ETSI TS 138 101-3 V15.3.0 (2018-10)

5G;
NR;
User Equipment (UE) radio transmission and reception;
Part 3: Range 1 and Range 2
Interworking operation with other radios
(3GPP TS 38.101-3 version 15.3.0 Release 15)

Reference
RTS/TSGR-0438101-3vf30

Keywords
5G

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

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

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Foreword

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

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

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document establishes the minimum RF requirements for NR User Equipment (UE) Interworking operation with other radios. This includes but is not limited to additional requirements for carrier aggregation or NR dual connectivity between Range 1 and Range 2 and additional requirements due to NR non-standalone (NSA) operation mode with E-UTRA.

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 38.101-1: “NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone”

[3] 3GPP TS 38.101-2: “NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone”

[4] 3GPP TS 36.101: “Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception”

[5] 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"

[6] Recommendation ITU-R M.1545: "Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000"

3 Definitions, symbols and abbreviations

3.1 Definitions

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

<**defined term**>: <definition>.

3.2 Symbols

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

$\Delta R_{IB,c}$	Allowed reference sensitivity relaxation due to support for CA or DC operation, for serving cell *c*.
$\Delta T_{IB,c}$	Allowed maximum configured output power relaxation due to support for CA or DC operation, for serving cell *c*
$BW_{LTE\_Channel}$	Channel bandwidth of E-UTRA carrier
$BW_{LTE\_Channel\_CA}$	Channel bandwidth of E-UTRA sub-block which is composed of intra-band contiguous CA E-UTRA carriers
$BW_{NR\_Channel}$	Channel bandwidth of NR carrier
$BW_{NR\_Channel\_CA}$	Channel bandwidth of NR sub-block which is composed of intra-band contiguous CA NR carriers

Ceil(x) Rounding upwards; ceil(x) is the smallest integer such that ceil(x) ≥ x
$EN\text{-}DC_{ACLR}$ The ratio of the filtered mean power centred on the aggregated sub-block bandwidth ENBW to the filtered mean power centred on an adjacent bandwidth of the same size ENBW
$E\text{-}UTRA_{ACLR}$ E-UTRA ACLR
F_C *RF reference frequency* for the carrier center on the channel raster
F_{DL_low} The lowest frequency of the downlink *operating band*
F_{DL_high} The highest frequency of the downlink *operating band*
F_{UL_low} The lowest frequency of the uplink *operating band*
F_{UL_high} The highest frequency of the uplink *operating band*
F_{OOB} The boundary between the NR out of band emission and spurious emission domains
L_{CRB} Transmission bandwidth which represents the length of a contiguous resource block allocation expressed in units of resources blocks
Max() The largest of given numbers
Min() The smallest of given numbers
NR_{ACLR} NR ACLR
N_{RB} Transmission bandwidth configuration, expressed in units of resource blocks
P_{CMAX} The configured maximum UE output power
RB_{start} Indicates the lowest RB index of transmitted resource blocks
W_{gap} The sub-block gap between the two sub-blocks

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].

ACLR Adjacent Channel Leakage Ratio
ACS Adjacent Channel Selectivity
A-MPR Additional Maximum Power Reduction
BCS Bandwidth Combination Set
CA Carrier Aggregation
CC Component carrier
DC Dual Connectivity
EN-DC E-UTRA/NR DC
EVM Error Vector Magnitude
FR Frequency Range
ENBW The aggregated bandwidth of an E-UTRA sub-block and an adjacent NR sub-block
ITU R Radiocommunication Sector of the International Telecommunication Union
MBW Measurement bandwidth defined for the protected band
MPR Allowed maximum power reduction
MSD Maximum Sensitivity Degradation
MCG Master Cell Group
NR New Radio
NS Network Signalling
NSA Non-Standalone, a mode of operation where operation of an other radio is assisted with an other radio
OOB Out-of-band
OOBE Out-of-band emission
OTA Over The Air
PRB Physical Resource Block
RE Resource Element
REFSENS Reference Sensitivity
RF Radio Frequency
Rx Receiver
SCG Secondary Cell Group
SCS Subcarrier spacing
SEM Spectrum Emission Mask
SUL Supplementary uplink
TDM Time Division Multiplex
Tx Transmitter
UE User Equipment
UL-MIMO Up Link Multiple Antenna transmission

ULSUP Uplink sharing from UE perspective

4 General

4.1 Relationship between minimum requirements and test requirements

The present document is interwork specification for NR UE, covering RF characteristics and minimum performance requirements. Conformance to the present specification is demonstrated by fulfilling the test requirements specified in the conformance specification 3GPP TS 38.521-3 [5].

The Minimum Requirements given in this specification make no allowance for measurement uncertainty. The test specification TS 38.521-3 [5] defines test tolerances. These test tolerances are individually calculated for each test. The test tolerances are used to relax the minimum requirements in this specification to create test requirements. For some requirements, including regulatory requirements, the test tolerance is set to zero.

The measurement results returned by the test system are compared - without any modification - against the test requirements as defined by the shared risk principle.

The shared risk principle is defined in Recommendation ITU-R M.1545 [6].

4.2 Applicability of minimum requirements

a) In this specification the Minimum Requirements are specified as general requirements and additional requirements. Where the Requirement is specified as a general requirement, the requirement is mandated to be met in all scenarios

b) For specific scenarios for which an additional requirement is specified, in addition to meeting the general requirement, the UE is mandated to meet the additional requirements.

c) The spurious emissions power requirements are for the long-term average of the power. For the purpose of reducing measurement uncertainty it is acceptable to average the measured power over a period of time sufficient to reduce the uncertainty due to the statistical nature of the signal

d) Terminal that supports EN-DC configuration shall meet E-UTRA requirements as specified in TS 36.101 [4] and NR requirements as in TS 38.101-1 [2] and TS 38.101-2 [3] unless otherwise specified in this specification

4.3 Specification suffix information

Unless stated otherwise the following suffixes are used for indicating at 2nd level subclause, shown in Table 4.3-1.

Table 4.3-1: Definition of suffixes

Clause suffix	Variant
None	Single Carrier
A	Carrier Aggregation (CA)
B	Dual-Connectivity (DC) with and without SUL including UL sharing from UE perspective
C	
D	UL MIMO

5 Operating bands and channel arrangement

5.1 General

The channel arrangements presented in this clause are based on the operating bands and channel bandwidths defined in the present release of specifications.

NOTE: Other operating bands and channel bandwidths may be considered in future releases.

Requirements throughout the RF specifications are in many cases defined separately for different frequency ranges (FR). The frequency ranges in which NR can operate according to this version of the specifications are identified as described in Table 5.1-1.

Table 5.1-1: Definition of frequency ranges

Frequency range designation	Corresponding frequency range
FR1	450 MHz – 6000 MHz
FR2	24250 MHz – 52600 MHz

The present specification covers band combinations including

- at least one FR1 operating band and one FR2 operating band for carrier aggregation and dual connectivity operations;
- at least one E-UTRA operating band for dual connectivity operations.

5.2 Operating bands

NR is designed to operate in FR1 operating bands defined in TS 38.101-1 [2] and FR2 operating bands defined in TS 38.101-2 [3]. E-UTRA is designed to operate in operating bands defined in TS 36.101 [4].

Editor's note: The lists of specific NR operating bands and band combinations is maintained in TR 38.817-01 and will be merged into TS 38.101-3 in a future version.

5.2A Operating bands for CA

5.2A.1 Inter-band CA between FR1 and FR2

NR carrier aggregation are designed to operate in the operating bands defined in Table 5.2A.1-1. The band combinations include at least one FR1 operating band and one FR2 operating band.

Table 5.2A.1-1: Band combinations for NR CA

NR CA Band	NR Band
CA_n8-n258	n8, n258
CA_n71-n257[1]	n71, n257
CA_n77-n257[1]	n77, n257
CA_n78-n257[1]	n78, n257
CA_n79-n257[1]	n79, n257
NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability.	

5.2B Operating bands for DC

5.2B.1 General

The operating bands are specified for operation with EN-DC or NGEN-DC, NR-DC configured. The EN-DC or NGEN-DC band combinations include at least one E-UTRA operating band.

For EN-DC configurations indicated by column “Single Uplink allowed” (e.g., problematic band combinations as defined in TS38.306) in tables in this section the UE may indicate capability of not supporting simultaneous dual and triple uplink operation due to possible intermodulation interference to its own primary downlink channel bandwidth if the intermodulation order is 2 or if the intermodulation order is 3 for the combinations when both operating bands are below are between 450 MHz – 960 MHz or between 1427 MHz – 2690 MHz. In case for the EN-DC configurations listed in tables in this section for which the intermodulation products caused by the dual and triple uplink operation fall into the recive band but do not interfere with the own primary downlink channel bandwidth as defined in Annex-I the UE is mandated to operate in dual and triple uplink mode. Single Uplink is also allowed for certain band combinations where intermodulation or reverse intermodulation products could create difficulty for meeting emission requirements.

5.2B.2 Intra-band contiguous EN-DC

<Editor’s note: conducted requirements>

5.2B.2.1 EN-DC

Table 5.2B.2.1-1: Band combinations for intra-band contiguous EN-DC

EN-DC band	E-UTRA Band	NR Band	Single UL allowed
DC_(n)71	71	n71	No[3]
DC_(n)41	41	n41	Yes[1]
NOTE 1: Single UL allowed due to potential emission issues, not self-interference. NOTE 2: The minimum requirements apply for 15 kHz subcarrier spacing on the SCG. NOTE 3: For UE(s) supporting dynamic power sharing it is mandatory to do dual simultaneous UL. For UE(s) not supporting dynamic power sharing single UL is allowed.			

5.2B.3 Intra-band non-contiguous EN-DC

<Editor’s note: conducted requirements>

5.2B.3.1 EN-DC

Table 5.2B.3.1-1: Band combinations intra-band contiguous EN-DC

EN-DC Band Uplink Combination	E-UTRA Band	NR Band	Single UL allowed
DC_3_n3	3	n3	Yes[1]
DC_41_n41	41	n41	Yes
NOTE 1: Only single switched UL is supported in Rel.15			

5.2B.3.2 Void

5.2B.4 Inter-band EN-DC within FR1

<Editor’s note: conducted requirements>

5.2B.4.1 EN-DC (two bands)

Table 5.2B.4.1-1: Band combinations for EN-DC (two bands)

EN-DC band	E-UTRA Band	NR Band	Single UL allowed
DC_1_n28	1	n28	No
DC_1_n40	1	n40	No
DC_1_n51	1	n51	No
DC_1_n77[3]	1	n77	DC_1_n77
DC_1_n78[3]	1	n78	No
DC_1_n79[3]	1	n79	No
DC_2_n5	2	n5	No
DC_2_n66	2	n66	DC_2_n66
DC_2_n71	2	n71	No
DC_2_n78	2	n78	DC_2_n78
DC_3_n7	3	n7	No
DC_3_n28	3	n28	No
DC_3_n40	3	n40	No
DC_3_n51	3	n51	No
DC_3_n77[3]	3	n77	DC_3_n77
DC_3_n78[3]	3	n78	DC_3_n78
DC_3_n79[3]	3	n79	No
DC_5_n40	5	n40	No
DC_5_n66	5	n66	DC_5_n66
DC_5_n78[3]	5	n78	No
DC_7_n28	7	n28	No
DC_7_n51	7	n51	No
DC_7_n78[3]	7	n78	No
DC_8_n40	8	n40	No
DC_8_n77[3]	8	n77	No
DC_8_n78[3]	8	n78	No
DC_8_n79[3]	8	n79	No
DC_11_n77[3]	11	n77	No
DC_11_n78[3]	11	n78	No
DC_11_n79[3]	11	n79	No
DC_12_n5	12	n5	No
DC_12_n66	12	n66	No
DC_18_n77[3]	18	n77	No
DC_18_n78[3]	18	n78	No
DC_18_n79[3]	18	n79	No
DC_19_n77[3]	19	n77	No
DC_19_n78[3]	19	n78	No
DC_19_n79[3]	19	n79	No
DC_20_n8	20	n8	DC_20_n8
DC_20_n28[4]	20	n28	No
DC_20_n51	20	n51	No
DC_20_n77	20	n77	No
DC_20_n78[3]	20	n78	No
DC_21_n77[3]	21	n77	No
DC_21_n78[3]	21	n78	No
DC_21_n79[3]	21	n79	No

EN-DC band	E-UTRA Band	NR Band	Single UL allowed
DC_25_n41	25	n41	No
DC_26_n41[3]	26	n41	No
DC_26_n77[3]	26	n77	No
DC_26_n78[3]	26	n78	No
DC_26_n79[3]	26	n79	No
DC_28_n51	28	n51	No
DC_28_n77[3]	28	n77	No
DC_28_n78[3]	28	n78	No
DC_28_n79[3]	28	n79	No
DC_30_n5	30	n5	No
DC_30_n66	30	n66	No
DC_38_n78	38	n78	No
DC_39_n78[1,3]	39	n78	No
DC_39_n79[3]	39	n79	No
DC_40_n77	40	n77	No
DC_41_n77	41	n77	No
DC_41_n78	41	n78	No
DC_41_n79[2,3]	41	n79	No
DC_42_n51	42	n51	No
DC_42_n77	42	n77	No
DC_42_n78	42	n78	No
DC_42_n79	42	n79	No
DC_66_n71	66	n71	No
DC_66_n5	66	n5	No
DC_66_n78	66	n78	No

NOTE 1: The frequency range above 3600MHz for Band n78 is not used in this combination.
NOTE 2: The frequency range below 2506MHz for Band 41 is not used in this combination.
NOTE 3: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability.
NOTE 4: The frequency range in band 28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.

5.2B.4.2 EN-DC (three bands)

Table 5.2B.4.2-1: Band combinations EN-DC (three bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3_n28	CA_1-3	n28	No
DC_1-3_n77[2]	CA_1-3	n77	DC_1_n77, DC_3_n77
DC_1-3_n78[2]	CA_1-3	n78	DC_3_n78
DC_1-3_n79[2]	CA_1-3	n79	No
DC_1-5_n78[2]	CA_1-5	n78	No
DC_1-5_n78[2]	CA_1-5	n78	No
DC_1-7_n28[2]	CA_1-7	n28	No
DC_1-7_n78 [2]	CA_1-7	n78	No
DC_1-7-7_n78[2]	CA_1-7-7	n78	No
DC_1-8_n78[2]	CA_1-8	n78	No
DC_1-18_n77[2]	CA_1-18	n77	No
DC_1-18_n78[2]	CA_1-18	n78	No
DC_1-18_n79	CA_1-18	n79	No
DC_1-19_n77[2]	CA_1-19	n77	DC_1_n77
DC_1-19_n78[2]	CA_1-19	n78	No
DC_1-19_n79[2]	CA_1-19	n79	No
DC_1-20_n28[3]	CA_1-20	n28	No
DC_1-20_n78[2]	CA_1-20	n78	No
DC_1-21_n77[2]	CA_1-21	n77	DC_1_n77
DC_1-21_n78[2]	CA_1-21	n78	No
DC_1-21_n79[2]	CA_1-21	n79	No
DC_1-28_n77[2]	CA_1-28	n77	No
DC_1-28_n78[2]	CA_1-28	n78	No
DC_1-28_n79	CA_1-28	n79	No
DC_1_n28-n78[2]	1	CA_n28-n78	No
DC_1_n77-n79	1	CA_n77-n79	No
DC_1_n78-n79	1	CA_n78-n79	No
DC_1-41_n77	CA_1-41	n77	No
DC_1-41_n78	CA_1-41	n78	No
DC_1-41_n79	CA_1-41	n79	No
DC_1-42_n77	CA_1-42	n77	DC_1_n77
DC_1-42_n78	CA_1-42	n78	No
DC_1-42_n79	CA_1-42	n79	No
DC_1_SUL_n78-n84[2]	1	SUL_n78-n84	No
DC_2-5_n66	CA_2-5	n66	No
DC_2-12_n66	CA_2-12	n66	No
DC_2-30_n66	CA_2-30	n66	No
DC_2-(n)71	CA_2-71	n71	No
DC_2-66_n71	CA_2-66	n71	No
DC_3_n3-n77	3	CA_n3-n77	DC_3_n3
DC_3_n3-n78	3	CA_n3-n78	DC_3_n3
DC_1-28_n77	CA_1-28	n77	No
DC_3-5_n78[2]	CA_3-5	n78	DC_3_n78
DC_3-7_n28	CA_3-7	n28	No
DC_3-7_n78[2]	CA_3-7	n78	DC_3_n78
DC_3-7-7_n78[2]	CA_3-7-7	n78	DC_3_n78

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_3-19_n77[2]	CA_3-19	n77	No
DC_3-19_n78[2]	CA_3-19	n78	No
DC_3-19_n79[2]	CA_3-19	n79	No
DC_3-20_n28[2,3]	CA_3-20	n28	No
DC_3-20_n78[2]	CA_3-20	n78	No
DC_3-21_n77[2]	CA_3-21	n77	No
DC_3-21_n78[2]	CA_3-21	n78	No
DC_3-21_n79[2]	CA_3-21	n79	No
DC_3-28_n78[2]	CA_3-28	n78	No
DC_3_n28-n78[2]	3	CA_n28-n78	DC_3_n78
DC_3-38_n78	CA_3-38	n78	DC_3_n78
DC_3-41_n78	CA_3-41	n78	DC_3_n78
DC_3-42_n77	CA_3-42	n77	DC_3_n77
DC_3-42_n78	CA_3-42	n78	DC_3_n78
DC_3-42_n79	CA_3-42	n79	No
DC_3_n77-n79	3	CA_n77-n79	No
DC_3_n78-n79	3	CA_n78-n79	No
DC_3_SUL_n78-n80[2]	3	SUL_n78-n80	DC_3_n78
DC_3_SUL_n78-n82[2]	3	SUL_n78-n82[1]	DC_3_n78
DC_3_SUL_n79-n80[2]	3	SUL_n79-n80	No
DC_5-7-7_n78	CA_5-7-7	n78	No
DC_5-7_n78	CA_5-7	n78	No
DC_5-30_n66	CA_5-30	n66	No
DC_7-7_n78	CA_7-7	n78	No
DC_7-20_n28[3]	CA_7-20	n28	No
DC_7-20_n78[2]	CA_7-20	n78	No
DC_7-28_n78[2]	CA_7-28	n78	No
DC_7_n28-n78[2]	7	CA_n28-n78	No
DC_7_n78[2]	CA_7	n78	No
DC_7-46_n78	CA_7-46	n78	No
DC_8_SUL_n78-n81[2]	8	SUL_n78-n81	No
DC_8_SUL_n79-n81[2]	8	SUL_n79-n81	No
DC_12-30_n66	CA_12-30	n66	No
DC_18-28_n77[2]	CA_18-28	n77	No
DC_18-28_n78[2]	CA_18-28	n78	No
DC_18-28_n79[2]	CA_18-28	n79	No
DC_19-21_n77[2]	CA_19-21	n77	No
DC_19-21_n78[2]	CA_19-21	n78	No
DC_19-21_n79[2]	CA_19-21	n79	No
DC_19-42_n77	CA_19-42	n77	No
DC_19-42_n78	CA_19-42	n78	No
DC_19-42_n79	CA_19-42	n79	No
DC_19_n77-n79	19	CA_n77-n79	No
DC_19_n78-n79	19	CA_n78-n79	No
DC_20_n8-n75	20	CA_n8-n75	DC_20_n8
DC_20_n28-n75[3]	20	CA_n28-n75	No

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_20_n28-n78[2,3]	20	CA_n28-n78	No
DC_20_n75-n78[2]	20	CA_n75-n78	No
DC_20_n76-n78[2]	20	CA_n76-n78	No
DC_20_SUL_n78-n82[2]	20	SUL_n78-n82	No
DC_20_SUL_n78-n83[2]	20	SUL_n78-n83[1]	No
DC_21-42_n77	CA_21-42	n77	No
DC_21-42_n78	CA_21-42	n78	No
DC_21-42_n79	CA_21-42	n79	No
DC_21_n77-n79	21	CA_n77-n79	No
DC_21_n78-n79	21	CA_n78-n79	No
DC_28-42_n77	CA_28-42	n77	No
DC_28-42_n78	CA_28-42	n78	No
DC_28-42_n79	CA_28-42	n79	No
DC_41-42_n77	CA_41-42	n77	No
DC_41-42_n78	CA_41-42	n78	No
DC_41-42_n79	CA_41-42	n79	No
DC_41_n77	CA_41	n77	No
DC_41_n78	CA_41	n78	No
DC_41_n79	CA_41	n79	No
DC_42_n77	CA_42	n77	No
DC_28_SUL_n78-n83[2]	28	SUL_n78-n83	No
DC_42_n77	CA_42	n77	No
DC_42_n78	CA_42	n78	No
DC_42_n79	CA_42	n79	No
DC_66_(n)71	CA_66-71	n71	No
DC_66_SUL_n78-n86[2]	66	SUL_n78-n86	DC_66_n78

NOTE 1: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier can be up to 140us.
NOTE 2: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability
NOTE 3: The frequency range in band 28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.

5.2B.4.3 EN-DC (four bands)

Table 5.2B.4.3-1: Band combinations EN-DC (four bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5_n78[1]	CA_1-3-5	n78	DC_3_n78
DC_1-3-7_n28	CA_1-3-7	n28	No
DC_1-3-7-7_n78[1]	CA_1-3-7-7	n78	DC_3_n78
DC_1-3-7_n78[1]	CA_1-3-7	n78	DC_3_n78
DC_1-3-8_n78[1]	CA_1-3-8	n78	No
DC_1-3-28_n77[1]	CA_1-3-28	n77	No
DC_1-3-28_n78[1]	CA_1-3-28	n78	No
DC_1-3_n28-n78[1]	CA_1-3	CA_n28-n78	DC_3_n78
DC_1-3-28_n79[1]	CA_1-3-28	n79	No
DC_1-3-19_n77[1]	CA_1-3-19	n77	DC_1_n77, DC_3_n77
DC_1-3-19_n78[1]	CA_1-3-19	n78	DC_3_n78
DC_1-3-19_n79[1]	CA_1-3-19	n79	No
DC_1-3-20_n28[2]	CA_1-3-20	n28	No
DC_1-3-20_n78[1]	CA_1-3-20	n78	DC_3_n78
DC_1-3-21_n77[1]	CA_1-3-21	n77	DC_1_n77, DC_3_n77
DC_1-3-21_n78[1]	CA_1-3-21	n78	DC_3_n78
DC_1-3-21_n79[1]	CA_1-3-21	n79	No
DC_1-3-42_n77	CA_1-3-42	n77	DC_1_n77
DC_1-3-42_n78	CA_1-3-42	n78	No
DC_1-3-42_n79	CA_1-3-42	n79	No
DC_1-5-7_n78	CA_1-5-7	n78	No
DC_1-5-7-7_n78	CA_1-5-7-7	n78	No
DC_1-7-20_n28[2]	CA_1-7-20	n28	No
DC_1-7-20_n78[1]	CA_1-7-20	n78	No
DC_1-7_n28-n78[1]	CA_1-7	CA_n28-n78	No
DC_1-18-28_n77	CA_1-18-28	n77	No
DC_1-18-28_n78	CA_1-18-28	n78	No
DC_1-18-28_n79[1]	CA_1-18-28	n79	No
DC_1-19-42_n77	CA_1-19-42	n77	DC_1_n77
DC_1-19-42_n78	CA_1-19-42	n78	No
DC_1-19-42_n79	CA_1-19-42	n79	No
DC_1-20_n28-n78[1,2]	CA_1-20	CA_n28-n78	No
DC_1-21-28_n77[1]	CA_1-21-28	n77	No
DC_1-21-28_n78[1]	CA_1-21-28	n78	No
DC_1-21-28_n79[1]	CA_1-21-28	n79	No
DC_1-21-42_n77	CA_1-21-42	n77	DC_1_n77
DC_1-21-42_n78	CA_1-21-42	n78	No
DC_1-21-42_n79	CA_1-21-42	n79	No
DC_1-28-42_n77	CA_1-28-42	n77	No
DC_1-28-42_n78	CA_1-28-42	n78	No
DC_1-28-42_n79	CA_1-28-42	n79	No
DC_1-41-42_n77	CA_1-41-42	n77	No
DC_1-41-42_n78	CA_1-41-42	n78	No
DC_1-41-42-n79	CA_1-41-42	n79	No
DC_2-66-(n)71	CA_2-66-71	n71	
DC_3-5-7-7_n78	CA_3-5-7-7	n78	DC_3_n78

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_3-7_n28-n78[1]	CA_3-7	CA_n28-n78	DC_3_n78
DC_3-20_n28-n78[1,2]	CA_3-20	CA_n28-n78	DC_3_n78
DC_3-21-42_n77	DC_3-21-42	n77	DC_3_n77
DC_3-21-42_n78	DC_3-21-42	n78	DC_3_n78
DC_3-21-42_n79	DC_3-21-42	n79	No
DC_19-21-42_n77	CA_19-21-42	n77	No
DC_19-21-42_n78	CA_19-21-42	n78	No
DC_19-21-42_n79	CA_19-21-42	n79	No
DC_3-5-7_n78	CA_3-5-7	n78	DC_3_n78
DC_3-7-20_n28[2]	CA_3-7-20	n28	No
DC_3-7-28_n78[1]	CA_3-7-28	n78	No
DC_3-7-20_n78[1]	CA_3-7-20	n78	DC_3_n78
DC_3-19-21_n77[1]	CA_3-19-21	n77	DC_3_n77
DC_3-19-21_n78[1]	CA_3-19-21	n78	DC_3_n78
DC_3-19-21_n79[1]	CA_3-19-21	n79	No
DC_3-19-42_n77	CA_3-19-42	n77	No
DC_3-19-42_n78	CA_3-19-42	n78	No
DC_3-19-42_n79[1]	CA_3-19-42	n79	No
DC_3-28-42_n77	CA_3-28-42	n77	No
DC_3-28-42_n78	CA_3-28-42	n78	No
DC_3-28-42_n79	CA_3-28-42	n79	No
DC_7-20_n28-n78[1,2]	CA_7-20	CA_n28-n78	No
DC_21-28-42_n77	CA_21-28-42	n77	No
DC_21-28-42_n78	CA_21-28-42	n78	No
DC_21-28-42_n79	CA_21-28-42	n79	No

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability

NOTE 2: The frequency range in band 28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.

5.2B.4.4 EN-DC (five bands)

Table 5.2B.4.4-1: Band combinations EN-DC (five bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5-7_n78	CA_1-3-5-7	n78	DC_3_n78
DC_1-3-5-7-7_n78	CA_1-3-5-7-7	n78	DC_3_n78
DC_1-3-7-20_n28[2]	CA_1-3-7-20	n28	No
DC_1-3-7-20_n78[1]	CA_1-3-7-20	n78	DC_3_n78
DC_1-3-7_n28-n78[1]	CA_1-3-7	CA_n28-n78	DC_3_n78
DC_1-3-19-21_n77[1]	CA_1-3-19-21	n77	DC_1_n77, DC_3_n77
DC_1-3-19-21_n78[1]	CA_1-3-19-21	n78	DC_3_n78
DC_1-3-19-21_n79[1]	CA_1-3-19-21	n79	No
DC_1-3-19-42_n77	CA_1-3-19-42	n77	DC_1_n77, DC_3_n77
DC_1-3-19-42_n78	CA_1-3-19-42	n78	DC_3_n78
DC_1-3-19-42_n79	CA_1-3-19-42	n79	No
DC_1-3-20_n28-n78[1,2]	CA_1-3-20	CA_n28-n78	DC_3_n78
DC_1-3-21-42_n77	CA_1-3-21-42	n77	DC_1_n77, DC_3_n77
DC_1-3-21-42_n78	CA_1-3-21-42	n78	DC_3_n78
DC_1-3-21-42_n79	CA_1-3-21-42	n79	No
DC_1-7-20_n28-n78[1,2]	CA_1-7-20	CA_n28-n78	No
DC_1-19-21-42_n77	DC_1-19-21-42	n77	DC_1_n77
DC_1-19-21-42_n78	DC_1-19-21-42	n78	No
DC_1-19-21-42_n79	DC_1-19-21-42	n79	No
DC_3-7-20_n28-n78[1,2]	CA_3-7-20	CA_n28-n78	DC_3_n78
DC_1-3-5-7_n78	CA_1-3-5-7	n78	DC_3_n78
DC_1-3-7-20_n28	CA_1-3-7-20	n28	No
DC_1-3-28-42_n77	CA_1-3-28-42	n77	DC_1_n77, DC_3_n77
DC_1-3-28-42_n78	CA_1-3-28-42	n78	DC_3_n78
DC_1-3-28-42_n79	CA_1-3-28-42	n79	No
DC_1-21-28-42_n77	CA_1-21-28-42	n77	DC_1_n77
DC_1-21-28-42_n78	CA_1-21-28-42	n78	No
DC_1-21-28-42_n79	CA_1-21-28-42	n79	No

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability
NOTE 2: The frequency range in band 28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL

5.2B.4.5 EN-DC (six bands)

Table 5.2B.4.5-1: Band combinations EN-DC (six bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-7-20_n28-n78[1,2]	CA_1-3-7-20	CA_n28-n78	DC_3_n78

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability
NOTE 2: The frequency range in band 28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL

5.2B.5 Inter-band EN-DC including FR2

<Editor's note: OTA requirements>

5.2B.5.1 EN-DC (two bands)

Table 5.2B.5.1-1: Band combinations for EN-DC (two bands)

EN-DC band	E-UTRA Band	NR Band	Single UL allowed
DC_1_n257	1	n257	No
DC_2-2_n257	CA_2-2	n257	No
DC_2_n257	CA_2	n257	No
DC_2_n260	2	n260	No
DC_2_n260	CA_2	n260	No
DC_2-2_n260	CA_2-2	n260	No
DC_3_n257	3	n257	No
DC_3_n258	3	n258	No
DC_5-5_n257	CA_5-5	n257	No
DC_5-5_n260	CA_5-5	n260	No
DC_5_n257	5	n257	No
DC_5_n260	5	n260	No
DC_5_n261	5	n261	No
DC_7-7_n257	CA_7-7	n257	No
DC_7_n257	7	n257	No
DC_7_n258	7	n258	No
DC_8_n257	8	n257	No
DC_8_n258	8	n258	No
DC_11_n257	11	n257	No
DC_12_n260	12	n260	No
DC_18_n257	18	n257	No
DC_19_n257	19	n257	No
DC_20_n258	20	n258	No
DC_21_n257	21	n257	No
DC_26_n257	26	n257	No
DC_28_n257	28	n257	No
DC_28_n258	28	n258	No
DC_30_n260	30	n260	No
DC_39_n258	39	n258	No
DC_41_n257	41	n257	No
DC_41_n258	41	n258	No
DC_42_n257	42	n257	No
DC_48-48_n257	CA_48-48	n257	No
DC_48_n257	CA_48	n257	No
DC_48-48_n260	C_48-48	n260	No
DC_48_n260	CA_48	n260	No
DC_66-66_n257	CA_66-66	n257	No
DC_66_n257	66	n257	No
DC_66-66_n260	C_66-66	n260	No
DC_66_n260	66	n260	No
DC_66_n261	66	n261	No
NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability for all of the above combinations			

5.2B.5.2 EN-DC (three bands)

Table 5.2B.5.2-1: Band combinations EN-DC (three bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3_n257[1]	CA_1-3	n257	No
DC_1-3_n257[1]	CA_1-3	n257	No
DC_1-5_n257[1]	CA_1-5	n257	No
DC_1-7_n257[1]	CA_1-7	n257	No
DC_1-7-7_n257[1]	CA_1-7-7	n257	No
DC_1-8_n257	CA_1-8	n257	No
DC_1-18_n257[1]	CA_1-18	n257	No
DC_1-19_n257[1]	CA_1-19	n257	No
DC_1-21_n257[1]	CA_1-21	n257	No
DC_1-28_n257[1]	CA_1-28	n257	No
DC_1-41_n257	CA_1-41	n257	No
DC_1-42_n257	CA_1-42	n257	No
DC_2-5_n257[1]	CA_2-5	n257	No
DC_2-5_n260	CA_2-5	n260	No
DC_2-12_n260	CA_2-12	n260	No
DC_2-13_n257[1]	CA_2-13	n257	No
DC_2-30_n260	CA_2-30	n260	No
DC_2-66_n257[1]	CA_2-66	n257	No
DC_2-66_n260	CA_2-66	n260	No
DC_2-13_n260[1]	CA_2-13	n260	No
DC_3-5_n257[1]	CA_3-5	n257	No
DC_3-7_n257[1]	CA_3-7	n257	No
DC_3-7-7_n257[1]	CA_3-7-7	n257	No
DC_3-19_n257[1]	CA_3-19	n257	No
DC_3-21_n257[1]	CA_3-21	n257	No
DC_3-28_n257[1]	CA_3-28	n257	No
DC_3-41_n257	CA_3-41	n257	No
DC_3-42_n257[1]	CA_3-42	n257	No
DC_5-7-7_n257[1]	CA_5-7-7	n257	No
DC_5-7_n257[1]	CA_5-7	n257	No
DC_5-30_n260	CA_5-30	n260	No
DC_5-66_n260	CA_5-66	n260	No
DC_12-30_n260	CA_12-30	n260	No
DC_12-66_n260	CA_12-66	n260	No
DC_13-66_n257[1]	CA_13-66	n257	No
DC_13-66_n260[1]	CA_13-66	n260	No
DC_18-28_n257[1]	CA_18-28	n257	No
DC_19-21_n257[1]	CA_19-21	n257	No
DC_19-42_n257[1]	CA_19-42	n257	No
DC_21-42_n257[1]	CA_21-42	n257	No
DC_21-28_n257[1]	CA_21-28	n257	No
DC_28-42_n257[1]	CA_28-42	n257	No
DC_30-66_n260	CA_30-66	n260	No
DC_41-42_n257	CA_41-42	n257	No
NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability			

5.2B.5.3 EN-DC (four bands)

Table 5.2B.5.3-1: Band combinations EN-DC (four bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5_n257[1]	CA_1-3-5	n257	No
DC_1-3-7_n257[1]	CA_1-3-7	n257	No
DC_1-3-7-7_n257	CA_1-3-7-7	n257	No
DC_1-3-19_n257[1]	CA_1-3-19	n257	No
DC_1-3-21_n257[1]	CA_1-3-21	n257	No
DC_1-3-28_n257[1]	CA_1-3-28	n257	No
DC_1-3-42_n257	CA_1-3-42	n257	No
DC_1-5-7_n257[1]	CA_1-5-7	n257	No
DC_1-5-7-7_n257	CA_1-5-7-7	n257	No
DC_1-18-28_n257[1]	CA_1-18-28	n257	No
DC_1-19-42_n257	CA_1-19-42	n257	No
DC_1-21-28_n257[1]	CA_1-21-28	n257	No
DC_1-21-42_n257	CA_1-21-42	n257	No
DC_1-28-42_n257	CA_1-28-42	n257	No
DC_1-41-42_n257	CA_1-41-42	n257	No
DC_3-5-7-7_n257	CA_3-5-7-7	n257	No
DC_3-5-7_n257[1]	CA_3-5-7	n257	No
DC_3-19-21_n257[1]	CA_3-19-21	n257	No
DC_3-19-42_n257	CA_3-19-42	n257	No
DC_3-21-42_n257	DC_3-21-42	n257	No
DC_3-28-42_n257	CA_3-28-42	n257	No
DC_19-21-42_n257[1]	CA_19-21-42	n257	No
DC_21-28-42_n257[1]	CA_21-28-42	n257	No

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability

5.2B.5.4 EN-DC (five bands)

Table 5.2B.5.4-1: Band combinations EN-DC (five bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5-7_n257[1]	CA_1-3-5-7	n257	No
DC_1-3-5-7-7_n257[1]	CA_1-3-5-7-7	n257	No
DC_1-3-19-21_n257[1]	CA_1-3-19-21	n257	No
DC_1-3-19-42_n257	CA_1-3-19-42	n257	No
DC_1-3-21-42_n257	CA_1-3-21-42	n257	No
DC_1-3-28-42_n257	CA_1-3-28-42	n257	No
DC_1-19-21-42_n257	DC_1-19-21-42	n257	No
DC_1-21-28-42_n257	DC_1-21-28-42	n257	No
DC_3-5-7-7_n257	CA_3-5-7-7	n257	No
DC_1-3-28-42_n257	CA_1-3-28-42	n257	No
DC_1-21-28-42_n257	CA_1-21-28-42	n257	No

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability

5.2B.6 Inter-band EN-DC including both FR1 and FR2

<Editor's note: OTA requirements>

5.2B.6.1 EN-DC (two bands)

This section is N/A

5.2B.6.2 EN-DC (three bands)

Table 5.2B.6.2-1: Band combinations EN-DC (three bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1_n77-n257	1	CA_n77-n257	No
DC_1_n78-n257	1	CA_n78-n257	No
DC_1_n79-n257	1	CA_n79-n257	No
DC_3_n77-n257	3	CA_n77-n257	No
DC_3_n78-n257	3	CA_n78-n257	No
DC_3_n79-n257	3	CA_n79-n257	No
DC_5_n78-n257[1]	5	CA_n78-n257	No
DC_7-7_n78-n257	CA_7-7	CA_n78-n257	No
DC_7_n78-n257	7	CA_n78-n257	No
DC_19_n77-n257	19	CA_n77-n257	No
DC_19_n78-n257	19	CA_n78-n257	No
DC_19_n79-n257	19	CA_n79-n257	No
DC_21_n77-n257	21	CA_n77-n257	No
DC_21_n78-n257	21	CA_n78-n257	No
DC_21_n79-n257	21	CA_n79-n257	No

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability

5.2B.6.3 EN-DC (four bands)

Table 5.2B.6.3-1: Band combinations EN-DC (four bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3_n78-n257	CA_1-3	CA_n78-n257	No
DC_1-5_n78-n257	CA_1-5	CA_n78-n257	No
DC_1-7-7_n78-n257	CA_1-7-7	CA_n78-n257	No
DC_1-7_n78-n257	CA_1-7	CA_n78-n257	No
DC_3-5_n78-n257	CA_3-5	CA_n78-n257	No
DC_3-7-7_n78-n257	CA_3-7-7	CA_n78-n257	No
DC_3-7_n78-n257	CA_3-7	CA_n78-n257	No
DC_5-7-7_n78-n257	CA_5-7-7	CA_n78-n257	No
DC_5-7_n78-n257	CA_5-7	CA_n78-n257	No

5.2B.6.4 EN-DC (five bands)

Table 5.2B.6.4-1: Band combinations EN-DC (five bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5_n78-n257	CA_1-3-5	CA_n78-n257	No
DC_1-3-7-7_n78-n257	CA_1-3-7-7	CA_n78-n257	No
DC_1-3-7_n78-n257	CA_1-3-7	CA_n78-n257	No
DC_1-5-7-7_n78-n257	CA_1-5-7-7	CA_n78-n257	No
DC_1-5-7_n78-n257	CA_1-5-7	CA_n78-n257	No
DC_3-5-7-7_n78-n257	CA_3-5-7-7	CA_n78-n257	No
DC_3-5-7_n78-n257	CA_3-5-7	CA_n78-n257	No

5.2B.6.5 EN-DC (six bands)

Table 5.2B.6.5-1: Band combinations EN-DC (six bands)

EN-DC Band	E-UTRA Band	NR Band	Single UL allowed
DC_1-3-5-7_n78-n257	CA_1-3-5-7	CA_n78-n257	No
NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability			

5.2B.7 Inter-band NR-DC between FR1 and FR2

5.2B.7.1 NR-DC (two bands)

Table 5.2B.7.1-1: Band combinations NR-DC (two bands)

NR-DC Band	NR Band
DC_n77-n257	n77, n257
DC_n78-n257	n78, n257
DC_n79-n257	n79, n257

5.3 UE Channel bandwidth

5.3A UE Channel bandwidth for CA

5.3A.1 Inter-band CA between FR1 and FR2

5.3B UE Channel bandwidth for EN-DC

For intra-band contiguous EN-DC, the aggregated channel bandwidth is sum of the individual NR and E-UTRA channel bandwidths assuming nominal EN-DC channel with 0 kHz offset spacing as specified in sub-clause 5.4.

$$ENBW = BW_{NR\_Channel} + BW_{E\text{-}UTRA\ Channel}$$

In the case where the NR sub-block and/or the E-UTRA sub-block itself is composed of intra-band contiguous CA carriers, the EN-DC aggregated channel bandwidth is the sum of the aggregated channel bandwidths of the NR and E-UTRA sub-blocks assuming nominal EN-DC channel spacing between the NR sub-block and E-UTRA sub-block.

$$ENBW = BW_{NR\_Channel\_CA} + BW_{E\text{-}UTRA\ Channel\_CA}$$

For NR inter-band dual connectivity specified in 5.2B.7, the corresponding NR CA configurations in 5.5A.1, i.e., dual uplink inter-band carrier aggregation between FR1 and FR2 with uplink assigned to two NR bands, are applicable to Dual Connectivity.

NOTE 1: Requirements for the dual connectivity configurations are defined in the section corresponding NR uplink CA between FR1 and FR2 configurations, unless otherwise specified.

5.3B.1 Intra-band EN-DC in FR1

5.3B.1.1 General

The requirements for intra-band EN-DC in this specification are defined for EN-DC configurations with associated bandwidth combination sets.

For each EN-DC configuration, requirements are specified for all bandwidth combinations contained in a *bandwidth combination set*, which is indicated per supported band combination in the UE radio access capability. A UE can indicate support of several bandwidth combination sets per band combination.

The DL component carrier combinations for a given EN-DC configuration shall be symmetrical in relation to channel centre unless stated otherwise in Table 5.3B.1-1.

5.3B.1.2 BCS for Intra-band contiguous EN-DC

For intra-band contiguous EN-DC, a n EN-DC configuration is a single operating band supporting a carrier aggregation bandwidth class.

Requirements for intra-band contiguous carrier aggregation are defined for the EN-DC configurations and bandwidth combination sets specified in Table 5.3B.1.2-1.

