n70A-n71A	Rel-16			
CA_n66(2A)-n70A-n71A	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.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 X is the 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>				

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	Bandwidth Class (FR1-FR2)	Ref.	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, 5.3A.1	
2	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, 5.3A.1	
3	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, 5.3A.1	
4	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, 5.3A.1	
5	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, 5.3A.1	
6	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, 5.3A.1	
7	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, 5.3A.1	
8	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, 5.3A.1	
9	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, 5.3A.1	
10	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, 5.3A.1	
11	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, 5.3A.1	
12	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, 5.3A.1	
13	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, 5.3A.1	
14	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, 5.3A.1	
15	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, 5.3A.1	

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.2.1 Intra-band contiguous EN-DC in FR1

Table A.4.3.2B.2.1-1: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	
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	
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	

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

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

Table A.4.3.2B.2.2-1: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	
2	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	
3	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	

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.				

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: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	
2	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	
3	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	
4	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	
5	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	
6	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	
7	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	
8	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	

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_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_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_n66A	Rel-15			
DC_5A_n78A	Rel-15			
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_n41A	Rel-16			
DC_8A_n78A	Rel-15			
DC_12A_n66A	Rel-15			
DC_12A_n78A	Rel-15			
DC_13A_n66A	Rel-15			
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_n41A	Rel-16			
DC_41A_n79A	Rel-15			
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 Classes A and NR band n28 with NR DL CA Bandwidth Class A.				

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

Table A.4.3.2B.2.3.2-1: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	Comments
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	

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-19A_n78A	Rel-15			
DC_1A-19A_n79A	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-66A_n41A	Rel-16			
DC_2A-66A_n5A	Rel-15			
DC_2A-66A_n71A	Rel-15			
DC_2A-(n)71AA	Rel-15			
DC_3A-19A_n78A	Rel-15			
DC_3A-19A_n79A	Rel-15			
DC_3A-21A_n78A	Rel-15			
DC_3A-21A_n79A	Rel-15			
DC_3A_n28A-n78A	Rel-15			
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_n28A-n78A	Rel-15			
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: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	
2	Inter-band EN-DC within FR1 BW Class Combination C-A-A_A, A-C-A_A or A-A-C_A (four bands)	36.101, 5.6A.1 38.101-1, 5.5B.4.3	
3	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	
4	Inter-band EN-DC within FR1 BW Class Combination A-A_A (four bands)	36.101, 5.6A.1 38.101-1, 5.5B.4.3	
5	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	

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-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-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-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-66A-(n)71AA	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 on 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: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	
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	
3	Inter-band EN-DC within FR1 BW Class Combination A-A-A-C_A, A-A-C-A_A, A-C-A-A_A or C-A-A-A_A (five bands)	36.101, 5.6A.1 38.101-1, 5.5B.4.4	

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-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 on 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: 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	Bandwidth Class (E-UTRA/NR FR1)	Ref.	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	

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 on 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.				

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

Table A.4.3.2B.2.3.6-1: 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	Bandwidth Class (E-UTRA/NR FR2)	Ref.	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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
17	Inter-band EN-DC including FR2 BW Class Combination A-A_A (two bands)	36.101, 5.6A.1 38.101-3, 5.5B.5.1	
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	
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	
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	
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	

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	
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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 on E-UTRA DL Bandwidth Classes 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: 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	Bandwidth Class (E-UTRA/NR FR2)	Ref.	Comments
1	Inter-band EN-DC including FR2 BW Class Combination A-A_A (three bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.2	
2	Inter-band EN-DC including FR2 BW Class Combination A-C_A or C-A_A (three bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.2	
3	Inter-band EN-DC including FR2 BW Class Combination A-D_A or D-A_A (three bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.2	
4	Inter-band EN-DC including FR2 BW Class Combination A-E_A or E-A_A (three bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.2	

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 on 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: 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	Bandwidth Class (E-UTRA/NR FR2)	Ref.	Comments
1	Inter-band EN-DC including FR2 BW Class Combination A-A-A_A (four bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.3	
2	Inter-band EN-DC including FR2 BW Class Combination A-A-C_A, A-C-A_A or C-A-A_A (four bands)	36.101, 5.6A.1 38.101-2, 5.5B.5.3	

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 on 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: 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)

FFS

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 on 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 Inter-band EN-DC including FR2 (six bands)

Table A.4.3.2B.2.3.10-1: Bandwidth Class Combination capabilities for Inter-band EN-DC including FR2 and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.10-2)

Item	Bandwidth Class (E-UTRA/NR FR2)	Ref.	Comments
1	FFS	36.101, 5.6A.1 38.101-2, 5.5B.5.5	

Table A.4.3.2B.2.3.10-2: Supported Inter-band EN-DC configurations including FR2 (six bands)

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

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: 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	Bandwidth Class (E-UTRA/NR FR1 and FR2)	Ref.	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	

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 on E-UTRA DL Bandwidth Class A and NR CA configuration CA_n78A-n257A 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: 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	Bandwidth Class (E-UTRA/NR FR1 and FR2)	Ref.	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	
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	
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	
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	

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-19A_n257A' indicates EN-DC operation on E-UTRA CA configuration CA_1A-3A-19A on 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.2.3.13 Inter-band EN-DC including FR1 and FR2 (five bands)

Table A.4.3.2B.2.3.13-1: 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	Bandwidth Class (E-UTRA/NR FR1 and FR2)	Ref.	Comments
1	FFS	36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4	

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)
FFS	FFS			

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: 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	Bandwidth Class (E-UTRA/NR FR1 and FR2)	Ref.	Comments
1	FFS	36.101, 5.6A.1 38.101-1, 5.3A.5 38.101-2, 5.3A.4	

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

Item	Bandwidth Class (E-UTRA/NR FR1 and FR2)	Ref.	Comments
1	FFS	36.101, 5.6A 38.101-1, 5.3A.5 38.101-2, 5.3A.5	

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_pdcpc_DuplicationMCG_OrSCG_DRB	No		
4	Support PDCP duplication over split DRB	38.306, 4.2.4	Rel-15	pc_pdcpc_DuplicationSplitDRB	No		
5	Support PDCP duplication over split SRB1/2	38.306, 4.2.4	Rel-15	pc_pdcpc_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_And_RSRQ_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_eutra_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. gp2 and gp3) 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		

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_PDUE_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	24.501, 9.11.3.5	Rel-15	pc_EmergencyService_fallback	No		
12	Support of EPS fallback	24.501, 9.11.3.5	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		

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 , ΣMB _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.4.3.9-4: 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
...				
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-15	
...				
66	FDD Band n66	38.101-1, 7.2	Rel-15	
...				
70	TDD Band n70	38.101-1, 7.2	Rel-15	
...				
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

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 signaling connection as the REGISTRATION procedure.
3	Number of UE-requested PDU session establishments after REGISTRATION during the same signaling connection	24.501	Rel-15	pc_noOf_PDUs	Number of UE-requested PDU session establishments after REGISTRATION.
4	Number of UE-requested PDU session establishments after REGISTRATION in a new signaling connection	24.501	Rel-15	pc_noOf_PDUsNewConnection	Number of UE-requested PDU session establishments after REGISTRATION in a new signaling connection.

Annex B (informative): Change history

Change history							
Date	Meeting	TDoc	CR	R ev	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

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

History

Document history		
V16.4.0	July 2020	Publication