Table 5.3B.1.2-1: EN-DC configurations and bandwidth combination sets defined for intra-band contiguous EN-DC

		E-UTRA – NR configuration / Bandwidth combination set				
Downlink EN-DC configuration	Uplink EN-DC configurations	Component carriers in order of increasing carrier frequency			Maximum aggregated bandwidth (MHz)	Bandwidth combination set
		Channel bandwidths for LTE carrier (MHz)	Channel bandwidths NR for carrier (MHz)	Channel bandwidths for LTE carrier (MHz)		

DC_(n)41AA	DC_(n)41AA	20	40, 60, 80,100		120	0
			40, 60, 80,100	20		
		20	40, 50, 60, 80,100		120	1
			40, 50, 60, 80,100	20		
DC_(n)41CA	DC_(n)41AA[1], DC_41A_n41A[2]	20+20	40, 60, 80,100		140	0
			40, 60, 80,100	20+20		
		20+20	40, 50, 60, 80,100		140	1
			40, 50, 60, 80,100	20+20		
DC_(n)41DA	DC_(n)41AA[1], DC_41A_n41A[2]	20+20+20	40, 60, 80,100		160	0
			40, 60, 80,100	20+20+20		
		20+20+20	40, 50, 60, 80,100		160	1
			40, 50, 60, 80,100	20+20+20		
DC_(n)71B	DC_(n)71B	15	5		20	0
		10	5, 10			
		5	5, 10, 15			
			5	15		
			5, 10	10		
			5, 10, 15	5		

NOTE 1: Contiguous intra-band EN-DC uplink requirements shall apply.
NOTE 2: LTE and NR ACLR requirements and non-contiguous intra-band EN-DC uplink requirements shall apply.

5.3B.1.3 BCS for Intra-band non-contiguous EN-DC

For intra-band non-contiguous EN-DC, an EN-DC configuration is a single operating band supporting an EN-DC bandwidth class.

Requirements for intra-band non-contiguous EN-DC are defined for the EN-DC configurations and bandwidth combination sets specified in Table 5.3B.1.3-1.

Table 5.3B.1.3-1: EN-DC configurations and bandwidth combination sets defined for intra-band non-contiguous EN-DC

		E-UTRA – NR configuration / Bandwidth combination set				
Downlink EN-DC configuration	**Uplink EN-DC configurations**	**Component carriers in order of increasing carrier frequency**			**Maximum aggregated bandwidth (MHz)**	**Bandwidth combination set**
		Channel bandwidths for LTE carrier (MHz)	**Channel bandwidths NR for carrier (MHz)**	**Channel bandwidths for LTE carrier (MHz)**		

DC_3A_n3A	DC_3A_n3A(1)		5, 10, 15, 20, 25, 30	5, 10, 15, 20	50	0
DC_41A_n41A	DC_41A_n41A	20	40, 60, 80,100		120	0
			40, 60, 80,100	20		
		20	40, 50, 60, 80,100		120	1
			40, 50, 60, 80,100	20		
DC_41C_n41A	DC_41A_n41A	20+20	40, 60, 80,100		140	0
			40, 60, 80,100	20+20		
		20+20	40, 50, 60, 80,100		140	1
			40, 50, 60, 80,100	20+20		
DC_41D_n41A	DC_41A_n41A	20+20+20	40, 60, 80,100		160	0
			40, 60, 80,100	20+20+20		
		20+20+20	40, 50, 60, 80,100		160	1
			40, 50, 60, 80,100	20+20+20		
NOTE 1: Only single switched UL is supported in Rel.15						

5.4 Channel arrangement

5.4A Channel arrangement for CA

The channel arrangement for CA operations in FR1 and FR2 as specified in 38.101-1 and 38.101-2, respectively.

5.4B Channel arrangement for DC

The channel arrangement for intra-band EN-DC operations in FR1 is specified in sub-clause 5.4B.1 of TS 38.101-1.

5.4B.1 Channel spacing for intra-band EN-DC carriers

The spacing between carriers will depend on the deployment scenario, the size of the frequency block available and the channel bandwidths. The nominal channel spacing between and E-UTRA carrier and an adjacent NR carrier for intra-band contiguous EN-DC is defined as following:

$$\text{Nominal Channel spacing} = (BW_{LTE\_Channel} + BW_{NR\_Channel})/2+\{-5kHz, 0kHz, 5kHz\}$$

where $BW_{LTE\_Channel}$ and $BW_{NR\_Channel}$ are the channel bandwidths of the E-UTRA and NR carriers. The channel spacing can be adjusted depending on the channel raster to optimize performance in a particular deployment scenario.

For intra-band non-contiguous EN-DC the channel spacing between E-UTRA and NR carriers shall be larger than the nominal channel spacing defined in this subclause.

5.5 Configuration

5.5A Configuration for CA

5.5A.1 Inter-band CA configurations between FR1 and FR2

Table 5.5A.1-1: Inter-band CA configurations (two bands)

NR CA configuration	Uplink NR CA configuration	NR configuration for FR1	NR configuration for FR2
CA_n8A-n258A	CA_n8A-n258A	n8A	n258A
CA_n71A-n257A	-	n71A	n257A

CA_n77A-n257A	CA_n77A-n257A	n77A	n257A
CA_n77A-n257D		n77A	n257D
CA_n77A-n257E		n77A	n257E
CA_n77A-n257F		n77A	n257F
CA_n77C-n257A		n77C	n257A
CA_n77C-n257D		n77C	n257D
CA_n77C-n257E		n77C	n257E
CA_n77C-n257F		n77C	n257F
CA_n78A-n257A	CA_n78A-n257A	n78A	n257A
CA_n78A-n257D		n78A	n257D
CA_n78A-n257E		n78A	n257E
CA_n78A-n257F		n78A	n257F
CA_n78C-n257A		n78C	n257A
CA_n78C-n257D		n78C	n257D
CA_n78C-n257E		n78C	n257E
CA_n78C-n257F		n78C	n257F
CA_n79A-n257A	CA_n79A-n257A	n79A	n257A
CA_n79A-n257D		n79A	n257D
CA_n79A-n257E		n79A	n257E
CA_n79A-n257F		n79A	n257F
CA_n79C-n257A		n78C	n257A
CA_n79C-n257D		n78C	n257D
CA_n79C-n257E		n78C	n257E
CA_n79C-n257F		n78C	n257F
NOTE 1: NR configuration for FR1 and FR2 are defined in TS 38.101-1 and TS 38.101-2 respectively.			

5.5B Configuration for DC

5.5B.1 General

The channel bandwidth and bandwidth classes are specified for operation with EN-DC, NGEN-DC or NR-DC configured.

5.5B.2 Intra-band contiguous EN-DC

Supported channel bandwidths for E-UTRA operating bands are defined in [4] and for NR operating bands in TS 38.101-1.

Table 5.5B.2-1: Intra-band contiguous EN-DC configurations

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_(n)41AA	DC_(n)41AA	41A	n41A
DC_(n)41CA	DC_(n)41AA, DC_41A_n41A	41C	n41A
DC_(n)41DA	DC_(n)41AA, DC_41A_n41A	41D	n41A
DC_(n)71B	DC_(n)71B	71A	n71A[2]
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications. NOTE 2: Requirements in this specification apply for NR SCS of 15 kHz only.			

5.5B.3 Intra-band non-contiguous EN-DC

Supported channel bandwidths for E-UTRA operating bands are defined in TS 36.101 and for NR operating bands in TS 38.101-1.

Table 5.5B.3-1: Intra-band non-contiguous EN-DC configurations

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A_n3A	DC_3A_n3A[2]	3	n3A
DC_41A_n41A	DC_41A_n41A	41A	n41A
DC_41C_n41A	DC_41A_n41A	41C	n41A
DC_41D_n41A	DC_41A_n41A	41D	n41A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications. NOTE 2: Only single switched UL is supported in Rel.15			

5.5B.4 Inter-band EN-DC within FR1

5.5B.4.1 Inter-band EN-DC configurations (two bands)

Table 5.5B.4.1-1: Inter-band EN-DC configurations (two bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A_n28A	DC_1A_n28A	1	n28A
DC_1A_n40A	DC_1A_n40A	1A	n40A
DC_1A_n51A	DC_1A_n51A	1A	n51A
DC_1A_n77A DC_1A_n77C	DC_1A_n77A	1A	n77A CA_n77C
DC_1A_n78A DC_1A_n78C	DC_1A_n78A	1A	n78A CA_n78C
DC_1A_n79A DC_1A_n79C	DC_1A_n79A	1A	n79A CA_n79C
DC_2A_n5A	DC_2A_n5A	2A	n5A
DC_2A_n66A	DC_2A_n66A	2A	n66A
DC_2A_n71A	DC_2A_n71A	2	n71A
DC_2A_n78A	DC_2A_n78A	2A	n78A
DC_3A_n7A	DC_3A_n7A	3	n7A
DC_3A_n28A	DC_3A_n28A	3	n28A
DC_3A_n40A	DC_3A_n40A	3A	n40A
DC_3A_n51A	DC_3A_n51A	3A	n51A
DC_3A_n77A DC_3A_n77C	DC_3A_n77A	3A	n77A CA_n77C
DC_3A_n78A DC_3A_n78C	DC_3A_n78A	3A	n78A CA_n78C
DC_3A_n79A DC_3A_n79C	DC_3A_n79A	3A	n79A CA_n79C
DC_3C_n78A	DC_3A_n78A	CA_3C	n78A
DC_5A_n40A	DC_5A_n40A	5A	n40A
DC_5A_n66A	DC_5A_n66A	5A	n66A
DC_5A_n78A	DC_5A_n78A	5	n78A
DC_7A-7A_n78A	DC_7A_n78A	CA_7A-7A	n78A
DC_7A_n28A	DC_7A_n28A	7	n28A
DC_7A_n51A	DC_7A_n51A	7A	n51A
DC_7A_n78A	DC_7A_n78A	7	n78A
DC_7C_n78A	DC_7C_n78A	CA_7C	n78A
DC_8A_n40A	DC_8A_n40A	8A	n40A
DC_8A_n77A	DC_8A_n77A	8	n77A
DC_8A_n78A	DC_8A_n78A	8	n78A
DC_8A_n79A	DC_8A_n79A	8	n79A
DC_11A_n77A	DC_11A_n77A	11	n77A
DC_11A_n78A	DC_11A_n78A	11	n78A
DC_11A_n79A	DC_11A_n79A	11	n79A
DC_12A_n5A	DC_12A_n5A	12A	n5A
DC_12A_n66A	DC_12A_n66A	12A	n66A
DC_18A_n77A	DC_18A_n77A	18	n77A
DC_18A_n78A	DC_18A_n78A	18	n78A
DC_18A_n79A	DC_18A_n79A	18	n79A
DC_19A_n77A DC_19A_n77C	DC_19A_n77A	19A	n77A CA_n77C
DC_19A_n78A DC_19A_n78C	DC_19A_n78A	19A	n78A CA_n78C
DC_19A_n79A DC_19A_n79C	DC_19A_n79A	19A	n79A CA_n79C
DC_20A_n8A	DC_20A_n8A	20A	n8A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_20A_n28A	DC_20A_n28A	20	n28A
DC_20A_n51A	DC_20A_n51A	20A	n51A
DC_20A_n77A	DC_20A_n77A	20A	n77A
DC_20A_n78A	DC_20A_n78A	20A	n78A
DC_21A_n77A DC_21A_n77C	DC_21A_n77A	21A	n77A CA_n77C
DC_21A_n78A DC_21A_n78C	DC_21A_n78A	21A	n78A CA_n78C
DC_21A_n79A DC_21A_n79C	DC_21A_n79A	21A	n79A CA_n79C
DC_25A_n41A	DC_25A_n41A	25	n41A
DC_26A_n41A	DC_26A_n41A	26A	n41A
DC_26A_n77A	DC_26A_n77A	26	n77A
DC_26A_n78A	DC_26A_n78A	26	n78A
DC_26A_n79A	DC_26A_n79A	26	n79A
DC_28A n51A	DC_28A_n51A	28A	n51A
DC_28A_n77A DC_28A_n77C	DC_28A_n77A	28A	n77A CA_n77C
DC_28A_n78A DC_28A_n78C	DC_28A_n78A	28A	n78A CA_n78C
DC_28A_n79A DC_28A_n79C	DC_28A_n79A	28A	n79A CA_n79C
DC_30A_n5A	DC_30A_n5A	30	n5A
DC_30A_n66A	DC_30A_n66A	30A	n66A
DC_38A_n78A	N/A	38	n78A
DC_39A_n78A	DC_39A_n78A	39	n78A
DC_39A_n79A	DC_39A_n79A	39	n79A
DC_40A_n77A	N/A	40A	n77A
DC_41A_n77A	DC_41A_n77A	41A	n77A
DC_41A_n78A	DC_41A_n78A	41A	n78A
DC_41A_n79A	DC_41A_n79A	41	n79A
DC_41C_n77A	DC_41C_n77A	CA_41C	n77A
DC_41C_n78A	DC_41C_n78A	CA_41C	n78A
DC_41C_n79A	DC_41C_n79A	CA_41C	n79A
DC_42A_n51A	DC_42A_n51A	42A	n51A
DC_42A_n77A DC_42A_n77C	N/A	42A	n77A CA_n77C
DC_42A_n78A DC_42A_n78C	N/A	42A	n78A CA_n78C
DC_42A_n79A DC_42A_n79C	N/A	42A	n79A CA_n79C
DC_42C_n77A	N/A	CA_42C	n77A
DC_42C_n78A	N/A	CA_42C	n78A
DC_42C_n79A	N/A	CA_42C	n79A
DC_42C_n79A	N/A	CA_42C	n79A
DC_42C_n77C	N/A	CA_42C	CA n77C
DC_42C_n78C	N/A	CA_42C	CA n78C
DC_42C_n79C	N/A	CA_42C	CA n79C
DC_42D_n77A	N/A	42	n77A
DC_42D_n78A	N/A	42	n78A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_42D_n79A	N/A	42	n79A
DC_42E_n77A	N/A	42	n77A
DC_42E_n78A	N/A	42	n78A
DC_42E_n79A	N/A	42	n79A
DC_46D_n78A[2]			
DC_46E_n78A[2]			
DC_66A_n5A	DC_66A_n5A	66A	n5A
DC_66A_n71A	DC_66A_n71A	66	n71A
DC_66A_n78A	DC_66A_n78A	66A	n78A

NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured Pcell.

5.5B.4.2 Inter-band EN-DC configurations (three bands)

Table 5.5B.4.2-1: Inter-band EN-DC configurations (three bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A_n28A	DC_1A_n28A DC_3A_n28A	CA_1A-3A	n28A
DC_1A-3A_n77A DC_1A-3A_n77C	DC_1A_n77A DC_3A_n77A	CA_1A-3A	n77A
DC_1A-3A_n78A DC_1A-3A_n78C	DC_1A_n78A DC_3A_n78A	CA_1A-3A	n78A
DC_1A-3A_n79A DC_1A-3A_n79C	DC_1A_n79A DC_3A_n79A	CA_1A-3A	n79A
DC_1A-3C_n78A	DC_1A_n78A DC_3A_n78A	CA_1A-3C	n78A
DC_1A-5A_n78A	DC_1A_n78A DC_5A_n78A	CA_1A-5A	n78A
DC_1A-7A_n28A	DC_1A_n28A DC_7A_n28A	CA_1A-7A	n28A
DC_1A-7A_n78A	DC_1A_n78A DC_7A_n78A	CA_1A-7A	n78A
DC_1A-7A-7A_n78A	DC_1A_n78A DC_7A_n78A	CA_1A-7A-7A	n78A
DC_1A-8A_n78A	DC_1A_n78A DC_8A_n78A	CA_1A-8A	n78A
DC_1A-18A_n77A	DC_1A_n77A DC_18A_n77A	CA_1A-18A	n77A
DC_1A-18A_n78A	DC_1A_n78A DC_18A_n78A	CA_1A-18A	n78A
DC_1A-19A_n77A DC_1A-19A_n77C	DC_1A_n77A DC 19A_n77A	CA_1A-19A	n77A CA_n77C
DC_1A-19A_n78A DC_1A-19A_n78C	DC_1A_n78A DC_19A_n78A	CA_1A-19A	n78A CA_n78C
DC_1A-19A_n79A DC_1A-19A_n79C	DC_1A_n79A DC_19A_n79A	CA_1A-19A	n79A CA_n79C
DC_1A-19A_n77A	DC_1A_n77A DC 19A_n77A	CA_1A-19A	n77A
DC_1A-19A_n78A	DC_1A_n78A DC_19A_n78A	CA_1A-19A	n78A
DC_1A-19A_n79A	DC_1A_n79A DC_19A_n79A	CA_1A-19A	n79A
DC_1A-20A_n28A	DC_1A_n28A DC_20A_n28A	CA_1A-20A	N28A
DC_1A-20A_n78A	DC_1A_n78A DC_20A_n78A	CA_1A-20A	n78A
DC_1A-21A_n77A DC_1A-21A_n77C	DC_1A_n77A DC_21A_n77A	CA_1A-21A	n77A CA_n77C
DC_1A-21A_n78A DC_1A-21A_n78C	DC_1A_n78A DC_21A_n78A	CA_1A-21A	n78A CA_n78C
DC_1A-21A_n79A DC_1A-21A_n79C	DC_1A_n79A DC_21A_n79A	CA_1A-21A	n79A CA_n79C
DC_1A-21A_n77A	DC_1A_n77A DC_21A_n77A	CA_1A-21A	n77A
DC_1A-21A_n78A	DC_1A_n78A DC_21A_n78A	CA_1A-21A	n78A
DC_1A-21A_n79A	DC_1A_n79A DC_21A_n79A	CA_1A-21A	n79A
DC_1A-41A_n77A DC_1A-41C_n77A	DC_1A_n77A DC_41A_n77A DC_41C_n77A	CA_1A-41A CA_1A-41C	n77
DC_1A-41A_n78A DC_1A-41C_n78A	DC_1A_n78A DC_41A_n78A DC_41C_n78A	CA_1A-41A CA_1A-41C	n78
DC_1A-41C_n79A	DC_1A_n79A DC_41C_n79A	CA_1A-41C	n79
DC_1A-28A_n77A DC_1A-28A_n77C	DC_1A_n77A DC_28A_n77A	CA_1A-28A	n77A CA_n77C
DC_1A-28A_n78A DC_1A-28A_n78C	DC_1A_n78A DC_28A_n78A	CA_1A-28A	n78A CA_n78C

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-28A_n79A DC_1A-28A_n79C	DC_1A_n79A DC_28A_n79A	CA_1A-28A	n79A CA_n79C
DC_1A_n28A-n78A	DC_1A_n28A, DC_1A_n78A	1A	CA_n28A-n78A
DC_1A-42A_n77A DC_1A-42A_n77C	DC_1A_n77A	CA_1A-42A	n77A CA_n77C
DC_1A-42A_n78A DC_1A-42A_n78C	DC_1An78A	CA_1A-42A	n78A CA_n78C
DC_1A-42A_n79A DC_1A-42A_n79C	DC_1A_n79A	CA_1A-42A	n79A CA_n79C
DC_1A-42C_n77A	DC_1A_n77A	CA_1A-42C	n77A
DC_1A-42C_n78A	DC_1A_n78A	CA_1A-42C	n78A
DC_1A-42C_n79A	DC_1A_n79A	CA_1A-42C	n79A
DC_1A-42D_n77A	DC_1A_n77A	CA_1A-42C	n77A
DC_1A-42D_n78A	DC_1A_n78A	CA_1A-42C	n78A
DC_1A-42D_n79A	DC_1A_n79A	CA_1A-42C	n79A
DC_1A-42E_n77A	DC_1A_n77A	CA_1A-42E	n77A
DC_1A-42E_n78A	DC_1A_n78A	CA_1A-42E	n78A
DC_1A-42E_n79A	DC_1A_n79A	CA_1A-42E	n79A
DC_1A_n77A-n79A	DC_1A_n77A DC_1A_n79A	1A	CA_n77A-n79A
DC_1A_n78A-n79A	DC_1A_n78A DC_1A_n79A	1A	CA_n78A-n79A
DC_1A_SUL_n78A-n84A	DC_1A_n78A, DC_1A_n84A_ULSUP-TDM_n78A, DC_1A_n84A_ULSUP-FDM_n78A	1	SUL_n78A-n84A
DC_2A-5A_n66A	DC_2A_n66A DC_5A_n66A	CA_2A-5A	n66
DC_2A-12A_n66A	DC_2A_n66A DC_12A_n66A	CA_2A-12A	n66
DC_2A-30A_n66A	DC_2A_n66A DC_30A_n66A	CA_2A-30A	n66
DC_2A-66A_n71A	DC_2A_n71A DC_66A_n71A	CA_2A-66A	n71
DC_2A-(n)71B	DC_2A_n71A DC_(n)71B	CA_2A-71A	n71A
DC_3A_n3A-n77A	DC_3A_n77A DC_3A_n3A(2)	3A	CA_n3A-n77A
DC_3A_n3A-n78A	DC_3A_n78A DC_3A_n3A(2)	3A	CA_n3A-n78A
DC_3A-5A_n78A	DC_3A_n78A DC_5A_n78A	CA_3A-5A	n78A
DC_3A-7A-7A_n78A	DC_3A_n78A DC_7A_n78A	CA_3A-7A-7A	n78A
DC_3A-7A_n28A	DC_3A_n28A DC_7A_n28A	CA_3A-7A	n28A
DC_3A-7A_n78A	DC_3A_n78A DC_7A_n78A	CA_3A-7A	n78A
DC_3A-7C_n78A	DC_3A_n78A DC_7C_n78A	CA_3A-7C	n78A
DC_3C-7C_n78A	DC_3A_n78A DC_7C_n78A	CA_3C-7C	n78A
DC_3C-7A_n78A	DC_3A_n78A DC_7A_n78A	CA_3C-7A	n78A
DC_3A-8A_n78A	DC_3A_n78A DC_8A_n78A	CA_3A-8A	n78A
DC_3A-19A_n77A DC_3A-19A_n77C	DC_3A_n77A DC_19A_n77A	CA_3A-19A	n77A CA_n77C
DC_3A-19A_n78A DC_3A-19A_n78C	DC_3A_n78A DC_19A_n78A	CA_3A-19A	n78A CA_n78C

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A-19A_n79A DC_3A-19A_n79C	DC_3A_n79A DC_19A_n79A	CA_3A-19A	n79A CA_n79C
DC_3A-20A_n28A	DC_3A_n28A DC_20A_n28A	CA_3A-20A	n28A
DC_3A-20A_n78A	DC_3A_n78A DC_20A_n78A	CA_3A-20A	n78A
DC_3C-20A_n78A	DC_3A_n78A DC_20A_n78A	CA_3C-20A	n78A
DC_3A-21A_n77A DC_3A-21A_n77C	DC_3A_n77A DC_21A_n77A	CA_3A-21A	n77A CA_n77C
DC_3A-21A_n78A DC_3A-21A_n78C	DC_3A_n78A DC_21A_n78A	CA_3A-21A	n78A CA_n78C
DC_3A-21A_n79A DC_3A-21A_n79C	DC_3A_n79A DC_21A_n79A	CA_3A-21A	n79A CA_n79C
DC_3A-28A_n77A DC_3A-28A_n77C	DC_3A_n77A DC_28A_n77A	CA_3A-28A	n77A CA_n77C
DC_3A-28A_n78A DC_3A-28A_n78C	DC_3A_n78A DC_28A_n78A	CA_3A-28A	n78A CA_n78C
DC_3A-28A_n79A DC_3A-28A_n79C	DC_3A_n79A DC_28A_n79A	CA_3A-28A	n79A CA_n79C
DC_3A_n28A-n78A	DC_3A_n28A, DC_3A_n78A	3A	CA_n28A-n78A
DC_3A-38A_n78A	DC_38A_n78A DC_3A_n78A	CA_3A-38A	n78A
DC_3A-41A_n78A	DC_3A_n78A DC_41A_n78A	CA_3A-41A	n78A CA_n78C
DC_3A-42A_n77A DC_3A-42A_n77C	DC_3A_n77A	CA_3A-42C	n77A CA_n77C
DC_3A-42A_n78A DC_3A-42A_n78C	DC_3A_n78A	CA_3A-42A	n78A CA_n78C
DC_3A-42A_n79A DC_3A-42A_n79C	DC_3A_n79A	CA_3A-42A	n79A CA_n79C
DC_3A-42C_n77A	DC_3A_n77A	CA_3A-42C	n77A
DC_3A-42C_n78A	DC_3A_n78A	CA_3A-42C	n78A
DC_3A-42C_n79A	DC_3A_n79A	CA_3A-42C	n79A
DC_3A-42D_n77A	DC_3A_n77A	CA_3A-42A	n77A
DC_3A-42D_n78A	DC_3A_n78A	CA_3A-42A	n78A
DC_3A-42D_n79A	DC_3A_n79A	CA_3A-42A	n79A
DC_3A-42E_n77A	DC_3A_n77A	CA_3A-42E	n77A
DC_3A-42E_n78A	DC_3A_n78A	CA_3A-42E	n78A
DC_3A-42E_n79A	DC_3A_n79A	CA_1A-42E	n79A
DC_3A_n77A-n79A	DC_3A_n77A DC_3A_n79A	3A	CA_n77A-n79A
DC_3A_n78A-n79A	DC_3A_n78A DC_3A_n79A	3A	CA_n78A-n79A
DC_3A_SUL_n78A-n80A	DC_3A_n78A DC_3A_n80A_ULSUP-TDM_n78A DC_3A_n80A_ULSUP-FDM_n78A	3	SUL_n78-n80
DC_3A_SUL_n78A-n82A	DC_3A_n78A DC_3A_n82A	3	SUL_n78A-n82A
DC_3A_SUL_n79A-n80A	DC_3A_n79A, DC_3A_n80A_ULSUP-TDM_n79A, DC_3A_n80A_ULSUP-FDM_n79A	3	SUL_n79A-n80A
DC_5A-7A-7A_n78A	DC_5A_n78A DC_7A_n78A	CA_5A-7A-7A	n78A
DC_5A-7A_n78A	DC_5A_n78A DC_7A_n78A	CA_5A-7A	n78A
DC_5A-30A_n66A	DC_5A_n66A DC_30A_n66A	CA_5A-30A	n66A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_7A-20A_n28A	DC_7A_n28A DC_20A_n28A	CA_7A-20A	n28A
DC_7A-20A_n78A	DC_7A_n78A DC_20A_n78A	CA_7A-20A	n78A
DC_7A-28A_n78A	DC_7A_n78A DC_28A_n78A	CA_7A-28A	n78A
DC_7A_n28A-n78A	DC_7A_n28A, DC_7A_n78A	7A	CA_n28A-n78A
DC_7C-28A_n78A	DC_7C_n78A DC_28A_n78A	CA_7C-28A	n78A
DC_7A-46A_n78A	DC_7A_n78A DC_46A_n78A	CA_7A-46A	n78A
DC_7A-46C_n78A	DC_7A_n78A DC_46C_n78A	CA_7A-46C	n78A
DC_7A-46D_n78A	DC_7A_n78A	CA_7A-46D	n78
DC_7A-46E_n78A	DC_7A_n78A	CA_7A-46E	n78
DC_8A_SUL_n78A-n81A	DC_8A_n78A, DC_8A_n81A_ULSUP-TDM_n78A, DC_8A_n81A_ULSUP-FDM_n78A	8	SUL_n78A-n81A
DC_8A_SUL_n79A-n81A	DC_8A_n79A, DC_8A_n81A_ULSUP-TDM_n79A, DC_8A_n81A_ULSUP-FDM_n79A	8	SUL_n79A-n81A
DC_12A-30A_n66A	DC_12A_n66A DC_30A_n66A	CA_12A-30A	n66A
DC_18A-28A_n77A	DC_18A_n77A DC_28A_n77A	CA_18A-28A	n77A
DC_18A-28A_n78A	DC_18A_n78A DC_28A_n78A	CA_18A-28A	n78A
DC_18A-28A_n79A	DC_18A_n79A DC_28A_n79A	CA_18A-28A	n79A
DC_19A-42A_n77A DC_19A-42A_n77C	DC_19A_n77A	CA_19A-42A	n77A CA_n77C
DC_19A-42A_n78A DC_19A-42A_n78C	DC_19A_n78A	CA_19A-42A	n78A CA_n78C
DC_19A-42A_n79A DC_19A-42A_n79C	DC_19A_n79A	CA_19A-42A	n79A CA_n79C
DC_19A-21A_n78A DC_19A-21A_n78C	DC_19A_n78A DC_21A_n78A	CA_19A-21A	n78A CA_n78C
DC_19A-21A_n79A DC_19A-21A_n79C	DC_19A_n79A DC_21A_n79A	CA_19A-21A	n79A CA_n79C
DC_19A-21A_n77A DC_19A-21A_n77C	DC_19A_n77A DC_21A_n77A	CA_19A-21A	n77A CA_n77C
DC_19A-42C_n77A	DC_19A_n77A	CA_19A-42C	n77A
DC_19A-42C_n78A	DC_19A_n78A	CA_19A-42C	n78A
DC_19A-42C_n79A	DC_19A_n79A	CA_19A-42C	n79A
DC_19A_n77A-n79A	DC_19A_n77A DC_19A_n79A	19A	CA_n77A-n79A
DC_19A_n78A-n79A	DC_19A_n78A DC_19A_n79A	19A	CA_n78A-n79A
DC_20A_n8A-n75A	DC_20A_n8A	20A	CA_n8A-n75A
DC_20A_n28A-n75A	DC_20A_n28A	20A	CA_n28A-n75A
DC_20A_n28A-n78A	DC_20A_n28A DC_20A_n78A	20A	CA_n28A-n78A
DC_20A_n75A-n78A	DC_20A_n78A	20A	CA_n75A-n78A
DC_20A_n76A-n78A	DC_20A_n78A	20A	CA_n76A-n78A
DC_20A_SUL_n78A-n82A	DC_20A_n78A, DC_20A_n82A_ULSUP-TDM_n78A, DC_20A_n82A_ULSUP-FDM_n78A	20	SUL_n78A-n82A
DC_20A_SUL_n78A-n83A	DC_20A_n78A DC_20A_n83A	20	SUL_n78A-n83A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_21A-42A_n77A DC_21A-42A_n77C	DC_21A_n77A	CA_21A-42A	n77A CA_n77C
DC_21A-42A_n78A DC_21A-42A_n78C	DC_21A_n78A	CA_21A-42A	n78A CA_n78C
DC_21A-42A_n79A DC_21A-42A_n79C	DC_21A_n79A	CA_21A-42A	n79A CA_n79C
DC_21A-42C_n77A	DC_21A_n77A	CA_21A-42C	n77A
DC_21A-42C_n78A	DC_21A_n78A	CA_21A-42C	n78A
DC_21A-42C_n79A	DC_21A_n79A	CA_21A-42C	n79A
DC_21A_n77A-n79A	DC_21A_n77A DC_21A_n79A	21A	CA_n77A-n79A
DC_21A_n78A-n79A	DC_21A_n78A DC_21A_n79A	21A	CA_n78A-n79A
DC_28A_SUL_n78A-n83A	DC_28A_n78A, DC_28A_n83A_ULSUP-TDM_n78A, DC_28A_n83A_ULSUP-FDM_n78A	28	SUL_n78A-n83A
DC_28A-42A_n77A DC_28A-42A_n77C	DC_28A_n77A	CA_28A-42A	n77A
DC_28A-42A_n78A DC_28A-42A_n78C	DC_28A_n78A	CA_28A-42A	n78A
DC_28A-42A_n79A DC_28A-42A_n79C	DC_28A_n79A	CA_28A-42A	n79A
DC_28A-42C_n77A	DC_28A_n77A	CA_28A-42C	n77A
DC_28A-42C_n78A	DC_28A_n78A	CA_28A-42C	n78A
DC_28A-42C_n79A	DC_28A_n79A	CA_28A-42C	n79A
DC_41A-42A_n77A	DC_41A_n77A	CA_41A-42A	n77A
DC_41C-42C_n77A	DC_41A_n77A	CA_41C-42C	n77A
DC_41A-42C_n77A	DC_41A_n77A	CA_41A-42C	n77A
DC_41C-42A_n77A	DC_41C_n77A	CA_41C-42A	n77A
DC_41A-42A_n78A	DC_41A_n78A	CA_41A-42A	n78A
DC_41C-42A_n78A	DC_41C_n78A	CA_41C-42A	n78A
DC_41C-42C_n78A	DC_41A_n78A	CA_41C-42C	n78A
DC_41A-42C_n78A	DC_41A_n78A	CA_41A-42C	n78A
DC_41A-42A_n79A DC_41A-42C_n79A	DC_41A_n79A	CA_41A-42A CA_41A-42C	n79A
DC_41C-42C_n79A	DC_41A_n79A	CA_41C-42C	n79
DC_41C-42A_n79A	DC_41C_n79A	CA_41C-42A	n79A
DC_66A_(n)71B	DC_66A_71A DC_(n)71B	CA_66A_71A	n71A
DC_66A_SUL_n78A-n86A	DC_66A_n78A, DC_66A_n86A_ULSUP-TDM_n78A, DC_66A_n86A_ULSUP-FDM_n78A	66	SUL_n78A-n86A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications. NOTE 2: Only single switched UL is supported in Rel.15			

5.5B.4.3 Inter-band EN-DC configurations (four bands)

Table 5.5B.4.3-1: Inter-band EN-DC configurations (four bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-5A_n78A	DC_1A_n78A DC_3A_n78A DC_5A_n78A	CA_1A-3A-5A	n78A
DC_1A-3A-7A_n28A	DC_1A_n28A DC_3A_n28A DC_7A_n28A	CA_1A-3A-7A	n28A
DC_1A-3A-7A_n78A	DC_1A_n78A DC_3A_n78A DC_7A_n78A	CA_1A-3A-7A	n78A
DC_1A-3C-7A_n78A	DC_1A_n78A DC_3A_n78A DC_7A_n78A	CA_1A-3C-7A	n78A
DC_1A-3A-7A-7A_n78A	DC_1A_n78A DC_3A_n78A DC_7A_n78A	CA_1A-3A-7A-7A	n78A
DC_1A-3A-8A_n28A	DC_1A_n28A DC_3A_n28A DC_8A_n28A	CA_1A-3A-8A	n28A
DC_1A-3A-8A_n78A	DC_1A_n78A DC_3A_n78A DC_8A_n78A	CA_1A-3A-8A	n78A
DC_1A-3A-20A_n28A	DC_1A_n28A DC_3A_n28A DC_20A_n28A	CA_1A-3A-20A	n28A
DC_1A-3A-20A_n78A	DC_1A_n78A DC_3A_n78A DC_20A_n78A	CA_1A-3A-20A	n78A
DC_1A-3A-28A_n77A	DC_1A_n77A DC_3A_n77A DC_28A_n77A	CA_1A-3A-28A	n77A
DC_1A-3A-28A_n78A	DC_1A_n78A DC_3A_n78A DC_28A_n78A	CA_1A-3A-28A	n78A
DC_1A-3A-28A_n79A	DC_1A_n79A DC_3A_n79A DC_28A_n79A	CA_1A-3A-28A	n79A
DC_1A-3A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_3A_n28A DC_3A_n78A	CA_1A-3A	CA_n28A-n78A
DC_1A-3A-19A_n77A	DC_1A_n77A DC_3A_n77A DC_19A_n77A	CA_1A-3A-19A	n77A
DC_1A-3A-19A_n78A	DC_1A_n78A DC_3A_n78A DC_19A_n78A	CA_1A-3A-19A	n78A
DC_1A-3A-19A_n79A	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-19A	n79A
DC_1A-3A-21A_n77A	DC_1A_n77A DC_3A_n77A DC_21A_n77A	CA_1A-3A-21A	n77A
DC_1A-3A-21A_n78A	DC_1A_n78A DC_3A_n78A DC_21A_n78A	CA_1A-3A-21A	n78A
DC_1A-3A-21A_n79A	DC_1A_n79A DC_3A_n79A DC_21A_n79A	CA_1A-3A-21A	n79A
DC_1A-3A-42C_n77A	DC_1A_n77A DC_3A_n77A	CA_1A-3A-42C	n77A
DC_1A-3A-42C_n78A	DC_1A_n78A DC_3A_n78A	CA_1A-3A-42C	n78A
DC_1A-3A-42C_n79A	DC_1A_n79A DC_3A_n79A	CA_1A-3A-42C	n79A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-42C_n77C	DC_1A_n77A DC_3A_n77A	CA_1A-3A-42C	n77A
DC_1A-3A-42C_n78C	DC_1A_n78A DC_3A_n78A	CA_1A-3A-42C	n78A
DC_1A-3A-42C_n79C	DC_1A_n79A DC_3A_n79A	CA_1A-3A-42C	n79A
DC_1A-5A-7A_n78A	DC_1A_n78A DC_5A_n78A DC_7A_n78A	CA_1A-5A-7A	n78A
DC_1A-5A-7A-7A_n78A	DC_1A_n78A DC_5A_n78A DC_7A_n78A	CA_1A-5A-7A-7A	n78A
DC_1A-7A-20A_n28A	DC_1A_n28A DC_7A_n28A DC_20A_n28A	CA_1A-7A-20A	n28A
DC_1A-7A-20A_n78A	DC_1A_n78A DC_7A_n78A DC_20A_n78A	CA_1A-7A-20A	n78A
DC_1A-7A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_7A_n28A DC_7A_n78A	CA_1A-7A	CA_n28A-n78A
DC_1A-18A-28A_n77A	DC_1A_n77A DC_18A_n77A DC_28A_n77A	CA_1A-18A-28A	n77A
DC_1A-18A-28A_n78A	DC_1A_n78A DC_18A_n78A DC_28A_n78A	CA_1A-18A-28A	n78A
DC_1A-18A-28A_n79A	DC_1A_n79A DC_18A_n79A DC_28A_n79A	CA_1A-18A-28A	n79A
DC_1A-19A-42A_n77A	DC_1A_n77A DC_19A_n77A	CA_1A-19A-42A	n77A
DC_1A-19A-42A_n78A	DC_1A_n78A DC_19A_n78A	CA_1A-19A-42A	n78A
DC_1A-19A-42A_n79A	DC_1A_n79A DC_19A_n79A	CA_1A-19A-42A	n79A
DC_1A-19A-42C_n77A	DC_1A_n77A DC_19A_n77A	CA_1A-19A-42C	n77A
DC_1A-19A-42C_n78A	DC_1A_n78A DC_19A_n78A	CA_1A-19A-42C	n78A
DC_1A-19A-42C_n79A	DC_1A_n79A DC_19A_n79A	CA_1A-19A-42C	n79A
DC_1A-19A-42C_n77C	DC_1A_n77A DC_19A_n77A	CA_1A-19A-42C	n77A
DC_1A-19A-42C_n78C	DC_1A_n78A DC_19A_n78A	CA_1A-19A-42C	n78A
DC_1A-19A-42C_n79C	DC_1A_n79A DC_19A_n79A	CA_1A-19A-42C	n79A
DC_1A-20A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_20A_n28A DC_20A_n78A	CA_1A-20A	CA_n28A-n78A
DC_1A-21A-28A_n77A	DC_1A_n77A DC_21A_n77A DC_28A_n77A	CA_1A-21A-28A	n77A
DC_1A-21A-28A_n78A	DC_1A_n78A DC_21A_n78A DC_28A_n78A	CA_1A-21A-28A	n78A
DC_1A-21A-28A_n79A	DC_1A_n79A DC_21A_n79A DC_28A_n79A	CA_1A-21A-28A	n79A
DC_1A-21A-42A_n77A	DC_1A_n77A DC_21A_n77A	CA_1A-21A-42A	n77A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-21A-42A_n78A	DC_1A_n78A DC_21A_n78A	CA_1A-21A-42A	n78A
DC_1A-21A-42A_n79A	DC_1A_n79A DC_21A_n79A	CA_1A-21A-42A	n79A
DC_1A-21A-42C_n77A	DC_1A_n77A DC_21A_n77A	CA_1A-21A-42C	n77A
DC_1A-21A-42C_n78A	DC_1A_n78A DC_21A_n78A	CA_1A-21A-42C	n78A
DC_1A-21A-42C_n79A	DC_1A_n79A DC_21A_n79A	CA_1A-21A-42C	n79A
DC_1A-21A-42C_n77C	DC_1A_n77A DC_21A_n77A	CA_1A-21A-42C	n77A
DC_1A-21A-42C_n78C	DC_1A_n78A DC_21A_n78A	CA_1A-21A-42C	n78A
DC_1A-21A-42C_n79C	DC_1A_n79A DC_21A_n79A	CA_1A-21A-42C	n79A
DC_1A-28A-42A_n77A	DC_1A_n77A DC_28A_n77A	CA_1A-28A-42A	n77A
DC_1A-28A-42A_n78A	DC_1A_n78A DC_28A_n78A	CA_1A-28A-42A	n78A
DC_1A-28A-42A_n79A	DC_1A_n79A DC_28A_n79A	CA_1A-28A-42A	n79A
DC_1A-28A-42C_n77A	DC_1A_n77A DC_28A_n77A	CA_1A-28A-42A	n77A
DC_1A-28A-42C_n78A	DC_1A_n78A DC_28A_n78A	CA_1A-28A-42A	n78A
DC_1A-28A-42C_n79A	DC_1A_n79A DC_28A_n79A	CA_1A-28A-42A	n79A
DC_1A-41A-42A_n77A	DC_1A_n77A DC_41A_n77A	CA_1A-41A-42A	n77A
DC_1A-41A-42C_n77A	DC_1A_n77A DC_41A_n77A	CA_1A-41A-42C	n77A
DC_1A-41C-42A_n77A	DC_1A_n77A DC_41A_n77A	CA_1A-41C-42A	n77A
DC_1A-41A-42A_n78A	DC_1A_n78A DC_41A_n78A	CA_1A-41A-42A	n78A
DC_1A-41A-42C_n78A	DC_1A_n78A DC_41A_n78A	CA_1A-41A-42C	n78A
DC_1A-41C-42A_n78A	DC_1A_n78A DC_41A_n78A	CA_1A-41C-42A	n78A
DC_1A-41A-42A_n79A	DC_1A_n79A DC_41A_n79A	CA_1A-41A-42A	n79A
DC_1A-41A-42C_n79A	DC_1A_n79A DC_41A_n79A	CA_1A-41A-42C	n79A
DC_1A-41C-42A_n79A	DC_1A_n79A DC_41A_n79A	CA_1A-41C-42A	n79A
DC_1A-41C-42C_n77A	DC_1A_n77A DC_41A_n77A	CA_1A-41C-42C	n77A
DC_1A-41C-42C_n78A	DC_1A_n78A DC_41A_n78A	CA_1A-41C-42C	n78A
DC_1A-41C-42C_n79A	DC_1A_n79A DC_41A_n79A	CA_1A-41C-42C	n79A
DC_2A-66A-(n)71B	DC_2A_n71A DC_66A_n71A DC_(n)71B	CA_2A-66A-71A	n71A
DC_3A-5A-7A-7A_n78A	DC_3A_n78A DC_5A_n78A DC_7A_n78A	CA_3A-5A-7A-7A	n78A
DC_3A-5A-7A_n78A	DC_3A_n78A DC_5A_n78A DC_7A_n78A	CA_3A-5A-7A	n78A
DC_3A-7A-20A_n28A	DC_3A_n28A DC_7A_n28A DC_20A_n28A	CA_3A-7A-20A	n28A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A-7A-20A_n78A	DC_3A_n78A DC_28A_n78A DC_7A_n78A	CA_3A-7A-20A	n78A
DC_3A-7A-28A_n78A	DC_3A-7A_n78A DC_3A-28A_n78A DC_7A-28A_n78A	CA_3A-7A-28A	n78A
DC_3A-7C-28A_n78A	DC_3A_n78A DC_7A_n78A DC_28A_n78A	CA_3A-7C-28A	n78A
DC_3A-7A_n28A-n78A	DC_3A_n28A DC_3A_n78A DC_7A_n28A DC_7A_n78A	CA_3A-7A	CA_n28A-n78A
DC_3A-19A-21A_n77A	DC_3A_n77A DC_19A_n77A DC_21A_n77A	CA_3A-19A-21A	n77A
DC_3A-19A-21A_n78A	DC_3A_n78A DC_19A_n78A DC_21A_n78A	CA_3A-19A-21A	n78A
DC_3A-19A-21A_n79A	DC_3A_n79A DC_19A_n79A DC_21A_n79A	CA_3A-19A-21A	n79A
DC_3A-19A-42A_n77A	DC_3A_n77A DC_19A_n77A	CA_3A-19A-42A	n77A
DC_3A-19A-42C_n77A	DC_3A_n77A DC_19A_n77A	CA_3A-19A-42C	n77A
DC_3A-19A-42C_n77C	DC_3A_n77A DC_19A_n77A	CA_3A-19A-42C	n77A
DC_3A-19A-42A_n78A	DC_3A_n78A DC_19A_n78A	CA_3A-19A-42A	n78A
DC_3A-19A-42C_n78A	DC_3A_n78A DC_19A_n78A	CA_3A-19A-42C	n78A
DC_3A-19A-42C_n78C	DC_3A_n78A DC_19A_n78A	CA_3A-19A-42C	n78A
DC_3A-19A-42A_n79A	DC_3A_n79A DC_19A_n79A	CA_3A-19A-42A	n79A
DC_3A-19A-42C_n79A	DC_3A_n79A DC_19A_n79A	CA_3A-19A-42C	n79A
DC_3A-19A-42C_n79C	DC_3A_n79A DC_19A_n79A	CA_3A-19A-42C	n79A
DC_3A-20A_n28A-n78A	DC_3A_n28A DC_3A_n78A DC_20A_n28A DC_20A_n78A	CA_3A-20A	CA_n28A-n78A
DC_3A-21A-42C_n77A	DC_3A_n77A DC_21A_n77A	CA_3A-21A-42C	n77A
DC_3A-21A-42C_n78A	DC_3A_n78A DC_21A_n78A	CA_3A-21A-42C	n78A
DC_3A-21A-42C_n79A	DC_3A_n79A DC_21A_n79A	CA_3A-21A-42C	n79A
DC_3A-21A-42C_n77C	DC_3A_n77A DC_21A_n77A	CA_3A-21A-42C	n77A
DC_3A-21A-42C_n78C	DC_3A_n78A DC_21A_n78A	CA_3A-21A-42C	n78A
DC_3A-21A-42C_n79C	DC_3A_n79A DC_21A_n79A	CA_3A-21A-42C	n79A
DC_3A-28A-42A_n77A	DC_3A_n77A DC_28A_n77A	CA_3A-28A-42A	n77A
DC_3A-28A-42A_n78A	DC_3A_n78A DC_28A_n78A	CA_3A-28A-42A	n78A
DC_3A-28A-42A_n79A	DC_3A_n79A DC_28A_n79A	CA_3A-28A-42A	n79A
DC_3A-28A-42C_n77A	DC_3A_n77A DC_28A_n77A	CA_3A-28A-42A	n77A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A-28A-42C_n78A	DC_3A_n78A DC_28A_n78A	CA_3A-28A-42A	n78A
DC_3A-28A-42C_n79A	DC_3A_n79A DC_28A_n79A	CA_3A-28A-42A	n79A
DC_7A-20A_n28A-n78A	DC_7A_n28A DC_7A_n78A DC_20A_n28A DC_20A_n78A	CA_7A-20A	CA_n28A-n78A
DC_19A-21A-42A_n77A	DC_19A_n77A DC_21A_n77A	CA_19A-21A-42A	n77A
DC_19A-21A-42A_n78A	DC_19A_n78A DC_21A_n78A	CA_19A-21A-42A	n78A
DC_19A-21A-42A_n79A	DC_19A_n79A DC_21A_n79A	CA_19A-21A-42A	n79A
DC_19A-21A-42C_n77A	DC_19A_n77A DC_21A_n77A	CA_19A-21A-42C	n77A
DC_19A-21A-42C_n78A	DC_19A_n78A DC_21A_n78A	CA_19A-21A-42C	n78A
DC_19A-21A-42C_n79A	DC_19A_n79A DC_21A_n79A	CA_19A-21A-42C	n79A
DC_19A-21A-42C_n77C	DC_19A_n77A DC_21A_n77A	CA_19A-21A-42C	n77A
DC_19A-21A-42C_n78C	DC_19A_n78A DC_21A_n78A	CA_19A-21A-42C	n78A
DC_19A-21A-42C_n79C	DC_19A_n79A DC_21A_n79A	CA_19A-21A-42C	n79A
DC_21A-28A-42A_n77A	DC_21A_n77A DC_28A_n77A	CA_21A-28A-42A	n77A
DC_21A-28A-42A_n78A	DC_21A_n78A DC_28A_n78A	CA_21A-28A-42A	n78A
DC_21A-28A-42A_n79A	DC_21A_n79A DC_28A_n79A	CA_21A-28A-42A	n79A
DC_21A-28A-42C_n77A	DC_21A_n77A DC_28A_n77A	CA_21A-28A-42A	n77A
DC_21A-28A-42C_n78A	DC_21A_n78A DC_28A_n78A	CA_21A-28A-42A	n78A
DC_21A-28A-42C_n79A	DC_21A_n79A DC_28A_n79A	CA_21A-28A-42A	n79A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.4.4 Inter-band EN-DC configurations (five bands)

Table 5.5B.4.4-1: Inter-band EN-DC configurations (five bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-5A-7A_n78A	DC_1A_n78A DC_3A_n78A DC_5A_n78A DC_7A_n78A	CA_1A-3A-5A-7A	n78A
DC_1A-3A-7A-20A_n28A	DC_1A_n28A DC_3A_n28A DC_7A_n28A DC_20A_n28A	CA_1A-3A-7A-20A	n28A
DC_1A-3A-5A-7A-7A_n78A	DC_1A_n78A DC_3A_n78A DC_5A_n78A DC_7A_n78A	CA_1A-3A-5A-7A-7A	n78A
DC_1A-3A-7A-20A_n78A	DC_1A_n78A DC_3A_n78A DC_7A_n78A DC_20A_n78A	CA_1A-3A-7A-20A	n78A
DC_1A-3A-7A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_3A_n28A DC_3A_n78A DC_7A_n28A DC_7A_n78A	CA_1A-3A-7A	CA_n28A-n78A
DC_1A-3A-19A-21A_n77A	DC_1A_n77A DC_3A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-3A-19A-21A	n77A
DC_1A-3A-19A-21A_n77C	DC_1A_n77A DC_3A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-3A-19A-21A	n77A
DC_1A-3A-19A-21A_n78A	DC_1A_n78A DC_3A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-3A-19A-21A	n78A
DC_1A-3A-19A-21A_n78C	DC_1A_n78A DC_3A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-3A-19A-21A	n78A
DC_1A-3A-19A-21A_n79A	DC_1A_n79A DC_3A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-3A-19A-21A	n79A
DC_1A-3A-19A-21A_n79C	DC_1A_n79A DC_3A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-3A-19A-21A	n79A
DC_1A-3A-19A-42A_n77A	DC_1A_n77A DC_3A_n77A DC_19A_n77A	CA_1A-3A-19A-42A	n77A
DC_1A-3A-19A-42A_n77C	DC_1A_n77A DC_3A_n77A DC_19A_n77A	CA_1A-3A-19A-42A	n77A
DC_1A-3A-19A-42C_n77A	DC_1A_n77A DC_3A_n77A DC_19A_n77A	CA_1A-3A-19A-42C	n77A
DC_1A-3A-19A-42C_n77C	DC_1A_n77A DC_3A_n77A DC_19A_n77A	CA_1A-3A-19A-42A	n77C
DC_1A-3A-19A-42A_n78A	DC_1A_n78A DC_3A_n78A DC_19A_n78A	CA_1A-3A-19A-42A	n78A
DC_1A-3A-19A-42A_n78C	DC_1A_n78A DC_3A_n78A DC_19A_n78	CA_1A-3A-19A-42A	n78A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-19A-42C_n78A	DC_1A_n78A DC_3A_n78A DC_19A_n78A	CA_1A-3A-19A-42C	n78A
DC_1A-3A-19A-42C_n78C	DC_1A_n78A DC_3A_n78A DC_19A_n78A	CA_1A-3A-19A-42C	n78C
DC_1A-3A-19A-42A_n79A	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-19A-42A	n79A
DC_1A-3A-19A-42A_n79C	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-19A-42A	n79A
DC_1A-3A-19A-42C_n79A	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-19A-42C	n79A
DC_1A-3A-19A-42C_n79C	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-19A-42C	n79C
DC_1A-3A-20A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_3A_n28A DC_3A_n78A DC_20A_n28A DC_20A_n78A	CA_1A-3A-20A	CA_n28A-n78A
DC_1A-3A-21A-42C_n77A	DC_1A_n77A DC_3A_n77A DC_21A_n77A	CA_1A-3A-21A-42C	n77A
DC_1A-3A-21A-42C_n77C	DC_1A_n77A DC_3A_n77A DC_21A_n77A	CA_1A-3A-21A-42C	n77C
DC_1A-3A-21A-42C_n78A	DC_1A_n78A DC_3A_n78A DC_21A_n78A	CA_1A-3A-21A-42C	n78A
DC_1A-3A-21A-42C_n78C	DC_1A_n78A DC_3A_n78A DC_21A_n78A	CA_1A-3A-21A-42C	n78C
DC_1A-3A-21A-42C_n79A	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-21A-42C	n79A
DC_1A-3A-21A-42C_n79C	DC_1A_n79A DC_3A_n79A DC_19A_n79A	CA_1A-3A-21A-42C	n79C
DC_1A-3A-28A-42A_n77A	DC_1A_n77A DC_3A_n77A DC_28A_n77A	CA_1A-3A-28A-42A	n77A
DC_1A-3A-28A-42A_n78A	DC_1A_n78A DC_3A_n78A DC_28A_n78A	CA_1A-3A-28A-42A	n78A
DC_1A-3A-28A-42A_n79A	DC_1A_n79A DC_3A_n79A DC_28A_n79A	CA_1A-3A-28A-42A	n79A
DC_1A-3A-28A-42C_n77A	DC_1A_n77A DC_3A_n77A DC_28A_n77A	CA_1A-3A-28A-42C	n77A
DC_1A-3A-28A-42C_n78A	DC_1A_n78A DC_3A_n78A DC_28A_n78A	CA_1A-3A-28A-42C	n78A
DC_1A-3A-28A-42C_n79A	DC_1A_n79A DC_3A_n79A DC_28A_n79A	CA_1A-3A-28A-42C	n79A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-7A-20A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_7A_n28A DC_7A_n78A DC_20A_n28A DC_20A_n78A	CA_1A-7A-20A	CA_n28A-n78A
DC_1A-19A-21A-42A_n77A	DC_1A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-19A-21A-42A	n77A
DC_1A-19A-21A-42A_n78A	DC_1A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-19A-21A-42A	n78A
DC_1A-19A-21A-42A_n79A	DC_1A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-19A-21A-42A	n79A
DC_1A-19A-21A-42A_n77C	DC_1A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-19A-21A-42A	n77A
DC_1A-19A-21A-42A_n78C	DC_1A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-19A-21A-42A	n78A
DC_1A-19A-21A-42A_n79C	DC_1A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-19A-21A-42A	n79A
DC_1A-19A-21A-42C_n77A	DC_1A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-19A-21A-42C	n77A
DC_1A-19A-21A-42C_n77C	DC_1A_n77A DC_19A_n77A DC_21A_n77A	CA_1A-19A-21A-42C	n77C
DC_1A-19A-21A-42C_n78A	DC_1A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-19A-21A-42C	n78A
DC_1A-19A-21A-42C_n78C	DC_1A_n78A DC_19A_n78A DC_21A_n78A	CA_1A-19A-21A-42C	n78C
DC_1A-19A-21A-42C_n79A	DC_1A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-19A-21A-42C	n79A
DC_1A-19A-21A-42C_n79C	DC_1A_n79A DC_19A_n79A DC_21A_n79A	CA_1A-19A-21A-42C	n79C
DC_1A-21A-28A-42A_n77A	DC_1A_n77A DC_21A_n77A DC_28A_n77A	CA_1A-21A-28A-42A	n77A
DC_1A-21A-28A-42A_n78A	DC_1A_n78A DC_21A_n78A DC_28A_n78A	CA_1A-21A-28A-42A	n78A
DC_1A-21A-28A-42A_n79A	DC_1A_n79A DC_21A_n79A DC_28A_n79A	CA_1A-21A-28A-42A	n79A
DC_1A-21A-28A-42C_n77A	DC_1A_n77A DC_21A_n77A DC_28A_n77A	CA_1A-21A-28A-42C	n77A
DC_1A-21A-28A-42C_n78A	DC_1A_n78A DC_21A_n78A DC_28A_n78A	CA_1A-21A-28A-42C	n78A
DC_1A-21A-28A-42C_n79A	DC_1A_n79A DC_21A_n79A DC_28A_n79A	CA_1A-21A-28A-42C	n79A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A-7A-20A_n28A-n78A	DC_3A_n28A DC_3A_n78A DC_7A_n28A DC_7A_n78A DC_20A_n28A DC_20A_n78A	CA_3A-7A-20A	CA_n28A-n78A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.4.5 Inter-band EN-DC configurations (six bands)

Table 5.5B.4.5-1: Inter-band EN-DC configurations (six bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-7A-20A_n28A-n78A	DC_1A_n28A DC_1A_n78A DC_3A_n28A DC_3A_n78A DC_7A_n28A DC_7A_n78A DC_20A_n28A DC_20A_n78A	CA_1A-3A-7A-20A	CA_n28A-n78A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.5 Inter-band EN-DC including FR2

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.101 and for NR operating bands and CA configurations in TS 38.101-1, TS 38.101-2 and TS 38.101-3.

5.5B.5.1 Inter-band EN-DC configurations (two bands)

Table 5.5B.5.1-1: Inter-band EN-DC configurations (two bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A_n257A DC_1A_n257D DC_1A_n257E DC_1A_n257F	DC_1A_n257A	1A	n257A CA_n257D CA_n257E CA_n257F
DC_2A_n257A DC_2A_n257(2A)	DC_2A_n257A	2A	n257A CA_n257(2A)
DC_2A-2A_n257A	DC_2A-2A_n257A	CA_2A-2A	n257A
DC_2A_n257A	DC_2A_n257A	2	n257A
DC_2C_n257A	DC_2C_n257A	CA_2C	n257A
DC_2A_n260 DC_2A_n260(2A)	DC_2A_n260A	2A	n260A CA_n260(2A)
DC_2A-2A_n260A	DC_2A_n260A	CA_2A-2A	n260A
DC_2C_n260A	DC_2C_n260A	CA_2C	n260A
DC_3A_n257A DC_3A_n257D DC_3A_n257E DC_3A_n257F	DC_3A_n257A	3A	n257A CA_n257D CA_n257E CA_n257F
DC_3A_n258A	DC_3A_n258A	3	n258A
DC_5A-5A_n257A	DC_5A_n257A	CA_5A-5A	n257A
DC_5A-5A_n260A	DC_5A_n260A	CA_5A-5A	n260A
DC_5A_n257A	DC_5A_n257A	5	n257A
DC_5A_n260A DC_5A_n260B DC_5A_n260C DC_5A_n260D DC_5A_n260E DC_5A_n260F DC_5A_n260G DC_5A_n260H DC_5A_n260I DC_5A_n260J DC_5A_n260K DC_5A_n260L DC_5A_n260M DC_5A_n260O DC_5A_n260P DC_5A_n260Q DC_5A_n260(2A) DC_5A_n260(3A) DC_5A_n260(4A) DC_5A-n260(D-G) DC_5A-n260(D-H) DC_5A-n260(D-I) DC_5A-n260(D-O) DC_5A-n260(D-P) DC_5A-n260(D-Q) DC_5A-n260(E-O) DC_5A-n260(E-P) DC_5A-n260(E-Q)	DC_5A_n260A	5	n260A CA_n260B CA_n260C CA_n260D CA_n260E CA_n260F CA_n260G CA_n260H CA_n260I CA_n260J CA_n260K CA_n260L CA_n260M CA_n260O CA_n260P CA_n260Q CA_n260(2A) CA_n260(3A) CA_n260(4A) CA_n260(D-G) CA_n260(D-H) CA_n260(D-I) CA_n260(D-O) CA_n260(D-P) CA_n260(D-Q) CA_n260(E-O) CA_n260(E-P) CA_n260(E-Q)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_5A_n261A DC_5A_n261B DC_5A_n261C DC_5A_n261D DC_5A_n261E DC_5A_n261F DC_5A_n261G DC_5A_n261H DC_5A_n261I DC_5A_n261J DC_5A_n261K DC_5A_n261L DC_5A_n261M DC_5A_n261O DC_5A_n261P DC_5A_n261Q DC_5A-n261(2A) DC_5A-n261(3A) DC_5A-n261(4A) DC_5A-n261(D-G) DC_5A-n261(D-H) DC_5A-n261(D-I) DC_5A-n261(D-O) DC_5A-n261(D-P) DC_5A-n261(D-Q) DC_5A-n261(E-O) DC_5A-n261(E-P) DC_5A-n261(E-Q)	DC_5A_n261A	5	n261A CA_n261B CA_n261C CA_n261D CA_n261E CA_n261F CA_n261G CA_n261H CA_n261I CA_n261J CA_n261K CA_n261L CA_n261M CA_n261O CA_n261P CA_n261Q CA_n261(2A) CA_n261(3A) CA_n261(4A) CA_n261(D-G) CA_n261(D-H) CA_n261(D-I) CA_n261(D-O) CA_n261(D-P) CA_n261(D-Q) CA_n261(E-O) CA_n261(E-P) CA_n261(E-Q)
DC_5B_n257A	DC_5B_n257A	CA_5B	n257A
DC_5B_n260A	DC_5B_n260A	CA_5B	n260A
DC_7A-7A_n257A	DC_7A_n257A	CA_7A-7A	n257A
DC_7A_n257A	DC_7A_n257A	7	n257A
DC_7A_n258A	DC_7A_n258A	7	n258A
DC_8A_n257A	DC_8A_n257A	8	n257A
DC_8A_n258A	DC_8A_n258A	8	n258A
DC_11A_n257A	DC_11A_n257A	11	n257A
DC_12A_n260A	DC_12A_n260A	12A	n260A
DC_13A_n257A	DC_13A_n257A	13	n257A
DC_13A_n260A	DC_13A_n260A	13	n260A
DC_18A_n257A	DC_18A_n257A	18	n257A
DC_19A_n257A DC_19A_n257D DC_19A_n257E DC_19A_n257F	DC_19A_n257A	19A	n257A CA_n257D CA_n257E CA_n257F
DC_20A_n258A	DC_20A_n258A	20A	n258A
DC_21A_n257A DC_21A_n257D DC_21A_n257E DC_21A_n257F	DC_21A_n257A	21A	n257A CA_n257D CA_n257E CA_n257F
DC_26A_n257A	DC_26A_n257A	26	n257A
DC_28A_n257A DC_28A_n257D DC_28A_n257E DC_28A_n257F	DC_28A_n257A	28A	n257A CA_n257D CA_n257E CA_n257F
DC_28A_n258A	DC_28A_n258A	28	n258A
DC_30A_n260A	DC_30A_n260A	30A	CA_n260A
DC_41A_n257A DC_41C_n257A	DC_41A_n257A	41	n257A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_41A_n258A	DC_41A_n258A	41A	CA_n258A
DC_41C_n257A	DC_41C_n257A	CA_41C	n257A
DC_42A_n257A DC_42C_n257A DC_42A_n257D DC_42A_n257E DC_42A_n257F	DC_42A_n257A	42	n257A CA_n257D CA_n257E CA_n257F
DC_42D_n257A	DC_42C_n257A	CA_42C	n257A
DC_42E_n257A	DC_42A_n257A	42	n257A
DC_48A-48A_n257A	DC_48A_n257A	CA_48A-48A	n257A
DC_48A-48A_n260A	DC_48A_n260A	CA_48A-48A	n260A
DC_48A_n257A	DC_48A_n257A	48	n257A
DC_48C_n257A	DC_48C_n257A	CA_48C	n257A
DC_48C_n260A	DC_48C_n260A	CA_48C	n260A
DC_48A_n260A	DC_48A_n260A	48	n260A
DC_66A-66A_n257A	DC_66A_n257A	CA_66A-66A	n257A
DC_66A-66A_n260A	DC_66A_n260A	CA_66A-66A	n260A
DC_66A_n257A DC_66A_n257(2A) DC_66A_n257G DC_66A_n257H DC_66A_n257I DC_66A_n257J DC_66A_n257K DC_66A_n257L DC_66A_n257M	DC_66A_n257A	66	n257A CA_n257(2A) CA_n257G CA_n257H CA_n257I CA_n257J CA_n257K CA_n257L CA_n257M
DC_66A_n260A DC_66A_n260D DC_66A_n260E DC_66A_n260F DC_66A_n260G DC_66A_n260H DC_66A_n260I DC_66A_n260J DC_66A_n260K DC_66A_n260L DC_66A_n260M DC_66A_n260O DC_66A_n260P DC_66A_n260Q DC_66A_n260(2A) DC_66A_n260(3A) DC_66A_n260(4A) DC_66A-n260(D-G) DC_66A-n260(D-H) DC_66A-n260(D-I) DC_66A-n260(D-O) DC_66A-n260(D-P) DC_66A-n260(D-Q) DC_66A-n260(E-O) DC_66A-n260(E-P) DC_66A-n260(E-Q)	DC_66A_n260A	66	n260A CA_n260D CA_n260E CA_n260F CA_n260G CA_n260H CA_n260I CA_n260J CA_n260K CA_n260L CA_n260M CA_n260O CA_n260P CA_n260Q CA_n260(2A) CA_n260(3A) CA_n260(4A) CA_n260(D-G) CA_n260(D-H) CA_n260(D-I) CA_n260(D-O) CA_n260(D-P) CA_n260(D-Q) CA_n260(E-O) CA_n260(E-P) CA_n260(E-Q)
DC_66C_n257A	DC_66C_n257A	CA_66C	n257A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_66A_n261A	DC_66A_n261A	66A	n261A
DC_66A_n261D			CA_n261D
DC_66A_n261E			CA_n261E
DC_66A_n261F			CA_n261F
DC_66A_n261G			CA_n261G
DC_66A_n261H			CA_n261H
DC_66A_n261I			CA_n261I
DC_66A_n261J			CA_n261J
DC_66A_n261K			CA_n261K
DC_66A_n261L			CA_n261L
DC_66A_n261M			CA_n261M
DC_66A_n261O			CA_n261O
DC_66A_n261P			CA_n261P
DC_66A_n261Q			CA_n261Q
DC_66A-n261(2A)			CA_n261(2A)
DC_66A-n261(3A)			CA_n261(3A)
DC_66A-n261(4A)			CA_n261(4A)
DC_66A-n261(D-G)			CA_n261(D-G)
DC_66A-n261(D-H)			CA_n261(D-H)
DC_66A-n261(D-I)			CA_n261(D-I)
DC_66A-n261(D-O)			CA_n261(D-O)
DC_66A-n261(D-P)			CA_n261(D-P)
DC_66A-n261(D-Q)			CA_n261(D-Q)
DC_66A-n261(E-O)			CA_n261(E-O)
DC_66A-n261(E-P)			CA_n261(E-P)
DC_66A-n261(E-Q)			CA_n261(E-Q)
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.5.2 Inter-band EN-DC configurations (three bands)

Table 5.5B.5.2-1: Inter-band EN-DC configurations (three bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A_n257A DC_1A-3A_n257D DC_1A-3A_n257E DC_1A-3A_n257F	DC_1A_n257A DC_3A_n257A	CA_1A-3A	n257A CA_n257D CA_n257E CA_n257F
DC_1A-5A_n257A	DC_1A_n257A DC_5A_n257A	CA_1A-5A	n257A
DC_1A-7A_n257A	DC_1A_n257A DC_7A_n257A	CA_1A-7A	n257A
DC_1A-7A-7A_n257A	DC_1A_n257A DC_7A-7A_n257A	CA_1A-7A-7A	n257A
DC_1A-8A_n257A	DC_1A-257A DC_8A_n257A	CA_1A-8A	n257A
DC_1A-18A_n257A	DC_1A-257A DC_18A_n257A	CA_1A-18A	n257A
DC_1A-19A_n257A DC_1A-19A_n257D DC_1A-19A_n257E DC_1A-19A_n257F	DC_1A-257A DC_19A_n257A	CA_1A-19A	n257A CA_n257D CA_n257E CA_n257F
DC_1A-21A_n257A DC_1A-21A_n257D DC_1A-21A_n257E DC_1A-21A_n257F	DC_1A_n257A DC_21A_n257A	CA_1A-21A	n257A CA_n257D CA_n257E CA_n257F
DC_1A-28A_n257A DC_1A-28A_n257D DC_1A-28A_n257E DC_1A-28A_n257F	DC_1A_n257A DC_28A_n257A	CA_1A-28A	n257A CA_n257D CA_n257E CA_n257F
DC_1A-41A_n257A	DC_1A_n257A DC_41A_n257A	CA_1A-41A	n257A
DC_1A-41C_n257A	DC_1A_n257A DC_41C_n257A	CA_1A-41C	n257A
DC_1A-42A_n257A DC_1A-42A_n257D DC_1A-42A_n257E DC_1A-42A_n257F	DC_1A_n257A DC_42A_n257A	CA_1A-42A	n257A CA_n257D CA_n257E CA_n257F
DC_1A-42C_n257A	DC_1A_n257A DC_42A_n257A	CA_1A-42C	n257A
DC_1A-42D_n257A	DC_1A_n257A DC_42A_n257A	CA_1A-42C	n257A
DC_1A-42E_n257A	DC_1A_n257A DC_42A_n257A	CA_1A-42E	n257A
DC_2A-13A_n260A	DC_2A_n260A DC_13A_n260A	CA_2A-13A	n260A
DC_2A-5A_n257A	DC_2A_n257A DC_5A_n257A	CA_2A-5A	n257A
DC_2A-5A_n260A	DC_2A_n260A DC_5A_n260A	CA_2A-5A	n260A
DC_2A-12A_n260A	DC_2A_n260A DC_12A_n260A	CA_2A-12A	n260A
DC_2A-13A_n257A	DC_2A_n257A DC_13A_n257A	CA_2A-13A	n257A
DC_2A-30A_n260A	DC_2A_n260A DC_30A_n260A	CA_2A-30A	n260A
DC_2A-66A_n257A	DC_2A_n257A DC_66A_n257A	CA_2A-66A	n257A
DC_2A-66A_n260A	DC_2A_n260A DC_66A_n260A	CA_2A-66A	n260A
DC_3A-5A_n257A	DC_3A_n257A DC_5A_n257A	CA_3A-5A	n257A
DC_3A-7A-7A_n257A	DC_3A_n257A DC_7A_n257A	CA_3A-7A-7A	n257A
DC_3A-7A_n257A	DC_3A_n257A DC_7A_n257A	CA_3A-7A	n257A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A-19A_n257A DC_3A-19A_n257D DC_3A-19A_n257E DC_3A-19A_n257F	DC_3A_n257A DC_19A_n257A	CA_3A-19A	n257A CA_n257D CA_n257E CA_n257F
DC_3A-21A_n257A DC_3A-21A_n257D DC_3A-21A_n257E DC_3A-21A_n257F	DC_3A_n257A DC_21A_n257A	CA_3A-21A	n257A CA_n257D CA_n257E CA_n257F
DC_3A-28A_n257A DC_3A-28A_n257D DC_3A-28A_n257E DC_3A-28A_n257F	DC_3A_n257A DC_28A_n257A	CA_3A-28A	n257A CA_n257D CA_n257E CA_n257F
DC_3A-41A_n257A	DC_3A_n257A DC_41A_n257A	CA_3A-41A	n257A
DC_3A-42A_n257A DC_3A-42A_n257D DC_3A-42A_n257E DC_3A-42A_n257F	DC_3A_n257A DC_42A_n257A	CA_3A-42A	n257A CA_n257D CA_n257E CA_n257F
DC_3A-42C_n257A	DC_3A_n257A DC_42A_n257A	CA_3A-42C	n257A
DC_3A-42D_n257A	DC_3A_n257A DC_42A_n257A	CA_3A-42A	n257A
DC_3A-42E_n257A	DC_3A_n257A DC_42A_n257A	CA_3A-42E	n257A
DC_5A-30A_n260A	DC_5A_n260A DC_30A_n260A	CA_5A-30A	n260A
DC_5A-66A_n257A	DC_5A_n257A DC_66A_n257A	CA_5A-66A	n257A
DC_5A-66A_n260A	DC_5A_n260A DC_66A_n260A	CA_5A-66A	n260A
DC_5A-7A-7A_n257A	DC_5A_n257A DC_7A_n257A	CA_5A-7A-7A	n257A
DC_5A-7A_n257A	DC_5A_n257A DC_7A_n257A	CA_5A-7A	n257A
DC_5A_n78A-n257A	DC_5A_n78A DC_5A_n257A	5A	CA_n78A-n257A
DC_5B_n260A	DC_5B_n260A	CA_5B	n260A
DC_7A-7A_n257A	DC_7A_n257A	CA_7A-7A	n257A
DC_7A_n78A-n257A	DC_7A_n78A DC_7A_n257A	7A	CA_n78A-n257A
DC_12A-30A_n260A	DC_12A_n260A DC_30A_n260A	CA_12A-30A	n260A
DC_12A-66A_n260A	DC_12A_n260A DC_66A_n260A	CA_12A-66A	n260A
DC_13A-66A_n257A	DC_13A_n257A DC_66A_n257A	CA_13A-66A	n257A
DC_13A-66A_n260A	DC_13A_n260A DC_66A_n260A	CA_13A-66A	n260A
DC_18A-28A-n257A	DC_18A_n257A DC_28A_n257A	CA_18A-28A	n257A
DC_19A-42A_n257A DC_19A-42A_n257D DC_19A-42A_n257E DC_19A-42A_n257F	DC_19A_n257A DC_42A_n257A	CA_19A-42A	n257A CA_n257D CA_n257E CA_n257F
DC_19A-21A_n257A DC_19A-21A_n257D DC_19A-21A_n257E DC_19A-21A_n257F	DC_19A_n257A DC_21A_n257A	CA_19A-21A	n257A CA_n257D CA_n257E CA_n257F
DC_19A-42C_n257A	DC_19A_n257A DC_42A_n257A	CA_19A-42C	n257

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_21A-28A_n257A DC_21A-28A_n257D DC_21A-28A_n257E DC_21A-28A_n257F	DC_21A_n257A DC_28A_n257A	CA_21A-28A	n257A CA_n257D CA_n257E CA_n257F
DC_21A-42A_n257A DC_21A-42A_n257D DC_21A-42A_n257E DC_21A-42A_n257F	DC_21A_n257A DC_42A_n257A	CA_21A-42A	n257A CA_n257D CA_n257E CA_n257F
DC_21A-42C_n257A	DC_21A_n257A DC_42A_n257A	CA_21A-42C	n257A
DC_21A_n77A-n257A	DC_21A_n77A DC_21A_n257A	21A	CA_n77A-n257A
DC_21A_n78A-n257A	DC_21A_n78A DC_21A_n257A	21A	CA_n78A-n257A
DC_21A_n79A-n257A	DC_21A_n79A DC_21A_n257A	21A	CA_n79A-n257A
DC_28A-42C_n257A	DC_28A_n257A DC_42A_n257A	CA_28A-42C	n257
DC_28A-42A_n257A	DC_28A_n257A DC_42A_n257A	CA_28A-42A	n257
DC_30A-66A_n260A	DC_30A_n260A DC_66A_n260A	CA_30A-66A	n260A
DC_41A-42A_n257A	DC_41A_n257A DC_42A_n257A	CA_41A-42A	n257A
DC_41A-42C_n257A	DC_41A_n257A DC_42C_n257A	CA_41A-42C	n257A
DC_41C-42A_n257A	DC_41C_n257A DC_42A_n257A	CA_41C-42A	n257A
DC_41C-42C_n257A	DC_41A_n257A DC_42A_n257A	CA_41C-42C	n257A
DC_42C_n257A DC_42C_n257D DC_42C_n257E DC_42C_n257F	DC_42C_n257A	CA_42C	n257A CA_n257D CA_n257E CA_n257F
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.5.3 Inter-band EN-DC configurations (four bands)

Table 5.5B.5.3-1: Inter-band EN-DC configurations (four bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-5A_n257A	DC_1A_n257A DC_3A_n257A DC_5A_n257A	CA_1A-3A-5A	n257A
DC_1A-3A-7A-7A_n257A	DC_1A_n257A DC_3A_n257A DC_7A_n257A	CA_1A-3A-7A-7A	n257A
DC_1A-3A-7A_n257A	DC_1A_n257A DC_3A_n257A DC_7A_n257A	CA_1A-3A-7A	n257A
DC_1A-3A-19A_n257A	DC_1A_n257A DC_3A_n257A DC_19A_n257A	CA_1A-3A-19A	n257A
DC_1A-3A-21A_n257A	DC_1A_n257A DC_3A_n257A DC_21A_n257A	CA_1A-3A-21A	n257A
DC_1A-3A-28A_n257A	DC_1A_n257A DC_3A_n257A DC_28A_n257A	CA_1A-3A-28A	n257A
DC_1A-3A-42C_n257A	DC_1A_n257A DC_3A_n257A DC_42A_n257A	CA_1A-3A-42C	n257A
DC_1A-3A-42C_n257D	DC_1A_n257A DC_3A_n257A DC_42A_n257A	CA_1A-3A-42C	n257A
DC_1A-3A-42C_n257E	DC_1A_n257A DC_3A_n257A DC_42A_n257A	CA_1A-3A-42C	n257A
DC_1A-3A-42C_n257F	DC_1A_n257A DC_3A_n257A DC_42A_n257A	CA_1A-3A-42C	n257A
DC_1A-3A_n78A-n257A	DC_1A_n78A DC_1A_n257A DC_3A_n78A DC_3A_n257A	CA_1A-3A	CA_n78A-n257A
DC_1A-5A-7A-7A_n257A	DC_1A_n257A DC_5A_n257A DC_7A_n257A	CA_1A-5A-7A-7A	n257A
DC_1A-5A-7A_n257A	DC_1A_n257A DC_5A_n257A DC_7A_n257A	CA_1A-5A-7A	n257A
DC_1A-5A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_5A_n78A DC_5A_n257A,	CA_1A-5A	CA_n78A-n257A
DC_1A-7A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-7A-7A	CA_n78A-n257A
DC_1A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-7A	CA_n78A-n257A
DC_1A-18A-28A_n257A	DC_1A_n257A DC_18A_n257A DC_28A_n257A	CA_1A-18A-28A	n257A
DC_1A-19A-42A_n257A	DC_1A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-19A-42A	n257A
DC_1A-19A-42C_n257A	DC_1A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-19A-42C	n257A
DC_1A-19A-42C_n257D	DC_1A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-19A-42A	n257A

DC_1A-19A-42C_n257E	DC_1A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-19A-42A	n257A
DC_1A-19A-42C_n257F	DC_1A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-19A-42A	n257A
DC_1A-21A-28A_n257A	DC_1A_n257A DC_21A_n257A DC_28A_n257A	CA_1A-21A-28A	n257
DC_1A-21A-42A_n257A	DC_1A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-21A-42A	n257A
DC_1A-21A-42C_n257A	DC_1A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-21A-42C	n257A
DC_1A-21A-42C_n257D	DC_1A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-21A-42C	n257A
DC_1A-21A-42C_n257E	DC_1A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-21A-42C	n257A
DC_1A-21A-42C_n257F	DC_1A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-21A-42C	n257A
DC_1A-28A-42A_n257A	DC_1A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-28A-42A	n257
DC_1A-28A-42C_n257A	DC_1A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-28A-42A	n257
DC_1A-41A-42A_n257A	DC_1A_n257A DC_41A_n257A DC_42A_n257A	CA_1A-41A-42A	n257
DC_1A-41A-42C_n257A	DC_1A_n257A DC_41A_n257A DC_42A_n257A	CA_1A-41A-42C	n257A
DC_1A-41C-42A_n257A	DC_1A_n257A DC_41A_n257A DC_42A_n257A	CA_1A-41C-42A	n257A
DC_1A-41C-42C_n257A	DC_1A_n257A DC_41A_n257A DC_42A_n257A	CA_1A-41C-42C	n257A
DC_3A-5A-7A- 7A_n257A	DC_3A_n257A DC_5A_n257A DC_7A_n257A	CA_3A-5A-7A-7A	n257A
DC_3A-5A-7A_n257A	DC_3A_n257A DC_5A_n257A DC_7A_n257A	CA_3A-5A-7A	n257A
DC_3A-5A_n78A-n257A	DC_3A_n78A DC_3A_n257A, DC_5A_n78A DC_5A_n257A,	CA_3A-5A	CA_n78A-n257A
DC_3A-7A-7A_n78A- n257A	DC_3A_n78A DC_3A_n257A DC_7A_n78A DC_7A_n257A	CA_3A-7A-7A	CA_n78A-n257A
DC_3A-7A_n78A-n257A	DC_3A_n78A DC_3A_n257A, DC_7A_n78A DC_7A_n257A,	CA_3A-7A	CA_n78A-n257A
DC_3A-19A-21A_n257A	DC_3A_n257A DC_19A_n257A DC_21A_n257A	CA_3A-19A-21A	n257A
DC_3A-19A-42A_n257A	DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_3A-19A-42A	n257A
DC_3A-19A-42C_n257A	DC_3A_n257A	CA_3A-19A-42C	n257A

	DC_19A_n257A DC_42A_n257A		
DC_3A-19A-42C_n257D	DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_3A-19A-42C	n257A
DC_3A-19A-42C_n257E	DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_3A-19A-42C	n257A
DC_3A-19A-42C_n257F	DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_3A-19A-42C	n257A
DC_3A-21A-42C_n257A	DC_3A_n257A DC_21A_n257A DC_42A_n257A	CA_3A-21A-42C	n257A
DC_3A-21A-42C_n257D	DC_3A_n257A DC_21A_n257A DC_42A_n257A	CA_3A-21A-42C	n257A
DC_3A-21A-42C_n257E	DC_3A_n257A DC_21A_n257A DC_42A_n257A	CA_3A-21A-42C	n257A
DC_3A-21A-42C_n257F	DC_3A_n257A DC_21A_n257A DC_42A_n257A	CA_3A-21A-42C	n257A
DC_3A-28A-42A_n257A	DC_3A_n257A DC_28A_n257A DC_42A_n257A	CA_3A-28A-42A	n257A
DC_3A-28A-42C_n257A	DC_3A_n257A DC_28A_n257A DC_42A_n257A	CA_3A-28A-42A	n257A
DC_5A-7A-7A_n78A-n257A	DC_5A_n78A DC_5A_n257A DC_7A_n78A DC_7A_n257A	CA_5A-7A-7A	CA_n78A-n257A
DC_5A-7A_n78A-n257A	DC_5A_n78A DC_5A_n257A DC_7A_n78A DC_7A_n257A	CA_5A-7A	CA_n78A-n257A
DC_19A-21A-42A_n257A	DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_19A-21A-42A	n257A
DC_19A-21A-42C_n257D	DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_19A-21A-42C	n257A
DC_19A-21A-42C_n257E	DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_19A-21A-42C	n257A
DC_19A-21A-42C_n257F	DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_19A-21A-42C	n257A
DC_19A-21A-42C_n257A	DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_19A-21A-42C	n257A
DC_21A-28A-42A_n257A	DC_21A_n257A DC_28A_n257A DC_42A_n257A	CA_21A-28A-42A	n257A
DC_21A-28A-42C_n257A	DC_21A_n257A DC_28A_n257A DC_42A_n257A	CA_21A-28A-42A	n257A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.5.4 Inter-band EN-DC configurations (five bands)

Table 5.5B.5.4-1: Inter-band EN-DC configurations (five bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-5A-7A_n257A	DC_1A_n257A DC_3A_n257A DC_5A_n257A DC_7A_n257A	CA_1A-3A-5A-7A	n257A
DC_1A-3A-5A-7A-7A_n257A	DC_1A_n257A DC_3A_n257A DC_5A_n257A DC_7A_n257A	CA_1A-3A-5A-7A-7A	n257A
DC_1A-3A-5A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_3A_n78A DC_3A_n257A, DC_5A_n78A DC_5A_n257A,	CA_1A-3A-5A	CA_n78A-n257A
DC_1A-3A-7A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_3A_n78A DC_3A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-3A-7A-7A	CA_n78A-n257A
DC_1A-3A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_3A_n78A DC_3A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-3A-7A	CA_n78A-n257A
DC_1A-3A-19A-21A_n257A	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_21A_n257A	CA_1A-3A-19A-21A	n257A
DC_1A-3A-19A-21A_n257D	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_21A_n257A	CA_1A-3A-19A-21A	n257A
DC_1A-3A-19A-21A_n257E	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_21A_n257A	CA_1A-3A-19A-21A	n257A
DC_1A-3A-19A-21A_n257F	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_21A_n257A	CA_1A-3A-19A-21A	n257A
DC_1A-3A-19A-42A_n257A	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42A	n257A
DC_1A-3A-19A-42A_n257D	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42A	n257A
DC_1A-3A-19A-42A_n257E	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42A	n257A
DC_1A-3A-19A-42A_n257F	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42A	n257A
DC_1A-3A-19A-42C_n257A	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42C	n257A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-19A-42C_n257D	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42C	n257D
DC_1A-3A-19A-42C_n257E	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42C	n257E
DC_1A-3A-19A-42C_n257F	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-19A-42C	n257F
DC_1A-3A-21A-42C_n257A	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-21A-42C	n257A
DC_1A-3A-21A-42C_n257D	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-21A-42C	n257D
DC_1A-3A-21A-42C_n257E	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-21A-42C	n257E
DC_1A-3A-21A-42C_n257F	DC_1A_n257A DC_3A_n257A DC_19A_n257A DC_42A_n257A	CA_1A-3A-21A-42C	n257F
DC_1A-3A-28A-42A_n257A	DC_1A_n257A DC_3A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-3A-21A-42A	n257A
DC_1A-3A-28A-42C_n257A	DC_1A_n257A DC_3A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-3A-28A-42C	n257A
DC_1A-5A-7A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_5A_n78A DC_5A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-5A-7A-7A	CA_n78A-n257A
DC_1A-5A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_5A_n78A DC_5A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-5A-7A	CA_n78A-n257A
DC_1A-19A-21A-42A_n257A	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42A	n257A
DC_1A-19A-21A-42A_n257D	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42A	n257A
DC_1A-19A-21A-42A_n257E	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42A	n257A
DC_1A-19A-21A-42A_n257F	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42A	n257A

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-19A-21A-42C_n257A	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42C	n257A
DC_1A-19A-21A-42C_n257D	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42C	n257D
DC_1A-19A-21A-42C_n257E	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42C	n257E
DC_1A-19A-21A-42C_n257F	DC_1A_n257A DC_19A_n257A DC_21A_n257A DC_42A_n257A	CA_1A-19A-21A-42C	n257F
DC_1A-19A-28A-42C_n257A	DC_1A_n257A DC_19A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-19A-28A-42C	n257A
DC_1A-21A-28A-42A_n257A	DC_1A_n257A DC_21A_n257A DC_28A_n257A DC_42A_n257A	CA_1A-21A-28A-42A	n257A
DC_3A-5A-7A-7A_n78A-n257A	DC_3A_n78A DC_3A_n257A, DC_5A_n78A DC_5A_n257A, DC_7A_n78A DC_7A_n257A,	CA_3A-5A-7A-7A	CA_n78A-n257A
DC_3A-5A-7A_n78A-n257A	DC_3A_n78A DC_3A_n257A, DC_5A_n78A DC_5A_n257A, DC_7A_n78A DC_7A_n257A,	CA_3A-5A-7A	CA_n78A-n257A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.5.5 Inter-band EN-DC configurations (six bands)

Table 5.5B.5.5-1: Inter-band EN-DC configurations (six bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A-3A-5A-7A_n78A-n257A	DC_1A_n78A DC_1A_n257A, DC_3A_n78A DC_3A_n257A, DC_5A_n78A DC_5A_n257A, DC_7A_n78A DC_7A_n257A,	CA_1A-3A-5A-7A	CA_n78A-n257A
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.6 Inter-band EN-DC including FR1 and FR2

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.101 and for NR operating bands and CA configurations in TS 38.101-1, TS 38.101-2 and TS 38.101-3.

5.5B.6.1 Inter-band EN-DC configurations (two bands)

This section is N/A.

5.5B.6.2 Inter-band EN-DC configurations (three bands)

Table 5.5B.6.2-1: Inter-band EN-DC configurations (three bands)

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A_n77A-n257A	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77A-n257A
DC_1A_n77A-n257D	DC_1A_n77A DC_1A-n257A DC_1A_n77A-n257A	1A	CA_n77A-n257D
DC_1A_n77A-n257E	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77A-n257E
DC_1A_n77A-n257F	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77A-n257F
DC_1A_n77C-n257A	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77C-n257A
DC_1A_n77C-n257D	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77C-n257D
DC_1A_n77C-n257E	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77C-n257E
DC_1A_n77C-n257F	DC_1A_n77A DC_1A_n257A DC_1A_n77A-n257A	1A	CA_n77C-n257F
DC_1A_n78A-n257A	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78A-n257A
DC_1A_n78A-n257D	DC_1A_n78A DC_1A-n257A DC_1A_n78A-n257A	1A	CA_n78A-n257D
DC_1A_n78A-n257E	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78A-n257E
DC_1A_n78A-n257F	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78A-n257F
DC_1A_n78C-n257A	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78C-n257A
DC_1A_n78C-n257D	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78C-n257D
DC_1A_n78C-n257E	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78C-n257E
DC_1A_n78C-n257F	DC_1A_n78A DC_1A_n257A DC_1A_n78A-n257A	1A	CA_n78C-n257F
DC_1A_n79A-n257A	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_1A_n79A-n257D	DC_1A_n79A DC_1A-n257A DC_1A_n79A-n257A	1A	
DC_1A_n79A-n257E	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_1A_n79A-n257F	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_1A_n79C-n257A	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_1A_n79C-n257D	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_1A_n79C-n257E	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_1A_n79C-n257F	DC_1A_n79A DC_1A_n257A DC_1A_n79A-n257A	1A	
DC_3A_n77A-n257A	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77A-n257A
DC_3A_n77A-n257D	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77A-n257D
DC_3A_n77A-n257E	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77A-n257E
DC_3A_n77A-n257F	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77A-n257F
DC_3A_n77C-n257A	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77C-n257A
DC_3A_n77C-n257D	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77C-n257D
DC_3A_n77C-n257E	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77C-n257E
DC_3A_n77C-n257F	DC_3A_n77A DC_3A_n257A DC_3A_n77A-n257A	3A	CA_n77C-n257F
DC_3A_n78A-n257A	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78A-n257A
DC_3A_n78A-n257D	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78A-n257D
DC_3A_n78A-n257E	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78A-n257E
DC_3A_n78A-n257F	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78A-n257F
DC_3A_n78C-n257A	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78C-n257A
DC_3A_n78C-n257D	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78C-n257D
DC_3A_n78C-n257E	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78C-n257E
DC_3A_n78C-n257F	DC_3A_n78A DC_3A_n257A DC_3A_n78A-n257A	3A	CA_n78C-n257F
DC_3A_n79A-n257A	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79A-n257A
DC_3A_n79A-n257D	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79A-n257D

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_3A_n79A-n257E	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79A-n257E
DC_3A_n79A-n257F	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79A-n257F
DC_3A_n79C-n257A	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79C-n257A
DC_3A_n79C-n257D	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79C-n257D
DC_3A_n79C-n257E	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79C-n257E
DC_3A_n79C-n257F	DC_3A_n79A DC_3A_n257A DC_3A_n79A-n257A	3A	CA_n79C-n257F
DC_7A-7A_n78-n257A	DC_7A_n78A DC_7A_n257A DC_7A_n78A-n257A	CA_7A-7A	CA_n78A-n257A
DC_19A_n77A-n257A	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77A-n257A
DC_19A_n77A-n257D	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77A-n257D
DC_19A_n77A-n257E	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77A-n257E
DC_19A_n77A-n257F	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77A-n257F
DC_19A_n77C-n257A	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77C-n257A
DC_19A_n77C-n257D	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77C-n257D
DC_19A_n77C-n257E	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77C-n257E
DC_19A_n77C-n257F	DC_19A_n77A DC_19A_n257A DC_19A_n77A-n257A	19A	CA_n77C-n257F
DC_19A_n78A-n257A	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78A-n257D	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78A-n257E	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78A-n257F	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78C-n257A	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78C-n257D	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	

EN-DC configuration	Uplink EN-DC configuration (NOTE 1)	E-UTRA configuration	NR configuration
DC_19A_n78C-n257E	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n78C-n257F	DC_19A_n78A DC_19A_n257A DC_19A_n78A-n257A	19A	
DC_19A_n79A-n257A	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79A-n257A
DC_19A_n79A-n257D	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79A-n257D
DC_19A_n79A-n257E	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79A-n257E
DC_19A_n79A-n257F	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79A-n257F
DC_19A_n79C-n257A	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79C-n257A
DC_19A_n79C-n257D	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79C-n257D
DC_19A_n79C-n257E	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79C-n257E
DC_19A_n79C-n257F	DC_19A_n79A DC_19A_n257A DC_19A_n79A-n257A	19A	CA_n79C-n257F
NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.			

5.5B.7 Inter-band NR-DC between FR1 and FR2

5.5B.7.1 Inter-band NR-DC configurations (two bands)

Table 5.5B.7-1: Inter-band NR-DC configurations (two bands)

Downlink NR DC configuration	Uplink NR DC configuration	NR configuration for FR1	NR configuration for FR2
DC_n77A-n257A	DC_n77A-n257A	n77A	n257A
DC_n77A-n257D		n77A	n257D
DC_n77A-n257E		n77A	n257E
DC_n77A-n257F		n77A	n257F
DC_n77A-n257G		n77A	n257G
DC_n77A-n257H		n77A	n257H
DC_n77A-n257I		n77A	n257I
DC_n77A-n257J		n77A	n257J
DC_n77A-n257K		n77A	n257K
DC_n77A-n257L		n77A	n257L
DC_n77A-n257M		n77A	n257M
DC_n77C-n257A		n77C	n257A
DC_n77C-n257D		n77C	n257D
DC_n77C-n257E		n77C	n257E
DC_n77C-n257F		n77C	n257F
DC_n78A-n257A	DC_n78A-n257A	n78A	n257A
DC_n78A-n257D		n78A	n257D
DC_n78A-n257E		n78A	n257E
DC_n78A-n257F		n78A	n257F
DC_n78A-n257G		n78A	n257G
DC_n78A-n257H		n78A	n257H
DC_n78A-n257I		n78A	n257I
DC_n78A-n257J		n78A	n257J
DC_n78A-n257K		n78A	n257K
DC_n78A-n257L		n78A	n257L
DC_n78A-n257M		n78A	n257M
DC_n78C-n257A		n78C	n257A
DC_n78C-n257D		n78C	n257D
DC_n78C-n257E		n78C	n257E
DC_n78C-n257F		n78C	n257F
DC_n79A-n257A	DC_n79A-n257A	n79A	n257A
DC_n79A-n257D		n79A	n257D
DC_n79A-n257E		n79A	n257E
DC_n79A-n257F		n79A	n257F
DC_n79A-n257G		n79A	n257G
DC_n79A-n257H		n79A	n257H
DC_n79A-n257I		n79A	n257I
DC_n79A-n257J		n79A	n257J
DC_n79A-n257K		n79A	n257K
DC_n79A-n257L		n79A	n257L
DC_n79A-n257M		n79A	n257M
DC_n79C-n257A		n79C	n257A
DC_n79C-n257D		n79C	n257D
DC_n79C-n257E		n79C	n257E
DC_n79C-n257F		n79C	n257F
NOTE 1: NR configuration for FR1 and FR2 are defined in TS 38.101-1 and TS 38.101-2 respectively.			

6 Transmitter characteristics

6.1 General

Detailed structure of the subclause is TBD.

Unless otherwise stated the transmitter characteristics are specified at the antenna connector(s) of the UE for the bands operating on frequency range 1 and over the air of the UE for the bands operating on frequency range 2. The requirements for frequency range 1 and frequency range 2 can be verified separately. For the carrier in frequency range 1, requirements can be verified with NR FR2 link disabled. For the carrier in frequency range 2, requirements can be verified in OTA mode with LTE connecting to the network by OTA without calibration.

Unless otherwise stated, requirements for NR transmitter written in TS 38.101-1 and TS 38.101-2 apply and are assumed anchor agnostic. Requirements are verified under conditions where anchor resources do not interfere NR operation.

6.2 Transmitter power

6.2A Transmitter power for CA

6.2A.1 UE maximum output power for CA

6.2A.1.1 Inter-band CA between FR1 and FR2

<Editor's notes: errors to be updated.>

For inter-band NR CA in FR1, the UE Power Classes in Table 6.2A.1.1-1 define the maximum output power for any transmission bandwidth within the aggregated channel bandwidth. The maximum output power is measured as the sum of the maximum output power at each UE antenna connector. The period of measurement shall be at least one sub frame (1ms). UE maximum output power shall be measured over all component carriers from different bands. If each band has separate antenna connectors, maximum output power is measured as the sum of maximum output power at each UE antenna connector.

Table 6.2A.1.1-1: Maximum output power for inter-band NR CA

CA configuration		Power class 3 (dBm)	Tolerance (dB)

<Editor's notes: chapter numbers to be updated.>

For inter-band NR CA in FR1 and FR2 combined, the UE shall meet each transmitter power requirement specified in clause 6.2.1 of TS 38.101-1 and clause 6.2.1 TS 38.101-2 independently.

6.2A.2 UE maximum output power reduction for CA

6.2A.2.1 Inter-band CA between FR1 and FR2

6.2A.3 UE additional maximum output power reduction for CA

6.2A.4 Configured output power for CA

6.2A.4.1 Configured output power level

<Editor's note: The title of 6.2A.4.1 to be updated by later RAN4 decision>

6.2A.4.2 $\Delta T_{IB,c}$ for CA

6.2A.4.2.1 $\Delta T_{IB,c}$ for Inter-band CA between FR1 and FR2

$\Delta T_{IB,c}$ for NR CA For the UE which supports inter-band NR CA configuration, $\Delta T_{IB,c}$ in Tables below applies. Unless otherwise stated, $\Delta T_{IB,c}$ is set to zero.

Table 6.2A.4.2-1: ΔTIB,c due to NR CA (two bands)

Inter-band EN-DC configuration	NR Band	$\Delta T_{IB,c}$ (dB)

6.2B Transmitter power for DC

6.2B.1 UE maximum output power for EN-DC

6.2B.1.1 Intra-band contiguous EN-DC

< conducted requirements >

The following UE Power Classes define the total maximum output power for any transmission bandwidth(s) of the CG(s) configured.

The maximum output power is measured as the total maximum output power across the UE antenna connector(s). The period of measurement shall be at least one sub frame.

Table 6.2B.1.1-1: Maximum output power for EN-DC (continuous sub-blocks)

DC configuration	Power class 2 (dBm)	Tolerance (dB)	Power class 3 (dBm)	Tolerance (dB)
DC_(n)71B			23	+2/-3
DC_(n)41AA	26	+2/-2[1]	23	+2/-2[1]
NOTE 1: If all transmitted resource blocks over all component carriers are confined within FUL_low and FUL_low + 4 MHz or/and FUL_high – 4 MHz and FUL_high, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB				

6.2B.1.2 Intra-band non-contiguous EN-DC

Table 6.2B.1.2-1: Maximum output power for EN-DC (non-continuous sub-blocks)

DC configuration	Power class 2 (dBm)	Tolerance (dB)	Power class 3 (dBm)	Tolerance (dB)
DC_3A_n3A[(2)]			23	+2/-3
DC_41A_n41A	26	+2/-2[1]	23	+2/-2[1]
NOTE 1: If all transmitted resource blocks over all component carriers are confined within FUL_low and FUL_low + 4 MHz or/and FUL_high – 4 MHz and FUL_high, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB NOTE 2: Only single switched UL is supported in Rel.15				

6.2B.1.3 Inter-band EN-DC within FR1

< conducted requirements >

For inter-band EN-DC of LTE and NR in FR1, the following UE Power Classes define the maximum output power for any transmission bandwidth within the aggregated channel bandwidth. The maximum output power is measured as the sum of the maximum output power at each UE antenna connector. The period of measurement shall be at least one sub frame (1ms). UE maximum output power shall be measured over all component carriers from different bands. If each band has separate antenna connectors, maximum output power is measured as the sum of maximum output power at each UE antenna connector.

Table 6.2B.1.3-1: Maximum output power for inter-band EN-DC (two bands)

DC configuration	Power class 3 (dBm)	Tolerance (dB)
DC_1A_n28A	23	+2/-3
DC_1A_n40A	23	+2/-3
DC_1A_n51A	23	+2/-3
DC_1A_n77A	23	+2/-3
DC_1A_n78A DC_1A_n84A_ULSUP-TDM_n78A DC_1A_n84A_ULSUP-FDM_n78A	23	+2/-3
DC_1A_n79A	23	+2/-3
DC_2A_n5A	23	+2/-3
DC_2A_n66A	23	+2/-3
DC_2A_n71A	23	+2/-3
DC_2A_n78A	23	+2/-3
DC_3A_n7A	23	+2/-3
DC_3A_n28A	23	+2/-3
DC_3A_n40A	23	+2/-3
DC_3A_n51A	23	+2/-3
DC_3A_n77A	23	+2/-3
DC_3A_n78A DC_3A_n80A_ULSUP-TDM_n78A, DC_3A_n80A_ULSUP-FDM_n78A	23	+2/-3
DC_3A_n79A DC_3A_n80A_ULSUP-TDM_n79A, DC_3A_n80A_ULSUP-FDM_n79A	23	+2/-3
DC_3A_n82A	23	+2/-3
DC_5A_n40A	23	+2/-3
DC_5A_n66A	23	+2/-3
DC_5A_n78A	23	+2/-3
DC_7A_n28A	23	+2/-3
DC_7A_n51A	23	+2/-3
DC_7A_n78A	23	+2/-3
DC_8A_n40A	23	+2/-3
DC_8A_n77A	23	+2/-3
DC_8A_n78A DC_8A_n81A_ULSUP-TDM_n78A, DC_8A_n81A_ULSUP-FDM_n78A	23	+2/-3
DC_8A_n79A DC_8A_n81A_ULSUP-TDM_n79A, DC_8A_n81A_ULSUP-FDM_n79A	23	+2/-3
DC_11A_n77A	23	+2/-3
DC_11A_n78A	23	+2/-3
DC_11A_n79A	23	+2/-3
DC_12A_n5A	23	+2/-3
DC_12A_n66A	23	+2/-3

DC configuration	Power class 3 (dBm)	Tolerance (dB)
DC_18A_n77A	23	+2/-3
DC_18A_n78A	23	+2/-3
DC_18A_n79A	23	+2/-3
DC_19A_n77A	23	+2/-3
DC_19A_n78A	23	+2/-3
DC_19A_n79A	23	+2/-3
DC_20A_n8A	23	+2/-3
DC_20A_n28A DC_20A_n83A	23	+2/-3
DC_20A_n51A	23	+2/-3
DC_20A_n77A	23	+2/-3
DC_20A_n78A DC_20A_n82A_ULSUP -TDM_n78A, DC_20A_n82A_ULSUP -FDM_n78A	23	+2/-3
DC_21A_n77A	23	+2/-3
DC_21A_n78A	23	+2/-3
DC_21A_n79A	23	+2/-3
DC_25A_n41A	23	+2/-3
DC_26A_n41A	23	+2/-3
DC_26A_n77A	23	+2/-3
DC_26A_n78A	23	+2/-3
DC_26A_n79A	23	+2/-3
DC_28A n51A	23	+2/-3
DC_28A_n77A	23	+2/-3
DC_28A_n78A DC_28A_n83A_ULSUP -TDM_n78A, DC_28A_n83A_ULSUP -FDM_n78A	23	+2/-3
DC_28A_n79A	23	+2/-3
DC_30A_n5A	23	+2/-3
DC_30A_n66A	23	+2/-3
DC_38A_n78A	N/A	N/A
DC_39A_n78A	23	+2/-3
DC_39A_n79A	23	+2/-3
DC_40A_n77A	N/A	N/A
DC_41A_n77A	23	+2/-3
DC_41A_n78A	23	+2/-3
DC_41A_n79A	23	+2/-3
DC_42A_n51A	23	+2/-3
DC_42A_n77A	N/A	N/A
DC_42A_n78A	N/A	N/A
DC_42A_n79A	N/A	N/A
DC_66A_n5A	23	+2/-3
DC_66A_n71A	23	+2/-3
DC_66A_n78A, DC_66A_n86A_ULSUP -TDM_n78A,	23	+2/-3

DC configuration	Power class 3 (dBm)	Tolerance (dB)
DC_66A_n86A_ULSUP -FDM_n78A		

6.2B.1.4 Inter-band EN-DC including FR2

< OTA requirements >

<Editor's notes: chapter numbers to be updated.>

For inter-band EN-DC of LTE and NR in FR2, the UE shall meet each transmitter power requirement specified in clause 6.2.2 of TS 36.101 and clause 6.2.1 TS 38.101-2 independently.

6.2B.1.5 Inter-band EN-DC including both FR1 and FR2

< OTA requirements >

<Editor's notes: chapter numbers to be updated.>

For inter-band EN-DC of LTE and NR in both FR1 and FR2, the UE shall meet each transmitter power requirement for inter-band EN-DC of LTE and NR in FR1specified in clause 6.2B.1.3 of TS 38.101-3 and for NR in FR2 clause 6.2.1 of TS 38.101-2 independently.

6.2B.2 UE maximum output power reduction and EN-DC

6.2B.2.1 Intra-band contiguous EN-DC

6.2B.2.2 Intra-band non-contiguous EN-DC

6.2B.2.3 Inter-band EN-DC within FR1

< conducted requirements >

6.2B.2.4 Inter-band EN-DC including FR2

< OTA requirements >

6.2B.2.5 Inter-band EN-DC including both FR1 and FR2

< OTA requirements >

6.2B.3 UE additional maximum output power reduction for EN-DC

6.2B.3.1 Intra-band contiguous EN-DC

6.2B.3.1.0 General

For EN-DC band combinations with additional requirements the A-MPR allowed are specified in Table 6.2B.3.1-1 for combinations of network signalling values indicated in E-UTRA and NR cell group(s). Unless otherwise stated the A-MPR allowed below is in addition to the MPR requirements specified in sub-clause 6.2B.2.

Table 6.2B.3.1-1: Allowed power reduction for EN-DC

DC configuration	Requirement (sub-clause)	E-UTRA network signalling value	NR network signalling value	A-MPR (subclause)
DC_(n)71B	6.5B.2.1.2.1	NS_35	NS_35	6.2B.3.1.1
DC_(n)41AA[1]	6.5B.2.1.2.2	NS_04	NS_04	6.2B.3.1.2
NOTE 1: Only applies to UEs that support dual UL transmission for this EN-DC combination. NOTE 2: The network signalling value for NR is mapped to configured FBI and *AdditionalSpecrumEmission* values as specified in [4].				

6.2B.3.1.1 A-MPR for DC_(n)71B

For DC_(n)71B with configured with network signaling values as per Table 6.2B.3.1.1-1 the allowed A-MPR is defined by

- for UE indicating support of dynamicPowerSharing in the *UE-MRDC-Capability* IE

$$AMPR_{DC} = CEIL\{M_{A,DC}(A), 0.5\}$$

where A-MPR$_{DC}$ is the total power reduction allowed (dB),

- for OFDM:

$M_{A,DC}$ = 10.00 - 11.67*A; 0.00 < A ≤ 0.30

7.10 - 2.00*A; 0.30 < A ≤ 0.80

5.50; 0.80 < A ≤ 1.00

- for DFT-S-OFDM:

$M_{A,DC}$ = 10.00 - 13.33*A; 0.00 < A ≤ 0.30

7.00 - 3.33*A; 0.30 < A ≤ 0.60

5.00; 0.60 < A ≤ 1.00

where

$$A = \frac{L_{CRB,LTE}+L_{CRB,NR}}{N_{RB,LTE}+N_{RB,NR}}$$

with L_{CRB} and N_{RB} the number of allocated PRB and transmission bandwidth for the respective CG,

- for UE not indicating support of dynamicPowerSharing

$$AMPR_{LTE} = CEIL\{M_{A,LTE}, 0.5\}$$

$$AMPR_{NR} = CEIL\{M_{A,NR}, 0.5\}$$

where A-MPR is the total power reduction allowed per CG with

$$M_{A,LTE} = M_{A,DC}(A_{LTE,wc}) - \Delta_{LTE}$$

$$M_{A,NR} = M_{A,DC}(A_{NR,wc}) - \Delta_{NR}$$

$$A_{LTE,wc} = \frac{L_{CRB,LTE}+1}{N_{RB,LTE}+\tilde{N}_{RB,NR}}$$

$$A_{NR,wc} = \frac{1+L_{CRB,NR}}{N_{RB,LTE}+N_{RB,NR}}$$

$$\Delta_{LTE} = 10\ log_{10}\frac{L_{CRB,LTE}}{L_{CRB,LTE}+\tilde{N}_{RB,NR}}$$

$$\Delta_{NR} = 10\ log_{10}\frac{L_{CRB,NR}}{N_{RB,LTE}+L_{CRB,NR}}$$

where $\tilde{N}_{RB,NR}$ is the transmission bandwidth configuration of the SCG channel for SCS = 15 kHz.

6.2B.3.1.2 A-MPR for NS_04

6.2B.3.1.2.0 General

When the UE is configured for B41/n41 intra-band contiguous EN-DC and it receives IE NS_04, the UE determines the total allowed maximum output power reduction as specified in this subclause. The A-MPR for EN-DC defined in this section is used instead of MPR defined in 6.2B.2.2, not additively.

The UE determines the Channel Configuration Case and the value of A-MPR$_{IM3}$ as follows:

If $F_{IM3,low\_block,low}$ < 2490.5 MHz

Channel Configuration Case B. A-MPR_{IM3} defined in Subclause 6.2B.3.1.2.2

Else

Channel Configuration Case A. A-MPR_{IM3} defined in Subclause 6.2B.3.1.2.1

where

- $F_{IM3,low\_block,low} = (2 * F_{low\_channel,low\_edge}) - F_{high\_channel,high\_edge}$
- $F_{low\_channel,low\_edge}$ is the lowermost frequency of lower transmission bandwidth configuration.
- $F_{high\_channel,high\_edge}$ is the uppermost frequency of upper transmission bandwidth configuration.

The UE determines the total allowed maximum output power reduction as follows:

For UEs not supporting dynamic power sharing, with backoff applied independently

$A\text{-}MPR_{E\text{-}UTRA} = MAX(A\text{-}MPR_{single,\ E\text{-}UTRA}, A\text{-}MPR_{IM3})$

$A\text{-}MPR_{NR} = MAX(A\text{-}MPR_{single,NR}, A\text{-}MPR_{IM3})$

For UEs supporting dynamic power sharing , with IM# backoff applied equally to E-UTRA and NR

$A\text{-}MPR_{E\text{-}UTRA} = MAX(A\text{-}MPR_{single,E\text{-}UTRA}, A\text{-}MPR_{IM3})$

$A\text{-}MPR_{NR} = MAX(A\text{-}MPR_{single,NR}, A\text{-}MPR_{IM3})$

where

- $A\text{-}MPR_{single,\ E\text{-}UTRA}$ is the A-MPR defined for the E-UTRA transmission in [4]
- $A\text{-}MPR_{single,NR}$ is the A-MPR defined for the NR transmission in [2]

6.2B.3.1.2.1 A-MPR_{IM3} for NS_04 to meet -13 dBm / 1MHz for 26dBm UE power

A-MPR in this sub-clause is relative to 26 dBm for power class 2. The same A-MPR is used relative to 23 dBm for power class 3. For the UE is configured with channel configurations Case A or Case C (defined in Subclause 6.2B.3.2.1), the allowed maximum output power reduction for IM3s applied to transmission on the MCG and the SCG with non-contiguous resource allocation is defined as follows:

$$A\text{-}MPR_{IM3} = M_A$$

Where M_A is defined as follows

$$M_A = \begin{cases} 14 & ; \quad 0 \le B < 0.5 \\ 9 & ; \quad 0.5 \le B < 1.0 \\ 7 & ; \quad 1.0 \le B < 2.0 \\ 5 & ; \quad 2.0 < B \end{cases}$$

Where:

For UEs supporting dynamic power sharing,

$$B = (L_{CRB\_alloc,\ E\text{-}UTRA} * 12 * SCS_{E\text{-}UTRA} + L_{CRB\_alloc,NR} * 12 * SCS_{NR})/1{,}000{,}000$$

For UEs not supporting dynamic power sharing,

For E-UTRA

$$B = (L_{CRB\_alloc,\ E\text{-}UTRA} * 12 * SCS_{E\text{-}UTRA} + 12 * SCS_{NR})/1{,}000{,}000$$

For NR

$B = (12* SCS_{E-UTRA} + L_{CRB\_alloc,NR} * 12 * SCS_{NR})/1,000,000$

6.2B.3.1.2.2 A-MPR for NS_04 to meet -25 dBm / 1MHz for 26 dBm UE power

A-MPR in this sub-clause is relative to 26 dBm. The same A-MPR is used relative to 23 dBm for power class 3. For the UE is configured with channel configurations Case B or Case D (defined in Subclause 6.2B.3.2.1), the allowed maximum output power reduction for IM3s applied to transmission on the MCG and the SCG with non-contiguous resource allocation is defined as follows:

$$A\text{-}MPR_{IM3} = M_A$$

Where M_A is defined as follows

$$M_A = \begin{cases} 14 ; & 0 \le B < 1.0 \\ 13 ; & 1.0 \le B < 2.0 \\ 12 ; & 2.0 \le B < 5.0 \\ 11 ; & 5.0 < B \end{cases}$$

Where:

For UEs supporting dynamic power sharing,

$B = (L_{CRB\_alloc,\ E\text{-}UTRA} * 12* SCS_{E\text{-}UTRA} + L_{CRB\_alloc,NR} * 12 * SCS_{NR})/1,000.000$

For UEs not supporting dynamic power sharing,

For E-UTRA

$B = (L_{CRB\_alloc,E\text{-}UTRA} * 12* SCS_{E\text{-}UTRA} + 12 * SCS_{NR})/1,000,000$

For NR

$B = (L_{CRB\_alloc,E\text{-}UTRA} * 12* SCS_{E\text{-}UTRA} + 12 * SCS_{NR})/1,000,000$

6.2B.3.2 Intra-band non-contiguous EN-DC

6.2B.3.2.0 General

For intra-band EN-DC band combinations with additional requirements the A-MPR allowed are specified in Table 6.2B.3.1-1 for combinations of network signalling values indicated in E-UTRA and NR cell group(s). Unless otherwise stated the A-MPR allowed below is in addition to the MPR requirements specified in sub-clause 6.2B.2.

Table 6.2B.3.2.0-1: Allowed power reduction for EN-DC

DC configuration	Requirement (sub-clause)	E-UTRA network signalling value	NR network signalling value	A-MPR (subclause)
DC_41A_n41[1]	6.6.3.3.19 and 6.6.2.2.2 of [4] and 6.5.2.3.2 and 6.5.3.3.1 of [2]	NS_04	NS_04	6.2B.3.2.2
NOTE 1: Only applies to UEs that support dual UL transmission for this EN-DC combination.				

6.2B.3.2.1 A-MPR for NS_04

When the UE is configured for B41/n41 intra-band non-contiguous EN-DC and it receives IE NS_04, the UE determines the total allowed maximum output power reduction as specified in this subclause. The A-MPR for EN-DC defined in this section is used instead of MPR defined in 6.2B.2.2, not additively.

The UE determines the Channel Configuration Case and the value of $A\text{-}MPR_{IM3}$ as follows:

If AND($F_{IM3,low\_block,high} < F_{filter,low}$, MAX($SEM_{-13,high}$, $F_{IM3,high\_block,low}$) > $F_{filter,high}$)

Channel Configuration Case C. $A\text{-}MPR_{IM3}$ defined in Subclause 6.2B.3.1.2.1

Else

Channel Configuration Case D. A-MPR$_{IM3}$ defined in Subclause 6.2B.3.1.2.2

where

- $F_{IM3,low\_block,high} = (2 * F_{low\_channel,high\_edge}) - F_{high\_channel,low\_edge}$
- $F_{IM3,high\_block,low} = (2 * F_{high\_channel,low\_edge}) - F_{low\_channel,high\_edge}$
- $F_{low\_channel,low\_edge}$ is the lowermost frequency of lower transmission bandwidth configuration.
- $F_{low\_channel,high\_edge}$ is the uppermost frequency of lower transmission bandwidth configuration.
- $F_{high\_channel,low\_edge}$ is the lowermost frequency of upper transmission bandwidth configuration.
- $F_{high\_channel,high\_edge}$ is the uppermost frequency of upper transmission bandwidth configuration.
- $F_{filter,low}$ = 2480 MHz
- $F_{filter,high}$ = 2745 MHz
- $SEM_{-13,high}$ = Threshold frequency where upper spectral emission mask for upper channel drops from -13 dBm / 1MHz to -25 dBm / 1MHz, as specified in Subclause 6.5B.2.1.2.2.

The UE determines the value of A-MPR$_{ACLRoverlap}$ as specified in Table 6.2B.3.2.1-1:

Table 6.2B.3.2.1-1: A-MPR$_{ACLRoverlap}$

W_{gap}	A-MPR$_{ACLRoverlap}$
< $BW_{channel,E-UTRA}$ + $BW_{channel,NR}$	4 dB
≥ $BW_{channel,E-UTRA}$ + $BW_{channel,NR}$	0 dB
NOTE 1: $W_{gap} = F_{high\_channel,low\_edge} - F_{low\_channel,high\_edge}$	

The UE determines the total allowed maximum output power reduction as follows:

For UEs not supporting dynamic power sharing, with backoff applied independently

$A\text{-}MPR_{E\text{-}UTRA} = MAX(A\text{-}MPR_{single,E\text{-}UTRA}, A\text{-}MPR_{IM3}, A\text{-}MPR_{ACLRoverlap})$

$A\text{-}MPR_{NR} = MAX(A\text{-}MPR_{single,NR}, A\text{-}MPR_{IM3}, A\text{-}MPR_{ACLRoverlap})$

For UEs supporting dynamic power sharing , with IM3 backoff applied equally to E-UTRA and NR

$A\text{-}MPR_{EN\text{-}DC} = MAX(A\text{-}MPR_{single,LTE}, A\text{-}MPR_{single,NR}, A\text{-}MPR_{IM3}, A\text{-}MPR_{ACLRoverlap})$

$A\text{-}MPR_{E\text{-}UTRA} = MAX(A\text{-}MPR_{single,E\text{-}UTRA}, A\text{-}MPR_{EN\text{-}DC})$

$A\text{-}MPR_{NR} = MAX(A\text{-}MPR_{single,NR}, A\text{-}MPR_{EN\text{-}DC})$

where

- $A\text{-}MPR_{single,E\text{-}UTRA}$ is the A-MPR defined for the E-UTRA transmission in [4].
- $A\text{-}MPR_{single,NR}$ is the A-MPR defined for the NR transmission in [2].

6.2B.3.3 Inter-band EN-DC within FR1

6.2B.3.4 Inter-band EN-DC including FR2

6.2B.3.5 Inter-band EN-DC including both FR1 and FR2

6.2B.4 Configured output power for EN-DC

6.2B.4.1 Configured output power level

<Editor's note: The title of 6.2B.4.1 to be updated by later RAN4 decision>

6.2B.4.1.1 Intra-band contiguous EN-DC

< equations for Pcmax >

6.2B.4.1.2 Intra-band non-contiguous EN-DC

< equations for Pcmax >

6.2B.4.1.3 Inter-band EN-DC within FR1

< equations for Pcmax >

6.2B.4.1.4 Inter-band EN-DC including FR2

For inter-band dual connectivity with one uplink serving cell per CG on E-UTRA and NR respectively, with NR configured in FR2, the UE is allowed to set its configured maximum output power PCMAX,c(i),i for serving cell c(i) of CG i, i = 1,2.

The UE maximum configured power PCMAX,c(i), on E-UTRA for the subframe i shall be set according to subclause 6.2.5 from 36.101. Applicable inter-band ΔTIB,c parameters shall be used according to the subclauses 6.2B.4.2.4 or 6.2B.4.2.5.

The UE maximum configured power PCMAX,c(j), on NR for the slot j shall be set according to subclase 6.2.4 from 38.101-2.

For the configured power measurements 36.101 subclause 6.2.5 and 38.101-2 subclause 6.2.4 are applicable.

6.2B.4.1.5 Inter-band EN-DC including both FR1 and FR2

< equations for Pcmax >

6.2B.4.2 $\Delta T_{IB,c}$ for EN-DC

For the UE which supports inter-band EN-DC configuration, $\Delta T_{IB,c}$ in Tables below applies where unless otherwise stated, the same $\Delta T_{IB,c}$ is applicable to NR band(s) part for DC configurations which have the same NR operating band combination. Unless otherwise stated, $\Delta T_{IB,c}$ is set to zero.

6.2B.4.2.1 Intra-band contiguous EN-DC

6.2B.4.2.2 Intra-band non-contiguous EN-DC

6.2B.4.2.3 Inter-band EN-DC within FR1

6.2B.4.2.3.1 $\Delta T_{IB,c}$ for EN-DC two bands

Table 6.2B.4.2.3.1-1: $\Delta T_{IB,c}$ due to EN-DC(two bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1_n28	1	0.3
	n28	0.6
DC_1_n40	1	0.5
	n40	0.5
DC_1_n51	1	0.6
	n51	0.6
DC_1_n77	1	0.6
	n77	0.8
DC_1_n78	1	0.3
	n78	0.8
DC_2_n5	2	0.3
	n5	0.3
DC_2_n66	2	0.5
	n66	0.5
DC_2_n71	2	0.3
	n71	0.3
DC_2A_n78A	2	0.6
	n78	0.8
DC_3_n7	3	0.5
	n7	0.5
DC_3_n28	3	0.3
	n28	0.3
DC_3_n40	3	0.5
	n40	0.5
DC_3_n51	3	0.3
	n51	0.3
DC_3_n77	3	0.6
	n77	0.8
DC_3_n78	3	0.6
	n78	0.8
DC_5A_n40A	5	0.3
	n40	0.3
DC_5A_n66A	5	0.3
	n66	0.3
DC_5_n78	5	0.6
	n78	0.8
DC_7_n28	7	0.3
	n28	0.3
DC_7_n51	7	0.3
	n51	0.3
DC_7_n78	7	0.5
	n78	0.8
DC_8_n40	8	0.3
	n40	0.3
DC_8_n77	8	0.6
	n77	0.8
DC_8_n78	8	0.6
	n77	0.8
DC_11_n77	11	0.4
	n77	0.8
DC_11_n78	11	0.4
	n78	0.8
DC_12A_n5A	12	0.4
	n5	0.8
DC_12A_n66A	12	0.8
	n66	0.3
DC_18_n77	18	0.3
	n77	0.8
DC_18_n78	18	0.3
	n78	0.8
DC_19_n77	19	0.3
	n77	0.8
DC_19_n78	19	0.3

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	n78	0.8
DC_20_n8	20	0.4
	n8	0.4
DC_20_n28	20	0.5
	n28	0.5
DC_20_n51	20	0.5
	n51	0.5
DC_20_n77	20	0.6
	n77	0.8
DC_20_n78	20	0.6
	n78	0.8
DC_21_n77	21	0.4
	n77	0.8
DC_21_n78	21	0.4
	n78	0.8
	n77	0.8
DC_25_n41	25	0.5
	n41	0.3[1]
		0.8[2]
DC_26_n41	26	0.3
	n41	0.3
DC_26A_n77A	26	0.3
	n77	0.8
DC_26_n78	26	0.3
	n78	0.8
DC_28_n51	28	0.5
	n51	0.5
DC_28_n77	28	0.5
	n77	0.8
DC_28_n78	28	0.5
	n78	0.8
DC_30A_n5A	30	0.3
	n5	0.3
DC_30A_n66A	30	0.5
	n66	0.8
DC_38_n78	n78	0.5
DC_39_n78	39	0.3
	n78	0.8
DC_39_n79	39	0.3
	n79	0.8
DC_40_n77	n77	0.5
DC_41_n77	41	0.3
	n77	0.8
DC_41_n78	41	0.3
	n78	0.8
DC_41_n79	41	0.3
	n79	0.8
DC_42_n51	42	0.6
	n51	0.8
DC_66_n5	66	0.3
	n5	0.3
DC_66_n71	66	0.3
	n71	0.3
DC_66_n78	66	0.6
	n78	0.8

NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz.
NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.

6.2B.4.2.3.2 $\Delta T_{IB,c}$ for EN-DC three bands

Table 6.2B.4.2.3.2-1: $\Delta T_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3_n28	1	0.3
	3	0.3
	n28	0.6
DC_1-3_n77	1	0.6
	3	0.6
	n77	0.8
DC_1-3_n78	1	0.6
	3	0.6
	n78	0.8
DC_1-3_n79	1	0.3
	3	0.3
DC_1-5_n78	1	0.3
	5	0.6
	n78	0.8
DC_1-7_n28	1	0.5
	7	0.6
	n28	0.6
DC_1-7_n78	1	0.6
	7	0.6
	n78	0.8
DC_1-7-7_n78	1	0.6
	7	0.6
	n78	0.8
DC_1-8_n78	1	0.3
	8	0.6
	n78	0.8
DC_1-1A_n77	1	0.3
	18	0.3
	n77	0.8
DC_1-18_n78	1	0.3
	18	0.3
	n78	0.8
DC_1-19_n77	1	0.3
	19	0.3
	n77	0.8
DC_1-19_n78	1	0.3
	19	0.3
	n78	0.8
DC_1-19_n79	1	0.3
	19	0.3
DC_1-20_n28	1	0.3
	20	0.6
	N28	0.6
DC_1-20_n78	1	0.3
	20	0.3
	n78	0.8
DC_1-21_n77	1	0.3
	21	0.3
	n77	0.8
DC_1-21_n78	1	0.6
	21	0.4
	n78	0.8
DC_1-21_n79	1	0.3
	21	0.3
DC_1-41_n77	1	0.5
	41	0.5
	n77	0.8
DC_1-41_n78	1	0.5
	41	0.5
	n78	0.8
DC_1-41_n79	1	0.5
	41	0.5
DC_1-28_n77	1	0.3

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	28	0.6
	n77	0.8
DC_1-28_n78	1	0.3
	28	0.6
	n78	0.8
DC_1_n28-n78	1	0.3
	n28	0.6
	n78	0.8
DC_1_n28-n79	1	0.3
	28	0.3
DC_1-42_n77	1	0.6
	42	0.8
	n77	0.8
DC_1-42_n78	1	0.3
	42	0.8
	n78	0.8
DC_1-42_n79	1	0.3
	42	0.8
DC_1_SUL_n78-n84	1	0.3
	n78	0.8
	n84	0.3
DC_1_n77-n79	1	0.6
	n77	0.8
	n79	0
DC_1_n78-n79	1	0.3
	n78	0.8
	n79	0.5
DC_2-(n)71B	2	0.3
	71	0.3
	n71	
DC_2-5_n66	2	0.5
	5	0.3
	n66	0.5
DC_2-30_n66	2	0.5
	30	0.3
	n66	0.5
DC_2-66_n71	2	0.5
	66	0.5
	n71	0.3
DC_3_n3-n77	3	0.6
	n3	0.6
	n77	0.8
DC_3_n3-n78	3	0.6
	n3	0.6
	n78	0.8
DC_3-5_n78	3	0.6
	5	0.6
	n78	0.8
DC_3-7_n28	3	0.5
	7	0.5
	n28	0.3
DC_3-7_n78, DC_3-7-7_n78	3	0.6
	7	0.6
	n78	0.8
DC_3-8_n78	3	0.6
	8	0.6
	n78	0.8
DC_3-19_n77	3	0.6
	19	0.3
	n77	0.8
DC_3-19_n78	3	0.6
	19	0.3
	n78	0.8

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_3-19_n79	3	0.3
	19	0.3
DC_3-20_n28	3	0.3
	20	0.5
	n28	0.5
DC_3-20_n78	3	0.5
	20	0.3
	n78	0.8
DC_3-21_n77	3	0.8
	21	0.9
	n77	0.8
DC_3-21_n78	3	0.8
	21	0.9
	n78	0.8
DC_3-21_n79	3	0.8
	21	0.9
DC_3-28_n78	3	0.5
	28	0.3
	n78	0.8
DC_3A_n28-n78	3	0.5
	n28	0.3
	n78	0.8
DC_3-38_n78	3	0.6
	n78	0.8
DC_3-41_n78	3	0.6
	41	0.3[1]
		0.8[2]
	n78	0.8
DC_3-42_n77	3	0.6
	42	0.8
	n787	0.8
DC_3-42_n78	3	0.6
	42	0.8
	n78	0.8
DC_3-42_n79	3	0.6
	42	0.8
DC_3_n77-n79	3	0.6
	n77	0.8
	n79	0
DC_3_n78-n79	3	0.6
	n78	0.8
	n79	0.5
DC_3_SUL_n78-n80	3	0.6
	n78	0.8
	n80	0.6
DC_3A_SUL_n78A-n82A	3	0.5
	n78	0.8
	n82	0.3
DC_5-7_n78, DC_5-7-7_n78	5	0.6
	7	0.6
	n78	0.8
DC_5_30_n66	5	0.3
	30	0.3
	n66	0.5
DC_7-7_n78	7	0.5
	n78	0.8
DC_7-20_n28	7	0.3
	20	0.6
	n28	0.6
DC_7-20_n78	7	0.3
	20	0.3
	n78	0.8
DC_7-28_n78	7	0.3

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	28	0.3
	n78	0.8
DC_7_n28-n78	7	0.3
	n28	0.3
	n78	0.8
DC_7-46_n78	7	0.5
	n78	0.8
DC_8_SUL_n78- n81	8	0.6
	n78	0.8
	n81	0.6
DC_18-28_n77	18	0.5
	28	0.5
	n77	0.8
DC_18-28_n78	18	0.5
	28	0.5
	n78	0.8
DC_18-28_n79	18	0.5
	28	0.5
DC_19-21_n77	19	0.3
	21	0.4
	n77	0.8
DC_19-21_n78	19	0.3
	21	0.4
	n78	0.8
DC_19-21_n79	19	0.3
	21	0.4
DC_19-42_n77	19	0.3
	42	0.8
	n77	0.8
DC_19-42_n78	19	0.3
	42	0.8
	n78	0.8
DC_19-42_n79	19	0.3
	42	0.8
DC_19_n77-n79	19	0.3
	n77	0.8
	n79	0
DC_19_n78-n79	19	0.3
	n78	0.8
	n79	0.5
DC_20_n8-n75	20	0.4
	n8	0.4
DC_20_n28-n75	20	0.5
	n28	0.7
DC_20_n28-n78	20	0.6
	n28	0.6
	n78	0.8
DC_20_n75-n78	20	0.5
	n78	0.8
DC_20_n76-n78	20	0.5
	n78	0.8
DC_20A_SUL_n78A-n82A	20	0.6
	n78	0.8
	n82	0.6
DC_20A_SUL_n78A-n83A	20	0.8
	n78	0.8
	n83	0.8
DC_21-42_n77	21	0.4
	42	0.8
	n77	0.8
DC_21-42_n78	21	0.4
	42	0.8
	n78	0.8

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_21-42_n79	21	0.4
	42	0.8
DC_21_n77-n79	21	0.4
	n77	0.8
	n79	0
DC_21_n78-n79	21	0.4
	n78	0.8
	n79	0.5
DC_28-42_n77	28	0.5
	42	0.8
	n77	0.8
DC_28-42_n78	28	0.5
	42	0.8
	n78	0.8
DC_28-42_n79	28	0.5
	42	0.8
DC_28_SUL_n78-n83	28	0.5
	n78	0.8
	n83	0.5
DC_41-42_n77	41	0.5
	42	0.8
	n77	0.8
DC_41-42_n78	41	0.5
	42	0.8
	n78	0.8
DC_41-42_n79	41	0.
	42	0.8
DC_41_n77	41	0.3
	n77	0.8
DC_41_n78	41	0.3
	n78	0.8
DC_41_n79	41	0.3
	n79	0.8
DC_66_(n)71	66	0.3
	71	0.3
	n71	0.3
DC_66_SUL_n78-n86	66	0.6
	n78	0.8
	n86	0.6

NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz.
NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.

6.2B.4.2.3.3 $\Delta T_{IB,c}$ for EN-DC four bands

Table 6.2B.4.2.3.3-1: $\Delta T_{IB,c}$ due to EN-DC(four bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-5_n78	1	0.6
	3	0.6
	5	0.3
	n78	0.8
DC_1-3-7_n28	1	0.6
	3	0.6
	7	0.6
	n28	0.6
DC_1-3-7_n78 DC_1-3-7-7_n78	1	0.7
	3	0.7
	7	0.7
	n78	0.8
DC_1-3-8_n78	1	0.6
	3	0.6
	8	0.6
	n78	0.8
DC_1-3-28_n77	1	0.6
	3	0.6
	28	0.6
	n77	0.8
DC_1-3-28_n78	1	0.6
	3	0.6
	28	0.6
	n78	0.8
DC_1-3_n28-n78	1	0.6
	3	0.6
	n28	0.6
	n78	0.8
DC_1-3-28_n79	1	0.6
	3	0.6
	28	0.6
DC_1-3-19_n78	1	0.6
	3	0.6
	19	0.3
	n78	0.8
DC_1-3-19_n79	1	0.3
	3	0.3
	19	0.3
DC_1-3-20_n28	1	0.3
	3	0.3
	20	0.6
	n28	0.6
DC_1-3-20_n78	1	0.6
	3	0.6
	20	0.3
	n78	0.8
DC_1-3-21_n77	1	0.6
	3	0.8
	21	0.9
	n77	0.8
DC_1-3-21_n78	1	0.6
	3	0.8
	21	0.9
	n78	0.8
DC_1-3-21_n79	1	0.3
	3	0.8
	21	0.9
DC_1-3-42_n77	1	0.6
	3	0.6
	42	0.8
	n77	0.8
DC_1-3-42_n78	1	0.6
	3	0.6

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	42	0.8
	n78	0.8
DC_1-3-42_n79	1	0.6
	3	0.6
	42	0.8
DC_1-5-7_n78 DC_1-5-7-7_n78	1	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_1-7-20_n28	1	0.5
	7	0.6
	20	0.6
	n28	0.6
DC_1-7-20_n78	1	0.6
	7	0.7
	20	0.4
	n78	0.8
DC_1-7_n28-n78	1	0.6
	7	0.6
	n28	0.6
	n78	0.8
DC_1-18-28_n77	1	0.3
	18	0.5
	28	0.5
	n77	0.8
DC_1-18-28_n78	1	0.3
	18	0.5
	28	0.5
	n78	0.8
DC_1-18-28_n79	1	0.3
	18	0.5
	28	0.5
DC_1-19-42_n77	1	0.6
	19	0.3
	42	0.8
	n77	0.8
DC_1-19-42_n78	1	0.3
	19	0.3
	42	0.8
	n78	0.8
DC_1-19-42_n79	1	0.3
	19	0.3
	42	0.8
DC_1-20_n28-n78	1	0.3
	20	0.6
	n28	0.6
	n78	0.8
DC_1-21-28_n77	1	0.6
	21	0.4
	28	0.6
	n77	0.8
DC_1-21-28_n78	1	0.3
	21	0.4
	28	0.6
	n78	0.8
DC_1-21-28_n79	1	0.3
	21	0.4
	28	0.6
DC_1-21-42_n77	1	0.6
	21	0.4
	42	0.8
	n77	0.8
DC_1-21-42_n78	1	0.3

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	21	0.4
	42	0.8
	n78	0.8
DC_1-21-42_n79	1	0.3
	21	0.4
	42	0.8
DC_1-28-42_n77	1	0.6
	28	0.6
	42	0.8
	n77	0.8
DC_1-28-42_n78	1	0.3
	28	0.6
	42	0.8
	n78	0.8
DC_1-28-42_n79	1	0.3
	28	0.6
	42	0.8
DC_1-41-42_n77	1	0.5
	41	0.5
	42	0.8
	n77	0.8
DC_1-41-42_n78	1	0.5
	41	0.5
	42	0.8
	n78	0.8
DC_1-41-42_n79	1	0.5
	41	0.5
	42	0.8
DC_2-66-(n)71B	2	0.5
	66	0.5
	71	0.3
	n71	
DC_3-5-7_n78, DC_3-5-7-7_n78A	3	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_3-7-20_n28	3	0.5
	7	0.5
	20	0.6
	n28	0.5
DC_3-7-20_n78	3	0.6
	7	0.6
	20	0.3
	n78	0.8
DC_3-7-28_n78	3	0.6
	7	0.6
	28	0.6
	n78	0.8
DC_3-7_n28-n78	3	0.6
	7	0.6
	n28	0.6
	n78	0.8
DC_3-19-21_n77	3	0.8
	19	0.3
	21	0.9
	n77	0.8
DC_3-19-21_n78	3	0.8
	19	0.3
	21	0.9
	n78	0.8
DC_3-19-21_n79	3	0.8
	19	0.3
	21	0.9

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_3-19-42_n77	3	0.6
	19	0.3
	42	0.8
	n77	0.8
DC_3-19-42_n78	3	0.6
	19	0.3
	42	0.8
	n78	0.8
DC_3-19-42_n79	3	0.6
	19	0.3
	42	0.8
DC_3-20_n28-n78	3	0.6
	20	0.6
	n28	0.6
	n78	0.8
DC_3-28-42_n77	3	0.6
	28	0.5
	42	0.8
	n77	0.8
DC_3-28-42_n78	3	0.6
	28	0.5
	42	0.8
	n78	0.8
DC_3-28-42_n79	3	0.6
	28	0.5
	42	0.8
DC_3-21-42_n77	3	0.8
	21	0.9
	42	0.8
	n77	0.8
DC_3-21-42_n78	3	0.8
	21	0.9
	42	0.8
	n78	0.8
DC_3-21-42_n79	3	0.8
	21	0.9
	42	0.8
DC_7-20_n28-n78	7	0.3
	20	0.6
	n28	0.6
	n78	0.8
DC_19-21-42_n77	19	0.3
	21	0.4
	42	0.8
	n77	0.8
DC_19-21-42_n78	19	0.3
	21	0.4
	42	0.8
	n78	0.8
DC_19-21-42_n79	19	0.3
	21	0.4
	42	0.8
DC_21-28-42_n77	21	0.4
	28	0.5
	42	0.8
	n77	0.8
DC_21-28-42_n78	21	0.4
	28	0.5
	42	0.8
	n78	0.8
DC_21-28-42_n79	21	0.4
	28	0.5
	42	0.8

6.2B.4.2.3.4 $\Delta T_{IB,c}$ for EN-DC five bands

Table 6.2B.4.2.3.4-1: $\Delta T_{IB,c}$ due to EN-DC (five bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-5-7_n78, DC_1-3-5-7-7_n78	1	0.6
	3	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_1-3-7-20_n28	1	0.6
	3	0.6
	7	0.6
	20	0.6
	n28	0.6
DC_1-3-7-20_n78	1	0.6
	3	0.6
	7	0.6
	20	0.6
	n78	0.6
DC_1-3-7_n28-n78	1	0.7
	3	0.7
	7	0.7
	n28	0.6
	n78	0.8
DC_1-3-19-21_n77	1	0.6
	3	0.8
	19	0.3
	21	0.9
	n77	0.8
DC_1-3-19-21_n78	1	0.6
	3	0.8
	19	0.3
	21	0.9
	n78	0.8
DC_1-3-19-21_n79	1	0.3
	3	0.8
	19	0.3
	21	0.9
DC_1-3-19-42_n77	1	0.6
	3	0.6
	19	0.3
	42	0.8
	n77	0.8
DC_1-3-19-42_n78	1	0.6
	3	0.6
	19	0.3
	42	0.8
	n78	0.8
DC_1-3-19-42_n79	1	0.6
	3	0.6
	19	0.3
	42	0.8
DC_1-3-20_n28-n78	1	0.6
	3	0.6
	20	0.6
	n28	0.6
	n78	0.8
DC_1-3-21-42C_n77	1	0.6
	3	0.8
	21	0.9
	42	0.8
	n77	0.6

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-21-42C_n78	1	0.6
	3	0.8
	21	0.9
	42	0.8
	n78	0.6
DC_1-3-21-42C_n79	1	0.6
	3	0.8
	21	0.9
	42	0.8
	n79	0
DC_1-3-28-42_n77	1	0.6
	3	0.6
	28	0.6
	42	0.8
	n77	0.8
DC_1-3-28-42_n78	1	0.6
	3	0.6
	28	0.6
	42	0.8
	n78	0.8
DC_1-3-28-42_n79	1	0.6
	3	0.6
	28	0.6
	42	0.8
DC_1-7-20_n28-n78	1	0.6
	7	0.7
	20	0.6
	n28	0.6
	n78	0.8
DC_1-19-21-42_n77	1	0.3
	19	0.3
	21	0.4
	42	0.8
	n77	0.8
DC_1-19-21-42_n78	1	0.3
	19	0.3
	21	0.4
	42	0.8
	n78	0.8
DC_1-19-21-42_n79	1	0.3
	19	0.3
	21	0.4
	42	0.8
DC_1-21-28-42_n77	1	0.6
	21	0.4
	28	0.6
	42	0.8
	n77	0.8
DC_1-21-28-42_n78	1	0.3
	21	0.4
	28	0.6
	42	0.8
	n78	0.8
DC_1-21-28-42_n79	1	0.3
	21	0.4
	28	0.6
	42	0.8
DC_3-7-20_n28-n78	3	0.6

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	7	0.6
	20	0.6
	n28	0.6
	n78	0.8

6.2B.4.2.3.5 $\Delta T_{IB,c}$ for EN-DC six bands

Table 6.2B.4.2.3.5-1: $\Delta T_{IB,c}$ due to EN-DC (six bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-7-20_n28-n78	1	0.7
	3	0.7
	7	0.7
	20	0.6
	n28	0.6
	n78	0.8

6.2B.4.2.4 Inter-band EN-DC including FR2

6.2B.4.2.4.1 $\Delta T_{IB,c}$ for EN-DC two bands

Table 6.2B.4.2.4.1-1: $\Delta T_{IB,c}$ due to EN-DC(two bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)

6.2B.4.2.4.2 $\Delta T_{IB,c}$ for EN-DC three bands

Table 6.2B.4.2.4.2-1: $\Delta T_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3_n257	1	0.3
	3	0.3
DC_1-7-7_n257	1	0.5
	7	0.6
DC_1-8_n257	1	0.3
	8	0.3
DC_1-18_n257	1	0.3
	18	0.3
DC_1-19_n257	1	0.3
	19	0.3
DC_1-21_n257	1	0.3
	21	0.3
DC_1-28_n257	1	0.3
	28	0.6
DC_1-41_n257	1	0.5
	41	0.5
DC_1-42_n257	1	0.3
	42	0.8
DC_1_n77-n257	1	0.6
	n77	0.8
DC_1_n78-n257	1	0.3
	n78	0.8
DC_1_n79-n257	1	0
	n79	0
DC_2-5_n257	2	0.3
	5	0.3
DC_2-5_n260	2	0.3
	5	0.3
DC_2-12_n260	2	0.3
	12	0.3
DC_2-13_n257	2	0.3
	13	0.3
DC_2-13_n260	2	0.3
	13	0.3
DC_2-30_n260	2	0.5
	30	0.5
DC_2-66_n257	2	0.5
	66	0.5
DC_2-66_n260	2	0.5
	66	0.5
DC_3-19_n257	3	0.3
	19	0.3
DC_3-21_n257	3	0.8
	21	0.9
DC_3-28_n257	3	0.3
	28	0.3
DC_3-41_n257	3	0.5
	41	0.3[1]/0.8[2]
DC_3-42_n257	3	0.6
	42	0.8
DC_3_n77-n257	3	0.6
	n77	0.8
DC_3_n78-n257	3	0.6
	n78	0.8
DC_3_n79-n257	3	0
	n79	0
DC_5-30_n260	5	0.5
	30	0.5
DC_5-66_n257	5	0.3
	66	0.3
DC_5-66_n260	5	0.3
	66	0.3
DC_5_n78-n257	5	0.6

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
	n78	0.8
	n257	0
DC_7_n78-n257	7	0.5
	n78	0.8
	n257	0
DC_12-30_n260	12	0.5
	30	0.5
DC_12-66_n260	12	0.3
	66	0.3
DC 13-66_n260	13	0.3
	66	0.3
DC_18-28_n257	18	0.5
	28	0.5
DC_19-21_n257	19	0.3
	21	0.4
	42	0.8
DC_19-42_n257	19	0.3
	42	0.8
DC_19_n77-n257	19	0.3
	n77	0.8
DC_19_n78-n257	19	0.3
	n78	0.8
DC_19_n79-n257	19	0
	n79	0
DC_21-28_n257	21	0.4
	28	0.3
DC_21-42_n257	21	0.4
	42	0.8
DC_21_n77-n257	21	0.4
	n77	0.8
DC_21_n78-n257	21	0.4
	n78	0.8
DC_21_n79-n257	21	0
	n79	0
DC_28-42_n257	28	0.5
	42	0.8
DC_41-42_n257	41	0.5
	42	0.8

NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz.
NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.

6.2B.4.2.4.3 $\Delta T_{IB,c}$ for EN-DC four bands

Table 6.2B.4.2.4.3-1: $\Delta T_{IB,c}$ due to EN-DC(four bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1A-3A-7A-7A_n257A	1	0.6
	3	0.6
	7	0.6
DC_1-3-19_n257	1	0.3
	3	0.3
	19	0.3
DC_1-3-21_n257	1	0.3
	3	0.8
	21	0.9
DC_1-3-28_n257	1	0.6
	3	0.6
	28	0.6
DC_1-3-42_n257	1	0.6
	3	0.6
	42	0.8
DC_1-3_n78-n257	1	0.6
	3	0.6
	n78	0.8
DC_1-5-7-7_n257	1	0.5
	5	0.3
	7	0.6
DC_1-5_n78-n257	1	0.3
	5	0.6
	n78	0.8
DC_1-7_n78-n257	1	0.6
	7	0.6
	n78	0.8
DC_1-18-28_n257	1	0.3
	18	0.5
	28	0.5
DC_1-19-42_n257	1	0.3
	19	0.3
	42	0.8
DC_1-21-28_n257	1	0.3
	21	0.4
	28	0.6
DC_1-21-42_n257	1	0.3
	21	0.4
	42	0.8
DC_1-28-42_n257	1	0.3
	28	0.6
	42	0.8
DC_1-41-42_n257	1	0.5
	41	0.5
	42	0.8
DC_19-21-42_n257	19	0.3
	21	0.4
	42	0.8
DC_3-5_n78-n257	3	0.6
	5	0.6
	n78	0.8
DC_3-7_n78-n257	3	0.6
	7	0.6
	n78	0.8
DC_3-19-21_n257	3	0.8
	19	0.3
	21	0.9
DC_3-19-42_n257	3	0.6
	19	0.3
	42	0.8
DC_3-21-42_n257	3	0.8
	21	0.9
	42	0.8

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_3-28-42_n257	3	0.6
	28	0.5
	42	0.8
DC_5-7_n78-n257	5	0.6
	7	0.6
	n78	0.8
DC_7-7_n78-n257	7	0.5
	n78	0.8
DC_21-28-42_n257	21	0.4
	28	0.5
	42	0.8

6.2B.4.2.4.4 $\Delta T_{IB,c}$ for EN-DC five bands

Table 6.2B.4.2.4.4-1: $\Delta T_{IB,c}$ due to EN-DC (five bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-5-7-7_n257	1	0.6
	3	0.6
	5	0.3
	7	0.6
DC_1-3-5_n78-n257	1	0.6
	3	0.6
	5	0.6
	n78	0.8
DC_1-3-7_n78-n257	1	0.7
	3	0.7
	7	0.7
	n78	0.8
DC_1-3-19-21_n257	1	0.3
	3	0.8
	19	0.3
	21	0.9
DC_1-3-19-42_n257	1	0.6
	3	0.6
	19	0.3
	42	0.8
DC_1-3-21-42C_n257	1	0.6
	3	0.8
	21	0.9
	42	0.8
DC_1-3-28-42_n257	1	0.6
	3	0.6
	28	0.6
	42	0.8
DC_1-5-7_n78-n257	1	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_1-7-7_n78-n257	1	0.6
	7	0.6
	n78	0.8
DC_1-19-21-42_n257	1	0.3
	19	0.3
	21	0.4
	42	0.8
DC_1-21-28-42_n257	1	0.3
	21	0.4
	28	0.6
	42	0.8
DC_3-5-7_n78-n257	3	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_3-7-7_n78-n257	3	0.6
	7	0.6
	n78	0.8
DC_5-7-7_n78-n257	5	0.6
	7	0.6
	n78	0.8

6.2B.4.2.4.5 $\Delta T_{IB,c}$ for EN-DC six bands

Table 6.2B.4.2.4.5-1: $\Delta T_{IB,c}$ due to EN-DC (six bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1-3-5-7_n78-n257	1	0.6
	3	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_1-3-7-7_n78-n257	1	0.7
	3	0.7
	7	0.7
	n78	0.8
DC_1-5-7-7_n78-n257	1	0.6
	5	0.6
	7	0.6
	n78	0.8
DC_3-5-7-7_n78-n257	3	0.6
	5	0.6
	7	0.6
	n78	0.8

6.2B.4.2.5 Inter-band EN-DC including both FR1 an FR2

6.2B.4.2.5.1 $\Delta T_{IB,c}$ for EN-DC three bands

Table 6.2B.4.2.5.1-1: $\Delta T_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta T_{IB,c}$ (dB)
DC_1_n77-n257	1	0.6
	n77	0.8
DC_1_n78-n257	1	0.3
	n78	0.8
DC_3_n77-n257	3	0.6
	n77	0.8
DC_3_n78-n257	3	0.6
	n78	0.8
DC_19_n77-n257	19	0.3
	n77	0.8
DC_19_n78-n257	19	0.3
	n78	0.8

6.2B.5 Configured output power for NR-DC

6.2B.5.1 Configured output power level

6.2B.5.1.1 Inter-band NR-DC between FR1 and FR2

For inter-band NR-DC between FR1 and FR2 combined with one uplink serving cell per CG, the UE is allowed to set its configured maximum output power $P_{CMAX,c(i),i}$ for serving cell *c(i)* of CG *i, i = 1,2* as specified in clause 6.2.4 of TS 38.101-1 [2] and clause 6.2.4 TS 38.101-2 [3] independently.

6.3 Output power dynamics

Output power dynamics for CA operations in FR1 and FR2 as specified in 38.101-1 and 38.101-2, respectively.

Output power dynamics for EN-DC operations in FR1 and FR2 as specified in 38.101-1 and 38.101-2, respectively. E-UTRA as specified in 36.101. For intra-band contiguous EN-DC operation in FR1, minimum output power requirements specified in sub-clause 6.3.1 of 38.101-1 and sub-clause 6.3.2 of 36.101 shall only apply when the power of all NR and E-UTRA carriers are set to minimum value. Similarly, OFF power requirements specified in sub-clause 6.3.2 of 38.101-1 and sub-clause 6.3.3 of 36.101 shall only apply when the power of all NR and E-UTRA carriers are

OFF. The OFF power condition in transmit ON/OFF time mask requirements specified in sub-clause 6.3.3 of 38.101-1 and sub-clause 6.3.4 of 36.101 is applicable only when all NR and E-UTRA carriers are OFF. If both E-UTRA and NR transition between ON and OFF states simultaneously, the longer transient time shall apply to both. If either E-UTRA or NR is OFF and the other carrier transitions from OFF to ON, then the transiet time associated with that carrier applies.

6.3B Output power dynamics for DC

6.3B.1 Output power dynamics for EN-DC with UL sharing from UE perspective

6.3B.1.1 E-UTRA and NR switching time mask for TDM based UL sharing from UE perspective

The E-UTRA and NR switching time mask is only applicable for non-simultaneous transmissions between E-UTRA and NR in TDM based UL sharing from the UE perspective over the shared bandwidth of a carrier.

The E-UTRA and NR switching time mask defines the observation period between E-UTRA subframe and NR slot/mini-slot boundary. Both E-UTRA subframe and NR slot/mini-slot have ON power transmissions. The ON power is defined as the mean power over the symbol duration excluding any transient period. For E-UTRA subframe or NR slot/mini-slot having OFF power transmission, the general time mask for E-UTRA or NR shall apply.

For UEs reporting E-UTRA and NR switching time capability of type 1 with switching time <0.5us, time masks in Figure 6.3B.1.1-1 and Figure 6.3B.1.1-2 shall apply. For UEs reporting E-UTRA and NR switching time capability of type 2 with switching time <20us, time masks in Figure 6.3B.1.1-3 and Figure 6.3B.1.1-4 shall apply.

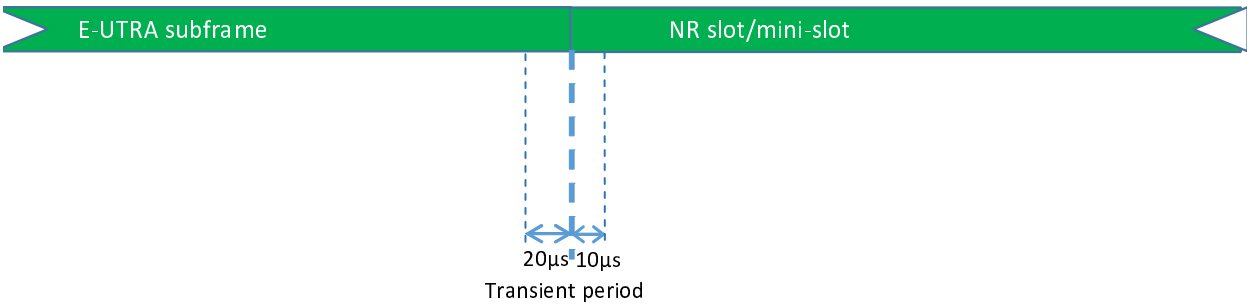

Figure 6.3B.1.1-1: E-UTRA to NR switching time mask for type 1 for TDM based UL sharing from UE perspective

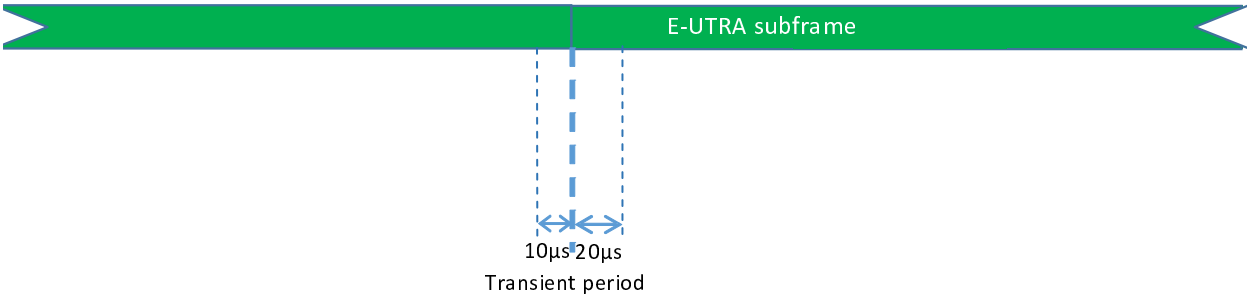

Figure 6.3B.1.1-2: NR to E-UTRA switching time mask for type 1 for TDM based UL sharing from UE perspective

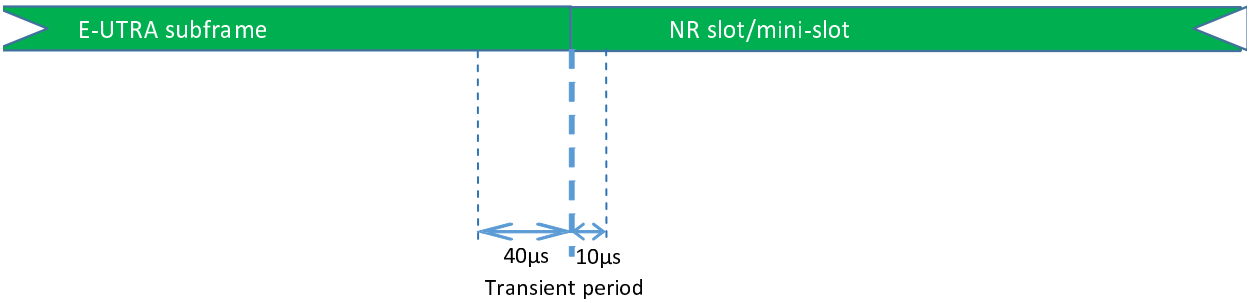

Figure 6.3B.1.1-3: E-UTRA to NR switching time mask for type 2 for TDM based UL sharing from UE perspective

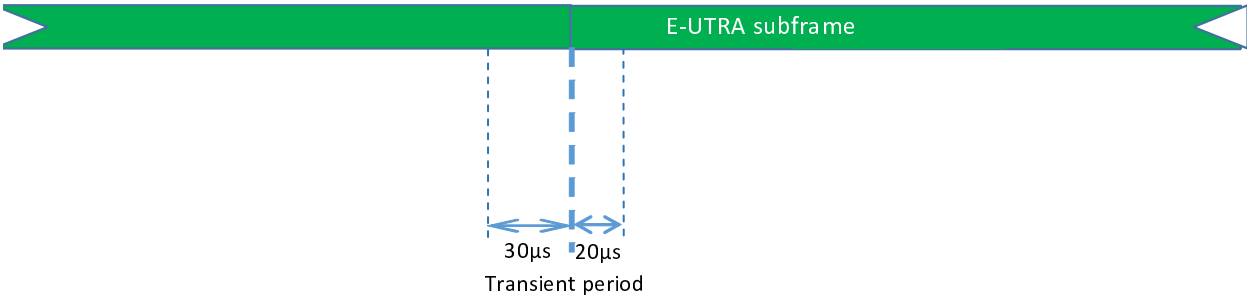

Figure 6.3B.1.1-4: NR to E-UTRA switching time mask for type 2 for TDM based UL sharing from UE perspective

6.3B.2 Output power dynamics for intra-band non-contigious switching time

For DC_3A_n3A single switched UL operation in Rel.15, maximum UL switching time is defined as 120 us and DL reception interruption is allowed during UL switching.

6.4 Transmit signal quality

Transmit signal quality for CA operations in FR1 and FR2 as specified in 38.101-1 and 38.101-2, respectively.

Transmit signal quality for EN-DC operations in FR1 and FR2 as specified in 38.101-1 and 38.101-2, respectively. E-UTRA as specified in 36.101.

6.4B Transmit signal quality for DC

6.4B.2 Transmit modulation quality for EN-DC

6.4B.2.1 Intra-band contiguous EN-DC

6.4B.2.1.1 Error Vector Magnitude

For the intra-band contiguous EN-DC with one component carrier per CG the EVM requirement applies with PRB allocation in one of the CG and the other CG unallocated.

The EVM requirements for each CG are according to clause 6.5.2 of [4] for the MCG and 6.4.2 of [2] for the SCG with EN-DC configured.

6.4B.2.1.2 Carrier leakage

The carrier leakage requirements for each CG are according to clause 6.5.2 of [4] for the MCG and 6.4.2 of [2] for the SCG with EN-DC configured.

6.4B.2.1.3 In-band emissions

For the MCG the requirements the in-band emission requirments in Table 6.5.2A.3.1-1 and 6.5.2A.3.1-2 in [4] apply within the aggregated transmission bandwidth configuration of the EN-DC bandwidth with the carriers of both CGs active and one single contiguous PRB allocation of bandwidth L_{CRB} within the MCG at the edge of the said aggregated transmission bandwidth configuration.

For the SCG the requirements the in-band emission requirements in Table 6.5.2A.3.1-1 and 6.5.2A.3.1-2 in [4] apply within the aggregated transmission bandwidth configuration of the EN-DC bandwidth with the carriers of both CGs active and one single contiguous PRB allocation of bandwidth L_{CRB} within the SCG at the edge of the aggregated transmission bandwidth configuration.

6.5 Output RF spectrum emissions

6.5A Output RF spectrum emissions for CA

<Editor's note: carrier aggregation of bands FR1 and FR2>

6.5A.1 Occupied bandwidth for CA

6.5A.2 Out-of-band emissions for CA

6.5A.3 Spurious emissions for CA

6.5A.3.1 Inter-band CA between FR1 and FR2

Detailed structure of the subclause is TBD.

Table 6.5A.X.X-1: Requirements for uplink inter-band CA (two bands)

NR CA Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
CA_n8A-n258A	E-UTRA Band 1,8, 20, 28, 34, 39, 40,65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3, 7,41,42,n78,n79	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	6
	Frequency range	860	-	890	-40	1	5, 6
	Frequency range	1884.5	-	1915.7	-41	0.3	4
CA_n77A-n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	4
CA_n78A-n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	4
CA_n79A-n257A	E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 26, 21, 28, 34, 39, 40, 41, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	4
NOTE 1: FDL_low and FDL_high refer to each frequency band specified in Table 5.2-1 in TS 38.101-1/2 or Table 5.5 in TS 36.101							

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.5.3.1-2 in TS 38.101-1 are permitted for each assigned NR carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x L_{CRB} x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.
NOTE 3: 15KHz SCS is assumed when RB is mentioned in the note.
NOTE 4: Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz
NOTE 5: These requirements also apply for the frequency ranges that are less than F_{OOB} (MHz) in Table 6.5.3.1-1 and Table 6.5A.3.1-1 in TS 38.101-1 from the edge of the channel bandwidth.
NOTE 6: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.

NOTE: To simplify above Table, E-UTRA band numbers are listed for bands which are specified only for E-UTRA operation or both E-UTRA and NR operation. NR band numbers are listed for bands which are specified only for NR operation.

6.5B Output RF spectrum emissions for DC

6.5B.1 Occupied bandwidth for EN-DC

For intra-band contiguous EN-DC the occupied bandwidth is a measure of the bandwidth containing 99% of the total integrated power of the transmitted spectrum. The OBW shall be less than the aggregated channel bandwidth for EN-DC, denoted as ENBW in sub-clause 5.3B.

6.5B.2 Out-of-band emissions for EN-DC

6.5B.2.1 Intra-band contiguous EN-DC

Unless otherwise stated, the OOBE limits specified for the DC combination in this sub-clause supercede any OOBE requirements specified for each sub-block in the respective TS [4] and [2].

The requirements apply to the sum of transmissions across all antenna connectors.

6.5B.2.1.1 Spectrum emissions mask

The general spectrum emission for intra-band contiguous EN-DC is specified in Table 6.5B.2.1.1-1.

Table 6.5B.2.1.1-1. General spectrum emission mask for intra-band contiguous EN-DC

Δf_{OOB} (MHz)	Spectrum emission limit (dBm)	Measurement bandwidth
± 0 - 1	Max(Round(10*log(0.15/ENBW)),-24)	30 kHz
± 1 - 5	-10	1 MHz
± 5 - ENBW	-13	1 MHz
± ENBW – (ENBW+5)	-25	1 MHz
NOTE: ENBW refers to the aggregated channel bandwidth in MHz as defined in sub-clause 5.3B.		

6.5B.2.1.2 Additional spectrum emissions mask

6.5B.2.1.2.1 Requirements for network signalled value "NS_35"

When NS_35 is indicated in the MCG and NS_35 is indicated in the SCG, the requirements in Table 6.5B.2.1.2.1-1 apply in the frequency ranges immediately adjacent and outside the aggregated sub-blocks of the EN-DC configuration for DC_(n)71B.

Table 6.5B.2.1.2.1-1: Additional requirements

Δf_{OOB} (MHz)	Frequency offset of measurement filter centre frequency, f_offset	Minimum requirement (dBm)	Measurement bandwidth
0 MHz ≤ Δf < 0.1 MHz	0.015 MHz ≤ f_offset < 0.085 MHz	-13	30 kHz
0.1 MHz ≤ Δf < ENBW	0.15 MHz ≤ f_offset < ENBW – 0.05 MHz	-13	100 kHz
ENBW ≤ Δf < ENBW + 5 MHz	ENBW+0.5 MHz ≤ f_offset < ENBW + 4.5 MHz	-25	1 MHz
NOTE 1: ENBW is the aggregated bandwidth of an E-UTRA sub-block and an adjacent NR sub-block; there is no frequency separation between the said sub-blocks. The sub-block bandwidths include any internal guard bands.			

6.5B.2.1.2.2 Requirements for network signalled value "NS_04"

Additional spectrum emission requirements are signalled by the network to indicate that the UE shall meet an additional requirement for a specific deployment scenario as part of the cell handover/broadcast message.

The Band 41/n41 SEM transition point from -13 dBm/MHz to -25 dBm/MHz is based on the emission bandwidth. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Since the 26 dB emission bandwidth is implementation dependent, the transmission bandwidths occupied by RBs is used for the SEM. The emission bandwidth for LTE carriers is document in 36.101 [4], and the emission bandwidth for NR carriers is documented in 38.101-1 [2]. The total emission bandwidth for contiguous intra-band EN-DC is the sum of the emission bandwidth for each CC plus the guard band between contiguous CCs.

When "NS_04" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5B.2.1.2.2-1.

Table 6.5B.2.1.2.2-1: n41 SEM with NS_04

	Spectrum emission limit (dBm)/ measurement bandwidth for each channel bandwidth						
ΔfOOB MHz	10 MHz	15 MHz	20 MHz	40 MHz	50 MHz	> 50 MHz	Measurement bandwidth
± 0 - 1	-18	-20	-21	-24	-25		30 kHz
± 1 - 5	-10						1 MHz
± 5 - X	-13						
± X - (BWChannel + 5 MHz)	-25						
NOTE: X is defined as the sum of the emission bandwidth of the component carriers plus the guard band between contiguous CCs.							

6.5B.2.1.3 Adjacent channel leakage ratio

For EN-DC operation with an E-UTRA sub-block immediately adjacent to an NR sub-block, the ACLR is defined as the ratio of the filtered mean power centred on the aggregated sub-block bandwidth ENBW to the filtered mean power centred on an adjacent bandwidth of the same size ENBW at nominal channel spacing. The UE shall meet the ACLR minimum requirement $EN\text{-}DC_{ACLR}$ specified in Table 6.5B.2.1.3-1 with ENBW the sum of the sub-block bandwidths.

The assigned channel power and adjacent channel power are measured with rectangular filters with measurement bandwidths specified in 6.5B.2.1.3-1.

Table 6.5B.2.1.3-1: ACLR for intra-band EN-DC (contiguous sub-blocks)

Parameter	Unit	Value
EN-DC$_{ACLR}$	dBc	30
Measurement bandwidth of EN-DC channel		1.00*ENBW
Measurement bandwidth of adjacent channel		0.95*ENBW
Frequency offset of adjacent channel		ENBW / -ENBW
NOTE 1: ENBW is the aggregated bandwidth in MHz as defined in sub-clause 5.3B. NOTE 2: The frequency offset is that in between the centre frequencies of the measurement filters		

6.5B.2.2 Intra-band non-contiguous EN-DC

6.5B.2.2.1 Spectrum emissions mask

The spectral emission mask for intra-band non-contiguous EN-DC is a composite of the emission mask for each CC with the level set to the maximum value from each mask for each frequency outside of the transmission bandwidth of either carrier. A composite spectrum emission mask is a combination of individual CC spectrum emissions masks. Where two masks overlap the most relaxed limit is used.

6.5B.2.2.2 Additional spectrum emissions mask

When additional spectrum emission mask or masks apply, the additional SEM(s) shall be used to calculate the composite SEM described in 6.5B.2.2.1.

6.5B.2.2.3 Adjacent channel leakage ratio

For intra-band non-contiguous EN-DC when all UL sub-blocks consist of one component carrier the EN-DC Adjacent Channel Leakage power Ratio (EN-DC$_{ACLR}$) is the ratio of the sum of the filtered mean powers centred on the assigned sub-block frequencies to the filtered mean power centred on an adjacent channel frequency at nominal channel spacing. In case the sub-block gap bandwidth Wgap is smaller than of the sub-block bandwidth than for that sub-block no EN-DC$_{ACLR}$ requirement is set for the gap. In case the sub-block gap bandwidth Wgap is smaller than either of the sub-block bandwidths then no EN-DC$_{ACLR}$ requirement is set for the gap. The assigned EN-DC sub-block power and adjacent channel power are measured with rectangular filters with measurement bandwidths specified in in [4] for the E-UTRA sub-block, and [2],[3] for the NR sub-block. If the measured adjacent channel power is greater than –50dBm then the EN-DC$_{ACLR}$ shall be higher than the value specified in for E-UTRA$_{ACLR}$ and NR$_{ACLR}$.

6.5B.2.3 Inter-band EN-DC within FR1

Unless otherewise stated, the OOBE requirements specified in sub-clause 6.6.2.1 of [4], sub-clause 6.5.2.2 of [2] and the additional requirments in 6.6.2.2 of [4] and 6.5.2.3 of [2] apply for each component carrier.

The requirements apply to each antenna connector.

6.5B.2.4 Inter-band EN-DC including FR2

6.5B.2.5 Inter-band EN-DC including both FR1 and FR2

6.5B.3 Spurious emissions for EN-DC

6.5B.3.1 Intra-band contiguous EN-DC

The general spurious emissions requirements specified in sub-clause 6.6.3.1 of [4] and sub-clause 6.5.3.1 of [2] apply beyond any frequencies for which the out-of-band emissions requirements in sub-clause 6.5.2 apply.

6.5B.3.1.1 General spurious emissions

The general spurious emissions requirements specified in sub-clause 6.6.3.1 of [4] and sub-clause 6.5.3.1 of [2] apply beyond any frequencies for which the out-of-band emissions requirements in sub-clause 6.5B.2.1apply.

6.5B.3.1.2 Spurious emission band UE co-existence

The requirements in Table 6.5B.3.1.2-1 apply on each component carrier with all component carriers are active.

Table 6.5B.3.1-1: Requirements for intraband carrier aggregation

EN-DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
…							
DC_(n)71B	E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 26, 30, 48, 66	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 2, 25, 41, 70	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 29	$F_{DL\_low}F_{DL\_low}$	- -	$F_{DL\_high}F_{DL\_high}$	-38	1	3
	E-UTRA Band 71	F_{DL_low}	-	F_{DL_high}	-50	1	3
…							

NOTE 1: FDL_low and FDL_high refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x L_{CRB} x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval

NOTE 3: These requirements also apply for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 [4] from the edge of the channel bandwidth.

6.5B.3.2 Intra-band non-contiguous EN-DC

6.5B.3.3 Inter-band EN-DC within FR1

< conducted requirements >

< Editor's note: Chapter numbers to be updated >

The general spurious emissions requirements specified in sub-clause 6.6.3.1 of [4], sub-clause 6.5.3.1 of [2] and [3] apply for each component carrier.

6.5B.3.3.1 Spurious emission band UE co-existence

< Editor's note: Chapter numbers to be updated >

This clause specifies the requirements for the specified EN-DC, for coexistence with protected bands. The requirements in Table 6.5B.3.3.1-1 apply on each component carrier with all component carriers are active.

Table 6.5B.3.3.1-1: Requirements

EN-DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
DC_1A_n28A	E-UTRA Band 18, 19, 27, 31, 32, 72 NR band n5, n7, n8, n20, n26, n38, n40, n41, n50, n51, n74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band42, 43 NR band n78, n75, n76	F_{DL_low}	-	F_{DL_high}	-50	1	2
	NR band n3, n34	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	E-UTRA Band 65 NR band n1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	Frequency range	470	-	694	-42	8	5, 18
	Frequency range	470	-	710	-26.2	6	15
	Frequency range	758	-	773	-32	1	5

	Frequency range	773	-	803	-50	1	
	Frequency range	662	-	694	-26.2	6	5
	Frequency range	1880	-	1895	-40	1	5,17
	Frequency range	1895	-	1915	-15.5	5	5, 7, 17
	Frequency range	1915	-	1920	+1.6	5	5, 7, 17
	Frequency range	1839.9	-	1879.9	-50	1	5
	Frequency range	1884.5	-	1915.7	-41	0.3	10, 16
DC_1A_n40A	Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 38, 40, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 73, 74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 3, 34	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Frequency range	1880		1895	-40	1	5, 17
	Frequency range	1895		1915	-15.5	5	5, 7, 17
	Frequency range	1915		1920	+1.6	5	5, 7, 17
DC_1A_n51A	E-UTRA Band 7, 12, 13, 17, 20, 22, 27, 28, 29, 31, 38, 44, 48, 67, 68, 69, 72, 73	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3, 34	F_{DL_low}	-	F_{DL_high}	-50	1	5, 2
	Frequency range	1880	-	1895	-40	1	5, 17
	Frequency range	1895	-	1915	-15.5	5	5, 7, 17
	Frequency range	1915	-	1920	+1.6	5	5, 7, 17
	E-UTRA Band 5, 6, 8, 26, 30, 40, 41, 42, 43, 46 NR Band n77, n78, n79,	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_1A_n77A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	NR Band n257	26500	-	29500	-5	100	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_1A_n78A DC_1A_n84A_ULSUP-TDM_n78A DC_1A_n84A_ULSUP-FDM_n78A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	NR Band n257	26500	-	29500	-5	100	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_1A_n79A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	NR Band n257	26500	-	29500	-5	100	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_2A_n5A	Bands 4, 5, 10, 12, 13, 14, 17, 24, 28, 29, 30, 42, 48, 50, 51, 66, 70, 71, n71, 74, 85, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 2, 25, 48	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 26	859	-	869	-27	1	
	E-UTRA Band 41, 43	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_2A_n66A	Bands 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 41, 50, 51, 66, 70, 71, n71, 74, 85, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 2, 25	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Bands 42, 48	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_2A_n71A	E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 26, 29, 30, 48, 66	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 2, 25, 41, 70	F_{DL_low}	-	F_{DL_high}	-50	1	2
	NR Band n71	F_{DL_low}	-	F_{DL_high}	-50	1	5
DC_2A_n78A	E-UTRA Band 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 41, 42, 48, 50, 51, 66, 70, 71, 74, 85	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 2, 25	F_{DL_low}	-	F_{DL_high}	-50	1	2
	NR Band n257	26500	-	29500	-5	100	
DC_3A_n7A	E-UTRA Band 1, 5, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 40, 43, 44, 50, 51, 65, 67, 72, 74, 75, 76 NR Band n1, n5, n7, n8, n20, n28, n50, n51, n74, n75, n76	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA band 3	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA band 22, 42	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	2570	-	2575	+1.6	5	5, 6, 7
	Frequency range	2575	-	2595	-15.5	5	5, 6, 7

	Frequency range	2595	-	2620	-40	1	5, 6
DC_3A_n28A	E-UTRA Band 42, 43, 65 NR band n1, n50, n51, n74, n75, n76, n78	F_{DL_low}	-	F_{DL_high}	-50	1	2
	NR band n1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	NR band n3	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 27, 31, 72 NR band n5, n7, n8, n20, n26, n34, n38, n40, n41	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 11, 18, 19, 21	F_{DL_low}	-	F_{DL_high}	-50	1	14
	Frequency range	1884.5	-	1915.7	-41	0.3	14
	Frequency range	470	-	710	-26.2	6	15
	Frequency range	758	-	773	-32	1	5
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 10
DC_3A_n40A	Band 1, 5, 7, 8, 20, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 43, 44. 45, 50, 51, 65, 67, 68, 69, 72, 73, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 3	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Band 22, 42, 52	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_3A_n51A	E-UTRA Band 7, 8, 12, 13, 17, 20, 27, 28, 31, 33, 38, 48, 67, 68, 69, 72, 73	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 1, 5, 6, 22, 26, 30, 34, 36, 40, 41, 42, 43, 44, 46, 65, 71	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_3A_n77A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_3A_n78A DC_3A_n80A_ULSUP-TDM_n78A, DC_3A_n80A_ULSUP-FDM_n78A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_3A_n79A DC_3A_n79A DC_3A_n80A_ULSUP-TDM_n79A, DC_3A_n80A_ULSUP-FDM_n79A	E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_3A_n82A	E-UTRA Band 1, 3 7, 8, 20, 22, 31, 32, 33, 34, 38, 40, 43, 50, 51, 65, 67, 68, 69, 72,74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_5A_n40A	Band 1, 3, 5, 7, 8, 28, 31, 34, 38, 42, 43, 45, 65, 73	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 26	859	-	869	-27	1	
	Band 41, 52	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_5A_n66A	Bands 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 34, 38, 40, 43, 45, 50, 51, 65, 66, 70, 71, n71, 85, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 26	859	-	869	-27	1	
	Bands 41, 42, 48, 52	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 18, 19	F_{DL_low}	-	F_{DL_high}	-40	1	
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_5A_n78A	E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 65, 66, 70	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 26	859	-	869	-27	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 4
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	E-UTRA Band 41	F_{DL_low}	-	F_{DL_high}	-50	1	7

	E-UTRA Band 18, 19	F_{DL_low}	-	F_{DL_high}	-40	1	4
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	4
DC_7A_n28A	E-UTRA Band 27, 31, 72 NR band n2, n3, n5, n7, n8, n20, n26, n34, n40	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 4, 10, 42, 43, 65 NR band n1, n50, n51, n66, n74, n75, n76, n78	F_{DL_low}	-	F_{DL_high}	-50	1	2
	NR band n1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	Frequency range	758	-	773	-32	1	5
	Frequency range	773	-	803	-50	1	
	Frequency range	2570	-	2575	+1.6	5	5, 6, 7
	Frequency range	2575	-	2595	-15.5	5	5, 6, 7
	Frequency range	2595	-	2620	-40	1	5, 6
DC_7A_n51A	E-UTRA Band 2, 3, 5, 8, 26, 30, 31, 32, 33, 34, 40, 48, 72	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	2570	-	2575	+1.6	5	5, 7, 17
	Frequency range	2575	-	2595	-15.5	5	5, 7, 17
	Frequency range	2595	-	2620	-40	1	5, 21
	E-UTRA Band 1, 4, 10, 12, 13, 14, 17, 20, 22, 23, 27, 28, 29, 42, 43, 44, 46, 65, 66, 67, 68 NR Band n77, n78, n79,	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_7A_n78A	E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 40, 50, 51, 65, 66, 67, 68, 72, 74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	2570	-	2575	+1.6	5	5, 6, 7
	Frequency range	2575	-	2595	-15.5	5	5, 6, 7
	Frequency range	2595	-	2620	-40	1	5, 6
DC_8A_n40A	Band 1, 20, 28, 31, 32, 33, 34, 38, 39, 40, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 3, 7, 22, 41, 42, 43, 52	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Band 8	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3 , 13
DC_8A_n77A	E-UTRA Band 1, 20, 28, 31, 32, 33, 34, 38, 39, 40, 44, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA band 3, 7, 22, 41	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 8	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 13
	NR Band n257	26500	-	29500	-5	100	
DC_8A_n78A DC_8A_n81A_ULSUP-TDM_n78A, DC_8A_n81A_ULSUP-FDM_n78A	E-UTRA Band 1,8, 20, 28, 34, 39, 40,65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3, 7,41	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 13
	NR Band n257	26500	-	29500	-5	100	
	NR Band n258	24250	-	27500	-5	100	
DC_8A_n79A DC_8A_n81A_ULSUP-TDM_n79A, DC_8A_n81A_ULSUP-FDM_n79A	E-UTRA Band 1,8,28,34,39,40,65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3,41,42	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
	NR Band n258	24250	-	27500	-5	100	
DC_11A_n77A	E-UTRA Band 1, 3, 18, 19, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_11A_n78A	E-UTRA Band 1, 3, 18, 19, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	

	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_11A_n79A	E-UTRA Band 1, 3, 18, 19, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_12A_n5A	Bands 2, 5, 12, 13, 14, 17, 24, 25, 30, 42, 43 50, 51, 71, n71, 74, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 4, 10, 41, 48, 66, 70	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Band 26	859	-	869	-27	1	
	Band 12, 85	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_12A_n66A DC_12A_n5A	Bands 2, 4, 5, 13, 14, 17, 24, 25, 26, 27, 29, 30, 41, 50, 51, 70, 71, n71, 74, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 4, 10, 48	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Bands 12, 85	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Bands 2, 5, 12, 13, 14, 17, 24, 25, 30, 42, 43 50, 51, 71, n71, 74, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_18A_n77A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_18A_n78A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_18A_n79A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_19A_n77A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_19A_n78A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_19A_n79A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_20A_n8A	E-UTRA Band 1, 3, 7, 22, 28, 31, 32, 34, 38, 42, 43, 65, 75, 76, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_20A_n28A DC_20A_n83A	E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 34, 38, 42, 43, 65, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_20A_n51A	E-UTRA Band 1, 3, 4, 8, 17, 22, 28, 29, 31, 40, 43, 48, 65, 66, 68, 72	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 20	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Frequency range	758	-	788	-50	1	
	E-UTRA Band 2, 7, 25, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 46, 69, 70 NR Band n77, n78, n79,	F_{DL_low}	-	F_{DL_high}	-50	1	2

DC_20A_n77A	E-UTRA Band 1, 3, 7, 8, 31, 32, 33, 34, 40, 50, 51, 65, 67, 68, 72, 74, 75, 76						
	E-UTRA Band 20	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 38, 69	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_20A_n78A	E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 34, 38, 42, 43, 65, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_20A_n78A DC_20A_n82A_ ULSUP-TDM_n78A, DC_20A_n82A_ ULSUP-FDM_n78A	E-UTRA Band 1, 3, 7, 8, 31, 32, 33, 34, 40, 50, 51, 65, 67, 68, 72, 74, 75, 76						
	E-UTRA Band 20	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 38, 69	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_21A_n77A	E-UTRA Band 1, 3, 18, 19, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_21A_n78A	E-UTRA Band 1, 3, 18, 19, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_21A_n79A	E-UTRA Band 1, 3, 18, 19, 21, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_25A_n41A	NR band n5, n28, n66, n71 E-UTRA/NR Band 4, 10, 12, 13 , 14, 17, 24, 26, 27, 29, 30, 42, 45, 48, 70	F_{DL_low}	-	F_{DL_high}	-50	1	
	NR band n2 E-UTRA/NR Band 25	F_{DL_low}	-	F_{DL_high}	-50	1	5
	EUTRA/NR Band 43	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_26A_n41A	E-UTRA/NR Band 1, 2, 3, 4, 5, 10, 12, 13 , 14, 17, 24, 25, 26, 28, 29, 30, 31, 34, 39, 40, 42, 43, 48, 50, 51, 65, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 9, 11, 18, 19, 21	F_{DL_low}	-	F_{DL_high}	-50	1	20
	Frequency range	1884.5		1915.7	-41	0.3	3, 20
	Frequency range	703	-	799	-50	1	
	Frequency range	799	-	803	-40	1	5
	Frequency range	945	-	960	-50	1	
DC_26A_n77A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_26A_n78A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_26A_n79A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
	NR Band n257	26500	-	29500	-5	100	
DC_28A_n51A	E-UTRA Band 2, 3, 5, 7, 8, 25, 26, 31, 34, 38, 40, 41, 66, 72	F_{DL_low}	-	F_{DL_high}	-50	1	

	E-UTRA Band 4, 10, 20, 22, 24, 32, 42, 43, 45, 46, 65, 66, 71, 73 NR band n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	2, 10, 11
	Frequency range	470	-	694	-42	8	5, 18
	Frequency range	470	-	710	-26.2	6	15
	Frequency range	662	-	694	-26.2	6	5
	Frequency range	758	-	773	-32	1	5
	Frequency range	773	-	803	-50	1	
DC_28A_n77A	E-UTRA Band 3, 5, 7, 8, 18, 19, 20, 26, 34, 39, 40, 41	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 65	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	Frequency range	758	-	773	-32	1	
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_28A_n78A DC_28A_n83A_ULSUP-TDM_n78A, DC_28A_n83A_ULSUP-FDM_n78A	E-UTRA Band 3, 5, 7, 8, 18, 19, 20, 26, 34, 39, 40, 41	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 65	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	Frequency range	758	-	773	-32	1	
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_28A_n79A	E-UTRA Band 3, 5, 8, 18, 19, 34, 39, 40, 41, 42	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 65	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	Frequency range	758	-	773	-32	1	
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257	26500	-	29500	-5	100	
DC_30A_n5A	Bands 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 50, 51, 65, 66, 70, 71, 73, 74, 85	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 26	859	-	869	-27	1	
	Bands 41, 48, 52	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 18, 19	F_{DL_low}	-	F_{DL_high}	-40	1	
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_30A_n66A	Bands 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 38, 41, 66, 70, 71, n71, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 48	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_38A_n78A	N/A						
DC_39A_n78A	E-UTRA Band 1, 8, 34, 40, 41, 44, 45 or NR Band n1, n8, n34, n40, n41	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1805	-	1855	-40	1	19
	Frequency range	1855	-	1880	-15.5	5	19
	NR Band n258	F_{DL_low}	-	F_{DL_high}	-5	100	
DC_39A_n79A	E-UTRA Band 1, 8, 34, 40, 41, 44, 45 or NR Band n1, n8, n34, n40, n41	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1805	-	1855	-40	1	19
	Frequency range	1855	-	1880	-15.5	5	19
	NR Band n258	F_{DL_low}	-	F_{DL_high}	-5	100	
DC_40A_n77A	N/A						
DC_41A_n77A	E-UTRA Band 1, 3, 5, 8, 26, 28, 33, 34, 39, 40, 44, 45, 73, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 9, 11, 18, 19, 21	F_{DL_low}	-	F_{DL_high}	-50	1	20
	Frequency range	1884.5		1915.7	-41	0.3	3, 20
	NR Band n257	26500	-	29500	-5	100	
DC_41A_n78A	E-UTRA Band 1, 3, 8, 34, 39, 40, 44, 45 or NR Band n1, n8, n34, n40	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	F_{DL_low}	-	F_{DL_high}	-5	100	
DC_(n)41AA	E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 12, 13 , 14, 17, 24, 25, 26, 27, 28, 29, 30, 34, 39, 40, 42, 44, 45, 48, 50, 51, 65, 66, 70, 71, 73, 74	F_{DL_low}	-	FDL_high	-50	1	

	E-UTRA Band 9, 11, 18, 19, 21	F_{DL_low}	-	FDL_high	-50	1	20
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 20
DC_41A_n41A	E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 12, 13 , 14, 17, 24, 25, 26, 27, 28, 29, 30, 34, 39, 40, 42, 44, 45, 48, 50, 51, 65, 66, 70, 71, 73, 74	F_{DL_low}	-	FDL_high	-50	1	
	E-UTRA Band 9, 11, 18, 19, 21	F_{DL_low}	-	FDL_high	-50	1	20
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 20
DC_41A_n79A	E-UTRA Band 1, 3, 5, 8, 9, 11, 18, 19, 21, 28, 34, 40, 42, 44, 45, 65 or NR Band n1, n3, n8, n28, n34, n40	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	NR Band n257, n258	F_{DL_low}	-	F_{DL_high}	-5	100	
DC_42A_n51A	E-UTRA Band 3, 8, 20, 25, 30, 31, 34, 39, 41, 73	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 2, 4, 5, 6, 7, 10, 12, 13, 14, 17, 23, 24, 26, 27, 28, 29, 32, 38, 40, 44, 46, 65, 66, 67, 68, 70, 71	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_42A_n77A	N/A						
DC_42A_n78A	N/A						
DC_42A_n79A	N/A						
DC_66A_n5A	Bands 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 34, 38, 40, 43, 45, 50, 51, 65, 66, 70, 71, n71, 85, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 26	859	-	869	-27	1	
	Bands 41, 42, 48, 52	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 18, 19	F_{DL_low}	-	F_{DL_high}	-40	1	
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_66A_n71A	E-UTRA Band 4, 5, 7,10, 13, 14, 17, 22, 24, 26, 27, 29, 30, 43,-50, 51, 66, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 2, 25, 41, 42, 48, 70	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 71	F_{DL_low}	-	F_{DL_high}	-50	1	5
DC_66_n78	E-UTRA Band 1, 3, 5, 7, 8, 20, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_66A_n78A, DC_66A_n86A_ ULSUP-TDM_n78A, DC_66A_n86A_ ULSUP-FDM_n78A	E-UTRA Band 1, 3, 5, 7, 8, 20, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
NOTE 1: FDL_low and FDL_high refer to each E-UTRA frequency band specified in Table 5.5-1							

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x L_{CRB} x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.
NOTE 3: Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz
NOTE 4: Applicable only when the assigned E-UTRA carrier is confined within 824 MHz and 849 MHz for UE category M1, M2 and UE category NB1 and NB2.
NOTE 5: These requirements also apply for the frequency ranges that are less than F_{OOB} (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the channel bandwidth.
NOTE 6: This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2560.5 - 2562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2552 - 2560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.
NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.
NOTE 8: This requirement is applicable for any channel bandwidths within the range 3300 - 3800 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range TBD – 3792.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range TBD - 3790 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to TBD RB.
NOTE 9: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink
NOTE 10: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.
NOTE 11: As exceptions, measurements with a level up to the applicable requirement of -36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).
NOTE 12: As exceptions, measurements with a level up to the applicable requirement of -38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).
NOTE 13: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.
NOTE14: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1744.9MHz and 1784.9MHz.
NOTE 15: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.
NOTE 16: Applicable when NS_05 in section 6.6.3.3.1 is signalled by the network.
NOTE 17: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.
NOTE 18: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.
NOTE 19: This requirement is only applicable for E-UTRA carriers with bandwidth confined within 1885-1920 MHz (requirement for carriers with at least 1RB confined within 1880 - 1885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for E-UTRA carriers of 15 MHz bandwidth when carrier center frequency is within the range 1892.5 - 1894.5 MHz and for E-UTRA carriers of 20 MHz bandwidth when carrier center frequency is within the range 1895 - 1903 MHz.
NOTE 20: This requirement applies when the E-UTRA and NR carriers are confined within 2545-2575MHz or 2595-2645MHz and the channel bandwidth is 10 or 20 MHz

6.5B.3.4 Inter-band EN-DC including FR2

< OTA requirements >

< Editor's note: Chapter numbers to be updated >

The general spurious emissions requirements specified in sub-clause 6.6.3.1 of [4], sub-clause 6.5.3.1 of [2] and [3] apply for each component carrier.

6.5B.3.4.1 Spurious emission band UE co-existence

< Editor's note: Chapter numbers to be updated >

This clause specifies the requirements for the specified EN-DC, for coexistence with protected bands. The requirements in Table 6.5B.3.4.1-1 apply on each component carrier separately.

Table 6.5B.3.4.1-1: Requirements

EN-DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
DC_1A_n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_2A_n257A	Band 4, 5, 10, 12, 13, 14, 17, 24, 26, 27, 28, 29, 30, 41, 42, 48, 50, 51, 66, 70, 71, 74, 74, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 2, 25	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1
	Band 43	F_{DL_low}	-	F_{DL_high}	-50	1	5
DC_2A_n260A	Bands 4, 5, 12, 13, 14, 17, 24, 26, 29, 30, 41, 42, 48, 66, 70, 71, n71, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 48	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_3A_n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_3A_n258A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_5A_n257A	E-UTRA Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 50, 51, 65, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 26	859	-	869	-27	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 4
	E-UTRA Band 41	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 18, 19	F_{DL_low}	-	F_{DL_high}	-40	1	4
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	4
DC_5A_n260A	Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 50, 51, 65, 66, 70, 71, 74, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 26	F_{DL_low}	-	F_{DL_high}	-27	1	
	Band 41	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1
DC_5A_n261A	Band 1, 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 17, 24, 25, 28, 29, 30, 31, 34, 38, 40, 42, 43, 45, 48, 50, 51, 65, 66, 70, 71, 74, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	26	F_{DL_low}	-	F_{DL_high}	-27	1	
	41	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1
	Frequency range	2570	-	2575	+1.6	5	5, 7, 17
	Frequency range	2575	-	2595	-15.5	5	5, 7, 17
	Frequency range	2595	-	2620	-40	1	5, 21

EN-DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
	E-UTRA Band 1, 4, 10, 12, 13, 14, 17, 20, 22, 23, 27, 28, 29, 42, 43, 44, 46, 65, 66, 67, 68 NR Band n77, n78, n79,	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_7A_n257A	E-UTRA Band 1, 3, 5, 7, 8, 26, 28, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	2570	-	2575	+1.6	5	
	Frequency range	2575	-	2595	-15.5	5	
	Frequency range	2595	-	2620	-40	1	
DC_7A_n258A	E-UTRA Band 1, 3, 5, 7, 8, 26, 28, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	2570	-	2575	+1.6	5	
	Frequency range	2575	-	2595	-15.5	5	
	Frequency range	2595	-	2620	-40	1	
DC_8A_n257A	E-UTRA Band 1, 28, 34, 38, 69, 74, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA band 3, 7, 41, 42, 43	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 8	F_{DL_low}	-	F_{DL_high}	-50	1	5
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3, 13
DC_8A_n258A	E-UTRA Band 1,8, 20, 28, 34, 39, 40,65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 3, 7,41,42,n78,n79	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	13
	Frequency range	860	-	890	-40	1	5, 13
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_11A_n257A	E-UTRA Band 1, 3, 18, 19, 28, 34, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_12A_n260A	E-UTRA Band 2, 5, 13, 14, 17, 24, 25, 26, 30, 41, 48, 71	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 4, 66, 70	F_{DL_low}	-	F_{DL_high}	-50	1	2
DC_13A_n257A	Band 2, 4, 5, 10, 12, 13, 17, 25, 26, 27, 29, 41, 48, 50, 51, 66, 70, 71, 74, n77, n78	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 14	F_{DL_low}	-	F_{DL_high}	-50	1	5
	Band 24, 30	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1
DC_18A_n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_19A_n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_20A_n258A	E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 33, 34, 40, 43, 50, 51, 65, 67, 68, 72, 74, 75, 76	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 20	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 38, 42, 52, 69	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	758	-	788	-50	1	
DC_21A_n257A	E-UTRA Band 1, 3, 18, 19, 21, 28, 34, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_26A_n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65, n77, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	

EN-DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_28A_n257A	E-UTRA Band 3, 5, 8, 18, 19, 34, 39, 40, 41	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 65	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	Frequency range	758	-	773	-32	1	
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_28A_n258A	E-UTRA Band 3, 5, 8, 18, 19, 34, 39, 40, 41	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 1, 65	F_{DL_low}	-	F_{DL_high}	-50	1	2
	E-UTRA Band 1	F_{DL_low}	-	F_{DL_high}	-50	1	10, 11
	E-UTRA Band 11, 21	F_{DL_low}	-	F_{DL_high}	-50	1	10, 12
	Frequency range	758	-	773	-32	1	
	Frequency range	773	-	803	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_30A_n260A	E-UTRA Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 41, 48, 66, 70, 71	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_39A_n258A	Band 1, 8, 34, 40, 41, 44, 45 or NR Band n1, n8, n34, n40, n41, n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1805	-	1855	-40	1	19
	Frequency range	1855	-	1880	-15.5	5	19
DC_41A_n257A	E-UTRA Band 1, 3, 5, 8, 9, 11, 18, 19, 21, 26, 28, 33, 34, 39, 40, 44, 45, 50, 51, 65, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1839.9		1879.9	-50	1	
	Frequency range	1884.5		1915.7	-41	0.3	3
DC_41A_n258A	E-UTRA Band 1, 3, 8, 34, 39, 40, 44, 45	F_{DL_low}	-	F_{DL_high}	-50	1	
	NR Band n78, n79	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_42A_n257A	E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_48A_n257A	Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 50, 51, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_48A_n260A	Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 50, 51, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
DC_66A_n257A	Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 38, 41, 43, 50, 51, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	Band 42, 48	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1 of TS38.101
DC_66A_n260A	Bands 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 41, 48, 66, 70, 71, n71, n257	F_{DL_low}	-	F_{DL_high}	-50	1	
	Bands 48	F_{DL_low}	-	F_{DL_high}	-50	1	3
DC_66A_n261A	Band 2, 4, 5, 7, 10, 12, 13, 14, 17, 24, 25, 26, 27, 28, 29, 30, 38, 41, 43, 50, 51, 66, 70, 71, 74	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42, 48	F_{DL_low}	-	F_{DL_high}	-50	1	Table 6.5.3.2-1 of TS38.101
NOTE 1: FDL_low and FDL_high refer to each E-UTRA frequency band specified in Table 5.5-1							

EN-DC Configuration	Spurious emission				
	Protected band	Frequency range (MHz)	Maximum Level (dBm)	MBW (MHz)	NOTE

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x L_{CRB} x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz

NOTE 4: Applicable only when the assigned E-UTRA carrier is confined within 824 MHz and 849 MHz for UE category M1, M2 and UE category NB1 and NB2.

NOTE 5: These requirements also apply for the frequency ranges that are less than F_{OOB} (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the channel bandwidth.

NOTE 6: This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2560.5 - 2562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2552 - 2560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 8: This requirement is applicable for any channel bandwidths within the range 3300 - 3800 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range TBD – 3792.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range TBD - 3790 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to TBD RB.

NOTE 9: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink

NOTE 10: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 11: As exceptions, measurements with a level up to the applicable requirement of -36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 12: As exceptions, measurements with a level up to the applicable requirement of -38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 13: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.

NOTE14: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1744.9MHz and 1784.9MHz.

NOTE 15: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.

NOTE 16: Applicable when NS_05 in section 6.6.3.3.1 is signalled by the network.

NOTE 17: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 18: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 19: This requirement is only applicable for E-UTRA carriers with bandwidth confined within 1885-1920 MHz (requirement for carriers with at least 1RB confined within 1880 - 1885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for E-UTRA carriers of 15 MHz bandwidth when carrier center frequency is within the range 1892.5 - 1894.5 MHz and for E-UTRA carriers of 20 MHz bandwidth when carrier center frequency is within the range 1895 - 1903 MHz.

6.5B.3.5 Inter-band EN-DC including both FR1 and FR2

<OTA requirements >

< Editor's note: Chapter numbers to be updated >

The general spurious emissions requirements specified in sub-clause 6.6.3.1 of [4], sub-clause 6.5.3.1 of [2] and [3] apply for each component carrier.

6.5B.3.5.1 Spurious emission band UE co-existence

< Editor's note: Chapter numbers to be updated >

This clause specifies the requirements for the specified EN-DC, for coexistence with protected bands. The requirements in Table 6.5B.3.4.1-1 apply on each component carrier with all component carriers are active.

Table 6.5B.3.5.1-1: Requirements

E-UTRA and NR DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
DC_1A_n77A-n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_1A_n78A-n257	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_1A_n79A-n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1880	-	1895	-40	1	5, 9
	Frequency range	1895	-	1915	-15.5	5	5, 7, 9
	Frequency range	1915	-	1920	+1.6	5	5, 7, 9
DC_3A_n77A-n257	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_3A_n78A-n257A	E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_3A_n79A-n257A	E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 39, 40, 41, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	E-UTRA Band 42	F_{DL_low}	-	F_{DL_high}	-50	1	2
	Frequency range	1884.5	-	1915.7	-41	0.3	3
DC_19A_n77A-n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_19A_n78A-n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
DC_19A_n79A-n257A	E-UTRA Band 1, 3, 11, 21, 28, 34, 42, 65	F_{DL_low}	-	F_{DL_high}	-50	1	
	Frequency range	945	-	960	-50	1	

E-UTRA and NR DC Configuration	Spurious emission						
	Protected band	Frequency range (MHz)			Maximum Level (dBm)	MBW (MHz)	NOTE
	Frequency range	1884.5	-	1915.7	-41	0.3	3
	Frequency range	2545	-	2575	-50	1	
	Frequency range	2595	-	2645	-50	1	
NOTE 1: FDL_low and FDL_high refer to each E-UTRA frequency band specified in Table 5.5-1							

E-UTRA and NR DC Configuration	Spurious emission				
	Protected band	Frequency range (MHz)	Maximum Level (dBm)	MBW (MHz)	NOTE

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x L_{CRB} x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1884.5 -1915.7MHz

NOTE 4: Applicable only when the assigned E-UTRA carrier is confined within 824 MHz and 849 MHz for UE category M1, M2 and UE category NB1 and NB2.

NOTE 5: These requirements also apply for the frequency ranges that are less than F_{OOB} (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the channel bandwidth.

NOTE 6: This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2560.5 - 2562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2552 - 2560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 8: This requirement is applicable for any channel bandwidths within the range 3300 - 3800 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range TBD – 3792.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range TBD - 3790 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to TBD RB.

NOTE 9: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink

NOTE 10: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 11: As exceptions, measurements with a level up to the applicable requirement of -36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 12: As exceptions, measurements with a level up to the applicable requirement of -38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 13: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.

NOTE14: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1744.9MHz and 1784.9MHz.

NOTE 15: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.

NOTE 16: Applicable when NS_05 in section 6.6.3.3.1 is signalled by the network.

NOTE 17: This requirement is applicable for any channel bandwidths within the range 1920 - 1980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1927.5 - 1929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1930 - 1938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 18: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 19: This requirement is only applicable for E-UTRA carriers with bandwidth confined within 1885-1920 MHz (requirement for carriers with at least 1RB confined within 1880 - 1885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for E-UTRA carriers of 15 MHz bandwidth when carrier center frequency is within the range 1892.5 - 1894.5 MHz and for E-UTRA carriers of 20 MHz bandwidth when carrier center frequency is within the range 1895 - 1903 MHz.

6.5B.4 Additional spurious emissions

6.5B.4.1 General

These requirements are specified in terms of an additional spectrum emission requirement. Additional spurious emission requirements are signalled by the network to indicate that the UE shall meet an additional requirement for a specific deployment scenario as part of the cell handover/broadcast message.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.5B.4.1.1 Minimum requirement (network signalled value "NS_04")

When "NS 04" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5B.4.1.1-1. This requirement also applies for the frequency ranges that are less than F_{OOB} (MHz) in Table 6.6.3.1-1 from the edge of the channel bandwidth.

Table 6.5B.4.1.1 -1: Additional requirements

Frequency band (MHz)	Channel bandwidth / Spectrum emission limit (dBm)	Measurement bandwidth
2495 ≤ f < 2496	-13	1% of Channel BW for contiguous BW up to 100 MHz, 1 MHz for contiguous BW > 100 MHz
2490.5 ≤ f < 2495	-13	1 MHz
0 < f < 2490.5	-25	1 MHz

7 Receiver characteristics

7.1 General

Unless otherwise stated the receiver characteristics are specified at the antenna connector(s) of the UE for the bands operating on frequency range 1 and over the air of the UE for the bands operating on frequency range 2. The requirements for frequency range 1 and frequency range 2 can be verified separately. For the carrier in frequency range 1, requirements can be verified with NR FR2 link disabled. For the carrier in frequency range 2, requirements can be verified in OTA mode with LTE connecting to the network by OTA without calibration.

The requirements defined in this clause are the extra requirements compared with the single carrier requirements defined in [2] and [3].

Unless otherwise stated, the UL and DL reference measurement channels are the same with the configurations specified in [2] and [3].

Unless otherwise stated, requirements for NR receiver written in TS 38.101-1 and TS 38.101-2 apply and are assumed anchor agnostic. Requirements are verified under conditions where anchor resources do not interfere NR operation.

7.2 Diversity characteristics

7.3 Reference sensitivity

7.3A Reference sensitivity for CA

7.3A.1 General

<Editor’s note: Table number to be updated>

For NR CA operation NR single carrier REFSENS requirements defined in [2] and [3] apply to all downlink bands part of NR CA configurations listed in Tables 5.2.2.1-1 unless sensitivity degradation is allowed as defined in clause 7.3A.

7.3A.2 Reference sensitivity power level for CA

7.3A.3 $\Delta R_{IB,c}$ for CA

<Editor's note: Chapter number to be updated>

For the UE which supports inter-band NR CA configuration, the minimum requirement for reference sensitivity in Table 7.3.1-1 and Table 7.3.1-1a in TS 36.101, Table 7.3-1 in TS 38.101-1 and Table 7.3.1-1 in TS 38.101-2 shall be increased by the amount given in $\Delta R_{IB,c}$ in Tables below. Unless otherwise stated, $\Delta R_{IB,c}$ is set to zero.

7.3A.3.1 $\Delta R_{IB,c}$ for Inter-band CA between FR1 and FR2

Table 7.3A.3.1-1: ΔRIB,c due to NR CA (two bands)

Inter-band EN-DC configuration	NR Band	$\Delta R_{IB,c}$ (dB)

7.3A.4 Reference sensitivity exceptions due to UL harmonic interference for CA

Sensitivity degradation is allowed for a band in frequency range 2 if it is impacted by UL harmonic interference from the band in frequency range 1 of the same CA configuration. Reference sensitivity exceptions are specified in Table 7.3A.4-1 with uplink configuration specified in Table 7.3A.4-2.

Table 7.3A.4-1: Reference sensitivity exceptions due to UL harmonic for NR CA of FR1+FR2

UL Band	DL Band	50 MHz (dBm)	100 MHz (dBm)	200 MHz (dBm)	400 MHz (dBm)
X	Y				

Table 7.3A.2-2: Uplink configuration for reference sensitivity exceptions due to UL harmonic interference for NR CA of FR1+FR2

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
X	Y											

7.3B Reference sensitivity level for DC

7.3B.1 General

<Editor's note: Table number to be updated>

For EN-DC, E-UTRA and NR single carrier REFSENS requirements defined in [2], [3] and [4] apply to all downlink bands of EN-DC configurations listed in TablesTBD unless sensitivity degradation is allowed as defined in clause 7.3.2.1 and 7.3.2.2.

7.3B.2 Reference sensitivity for EN-DC

7.3B.2.1 Intra-band contiguous EN-DC

For intra-band contiguous EN-DC configurations, the reference sensitivity power level REFSENS is the minimum mean power applied to each one of the UE antenna ports at which the throughput for the carrier(s) of the E-UTRA and NR CGs shall meet or exceed the requirements for the specified E-UTRA and NR reference measurement channels.

For each CG, the reference sensitivity is specified as a maximum allowed degradation MSD of the reference sensitivity level as specified for the applicable carrier bandwidths in accordance with [4] for the E-UTRA CG and [2] for the NR CG.

For DC configurations of DC bandwidth class B, the throughput on each of the CGs shall be ≥ 95% of the maximum throughput of the respective reference measurement channels as specified in TBD with parameters specified in Table 7.3B.2.1-1.

Table 7.3B.2.1-1: Reference sensitivity (MSD) for intra-band DC bandwidth class

MSD / DC bandwidth class B							
DC configuration	**E-UTRA/NR band**	**F_C (UL) (MHz)**	**Channel bandwidth (MHz)**	**UL allocation (LCRB)**	**F_C (DL) (MHz)**	**MSD (dB)**	**Duplex mode**
DC_(n)71B	71	665.5	5	5 (RB_{end} =24)	619.5	0	FDD
	n71	675.5	15	15 (RB_{start} = 0)	629.5	1.8	
DC_(n)71B	71	670.5	15	15 (RB_{end} = 74)	624.5	0	
	n71	680.5	5	5 (RB_{start} = 0)	634.5	1.6	
DC_(n)71B	71	668	10	10 (RB_{end} = 49)	622	0	
	n71	678	10	10 (RB_{start} = 0)	632	1.7	
DC_(n)71B	71	668	10	10 (RB_{start} = 0)	622	17.2	
	n71	678	10	10 (RB_{end} = 51)	632	29.4	

7.3B.2.2 Intra-band non-contiguous EN-DC

For DC_3A_n3A intra-band non-contiguous EN-DC combination, only single switched UL is supported in rel.15, no MSD is required.

7.3B.2.3 Inter-band EN-DC within FR1

Reference sensitivity exceptions are specified for the condition when there is uplink transmission only in the aggressor band.

<Editor's note: FFS how to clarify the issues of 1Tx may also exist for 2Tx mode, for example harmonic, etc.>

7.3B.2.3.1 Reference sensitivity exceptions due to UL harmonic interference for EN-DC in NR FR1

Sensitivity degradation is allowed for a band if it is impacted by UL harmonic interference from another band part of the same DC configuration. Reference sensitivity exceptions are specified in Table 7.3B.2.3.1-1 with uplink configuration specified in Table 7.3B.2.3.1-2.

Table 7.3B.2.3.1-1: MSD due to UL harmonic for EN-DC in NR FR1

UL band	DL band	5 MHz (dB)	10 MHz (dB)	15 MHz (dB)	20 MHz (dB)	25 MHz (dB)	30 MHz (dB)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
1, 3	n77[1,2]	27.1	23.9	22.1	20.9			17.9					
	n77[3]	1.9	1.1	0.8	0.3								
2	n78[1,2]	27.1	23.9	22.1	20.9			17.9					
	n78[3]	1.9	1.1	0.8	0.3								
3	n78[1,2]	27.1	23.9	22.1	20.9			17.9					
	n78[3]	1.9	1.1	0.8	0.3								
8	n77[6,7] n78[6,7]	NA	10.8	9.1	8	5.1	4.2	3.5	2.3	1.4			
8	n79[4,5]							6.8	6.2	5.6	4.9		4.4
18, 19	n77[4,5]		10.4	8.9	7.8			4.7	3.7	3	1.7		0.7
28	n77[4,5] n78[4,5]		10.4	8.9	7.8			4.7	3.7	3	1.7	1.2	0.7
20	n77[6,7] n78[6,7]		10.8	9.1	8			6					
26	n41	NA	10.3	8.4	7.4			5	4.3	3.9	3.1	2.7	
26	n77[6,7] n78[6,7]		10.8	9.1	8			6					
26	n77[4,5]		10.4	8.9	7.8			4.7	3.7	3	1.7		0.7
n28	1[8,9,10]	10.2	7.6	6.2	5.3								
	n75[1,2]	28.1	25.3	24.0	22.8								
n71	2[11]	4.6	1.0	0.7	0.6								
	2[12]	1.7	1.0	0.7	0.6								
66	n78[1,2]		23.9	22.1	20.9			17.9					
	n78[3]		1.1	0.8	0.3								

NOTE 1: These requirements apply when there is at least one individual RE within the uplink transmission bandwidth of the aggressor (lower) band for which the 2nd transmitter harmonic is within the downlink transmission bandwidth of a victim (higher) band.

NOTE 2: The requirements should be verified for UL EARFCN or NR ARFCN of the aggressor (lower) band (superscript LB) such that $f_{UL}^{LB} = \lfloor f_{DL}^{HB} / 0.2 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with carrier frequency in the victim (higher) band in MHz and the channel bandwidth configured in the lower band.

NOTE 3: The requirements are only applicable to channel bandwidths with a carrier frequency at $\pm (20 + BW_{Channel}^{HB} / 2)$ MHz offset from $2 f_{UL}^{LB}$ in the victim (higher band) with $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$, whereand $BW_{Channel}^{HB}$ are the channel bandwidths configured in the aggressor (lower) and victim (higher) bands in MHz, respectively.

NOTE 4: These requirements apply when there is at least one individual RE within the uplink transmission bandwidth of the aggressor (lower) band for which the 5th transmitter harmonic is within the downlink transmission bandwidth of a victim (higher) band.

NOTE 5: The requirements should be verified for UL EARFCN of the aggressor (lower) band (superscript LB) such that $f_{UL}^{LB} = \lfloor f_{DL}^{HB} / 0.5 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with carrier frequency in the victim (higher) band in MHz and the channel bandwidth configured in the lower band.

NOTE 6: These requirements apply when there is at least one individual RE within the uplink transmission bandwidth of the aggressor (lower) band for which the 4th transmitter harmonic is within the downlink transmission bandwidth of a victim (higher) band.

NOTE 7: The requirements should be verified for UL EARFCN of the aggressor (lower) band (superscript LB) such that $f_{UL}^{LB} = \lfloor f_{DL}^{HB} / 0.4 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with carrier frequency in the victim (higher) band in MHz and the channel bandwidth configured in the lower band.

NOTE 8: These requirements apply when there is at least one individual RE within the uplink transmission bandwidth of a low band for which the 3rd transmitter harmonic is within the downlink transmission bandwidth of a high band.

NOTE 9 The requirements should be verified for UL EARFCN of a low band (superscript LB) such that in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with the carrier frequency of a high band in MHz and the channel bandwidth configured in the low band.

NOTE 10: Applicable for the operations with 2 or 4 antenna ports supported in the band with carrier aggregation configured.

NOTE 11: These requirements apply when the lower edge frequency of the 5 MHz uplink channel in Band 71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.

NOTE 12: These requirements apply when the lower edge frequency of the 10 MHz, 15 MHz, or 20 MHz uplink channel in Band 71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.

Table 7.3B.2.3.1-2: Uplink configuration for reference sensitivity exceptions due to UL harmonic interference for EN-DC in NR FR1

	E-UTRA or NR Band / Channel bandwidth of the high band												
UL band	**DL band**	**5 MHz**	**10 MHz**	**15 MHz**	**20 MHz**	**25 MHz**	**30 MHz**	**40 MHz**	**50 MHz**	**60 MHz**	**80 MHz**	**90 MHz**	**100 MHz**
1	n77	12	25	36	50			100					
2	n78	12	26	39	53[1] 100[2]								
3	n77	12	25	36	50			50					
3	n78	12	25	36	50			50					
8	n77 n78		16	25	25			25	25	25	25	25	25
8	n79							25	25	25	25		25
18	n77	8	16	25	25[1], 25[2]								
19	n77		16	25	25			25	25	25	25		25
20	n77	8	16	25	25[1], 25[2]								
20	n78		12	18	20			20					
26	n77 n78	8	16	25	25[1], 25[2]								
n28	1	8	16	25	25								
n28	n75	12	25	36	50								
28	n77 n78		10	-15	20			25	25	25	25	25	25
66	n78		26	39	53			100					
n71	2	25[4] 8[5]	25[4] 8[5]	20[4] 8[5]	20[4] 8[5]								

NOTE 1: The configuration is used for measurement of MSD for NR channel bandwidth of 20MHz.
NOTE 2: The configuration is used for measurement of MSD for NR channel bandwidth of 40MHz.
NOTE 3: The RB allocation is at the lower edge of the lowest channel of UL band.
NOTE 4: These requirements apply when the lower edge frequency of the 5 MHz uplink channel in Band 71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.
NOTE 5: These requirements apply when the lower edge frequency of the 10 MHz, 15 MHz, or 20 MHz uplink channel in Band 71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.

7.3B.2.3.2 MSD due to receiver harmonic mixing for EN-DC in NR FR1

Sensitivity degradation is allowed for a band if it is impacted by receiver harmonic mixing due to another band part of the same DC configuration. Reference sensitivity exceptions are specified in Table 7.3B.2.3.2-1 with uplink configuration specified in Table 7.3B.2.3.2-2.

Table 7.3B.2.3.2-1: Reference sensitivity exceptions due to receiver harmonic mixing for EN-DC in NR FR1

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm	100 MHz (dBm)
2	n71[4]	26.8	23.6	21.2	15.6							
26	n41[4]	24.3	24.3	22.5	N/A							
41	n77[7]	N/A	8.3	8.0	6.9	N/A	3.9	3	2.3	1.2	0.4	
41	n78[7]	N/A	8.3	8.0	6.9	N/A	3.9	3	2.3	1.2	0.4	
n71	2[5]	4.6	1	0.7	0.6							
	2[6]	1.7	1	0.7	0.6							
n77	41[8]	10.4	10.4	10.4	10.4	N/A	N/A	N/A	N/A	N/A	N/A	
n77	28[2]	28	25	23.2	22							
n78	41[8]	10.4	10.4	10.4	10.4	N/A	N/A	N/A	N/A	N/A	N/A	
n79	19[2]	29.5	26.5	24.7								
n79	21[3]	39.3	36.3	34.5								
n79	26[2]	27	24	22.2	N/A	N/A	N/A	N/A	N/A	N/A		N/A

NOTE 1: These requirements apply when there is at least one individual RE within the uplink transmission bandwidth of the aggressor (higher) band for which the mixing product due to harmonic of victim (lower) band LO with leakage of aggressor (higher) band is within the downlink transmission bandwidth of a victim (lower) band.

NOTE 2: The requirements should be verified for DL EARFCN of the victim (lower) band (superscript LB) such that $f_{DL}^{LB} = \lfloor f_{UL}^{HB} / 0.5 \rfloor 0.1$ in MHz and $F_{DL\_low}^{LB} + BW_{Channel}^{LB} / 2 \le f_{DL}^{LB} \le F_{DL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with f_{DL}^{LB} carrier frequency in the victim (lower) band in MHz and the channel bandwidth configured in the lower band.

NOTE 3: The requirements should be verified for DL EARFCN of the victim (lower) band (superscript LB) such that $f_{DL}^{LB} = \lfloor f_{UL}^{HB} / 0.4 \rfloor 0.1$ in MHz and $F_{DL\_low}^{LB} + BW_{Channel}^{LB} / 2 \le f_{DL}^{LB} \le F_{DL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with f_{DL}^{LB} carrier frequency in the victim (lower) band in MHz and the channel bandwidth configured in the lower band.

NOTE 4: The requirements should be verified for UL EARFCN of the aggressor (higher) band (superscript HB) such that $f_{DL}^{LB} = \lfloor f_{UL}^{HB} / 0.3 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \le f_{UL}^{LB} \le F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with the carrier frequency in the victim (lower) band and the channel bandwidth configured in the higher band.

NOTE 5: These requirements apply when the lower edge frequency of the 5 MHz uplink channel in Band n71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.

NOTE 6: These requirements apply when the lower edge frequency of the 10 MHz, 15 MHz, or 20 MHz uplink channel in Band n71 is located at or below 668 MHz and the downlink channel in Band 2 is located with its upper edge at 1990 MHz.

NOTE 7: The requirements should be verified for UL EARFCN of the aggressor (lower) band (superscript LB) such that $f_{UL}^{LB} = \lfloor f_{DL}^{HB} / 0.15 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \le f_{UL}^{LB} \le F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with carrier frequency in the victim (higher) band in MHz and the channel bandwidth configured in the lower band.

NOTE 8: The requirements should be verified for UL EARFCN of the aggressor (higher) band (superscript HB) such that $f_{UL}^{LB} = \lfloor 15 * f_{DL}^{HB} \rfloor 0.1$ in MHz and $F_{UL\_low}^{HB} + BW_{Channel}^{HB} / 2 \le f_{UL}^{HB} \le f_{UL\_high}^{HB} - BW_{Channel}^{HB} / 2$ with f_{DL}^{LB} carrier frequency in the victim (lower) band in MHz and $BW_{Channel}^{LB}$ the channel bandwidth configured in the higher band.

Table 7.3B.2.3.2-2: Uplink configuration for reference sensitivity exceptions due to receiver harmonic mixing for EN-DC in NR FR1

UL band	DL band	SCS (kHz)	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	40 MHz	50 MHz	60 MHz	80 MHz	90 MHz	100 MHz
2	n71	15	25	50	50	50							
n41	26	15	25	50	75								
41	n77	15	25	25	25	25	N/A	N/A	N/A	N/A	N/A	N/A	
41	n78	15	25	25	25	25	N/A	N/A	N/A	N/A	N/A	N/A	
n77	28	15	25	50	75	100							
n77	41	30	N/A	50	50	50	N/A	50	50	50	50	50	
n78	41	30	N/A	50	50	50	N/A	50	50	50	50	50	
n79	19	15	25	50	75								
n79	21	15	25	50	75								
n79	26	15	25	50	75								

NOTE 1: These requirements apply when there is at least one individual RE within the downlink transmission bandwidth of the victim (lower) band for which the 3rd harmonic is within the uplink transmission bandwidth or the uplink adjacent channel's transmission bandwidth of an aggressor (higher) band.

NOTE 2: The requirements should be verified for UL EARFCN of the aggressor (higher) band (superscript HB) such that $f_{DL}^{LB} = \lfloor f_{UL}^{HB} / 0.3 \rfloor 0.1$ in MHz and $F_{UL\_low}^{LB} + BW_{Channel}^{LB} / 2 \leq f_{UL}^{LB} \leq F_{UL\_high}^{LB} - BW_{Channel}^{LB} / 2$ with the carrier frequency in the victim (lower) band and the channel bandwidth configured in the higher band.

7.3B.2.3.3 Reference sensitivity exceptions due to close proximity of bands for EN-DC in NR FR1

Sensitivity degradation is allowed for a band if it is impacted by close proximity of an UL of another band part of the same DC configuration. Reference sensitivity exceptions are specified in Table 7.3B.2.3.3-1 with uplink configuration specified in Table 7.3B.2.3.3-2.

Table 7.3B.2.3.3-1: Reference sensitivity exceptions due to close proximity of bands for EN-DC in NR FR1

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
X	Y											

Table 7.3B.2.3-2: Uplink configuration for reference sensitivity exceptions due to close proximity of bands for EN-DC in NR FR1

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
X	Y											

7.3B.2.3.4 Reference sensitivity exceptions due to cross band isolation for EN-DC in NR FR1

Sensitivity degradation is allowed for a band if it is impacted by UL of another band part of the same DC configuration due to cross band isolation issues. Reference sensitivity exceptions are specified in Table 7.3B.2.3.4-1 with uplink configuration specified in Table 7.3B.2.3.4-2.

Table 7.3B.2.3.4-1: Reference sensitivity exceptions due to cross band isolation for EN-DC in NR FR1

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
n77	41[1]	-93.5	-90.5	-88.7	-87.5							
n78	41[1]	-93.5	-90.5	-88.7	-87.5							
NOTE 1: Applicable only when harmonic mixing MSD for this combination is not applied.												

Table 7.3B.2.3.4-2: Uplink configuration for reference sensitivity exceptions due to cross band isolation for EN-DC in NR FR1

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
n77	41	30	273	273	273	273	N/A	N/A	N/A	N/A	N/A	N/A
n78	41	30	273	273	273	273	N/A	N/A	N/A	N/A	N/A	N/A

7.3B.2.3.5 Reference sensitivity exceptions for intermodulation interference due to dual uplink operation for EN-DC in NR FR1

For EN-DC configurations in NR FR1 the UE may indicate capability of not supporting simultaneous dual uplink operation due to possible intermodulation interference overlapping in frequency with its own downlink transmissions if

- the intermodulation order is 2;
- the intermodulation order is 3 when the operating bands of the configuration are either confined below 1 GHz or confined within the frequency range 1695 MHz – 2690 MHz.

In case for the EN-DC in NR FR1 configurations the intermodulation products caused by dual uplink operation do not interfere with the own downlink transmission as defined in Annex-A the UE is mandated to operate in dual uplink mode.

For EN-DC in NR FR1 with uplink and downlink assigned to E-UTRA and NR FR1 bands given in Table 7.3B.2.3.5.1-1, Table 7.3B.2.3.5.2-1 and Table 7.3B.2.3.5.3-1 the reference sensitivity is defined only for the specific uplink and downlink test points specified in Table 7.3B.2.3.5.1-1, Table 7.3B.2.3.5.2-1 and Table 7.3B.2.3.5.3-1. For these test points the reference sensitivity levels specified in clause 7.3.1 in [4] and 7.3.2.1 of [2] for the corresponding channel bandwidths or in clause 7.3.1 of [4] are relaxed by the amount of the parameter MSD given in Table 7.3B.2.3.5.1-1, Table 7.3B.2.3.5.2-1 and Table 7.3B.2.3.5.3-1.

The throughput on each of the CGs shall be ≥ 95% of the maximum throughput of the respective reference measurement channels as specified in … with parameters specified in Table 7.3B.2.3.5-1 with dual UL transmissions overlapping in time unless otherwise stated.

For EN-DC configurations in Table 7.3B.2.3.5-1 with UL/DL channel assignments such that Single UL is allowed, the MSD requirement is verified with non-simultaneous uplink transmissions on the two CGs for UEs only indicating support of Single UL.

7.3B.2.3.5.1 Reference sensitivity exceptions for intermodulation interference due to dual uplink operation for EN-DC in NR FR1 involving two bands

Table 7.3B.2.3.5.1-1: Reference sensitivity exceptions for PCell due to dual uplink operation for EN-DC in NR FR1 (two bands)

NR or E-UTRA Band / Channel bandwidth / N_{RB} / MSD								
EN-DC Configuration	**EUTRA or NR band**	**UL F_c (MHz)**	**UL/DL BW (MHz)**	**UL L_{CRB}**	**DL F_c (MHz)**	**MSD (dB)**	**Duplex mode**	**IMD order**
DC_1A_n77A	1	1950	5	25	2140	29.8 32.5[4]	FDD	IMD2[3]
	n77	4090	10	25	4090	N/A	TDD	N/A
DC_1A_n77A	1	1950	5	25	2140	8.0 10.7[4]	FDD	IMD4[3]
	n77	3710	10	25	3710	N/A	TDD	N/A
DC_1A_n78A, DC_1A_SUL_n78A-n84A	1	1950	5	25	2140	8.0 10.7[4]	FDD	IMD4[3]
	n78	3710	10	25	3710	N/A	TDD	
DC_2A_n66A	2	1855	5	25	1935	20	FDD	IMD3
	n66	1775	5	25	2175	N/A	TDD	N/A
DC_2A_n66A	2	1883.3	5	25	1963.3	N/A	FDD	N/A
	n66	1750	5	25	2150	4	TDD	IMD5
DC_2A_n78A	2	1855	5	25	1940	26 28.7[4]	FDD	IMD2[3]
	n78	3795	10	25	3795	N/A	TDD	N/A
DC_2A_n78A	2	1885	5	25	1955	8.0 10.7[4]	FDD	IMD4[3]
	n78	3700	10	25	3700	N/A	TDD	N/A
DC_3A_n7A	3	1730	5	25	1825	N/A	FDD	N/A
	n7	2535	10	52	2655	10.2[5]	FDD	IMD4
DC_3A_n77A DC_3A_n78A	3	1740	5	25	1835	26 28.7[4]	FDD	IMD2[3]
	n77, n78	3575	10	25	3575	N/A	TDD	N/A
DC_3A_n77A DC_3A_n78A	3	1765	5	25	1860	8.0 10.7[4]	FDD	IMD4[3]
	n77, n78	3435	10	25	3435	N/A	TDD	N/A
DC_3A_n78A	3	1712.5	5	25	1807.5	TBD[5]	FDD	IMD2
	n78	3515	10	50	3515	N/A	TDD	N/A
	3	1762.5	5	25	1857.5	N/A	FDD	N/A
	n78	3465	10	50	3465	N/A	TDD	N/A
DC_3A-SUL_n78A-n80A, DC_66A-SUL_n78A-n86A	3, 66	1740	5	25	1835	26 28.7[4]	FDD	IMD2[3]
	n78	3575	10	25	3575	N/A	TDD	N/A
DC_3A_SUL_n78A-n80A, DC_66A-SUL_n78A-n86A	3, 66	1765	5	25	1860	8.0 10.7[4]	FDD	IMD4[3]
	n78	3435	10	25	3435	N/A	TDD	N/A
DC_3C_n78A	3	1740	5	25	1835	26 28.7[5]	FDD	IMD2[4]
	n78	3575	10	25	3575	N/A	TDD	N/A
	n78	3710	10	25	3710	N/A	TDD	N/A
DC_3C_n78A	3	1765	5	25	1860	8.0 10.7[5]	FDD	IMD4[4]
	n78	3435	10	25	3435	N/A	TDD	N/A
DC_5A_n66A	5	838	5	25	883	30	FDD	IMD2[3]
	n66	1721	5	25	2121	N/A		N/A
DC_5A_n78A	5	844	5	25	889	8.3	FDD	IMD4
	n78	3421	10	52	3421	N/A	TDD	N/A
DC_8A_n77A DC_8A_n78A DC_8A-SUL_n78A-n81A	8	897.5	5	25	942.5	8.3	FDD	IMD4
	n77, n78	3635	10	52	3635	N/A	TDD	H4
DC_8A_n79A DC_8A-SUL_n79A-n81A	8	897.5	5	25	942.5	4.8	FDD	IMD5
	n79	4532.5	40	216	4532.5	N/A	TDD	N/A
DC_20A_n8A	20	849.5	5	25	808.5	21	FDD	IMD3

	n8	892.5	5	25	937.5	21	FDD	IMD3
DC_20A_n77A	20	850	5	25	810	11	FDD	IMD4
	n77	3360	10	50	3360	N/A	TDD	N/A
	20	840	5	25	800	6.5	FDD	IMD5
	n77	4160	10	50	4150	N/A	TDD	N/A
DC_20A_n78A, DC_20A-SUL_n78A-n82A	20	850	5	25	810	21.7	FDD	IMD4[4]
	n78	3360	10	50	3360	N/A	TDD	N/A
DC_21A_n79A	21	1457.5	5	25	1505.5	18.4	FDD	IMD3
	n79	4420.5	40	216	4420.5	N/A	TDD	N/A
DC_26A_n41A	26	839	5	25	884	15.6	FDD	IMD3
	n41	2562	10	52	2562	N/A	TDD	N/A
DC_28A_n51A	28	725.5	20	25	765.5	5	FDD	IMD 4, 5
	n51	1429.5	5	25	1429.5	5	TDD	IMD 4, 5
DC_26A_n77A DC_26A_n78A	26	836.5	5	25	881.5	11.1	FDD	IMD4
	n77, n78	3390	10	50	3390	N/A	TDD	N/A
CA_28A_n77A, CA_28A_n78A, DC_28A-SUL_n78A-n83A	28	705.5	5	25	760.5	5.5	FDD	IMD5
	n77, n78	3582.5	10	25	3582.5	N/A	TDD	N/A
DC_66A_n5A	n5	838	5	25	883	30	FDD	IMD2[3]
	66	1721	5	25	2121	N/A		N/A
DC_66A_n71A	66	1750	5	25	2150	5	FDD	IMD4
	n71	675	5	25	629	N/A		N/A
DC_66A_n78A	66	1740	5	25	1835	26 28.7[4]	FDD	IMD2[3]
	n78	3575	10	25	3575	N/A	TDD	N/A
	66	1765	5	25	1860	8.0 10.7[4]	FDD	IMD4[3]
	n78	3435	10	25	3435	N/A	TDD	N/A

NOTE 1: Both of the transmitters shall be set min(+20 dBm, $P_{CMAX\_L,c}$) as defined in subclause 6.2.5A. In case Single UL is allowed and the UE only indicates support of "Single UL" the output power of the active UL shall be set at $P_{CMAX\_L,c}$ or set to the maximum output power according to the UE power scaling capability.
NOTE 2: RB_{START} = 0
NOTE 3: This band is subject to IMD5 also which MSD is not specified.
NOTE 4: Applicable only if operation with 4 antenna ports is supported in the band with carrier aggregation configured.
NOTE 5: For UEs only indicating support of Single UL, this requirement is verified with non-simultaneous uplink transmissions on the E-UTRA and NR CGs

7.3B.2.3.5.2 Reference sensitivity exceptions for intermodulation interference due to dual uplink operation for EN-DC in NR FR1 involving three bands

Table 7.3B.2.3.5.2-1: Reference sensitivity exceptions for Scell due to dual uplink operation for EN-DC in NR FR1 (three bands)

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
DC_1A-3A_n28A	1	1975	5	25	2165	N/A	FDD	N/A
	n28	710.5	5	25	765.5	N/A	FDD	N/A
	3	1723.5	5	25	1818.5	4.0	FDD	IMD5
DC_1A-3A_n28A	3	1780	5	25	1875	N/A	FDD	N/A
	n28	710.5	5	25	765.5	N/A	FDD	N/A
	1	1949	5	25	2139	11.0	FDD	IMD4
DC_1A-7A_n28A	1	1935	5	25	2125	N/A	FDD	N/A
	n28	718	5	25	773	N/A	FDD	N/A
	7	2533	10	52	2653	30.0	FDD	IMD2
DC_1A-3A_n77A	1	1950	5	25	2140	N/A	FDD	N/A
	3	1712.5	5	25	1807.5	31.5		IMD2
	n77	3757.5	10	52	3757.5	N/A	TDD	N/A
	1	1950	5	25	2140	N/A	FDD	N/A
	3	1775	5	25	1870	8.5		IMD4
	n77	3980	10	52	3980	N/A	TDD	N/A
	1	1950	5	25	2140	31.0	FDD	IMD2
	3	1775	5	25	1870	N/A		N/A
	n77	3915	10	52	3915	N/A	TDD	N/A
DC_1A-3A_n78A DC_1A-3C_n78A	1	1930	5	25	2120	8.3	FDD	IMD4 $\lvert f_{B78}-3*f_{B1}\rvert$
	3	1775	5	25	1870	N/A		N/A
	n78	3670	10	52	3670	N/A	TDD	N/A
	1	1950	5	25	2140	N/A	FDD	N/A
	3	1712.5	5	25	1807.5	31.2		IMD2 $\lvert f_{B78}-f_{B1}\rvert$
	n78	3757.5	10	52	3757.5	N/A	TDD	N/A
	1	1935	5	25	2125	2.8	FDD	IMD5 $\lvert 2*f_{B78}-3*f_{B3}\rvert$
	3	1775	5	25	1870	N/A		N/A
	n78	3725	10	52	3725	N/A	TDD	N/A
DC_1A-5A_n78A	1	1930	5	25	2120	8.3	FDD	IMD4 $\lvert f_{B78}-3*f_{B1}\rvert$
	5	844	5	25	889	N/A	FDD	N/A
	n78	3670	10	52	3670	N/A	TDD	N/A
	1	1950	5	25	2140	N/A	FDD	N/A
	5	844	5	25	889	8.3	FDD	IMD4 $\lvert f_{B78}-3*f_{B5}\rvert$
	n78	3421	10	52	3421	N/A	TDD	N/A
	1	1932	5	25	2122	18.1	FDD	IMD3 $\lvert f_{B78}-2*f_{B5}\rvert$
	5	829	5	25	874	N/A	FDD	N/A
	n78	3780	10	52	3780	N/A	TDD	N/A
	1	1975	5	25	2165	N/A	FDD	N/A
	5	840	5	25	885	3.1	FDD	IMD5 $\lvert 2*f_{B78}-3*f_{B1}\rvert$
	n78	3405	10	52	3405	N/A	TDD	N/A
DC_1A-7A_n78A	1	1930	5	25	2120	8.3	FDD	IMD4 $\lvert f_{B78}-3*f_{B1}\rvert$
	7	2550	5	25	2670	N/A	FDD	N/A
	n78	3670	10	52	3670	N/A	TDD	N/A
	1	1977.5	5	25	2167.5	N/A	FDD	N/A
	7	2507.5	5	25	2627.5	9.1	FDD	IMD4 $\lvert f_{B78}-3*f_{B1}\rvert$
	n78	3305	10	52	3305	N/A	TDD	N/A

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
	1	1950	5	25	2140	8.7	FDD	IMD4 $\|2*f_{B78}-2*f_{B7}\|$
	7	2510	10	50	2630	N/A	FDD	N/A
	n78	3310	10	52	3310	N/A	TDD	N/A
DC_1A-3A_n79A	1	1950	5	25	2140	3.6	FDD	IMD5
	3	1750	5	25	1845	N/A		N/A
	n79	4860	40	216	4860	N/A	TDD	N/A
DC_1A-18A_n77A	1	1930	5	25	2120	16.4	FDD	IMD3
	18	825	5	25	870	N/A		N/A
	n77	3770	10	52	3770	N/A	TDD	N/A
DC_1A-18A_n78A	1	1930	5	25	2120	16.4	FDD	IMD3
	18	819	5	25	864	N/A		N/A
	n78	3758	10	52	3758	N/A	TDD	N/A
DC_1A-18A_n79A	1	1935	5	25	2125	N/A	FDD	N/A
	18	822.5	5	25	867.5	18.3	FDD	IMD3
	n79	4782.5	40	216	4782.5	N/A	TDD	N/A
	1	1930	5	25	2120	N/A	FDD	N/A
	18	820	5	25	865	8.9	FDD	IMD4
	n79	4925	40	216	4925	N/A	TDD	N/A
	1	1935	5	25	2125	8.1	FDD	IMD4
	18	822.5	5	25	867.5	N/A	FDD	N/A
	n79	4782.5	40	216	4782.5	N/A	TDD	N/A
DC_1A-19A_n77A DC_1A-19A_n78A	1	1940	5	25	2130	17.8	FDD	IMD3
	19	832.5	5	25	877.5	N/A		N/A
	n77, n78	3795	10	52	3795	N/A	TDD	N/A
DC_1A-19A_n79A	1	1950	5	25	2140	N/A	FDD	N/A
	19	837.5	5	25	882.5	18.3		IMD3
	n79	4782.5	40	216	4782.5	N/A	TDD	N/A
	1	1950	5	25	2140	8.1	FDD	IMD4
	19	837.5	5	25	882.5	N/A		N/A
	n79	4652.5	40	216	4652.5	N/A	TDD	N/A
DC_1A-20A_n78A	1	1930	5	25	2120	20.3	FDD	IMD3
	20	835	5	25	794	N/A	FDD	N/A
	n78	3790	10	52	3790	N/A	TDD	N/A
DC_1A-20A_n78A	1	1950	5	25	2140	N/A	FDD	N/A
	20	851	5	25	810	3.0	FDD	IMD5
	n78	3330	10	52	3330	N/A	TDD	N/A
DC_1A-21A_n77A DC_1A-21A_n78A	1	1964.6	5	25	2154.6	30.6	FDD	IMD2
	21	1450.4	5	25	1498.4	N/A		N/A
	n77, n78	3605	10	52	3605	N/A	TDD	N/A
	1	1950	5	25	2140	N/A	FDD	N/A
	21	1452	5	25	1500	2.9		IMD5
	n77, n78	3675	10	52	3675	N/A	TDD	N/A
DC_2A-66A-(n)71B	66	1750	5	25	2150	5.0	FDD	IMD4
	n71	675	5	25	629	N/A		N/A
DC_1A-28A_n77A	1	1960	5	25	2150	15.8	FDD	IMD3
	28	740	5	25	795	N/A		N/A
	n77	3630	10	52	3630	N/A	TDD	N/A
DC_1A-28A_n77A	1	1960	5	25	2150	N/A	FDD	N/A
	28	725	5	25	780	4.3		IMD5
	n77	3330	10	52	3330	N/A	TDD	N/A
DC_1A-28A_n78A	1	1960	5	25	2150	15.7	FDD	IMD3
	28	740	5	25	795	N/A		N/A
	n78	3630	10	52	3630	N/A	TDD	N/A
DC_1A-28A_n78A	1	1970	5	25	2160	N/A	FDD	N/A
	28	739	5	25	794	4.2		IMD5
	n78	3352	10	52	3352	N/A	TDD	N/A
DC_1A_n28A-n78A	1	1950	5	25	2140	N/A	FDD	N/A
	n28	733	5	25	788	N/A		N/A
	n78	3416	10	52	3416	15.7	TDD	IMD3
	1	1950	5	25	2140	N/A	FDD	N/A

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
	n78	3320	10	52	3320	N/A	TDD	N/A
	n28	735	5	25	790	3.3	FDD	IMD5
DC_1A-28A_n79A	1	1930	5	25	2120	N/A	FDD	N/A
	28	733	5	25	788	15.2	FDD	IMD3
	n79	4648	40	216	4648	N/A	TDD	N/A
	1	1925	5	25	2115	N/A	FDD	N/A
	28	740	5	25	795	10.0	FDD	IMD4
	n79	4980	40	216	4980	N/A	TDD	N/A
	1	1977.5	5	25	2167.5	1.2	FDD	IMD4
	28	745.5	5	25	800.5	N/A	FDD	N/A
	n79	4420	40	216	4420	N/A	TDD	N/A
	1	1935	5	25	2125	4.5	FDD	IMD5
	28	718	5	25	773	N/A	FDD	N/A
	n79	4807	40	216	4807	N/A	TDD	N/A
DC_1A-41A_n77A	1	1970	5	25	2160	N/A	FDD	N/A
	n77	3400	10	52	3400		TDD	
	41	2510	5	25	2510	11.0	TDD	IMD4
	1	1930	5	25	2120	N/A	FDD	N/A
	n77	4150	10	52	4150		TDD	
	41	2510	5	25	2510	3.6	TDD	IMD5
DC_1A-41A_n78A	1	1975	5	25	2165	N/A	FDD	N/A
	41		5	25	2515	12	TDD	IMD4
	n78	3410	10	52	3410	N/A	TDD	N/A
DC_1A-41A_n79A	1	1970	5	25	2160	N/A	FDD	N/A
	n79	4500	40	216	4500		TDD	
	41	2530	5	25	2530	29.4	TDD	IMD2
	1	1922.5	5	25	2112.5	N/A	FDD	N/A
	n79	4980	40	216	4980		TDD	
	41	2687.5	5	25	2687.5	0.0	TDD	IMD5
DC_1A-42A_n79A	1	1977.5	5	25	2167.5	N/A	FDD	N/A
	n79	4420	40	216	4420		TDD	
	42	3490	5	25	3490	4.8	TDD	IMD5
	42	3402.5	5	25	3402.5	N/A	TDD	N/A
	n79	4640	40	216	4640		TDD	
	1	1975	5	25	2165	15.5	FDD	IMD3
	42	3450	5	25	3450	N/A	TDD	N/A
	n79	4520	40	216	4520		TDD	
	1	1950	5	25	2140	9.3	FDD	IMD4
DC_1A_n78A-n79A	1	1950	5	25	2140	N/A	FDD	N/A
	n78	3410	10	52	3410	N/A	TDD	N/A
	n79	4870	40	216	4870	15.9	TDD	IMD3
	1	1950	5	25	2140	N/A	FDD	N/A
	n79	4670	40	216	4670	N/A	TDD	N/A
	n78	3490	10	52	3490	4.6	TDD	IMD5
DC_2A-66A_n71A	66	1750	5	25	2150	5.0	FDD	IMD4
	n71	675	5	25	629	N/A		N/A
DC_3A-5A_n78A	3	1730	5	25	1825	N/A	FDD	N/A
	5	844	5	25	889	8.3	FDD	IMD4 $\lvert f_{B78}-3*f_{B5}\rvert$[4]
	n78	3421	10	52	3421	N/A	TDD	N/A
	3	1740	5	25	1835	26.0	FDD	IMD2 $\lvert f_{B78}-f_{B3}\rvert$
						28.7[5]		
	5	840	5	25	885	N/A	FDD	N/A
	n78	3575	10	25	3575	N/A	TDD	N/A
	n78	3710	10	25	3710	N/A	TDD	N/A
	3	1770	5	25	1865	8.0	FDD	IMD4 $\lvert f_{B78}-3*f_{B3}\rvert$[4]

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
						10.7[5]		
DC_3A-7A_n28A	3	1712.5	5	25	1807.5	N/A	FDD	N/A
	n28	743	5	25	798	N/A	FDD	N/A
	7	2562	10	52	2682	16.9	FDD	IMD3
	7	2543	10	52	2663	N/A	FDD	N/A
	n28	710.5	5	25	765.5	N/A	FDD	N/A
	3	1737.5	5	25	1832.5	26.0	FDD	IMD2
DC_3C-7C_n78A	3	1725	5	25	1820	17.6	FDD	IMD3 $\lvert f_{B78}-2*f_{B7}\rvert$
	7	2565	5	25	2685	N/A	FDD	N/A
	n78	3310	10	52	3310	N/A	TDD	N/A
	3	1725	5	25	1820	8.6	FDD	IMD4 $\lvert 2*f_{B78}-2*f_{B7}\rvert$
	7	2565	5	25	2685	N/A	FDD	N/A
	n78	3475	10	52	3475	N/A	TDD	N/A
DC_3A-20A_n28A	20	852	5	25	811	N/A	FDD	N/A
	n28	738	5	25	793	N/A	FDD	N/A
	3	1723	5	25	1818	9.4	FDD	IMD4
DC_3A-28A_n77A	3	1712.5	5	25	1807.5	N/A	FDD	N/A
	28	715	5	25	770	15.3	FDD	IMD3
	n77	4195	10	52	4195	N/A	TDD	N/A
	3	1755	5	25	1850	17.0	FDD	IMD3
	28	735	5	25	790	N/A	FDD	N/A
	n77	3320	10	52	3320	N/A	TDD	N/A
DC_3A-28A_n78A	3	1750	5	25	1850	26.0	FDD	IMD2
	28	760	5	25	760	N/A		N/A
	n78	3600	10	25	3600	N/A	TDD	N/A
	3	1775	5	25	1870	17.3	FDD	IMD3
	28	740	5	25	760	N/A		N/A
	n78	3350	10	25	3350	N/A	TDD	N/A
	3	1775	5	25	1845	8.0	FDD	IMD4
	28	740	5	25	760	N/A		N/A
	n78	3480	10	25	3480	N/A	TDD	N/A
	3	1775	5	25	1875	8.0	FDD	IMD5
	28	740	5	25	760.5	N/A		N/A
	n78	3600	10	25	3600	N/A	TDD	N/A
	3	1775	5	25	1870	N/A	FDD	N/A
	28	705	5	25	780	8.3		IMD5
	n78	3600	10	25	3600	N/A	TDD	N/A
DC_3A-28A_n79A	3	1770	5	25	1865	N/A	FDD	N/A
	28	725	5	25	780	10.3	FDD	IMD4
	n79	4530	40	216	4530	N/A	TDD	N/A
	3	1775	5	25	1870	5.7	FDD	IMD5
	28	725	5	25	780	N/A	FDD	N/A
	n79	4770	40	216	4770	N/A	TDD	N/A
DC_3A_n28A-n78A	3	1750	5	25	1845	N/A	FDD	N/A
	n28	743	5	25	798	N/A		N/A
	n78	3764	10	52	3764	4.5	TDD	IMD5
DC_3A_n78A-n79A	3	1770	5	25	1865	N/A	FDD	N/A
	n78	3340	10	52	3340	N/A	TDD	N/A
	n79	4910	40	216	4910	16.3	TDD	IMD3
	3	1770	5	25	1865	N/A	FDD	N/A
	n79	4510	40	216	4510	N/A	TDD	N/A
	n78	3710	10	52	3710	4.2	TDD	IMD5
DC_3A-7A_n78A DC_3C-7A_n78A	3	1725	5	25	1820	17.6	FDD	IMD3 $\lvert f_{B78}-2*f_{B7}\rvert$
	7	2565	5	25	2685	N/A	FDD	N/A
	n78	3310	10	52	3310	N/A	TDD	N/A

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
DC_3A-7A_n78A DC_3C-7A_n78A	3	1725	5	25	1820	8.6	FDD	IMD4 $\|2*f_{B78}-2*f_{B7}\|$
	7	2565	5	25	2685	N/A	FDD	N/A
	n78	3475	10	52	3475	N/A	TDD	N/A
DC_3A-19A_n79A	5	840	5	25	885	N/A	FDD	N/A
	n78	3445	10	52	3445	N/A	TDD	N/A
	n79	4435	40	216	4435	N/A	TDD	N/A
	3	1782.5	5	25	1877.5	0.2	FDD	IMD4
	19	842.5	5	25	887.5	N/A		N/A
	n79	4420	40	216	4420	N/A	TDD	N/A
DC_3A-20A_n78A DC_3C-20A_n78A	3	1725	5	25	1820	17.3	FDD	IMD3 $\|f_{B78}-2*f_{B20}\|$
	20	845	5	25	804	N/A	FDD	N/A
	n78	3510	10	52	3510	N/A	TDD	N/A
DC_3A-21A_n77A DC_3A-21A_n78A	3	1767.5	5	25	1862.5	N/A	FDD	N/A
	21	1459.5	5	25	1507.5	8.8		IMD4
	n77, n78	3795	10	52	3795	N/A	TDD	N/A
DC_3A-21A_n77A	3	1771.6	5	25	1866.6	3.4	FDD	IMD5
	21	1450.4	5	25	1498.4	N/A		N/A
	n77	3935	10	52	3935	N/A	TDD	N/A
DC_3A-21A_n79A	3	1774.2	5	25	1869.2	17.8	FDD	IMD3
	21	1450.4	5	25	1498.4	N/A		N/A
	n79	4770	40	216	4770	N/A	TDD	N/A
DC_5A-7A_n78A	5	844	5	25	889	8.3	FDD	IMD4 $\|f_{B78}-3*f_{B5}\|$
	7	2550	5	25	2670	N/A	FDD	N/A
	n78	3421	10	52	3421	N/A	TDD	N/A
	5	844	5	25	889	N/A	FDD	N/A
	7	2525	5	25	2645	30.1	FDD	N/A
	n78	3489	10	52	3489	N/A	TDD	N/A
	5	834	5	25	879	30.2	FDD	IMD2 $\|f_{B78}-f_{B7}\|$
	7	2550	5	25	2670	N/A	FDD	N/A
	n78	3429	10	52	3429	N/A	TDD	N/A
	5	830	5	25	875	3.3	FDD	IMD5 $\|2*f_{B78}-3f_{B7}\|$
	7	2525	5	25	2645	N/A	FDD	N/A
	n78	3350	10	52	3350	N/A	TDD	N/A
DC_5A_41A_n78A	5	860	5	25	885	30.2	FDD	IMD2
	41	2615	5	25	2615	N/A	TDD	N/A
	n78	3500	10	52	3500	N/A	TDD	N/A
	5	856.5	5	25	881.5	3.1	FDD	IMD5
	41	2620.5	5	25	2620.5	N/A	TDD	N/A
	n78	3490	10	52	3490	N/A	TDD	N/A
DC_7A-20A_n28A	20	852	5	25	811	N/A	FDD	N/A
	n28	738	5	25	793	N/A	FDD	N/A
	7	2550	10	52	2670	5.9	FDD	IMD5
DC_7A-20A_n78A	7	2560	5	25	2680	N/A	FDD	N/A
	20	851	5	25	810	30.5	FDD	IMD2 $\|f_{B78}-f_{B7}\|$
	n78	3370	10	52	3370	N/A	TDD	N/A
DC_7A-20A_n78A	7	2560	5	25	2680	N/A	FDD	N/A
	20	851	5	25	810	3.0	FDD	IMD5 $\|2*f_{B78}-3*f_{B7}\|$
	n78	3435	10	52	3435	N/A	TDD	N/A

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
DC_7A-20A_n78A	7	2555	5	25	2675	30.8	FDD	IMD2 $\|f_{B78}-f_{B20}\|$
	20	845	5	25	804	N/A	FDD	N/A
	n78	3520	10	52	3520	N/A	TDD	N/A
DC_7A-28A_n78A	7	2570	5	25	2670	N/A	FDD	N/A
	28	720	5	25	780	8.3		IMD2
	n78	3350	10	52	3421	N/A	TDD	N/A
	7	2570	5	25	2670	N/A	FDD	N/A
	28	720	5	25	790	3.0		IMD5
	n78	3460	10	52	3421	N/A	TDD	N/A
	7	2570	5	25	2650	30.5	FDD	IMD2
	28	740	5	25	768	N/A		N/A
	n78	3390	10	52	3421	N/A	TDD	N/A
DC_7A_n28A-n78A	7	2565	5	25	2685	N/A	FDD	N/A
	n28	745	5	25	800	N/A		N/A
	n78	3310	10	52	3310	29.7	TDD	IMD2
	7	2565	5	25	2685	N/A	FDD	N/A
	n78	3365	10	52	3365	N/A	TDD	N/A
	n28	745	5	25	800	28.8	FDD	IMD2
DC_7A-46A_n78A[6]	7	N/A	N/A	N/A	N/A	N/A	FDD	N/A
	46	N/A	N/A	N/A	N/A	N/A	TDD	IMD2, IMD5
	n78	N/A	N/A	N/A	N/A	N/A	TDD	N/A
DC_18A-28A_n77A	18	820	5	25	865	N/A	FDD	N/A
	28	723	5	25	778	4.4		IMD5
	n77	4058	10	52	4058	N/A	TDD	N/A
DC_18A-28A_n77A	18	820	5	25	865	3.9	FDD	IMD5
	28	723	5	25	778	N/A		N/A
	n77	3757	10	52	3757	N/A	TDD	N/A
DC_18A-28A_n78A	18	819	5	25	864	3.8	FDD	IMD5
	28	723	5	25	778	N/A		N/A
	n78	3756	10	52	3756	N/A	TDD	N/A
DC_19A-21A_n77A DC_19A-21A_n78A	19	837.5	5	25	882.5	18.7	FDD	IMD3
	21	1450.4	5	25	1498.4	N/A		N/A
	n77, n78	3783.3	10	52	3783.3	N/A	TDD	N/A
DC_19A-21A_n77A	19	837.5	5	25	882.5	N/A	FDD	N/A
	21	1454.5	5	25	1502.5	9.0		IMD4
	n77	4015	10	52	4015	N/A	TDD	N/A
DC_19A-21A_n79A	19	837.5	5	25	882.2	N/A	FDD	N/A
	21	1452	5	25	1500	3.8		IMD5
	n79	4850	40	216	4850	N/A	TDD	N/A
DC_21A-28A_n77A	21	1452	5	25	1500	N/A	FDD	N/A
	28	730.5	5	25	785.5	16.9	FDD	IMD3
	n77	3689.5	10	52	3689.5	N/A	TDD	N/A
	21	1450.5	5	25	1498.5	9.9	FDD	IMD4
	28	730.5	5	25	785.5	N/A	FDD	N/A
	n77	3690	10	52	3690	N/A	TDD	N/A
DC_28A-42A_n79A	21	1450	5	25	1498	5.2	FDD	IMD5
	28	730.5	5	25	785.5	N/A	TDD	N/A
	n79	4420	40	216	4420	N/A	TDD	N/A
DC_66A_(n)71B	66	1750	5	25	2150	5	FDD	IMD4
	n71	678	10	10 (RB_{start} =0)	632	N/A		N/A
DC_19A_n78A-n79A	19	835	5	25	880	N/A	FDD	N/A
	n78	3680	10	52	3680	N/A	TDD	N/A
	n79	4515	40	216	4515	29.3	TDD	IMD2
	19	835	5	25	880	N/A	FDD	N/A
	n79	4550	40	216	4550	N/A	TDD	N/A
	n78	3715	10	52	3715	28.8	TDD	IMD2

EN-DC Configuration	EUTRA/NR band	UL F_c (MHz)	UL/DL BW (MHz)	UL L_{CRB}	DL F_c (MHz)	MSD (dB)	Duplex mode	IMD order
DC_20A_n28A-n78A	20	857	5	25	816	N/A	FDD	N/A
	n28	743	5	25	798	N/A	FDD	N/A
	n78	3314	10	52	3314	8.7	TDD	IMD4
	20	837	5	25	796	N/A	FDD	N/A
	n78	3310	10	52	3310	N/A	TDD	N/A
	n28	744	5	25	799	9.4	FDD	IMD4
DC_21A_n78A-n79A	21	1453	5	25	1501	N/A	FDD	N/A
	n78	3420	10	52	3420	N/A	TDD	N/A
	n79	4873	40	216	4873	30.1	TDD	IMD2
	21	1453	5	25	1501	N/A	FDD	N/A
	n79	4940	40	216	4940	N/A	TDD	N/A
	n78	3487	10	52	3487	29.8	TDD	IMD2

7.3B.2.3.5.3 MSD exceptions due to Tx leakage issue

Table 7.3B.2.3.5.3-1: MSD exceptions due to Tx leakage issue (three bands)

MSD due to Tx leakage issue exception for the DL band							
EUTRA and NR DC Configuration	E-UTRA and NR band	UL Fc (MHz)	UL/DL BW (MHz)	UL C_{LRB}	DL F_C (MHz)	MSD (dB)	Duplex mode
DC_2A-66A-(n)71B	71	665.5	5	5 (RB_{end} =24)	619.5	0	FDD
	n71	675.5	15	15 (RB_{start} = 0)	629.5	1.8	
	71	670.5	15	15 (RB_{end} = 74)	624.5	0	
	n71	680.5	5	5 (RB_{start} = 0)	634.5	1.6	
	71	668	10	10 (RB_{end} = 49)	622	0	
	n71	678	10	10 (RB_{start} = 0)	632	1.7	
	71	668	10	10 (RB_{start} = 0)	622	17.2	
	n71	678	10	10 (RB_{end} = 51)	632	29.4	

7.3B.2.4 Inter-band EN-DC including FR2

7.3B.2.4.1 Reference sensitivity exceptions due to UL harmonic interference for EN-DC in NR FR2

Reference sensitivity exceptions are specified for the condition when there is uplink transmission only in the aggressor band.

Sensitivity degradation is allowed for a band in frequency range 2 if it is impacted by UL harmonic interference from the band in frequency range 1 of the same DC configuration. Reference sensitivity exceptions are specified in Table 7.3B.2.4.1-1 with uplink configuration specified in Table 7.3B.2.4.1-2.

Table 7.3B.2.4.1-1: Reference sensitivity exceptions due to UL harmonic for EN-DC in NR FR2

UL Band	DL Band	50 MHz (dBm)	100 MHz (dBm)	200 MHz (dBm)	400 MHz (dBm)
X	Y				

Table 7.3B.2.4.1-2: Uplink configuration for reference sensitivity exceptions due to UL harmonic interference

UL band	DL band	5 MHz (dBm)	10 MHz (dBm)	15 MHz (dBm)	20 MHz (dBm)	25 MHz (dBm)	40 MHz (dBm)	50 MHz (dBm)	60 MHz (dBm)	80 MHz (dBm)	90 MHz (dBm)	100 MHz (dBm)
X	Y											

7.3B.2.5 Inter-band EN-DC including both FR1 and FR2

7.3B.2.5.1 Reference sensitivity exceptions due to UL harmonic interference for EN-DC including both FR1 and FR2

For inter-band EN-DC of LTE and NR in both FR1 and FR2, the UE is allowed to apply each sensitivity degradation for EN-DC in FR1 specified in clause 7.3B.2.3 TS 38.101-3 and for EN-DC including FR2 specified in clause 7.3B.2.3 of TS 38.101-3 independently.

7.3B.3 $\Delta R_{IB,c}$, ΔR_{IBNC} for EN-DC

<Editor's note: Table number to be updated>

For the UE which supports inter-band EN-DC configuration, the minimum requirement for reference sensitivity in Table 7.3.1-1 and Table 7.3.1-1a in [4], Table 7.3-1 in [2] and Table 7.3.1-1 in [3] shall be increased by the amount given in $\Delta R_{IB,c}$,ΔR_{IBNC} in Tables below where unless otherwise stated, the same $\Delta R_{IB,c}$, ΔR_{IBNC} are applicable to NR band(s) part for DC configurations which have the same NR operating band combination. Unless otherwise stated, $\Delta R_{IB,c}$ or ΔR_{IBNC} is set to zero.

7.3B.3.1 Intra-band contiguous EN-DC

7.3B.3.2 Intra-band non-contiguous EN-DC

Table 7.3B.3.2-1: Intra-band non-contiguous EN-DC with one uplink configuration for reference sensitivity

DC configuration	Aggregated channel bandwidth (LTE+NR)	W_{gap} / (MHz)	UL LTE allocation	ΔR_{IBNC} (dB)	Duplex mode
DC_3A_n3A	5MHz+5MHz	$45.0 < W_{gap} \le 65.0$	12[1]	4.7	FDD
		$0.0 < W_{gap} \le 45.0$	25[1]	0	
	5MHz+10MHz	$40.0 < W_{gap} \le 60.0$	12[1]	3.8	
		$0.0 < W_{gap} \le 40.0$	25[1]	0	
	5MHz+15MHz	$35.0 < W_{gap} \le 55.0$	12[1]	3.6	
		$0.0 < W_{gap} \le 35.0$	25[1]	0	
	5MHz+20MHz	$30.0 < W_{gap} \le 50.0$	12[1]	3.4	
		$0.0 < W_{gap} \le 30.0$	25[1]	0	
	5MHz+25MHz	$25.0 < W_{gap} \le 45.0$	12[1]	3.2	
		$0.0 < W_{gap} \le 25.0$	25[1]	0	
	5MHz+30MHz	$20.0 < W_{gap} \le 40.0$	12[1]	3.0	
		$0.0 < W_{gap} \le 20.0$	25[1]	0	
	10MHz+5MHz	$30.0 < W_{gap} \le 60.0$	12[5]	5.1	
		$0.0 < W_{gap} \le 30.0$	32[1]	0	
	10MHz+10MHz	$25.0 < W_{gap} \le 55.0$	12[5]	4.3	
		$0.0 < W_{gap} \le 25.0$	32[1]	0	
	10MHz+15MHz	$20.0 < W_{gap} \le 50.0$	12[5]	3.8	
		$0.0 < W_{gap} \le 20.0$	32[1]	0	
	10MHz+20MHz	$15.0 < W_{gap} \le 45.0$	12[5]	3.5	
		$0.0 < W_{gap} \le 15.0$	32[1]	0	
	10MHz+25MHz	$10.0 < W_{gap} \le 40.0$	12[5]	3.2	
		$0.0 < W_{gap} \le 10.0$	32[1]	0	
	10MHz+30MHz	$5.0 < W_{gap} \le 35.0$	12[5]	2.8	
		$0.0 < W_{gap} \le 5.0$	32[1]	0	
	15MHz+5MHz	$25.0 < W_{gap} \le 55.0$	12[6]	6.0	
		$0.0 < W_{gap} \le 25.0$	32[1]	0	
	15MHz+10MHz	$20.0 < W_{gap} \le 50.0$	12[6]	4.7	
		$0.0 < W_{gap} \le 20.0$	32[1]	0	
	15MHz+15MHz	$15.0 < W_{gap} \le 45.0$	12[6]	4.2	
		$0.0 < W_{gap} \le 15.0$	32[1]	0	
	15MHz+20MHz	$10.0 < W_{gap} \le 40.0$	12[6]	3.8	
		$0.0 < W_{gap} \le 10.0$	32[1]	0	
	15MHz+25MHz	$5.0 < W_{gap} \le 35.0$	12[6]	3.5	
		$0.0 < W_{gap} \le 5.0$	32[1]	0	
	15MHz+30MHz	$0.0 < W_{gap} \le 30.0$	12[6]	3.3	
	20MHz+5MHz	$15.0 < W_{gap} \le 50.0$	16[7]	6.5	
		$0.0 < W_{gap} \le 15.0$	32[1]	0	
	20MHz+10MHz	$10.0 < W_{gap} \le 45.0$	16[7]	5.1	
		$0.0 < W_{gap} \le 10.0$	32[1]	0	
	20MHz+15MHz	$5.0 < W_{gap} \le 40.0$	16[7]	4.5	
		$0.0 < W_{gap} \le 5.0$	32[1]	0	
	20MHz+20MHz	$0.0 < W_{gap} \le 35.0$	16[7]	4.1	
	20MHz+25MHz	$0.0 < W_{gap} \le 30.0$	16[7]	3.8	
	20MHz+30MHz	$0.0 < W_{gap} \le 25.0$	16[7]	3.6	

NOTE 1: [1] refers to the UL resource blocks shall be located as close as possible to the downlink operating band but confined within the transmission.
NOTE 2: W_{gap} is the sub-block gap between the two sub-blocks.
NOTE 3: The carrier center frequency of PCC in the UL operating band is configured closer to the DL operating band.
NOTE 4: All combinations of channel bandwidths defined in Table 5.3B.1.3-1.
NOTE 5: [5] refers to the UL resource blocks shall be located at RB_{start}=25.
NOTE 6: [6] refers to the UL resource blocks shall be located at RB_{start}=35.
NOTE 7: [7] refers to the UL resource blocks shall be located at RB_{start}=50.

7.3B.3.3 Inter-band EN-DC within FR1

7.3B.3.3.1 $\Delta R_{IB,c}$ for EN-DC in two bands

Table 7.3B.3.3.1-1: $\Delta R_{IB,c}$ due to EN-DC(two bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1_n28	n28	0.2
DC_1_n51	n51	0.1
DC_1_n77	1	0.2
	n77	0.5
DC_1_n78	n78	0.5
DC_2_n66	2	0.3
	n66	0.3
DC_2_n78	2	0.2
	n78	0.5
DC_3_n51	3	0.2
	n51	0.2
DC_3_n77	3	0.2
	n77	0.5
DC_3_n78	3	0.2
	n78	0.5
DC_5_n78	5	0.2
	n78	0.5
DC_7_n51	n51	0.2
DC_7_n77	n78	0.5
DC_7_n78	n78	0.5
DC_8_n77	3	0.2
	n77	0.5
DC_8_n78	3	0.2
	n78	0.5
DC_11_n77	n77	0.5
DC_11_n78	n78	0.5
DC_12A_n5A	12	0.3
	n5	0.5
DC_12A_n66A	12	0.5
DC_18_n77	n77	0.5
DC_19_n77	n77	0.5
DC_19_n78	n78	0.5
DC_20_n51	n51	0.2
DC_20_n77	n77	0.5
DC_20_n78	n78	0.5
DC_21_n77	n77	0.5
DC_21_n78	n78	0.5
DC_25_n41	n41	0[f]
		0.5[2]
DC_26A_n77A	n77	0.5
DC_26_n78	n78	0.5
DC_28A_n51	n51	0.2
DC_28_n77	28	0.2
	n77	0.5
DC_28_n78	28	0.2
	n78	0.5
DC_30_n66	30	0.5
	n66	0.4
DC_38_n78	38	0.4
	n78	0.5
DC_39_n78	n78	0.5
DC_39_n79	n79	0.5
DC_40_n77	40	0.4
	n77	0.5
DC_41_n77	n77	0.5
DC_41_n78	n78	0.5
DC_41_n79	n79	0.5
DC_42_n51	n51	0.2
DC_66A_n78A	66	0.2
	n78	0.5
NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz. NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.		

7.3B.3.3.2 $\Delta R_{IB,c}$ for EN-DC three bands

Table 7.3B.3.3.2-1: $\Delta R_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3_n28	n28	0.2
DC_1-3_n77	1	0.2
	3	0.2
	n77	0.5
DC_1-3_n78	1	0.2
	3	0.2
	n78	0.5
DC_1-5_n78	1	0.2
	5	0.2
	n78	0.5
DC_1-7_n28	n28	0.2
DC_1-7_n78 DC_1-7-7_n78	1	0.2
	7	0.2
	n78	0.5
DC_1-8_n78	8	0.2
	n78	0.5
DC_1-18_n77	n77	0.5
DC_1-18_n78	n78	0.5
DC_1-19_n77	n77	0.5
DC_1-19_n78	n78	0.5
DC_1-19_n79	1	0.3
	19	0.3
DC_1-20_n28	1	0.0
	20	0.2
	n28	0.2
DC_1-20_n78	n78	0.5
DC_1-21_n77	n77	0.5
DC_1-21_n78	1	0.2
	n78	0.5
DC_1-28_n77	28	0.2
	n77	0.5
DC_1-28_n78	28	0.2
	n78	0.5
DC_1_n28-n78	1	0
	n28	0.2
	n78	0.5
DC_1_n28-n79	1	0.3
	28	0.3
DC_1-42_n77	1	0.2
	42	0.5
	n77	0.5
DC_1-41_n77	n77	0.5
DC_1-41_n78	n78	0.5
DC_1-42_n78	1	0.2
	42	0.5
	n78	0.5
DC_1-42_n79	42	0.5
DC_1_n77-n79	1	0.2
	n77	0.5
	n79	0.0
DC_1_n78-n79	1	0.0
	n78	0.5
	n79	0.0
DC_1-SUL_n78-n84	n78	0.5
DC_2_5_n66	2	0.3
	n66	0.3
DC_2_30_n66	2	0.4
	30	0.5
	n66	0.4
DC_2-66_n71B	2	0.3
	66	0.3
DC_3_n3-n77	3	0.2
	n3	0.2

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
	n77	0.5
DC_3_n3-n78	3	0.2
	n3	0.2
	n78	0.5
DC_3-5_n78	3	0.2
	5	0.2
	n78	0.5
DC_3-7_n78, DC_3-7-7_n78	3	0.2
	7	0.2
	n78	0.5
DC_3-8_n78	3	0.2
	8	0.2
	n78	0.5
DC_3-19_n77	3	0.2
	n77	0.5
DC_3-19_n78	3	0.2
	n78	0.5
DC_3-20_n28	20	0.1
	n28	0.1
DC_3-19_n79		
DC_3-20_n78	3	0.2
	n78	0.5
DC_3-21_n77	3	0.3
	21	0.5
	n77	0.5
DC_3-21_n78	3	0.3
	21	0.5
	n78	0.5
DC_3-21_n79	3	0.3
	21	0.5
DC_3-28_n78	3	0.2
	n78	0.5
DC_3_n28-n78	3	0.2
	n28	0
	n78	0.5
DC_3-38_n78	3	0.2
	38	0.4
	n78	0.5
DC_3-41_n78	3	0.2
	41	0[1]
		0.5[2]
	n78	0.5
DC_3-42_n77	3	0.2
	42	0.5
	n77	0.5
DC_3-42_n78	3	0.2
	42	0.5
	n78	0.5
DC_3-42_n79	3	0.2
	42	0.5
DC_3_n77-n79	3	0.2
	n77	0.5
	n79	0.0
DC_3_n78-n79	3	0.2
	n78	0.5
	n79	0.0
DC_3-SUL_n78-n80	3	0.2
	n78	0.5
	n80	0.2
DC_3-SUL_n78-n82	3	0.2
	n78	0.5

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_5-7_n78	5	0.2
	7	0.2
	n78	0.5
DC_5_30_n66	30	0.5
	n66	0.4
DC_7-7_n78	7	0.0
	n78	0.5
DC_7-20_n28	20	0.2
	n28	0.2
DC_7-20_n78	n78	0.5
DC_7-28_n78	n78	0.5
DC_7_n28-n78	n78	0.5
DC_7-46_n78	n78	0.5
DC_8A-SUL_n78-n81	8	0.2
	n78	0.2
	n81	0.2
DC_18-28_n77	n77	0.5
DC_18-28_n78	n78	0.5
DC_19-21_n77	n77	0.5
DC_19-21_n78	n78	0.5
DC_19-42_n77	42	0.5
	n77	0.5
DC_19-42_n78	42	0.5
	n78	0.5
DC_19-42_n79	42	0.5
DC_19_n77-n79	19	0.0
	n77	0.5
	n79	0.0
DC_19_n78-n79	19	0.0
	n78	0.5
	n79	0.0
DC_20_n8-n75	20	0.0
	n8	0.0
	n75	0.0
DC_20_n28-n75	20	0.0
	n28	0.2
	n75	0.0
DC_20_n28-n78	20	0.2
	n28	0.2
	n78	0.5
DC_20_n75-n78	20	0.0
	n75	0.0
	n78	0.5
DC_20_n76-n78	20	0.0
	n76	0.0
	n78	0.5
DC_20-SUL_n78-n82	n78	0.5
DC_20-SUL_n78-n83	20	0.2
	n78	0.5
	n83	0.2
DC_21-42_n77	42	0.5
	n77	0.5
DC_21-42_n78	42	0.5
	n78	0.5
DC_21-42_n79	42	0.5
DC_21_n77-n79	21	0.0
	n77	0.5
	n79	0.0
DC_21_n78-n79	21	0.0
	n78	0.5
	n79	0.0
DC_28-SUL_n78-n83	28	0.2
	n78	0.5

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
	n83	0.2
DC_28-42_n77	28	0.2
	42	0.5
	n77	0.5
DC_28-42_n78	28	0.2
	42	0.5
	n78	0.5
DC_28-42_n79	28	0.2
	42	0.5
DC_41-42_n77	42	0.5
	n77	0.5
DC_41-42_n78	42	0.5
	n78	0.5
DC_41-42_n79	42	0.5
DC_41_n77	n77	0.5
DC_41_n78	n78	0.5
DC_41_n79	n79	0.5
DC_66-SUL_n78-n86	66	0.2
	n78	0.5
	n86	0.2
NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz. NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.		

7.3B.3.3.3 $\Delta R_{IB,c}$ for EN-DC four bands

Table 7.3B.3.3.3-1: $\Delta R_{IB,c}$ due to EN-DC (four bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-5_n78	1	0.2
	3	0.2
	n78	0.5
DC_1-3-7_n28	n28	0.2
DC_1-3-7_n78 DC_1-3-7-7_n78	1	0.3
	3	0.3
	7	0.3
	n78	0.5
DC_1-3-8_n78	1	0.2
	3	0.2
	8	0.2
	n78	0.5
DC_1-3-28_n77	1	0.2
	3	0.2
	28	0.2
	n77	0.5
DC_1-3-28_n78 DC_1-3_n28-n78	1	0.2
	3	0.2
	28 or n28	0.2
	n78	0.5
DC_1-3-28_n79	1	0.2
	3	0.2
	28	0.2
DC_1-3-19_n78	1	0.2
	3	0.2
	n78	0.5
DC_1-3-20_n28	20	0.2
	n28	0.2
DC_1-3-20_n78	1	0.2
	3	0.2
	n78	0.5
DC_1-3-21_n77	1	0.2
	3	0.3
	21	0.5
	n77	0.5
DC_1-3-21_n78	1	0.2
	3	0.3
	21	0.5
	n78	0.5
DC_1-3-21_n79	3	0.3
	21	0.5
DC_1-3-42_n77	1	0.2
	3	0.2
	42	0.5
	n77	0.5
DC_1-3-42_n78	1	0.2
	3	0.2
	42	0.5
	n78	0.5
DC_1-3-42_n79	1	0.2
	3	0.2
	42	0.5
DC_1-5-7_n78 DC_1-5-7-7_n78	1	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_1-7-20_n28	20	0.2
	n28	0.2
DC_1-7-20_n78	1	0.2
	7	0.2
	20	0.2
	n78	0.5
DC_1-7_n28-n78	1	0.2

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
	7	0.2
	n28	0.2
	n78	0.5
DC_1-18-28_n77	n77	0.5
DC_1-18-28_n78	n78	0.5
DC_1-19-42_n77	1	0.2
	42	0.5
	n77	0.5
DC_1-19-42_n78	42	0.5
	n78	0.5
DC_1-19-42_n79	42	0.5
DC_1-20_n28-n78	1	0.0
	20	0.2
	n28	0.2
	n78	0.5
DC_1-21-42_n77	1	0.2
	42	0.5
	n77	0.5
DC_1-21-42_n78	42	0.5
	n78	0.5
DC_1-21-42_n79	42	0.5
DC_1-28-42_n77	1	0.2
	28	0.2
	42	0.5
	n77	0.5
DC_1-28-42_n78	28	0.2
	42	0.5
	n78	0.5
DC_1-28-42_n79	28	0.2
	42	0.5
DC_1-41-42_n77	42	0.5
	n77	0.5
DC_1-41-42_n78	42	0.5
	n78	0.5
DC_1-41-42_n79	42	0.5
DC_1-41-42_n79	42	0.5
DC_2-66-(n)71B	2	0.3
	66	0.3
DC_3-5-7_n78, DC_3-5-7-7_n78	3	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_3-7-7_n78	3	0.2
	7	0.2
	n78	0.5
DC_3-7-20_n28	20	0.2
	n28	0.1
DC_3-7-20_n78	3	0.2
	7	0.2
	n78	0.5
DC_3-7-28_n78 DC_3-7_n28-n78	3	0.2
	7	0.2
	28 or n28	0.2
	n78	0.5
DC_3-19-21_n77	3	0.3
	21	0.5
	n77	0.5
DC_3-19-21_n78	3	0.3
	21	0.5
	n78	0.5
DC_3-19-21_n79	3	0.3
	21	0.5
DC_3-19-42_n77	3	0.2

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
	42	0.5
	n77	0.5
DC_3-19-42_n78	0.2	0.2
	0.5	0.5
	0.5	0.5
DC_3-19-42_n79	3	0.2
	42	0.5
DC_3-20_n28-n78	3	0.2
	20	0.2
	n28	0.2
	n78	0.5
DC_3-21-42_n77	3	0.3
	21	0.5
	42	0.5
	n77	0.5
DC_3-21-42_n78	3	0.3
	21	0.5
	42	0.5
	n78	0.5
DC_3-21-42_n79	3	0.3
	21	0.5
	42	0.5
DC_3-28-42_n77	3	0.2
	28	0.2
	42	0.5
	n77	0.5
DC_3-28-42_n78	3	0.2
	28	0.2
	42	0.5
	n78	0.5
DC_3-28-42_n79	3	0.2
	28	0.2
	42	0.5
DC_5-7-7_n78	5	0.2
	7	0.2
	n78	0.5
DC_7-20_n28-n78	7	0.0
	20	0.2
	n28	0.2
	n78	0.5
DC_19-21-42_n77	42	0.5
	n77	0.5
DC_19-21-42_n78	42	0.5
	n78	0.5
DC_19-21-42_n79	42	0.5
DC_21-28-42_n77	28	0.2
	42	0.5
	n77	0.5
DC_21-28-42_n78	28	0.2
	42	0.5
	n78	0.5
DC_21-28-42_n79	28	0.2
	42	0.5

7.3B.3.3.4 $\Delta R_{IB,c}$ for EN-DC five bands

Table 7.3B.3.3.4-1: $\Delta R_{IB,c}$ due to EN-DC (five bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-5-7_n78, DC_1-3-5-7-7_n78	1	0.2
	3	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_1-3-7-20_n28	20	0.2
	n28	0.2
DC_1-3-7-20_n78	1	0.2
	3	0.2
	7	0.2
	n78	0.5
DC_1-3-7_n28-n78	1	0.2
	3	0.2
	7	0.2
	n28	0.2
	n78	0.5
DC_1-3-19-21_n77	1	0.2
	3	0.3
	21	0.5
	n77	0.5
DC_1-3-19-21_n78	1	0.2
	3	0.3
	21	0.5
	n78	0.5
DC_1-3-19-21_n79	3	0.3
	21	0.5
DC_1-3-19-42_n77	1	0.2
	3	0.2
	42	0.5
	n77	0.5
DC_1-3-19-42_n78	1	0.2
	3	0.2
	42	0.5
	n78	0.5
DC_1-3-19-42_n79	1	0.2
	3	0.2
	42	0.5
DC_1-3-28-42_n77	1	0.2
	3	0.2
	28	0.2
	42	0.5
	n77	0.5
DC_1-3-28-42_n78	1	0.2
	3	0.2
	28	0.2
	42	0.5
	n78	0.5
DC_1-3-28-42_n79	1	0.2
	3	0.2
	28	0.2
	42	0.5
DC_1-3-20_n28-n78	1	0.2
	3	0.2
	20	0.2
	n28	0.2
	n78	0.5
DC_1-3-21-42_n77	1	0.2
	3	0.3
	21	0.5
	42	0.5
	n77	0.2
DC_1-3-21-42_n78	1	0.2
	3	0.3
	21	0.5

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
	42	0.5
	n78	0.2
DC_1-3-21-42_n79	1	0.2
	3	0.3
	21	0.5
	42	0.5
DC_1-7-20_n28-n78	1	0.2
	7	0.2
	20	0.2
	n28	0.2
	n78	0.5
DC_1-19-21-42_n77	1	0.2
	42	0.5
	n77	0.5
DC_1-19-21-42_n78	42	0.5
	n78	0.5
DC_1-19-21-42_n79	42	0.5
DC_1-21-28-42_n77	1	0.2
	28	0.2
	42	0.5
	n77	0.5
DC_1-21-28-42_n78	28	0.2
	42	0.5
	n78	0.5
DC_1-21-28-42_n79	28	0.2
	42	0.5
DC_3-7-20_n28-n78	3	0.2
	7	0.2
	20	0.2
	n28	0.2

7.3B.3.3.5 $\Delta R_{IB,c}$ for EN-DC six bands

Table 7.3B.3.3.5-1: $\Delta R_{IB,c}$ due to EN-DC (six bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-7-20_n28-n78	1	0.2
	3	0.2
	7	0.2
	20	0.2
	n28	0.2
	n78	0.5

7.3B.3.4 Inter-band EN-DC including FR2

7.3B.3.4.1 $\Delta R_{IB,c}$ for EN-DC in two bands

Table 7.3B.3.4.1-1: $\Delta R_{IB,c}$ due to EN-DC(two bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)

7.3B.3.4.2 $\Delta R_{IB,c}$ for EN-DC three bands

Table 7.3B.3.4.2-1: $\Delta R_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-18_n257	1	0.3
	18	0.3
DC_1-28_n257	28	0.2
DC_1-41_n257	1	0.5
	41	0.5
DC_1-42_n257	1	0
	42	0.5
DC_1-77_n257	1	0.2
	n77	0.5
DC_1-78_n257	1	0
	n78	0.5
DC_1-79_n257	1	0.0
	n79	0.0
DC_2-66_n257	2	0.3
	66	0.3
DC_3-21_n257	3	0.3
	21	0.5
DC_3-28_n257	n257	0.5
DC_3-41_n257	41	$0^{1}/0.5^{2}$
DC_3-42_n257	3	0.2
	42	0.5
DC_3-77_n257	3	0.2
	n77	0.5
DC_3-78_n257	3	0.2
	n78	0.5
DC_3-79_n257	3	0.0
	n79	0.0
DC_5_n78-n257	5	0.2
	n78	0.5
DC_7_n78-n257	7	0
	n78	0.5
DC_13-66_n260	13	0.3
	66	0.3
DC_19-42_n257	42	0.5
DC_19-77_n257	19	0.0
	n77	0.5
DC_19-78_n257	19	0.0
	n78	0.5
DC_19-79_n257	19	0.0
	n79	0.0
DC_21-42_n257	42	0.5
DC_21-77_n257	21	0.0
	n77	0.5
DC_21-78_n257	21	0.0
	n78	0.5
DC_21-79_n257	21	0.0
	n79	0.0
DC_28-42_n257	28	0.2
	42	0.5
DC_41-42_n257	42	0.5

NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545-2690MHz.
NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2545MHz.

7.3B.3.4.3 $\Delta R_{IB,c}$ for EN-DC four bands

Table 7.3B.3.4.3-1: $\Delta R_{IB,c}$ due to EN-DC (four bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-21_n257		
	3	0.3
	21	0.5
DC_1-3-28_n257	1	0.2
	3	0.2
	28	0.2
DC_1-3-42_n257	1	0.2
	3	0.2
	42	0.5
DC_1-3_n78-n257	1	0.2
	3	0.2
	n78	0.5
DC_1-5_n78-n257	1	0.2
	5	0.2
	n78	0.5
DC_1-7_n78-n257	1	0.2
	7	0.2
	n78	0.5
DC_1-19-42_n257	42	0.5
DC_1-21-28_n257	28	0.2
DC_1-21-42_n257	42	0.5
DC_1-28-42_n257	28	0.2
DC_1-41-42_n257	42	0.5
DC_3-5_n78-n257	3	0.2
	5	0.2
	n78	0.5
DC_3-7_n78-n257	3	0.2
	7	0.2
	n78	0.5
DC_19-21-42_n257	42	0.5
DC_3-19-21_n257	3	0.3
	21	0.5
DC_3-19-42_n257	3	0.2
	42	0.5
DC_3-21-42_n257	3	0.3
	21	0.5
	42	0.5
DC_3-28-42_n257	3	0.2
	28	0.2
	42	0.5
DC_5-7_n78-n257	5	0.2
	7	0.2
	n78	0.5
DC_7-7_n78-n257	n78	0.5
DC_21-28-42_n257	28	0.2
	42	0.5

7.3B.3.4.4 $\Delta R_{IB,c}$ for EN-DC five bands

Table 7.3B.3.4.4-1: $\Delta R_{IB,c}$ due to EN-DC (five bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-5_n78-n257	1	0.2
	3	0.2
	5	0.2
	n78	0.5
DC_1-3-7_n78-n257	1	0.3
	3	0.3
	7	0.3
	n78	0.5
DC_1-3-19-21_n257	3	0.3
	21	0.5
DC_1-3-19-42_n257	1	0.2
	3	0.2
	42	0.5
DC_1-3-21-42_n257	1	0.2
	3	0.3
	21	0.5
	42	0.5
DC_1-3-28-42_n257	1	0.2
	3	0.2
	28	0.2
	42	0.5
DC_1A-3A-28A-42C_n257A	1	0.2
	3	0.2
	28	0.2
	42	0.5
DC_1-5-7_n78-n257	1	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_1-7-7_n78-n257	1	0.2
	7	0.2
	n78	0.5
DC_1-19-21-42_n257	42	0.5
DC_1-21-28-42_n257	28	0.2
	42	0.5
DC_3-5-7_n78-n257	3	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_3-7-7_n78-n257	3	0.2
	7	0.2
	n78	0.5
DC_5-7-7_n78-n257	5	0.2
	7	0.2
	n78	0.5

7.3B.3.4.5 ΔRIB,c for EN-DC six bands

Table 7.3B.3.4.5-1: ΔRIB,c due to EN-DC (six bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1-3-5-7_n78-n257	1	0.2
	3	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_1-3-7-7_n78-n257	1	0.3
	3	0.3
	7	0.3
	n78	0.5
DC_1-5-7-7_n78-n257	1	0.2
	5	0.2
	7	0.2
	n78	0.5
DC_3-5-7-7_n78-n257	3	0.2
	5	0.2
	7	0.2
	n78	0.5

7.3B.3.5 Inter-band EN-DC including both FR1 and FR2

7.3B.3.5.2 $\Delta R_{IB,c}$ for EN-DC three bands

Table 7.3B.3.5.2-1: $\Delta R_{IB,c}$ due to EN-DC (three bands)

Inter-band EN-DC configuration	E-UTRA or NR Band	$\Delta R_{IB,c}$ (dB)
DC_1_n77-n257	1	0.2
	n77	0.5
DC_1_n78-n257	n78	0.5
DC_3_n77-n257	3	0.2
	n77	0.5
DC_3_n78-n257	3	0.2
	n78	0.5
DC_19_n77-n257	n77	0.5
DC_19_n78-n257	n78	0.5

7.4 Maximum input level

7.4B Maximum input level for EN-DC in FR1

7.4B.1 Intra-band contiguous EN-DC in FR1

TBD.

7.4B.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.3B.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.5 Adjacent channel selectivity

7.5B Adjacent channel selectivity for EN-DC in FR1

7.5B.1 Intra-band contiguous EN-DC in FR1

TBD.

7.5B.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.5B.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.6 Blocking characteristics

7.6B Blocking characteristics for EN-DC in FR1

7.6B.1 General

7.6B.2 Inband blocking for EN-DC in FR1

7.6B.2.1 Intra-band contiguous EN-DC in FR1

TBD.

7.6B.2.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.6B.2.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.6B.3 Out-of-band blocking for EN-DC in FR1

7.6B.3.1 Intra-band contiguous EN-DC in FR1

TBD.

7.6B.3.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.6B.3.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply for lowest level EN-DC fallbacks (two bands) in section 5.2.B.4.1 with only E-UTRA UL with output power as in TS 36.101 (4dB Below PCmax_l).

7.6B.4 Narrow band blocking for EN-DC in FR1

7.6B.4.1 Intra-band contiguous EN-DC in FR1

TBD.

7.6B.4.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.6B.4.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.7 Spurious response

7.7B Spurious response for EN-DC in FR1

7.7B.1 Intra-band contiguous EN-DC in FR1

TBD.7.7B.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.7B.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.8 Intermodulation characteristics

7.8B Intermodulation characteristics for EN-DC in FR1

7.8B.1 General

7.8B.2 Wide band Intermodulation

7.8B.2.1 Intra-band contiguous EN-DC in FR1

TBD.

7.8B.2.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.8B.2.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

7.9 Spurious emissions

7.9B Spurious emissions for EN-DC in FR1

7.9B.1 Intra-band contiguous EN-DC in FR1

TBD.

7.9B.2 Intra-band non-contiguous EN-DC in FR1

TBD.

7.9B.3 Inter-band EN-DC in FR1

E-UTRA requirements from TS 36.101 and NR requirements from TS 38.101-1 apply.

Annex A: Void

Annex B: Void

Annex C: Void

Annex D: Void

Annex E: Void

Annex F: Void

Annex G: Void

Annex H: Void

Annex I (normative): Dual uplink interferer

UE is mandated to support operation in dual uplink mode also in EN-DC configuration for FR1 listed in Table 7.3.2.1.5-1 and indicated by column single uplink allowed if the intermodulation products caused by the dual uplink operation do not interfere own downlink transmission.

Formula for determining if the EN-DC in NR FR1 configuration with dual uplink operation interferes own downlink reception.

Interference bandwidth: IBW = |a| * CBW1 + |b| * CBW2

- |a| + |b| = 2 (or 3)
- CBW1 and CBW2 are the transmission bandwidth configurations of the UL channels

Center frequency of IBW: fIBW = |a * f1 + b * f2|

- f1 and f2 are center frequency of the transmission bandwidth configurations of each UL channel

The range of IMD 2 (or 3): [fIBW – IBW/2, fIBW + IBW/2]

NOTE 1: UE shall be able to apply operations which are configured by RRC reconfiguration and corresponding HARQ timing on the transmission bandwidth.

NOTE 2: For identified difficult band combination, during two adjacent RRC reconfiguration, the changing of transmission bandwidth should not introduce IM2 and IM3, which will result in UE changing from 2Tx to 1Tx. Otherwise, UE behavior is not specified.

For DC_3A_n3A intra-band non-contiguous EN-DC combination, only single switched UL is supported in rel.15.

Annex J (informative): Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2017-08	RAN4#84					Initial Skeleton	0.0.1
2017-11	RAN4#84 Bis	R4-1711980				Number TPs from editors	0.1.0
2017-12	RAN4#85	R4-1713807				Approved TPs in RAN4#85 R4-1714444, CA BW classes, TP, Ericsson R4-1714170, How to list DC configurations into TS 38.101-3, Nokia R4-1714530, TP on introducing operating bands for NR-LTE DC including SUL band combinations in 38.101-3 , Qualcomm R4-1714098, TP to TS 38.101-3: UE RF requirements for non-standalone SUL, Huawei R4-1713206, TP on general parts for 38.101-3 NR interwork, Ericsson R4-1714443, TP to TS 38.101-3: On dual uplink operation for EN-DC in NR FR1 and single uplink, Nokia R4-1714450, TP to 38.101-3: maximum output power and unwanted emissions for EN-DC, Ericsson R4-1714346, TP to 38.101-3: REFSENS for intra-band EN-DC, Ericsson R4-1714345, TP for TS 36.101-3: clause 7 receiver requirements, Huawei Band list according to R4-1714542, List of bands and band combinations to be introduced into RAN4 NR core requirements by December 2017, RAN4 Chairmen	0.2.0
2017-12	RAN4#85	R4-1714571				Further corrections after email review	0.3.0
2017-12	RAN#78	RP-172477				v1.0.0 submitted for plenary approval. Contents same as 0.3.0	1.0.0
2017-12	RAN#78					Approved by plenary – Rel-15 spec under change control	15.0.0
2018-03	RAN#79	RP-180264	0005		F	Implementation of endorsed CRs to 38.101-3 Endorsed draft CR F: R4-1801267, Draft CR on UE RF requirements for SUL in TS 38.101-3, Huawei B: R4-1801111, Draft CR for completed LTE 1CC + NR 1band for TS 38.101-3, NTT DOCOMO, INC. B: R4-1800716, Draft CR for introduction of completed band combinations from 37.863-03-01 into 38.101-3, Ericsson B: R4-1800063, Draft CR for completed EN-DC of LTE 4CC + NR 1band for TS 38.101-3, Nokia B: R4-1800717, Draft CR for introduction of completed band combinations from 37.865-01-01 into 38.101-3, Ericsson F: R4-1800049, Modification for TS38.101-3, CATT F: R4-1800287, 38.101-3 DC_(n)71B draft CR for section 6.2.4.1 - A-MPR for intra-band EN-DC - NS value, T-Mobile USA Inc. F: R4-1800288, 38.101-3 DC_(n)71B draft CR for section 7.3.3 Reference sensitivity for DC_(n)71B - MSD values, T-Mobile USA Inc. F: R4-1801139 Draft CR to 38.101-3: MSD for inter-band EN-DC, Ericsson	15.1.0
2018-06	RAN#80	RP-181374	0013	1	F	CR to TS 38.101-3: Implementation of endorsed draft CRs from RAN4 #87 **Missing figures (Figure 6.3B.1.1-1, Figure 6.3B.1.1-2, Figure 6.3B.1.1-3 and Figure 6.3B.1.1-4) from the endorsed draftCR (R4-1807235) were added during the CR implementation.**	15.2.0

2018-09	RAN#81	RP-182129	0020	2	F	Big CR for 38.101-3 Draft CRs from RAN4#88: R4-1809960 Draft CR to TS 38.101-3: to introduce new NR inter-band DC band combinations Samsung,KDDI,SKT,KT,LGU+ R4-1809991 CR to 38.101-3:Corrections on UE coexistence table for Table 6.5B.3.3.1-1 MediaTek Inc. R4-1810054 Pcmax for Rel-15 inter-band EN-DC for FR1 and NR in FR2 InterDigital, Inc. R4-1810111 Single UL allowed corrections for DC_28A-n51A EN-DC in 38.101-3 Skyworks Solutions Inc. R4-1810125 Draft CR to 38.101-3 Single UL allowed corrections for DC_28A_51A EN-DC Skyworks Solutions Inc. R4-1810128 Draft CR to 38.101-3 Single UL allowed corrections for EN-DC operation in NR FR1 (two bands) Skyworks Solutions Inc. R4-1810167 TP for TR 37.863-01-01: MSD for DC_5A_n78A due to the 4th harmonic MediaTek Inc. R4-1810410 Draft CR to 38.101-3: Corrections on symbols and abbreviations in section 3 ZTE Corporation R4-1810417 Correction to DC_(n)71B MSD definition Nokia R4-1810433 Correction on EN-DC 8A_n79A SoftBank Corp.,ZTE R4-1810476 Draft CR to TS 38.101-3 correction for DC_3_n3-n77, DC_3_n3-n78 CHTTL R4-1810976 Annex lettering change for 38.101-3 Qualcomm Incorporated R4-1811461 Clarification and corrections of EN-DC REFSENS exceptions requirement Nokia, Nokia Shanghai Bell R4-1811462 Correction to DC_(n)71B scs restriction for NR Nokia R4-1811466 EN DC_41-79 CATT R4-1811467 Draft CR TS 38.101-3 Corrections to Single UL Allowed Criteria for Mid-Band EN-DC in FR1 Skyworks Solutions Inc. R4-1811484 Pcmax for inter-band EN-DC FR1 draft CR InterDigital, Inc. R4-1811525 Draft CR TS 38.101-3 on missing requirements for FR1 EN-DC Skyworks Solutions, Inc. R4-1811542 Draft CR to 38.101-3 on correction on some errors Huawei, HiSilicon R4-1811796 Draft CR to 38.101-3 Corrections to Single UL allowed criteria for EN-DC Skyworks Solutions Inc. R4-1811800 DRAFT CR for PCmax FR2 correction Qualcomm Incorporated R4-1811810 Draft CR TS 38.101-3: Corrections for B41/n41 SPRINT Corporation	15.3.0

History

Document history		
V15.2.0	July 2018	Publication
V15.3.0	October 2018	Publication