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| 3GPP TR 37.717-31-11 V0.3.0 (2021-02) | |
| Technical Report | |
| 3rd Generation Partnership Project;  Technical Specification Group Radio Access Networks;  Dual Connectivity (DC) of 3 bands LTE inter-band CA (3DL/1UL) and 1 NR band (1DL/1UL)  (Release 17) | |
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# Foreword

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

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

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where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

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

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

In the present document, modal verbs have the following meanings:

**shall** indicates a mandatory requirement to do something

**shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

**should** indicates a recommendation to do something

**should not** indicates a recommendation not to do something

**may** indicates permission to do something

**need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

**can** indicates that something is possible

**cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

**will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

# 1 Scope

The present document is a technical report for Dual Connectivity (DC) of 3 LTE bands (3DL/1UL) and 1 NR band (1DL/1UL) under Rel-17 time frame. The purpose is to gather the relevant background information and studies in order to address Dual Connectivity (DC) of 3 LTE band (3DL/1UL) and 1 NR band (1DL/1UL) for the Rel-17 band combinations. The co-existence analysis and RF front end requirements such as ΔRIB,c and ΔTIB,c are described based on the band combination basis since such information have no difference between the DC configurations consisting with the same E-UTRA band and the same NR band. The actual requirements are added to the corresponding technical specification.

# 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] RP-200664, “New WID: Dual Connectivity (EN-DC) of 3 bands LTE inter-band CA (3DL/1UL) and 1 NR band (1DL/1UL)”, RAN#88-e

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms 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].

**example:** text used to clarify abstract rules by applying them literally.

## 3.2 Symbols

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

<symbol> <Explanation>

## 3.3 Abbreviations

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

<ABBREVIATION> <Expansion>

# 4 Background

The present document is a technical report for Dual Connectivity (DC) of 3 bands LTE inter-band CA and 1 NR band under Rel-17 timeframe. The document covers each band combination specific issues (i.e. one sub-clause defined per band combination)

## 4.1 TR maintenance

A single company is responsible for introducing all approved TPs in the current TR, i.e. TR editor. However, it is the responsibility of the contact person of each band combination to ensure that the TPs related to the band combination have been implemented.

# 5 DC of 3 LTE band (3DL/1UL) + 1 NR band: Specific Band Combination Part

<Editor’s note: The requirements for specific band combinations shall be described according to the same manner as specified in TS38.101-3.>

## 5.1 Inter-band EN-DC

## 5.1.1 DC\_1-3\_(n)41

5.1.1.1 Configurations for DC

Table 5.1.1.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A\_(n)41AA | DC\_1A\_n41A  DC\_3A\_n41A |

### 5.1.1.2 ∆TIB and ∆RIB values

Table 5.1.1.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3\_(n)41 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n41 | 0.31/0.82 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

**Table 5.1.1.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3\_(n)41 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n41 | 01/0.52 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.1.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.2 DC\_1-3-41\_n28

### 5.1.2.1 Configuration for EN-DC

Table 5.1.2.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-41A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_41A\_n28A |
| DC\_1A-3A-41C\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_41A\_n28A  DC\_41C\_n28A |

### 5.1.2.2 ∆TIB and ∆RIB values

Table 5.1.2.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n28 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n28 | 0.6 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545 – 2690 MHz.  NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496 – 2545 MHz. | | |

**Table 5.1.2.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n28 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n28 | 0.2 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545 – 2690 MHz.  NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496 – 2545 MHz. | | |

### 5.1.2.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.3 DC\_3-7-8\_n40

### 5.1.3.1 Configurations for EN-DC

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

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-8A\_n40A | DC\_3A\_n40A  DC\_7A\_n40A DC\_8A\_n40A |

### 5.1.3.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-8\_n40 | 3 | 0.5 |
| 7 | 0.5 |
| 8 | 0.6 |
| n40 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-8\_n40 | 3 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n40 | 0.5 |

### 5.1.3.3 Reference sensitivity exceptions

No further REFSENS exceptions needed.

## 5.1.4 DC\_3-7-28\_n1

### 5.1.4.1 Configurations for EN-DC

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

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-28A\_n1A | DC\_3A\_n1A  DC\_7A\_n1A DC\_28A\_n1A |

### 5.1.4.2 ∆TIB and ∆RIB values

Table 5.1.4.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n1 | 3 | 0.6 |
| 7 | 0.6 |
| 28 | 0.5 |
| n1 | 0.6 |

**Table 5.1.4.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n1 | 3 | 0 |
| 7 | 0 |
| 28 | 0.2 |
| n1 | 0 |

### 5.1.4.3 Reference sensitivity exceptions

REFSENS exceptions needed due to band 28 uplink harmonic into band n1 is already specified for DC\_28A\_n1A.

## 5.1.5 DC\_5-7-66\_n66

### 5.1.5.1 Configurations for EN-DC

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

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_5A-7A-66A\_n66A  DC\_5A-7C-66A\_n66A | DC\_5A\_n66A  DC\_7A\_n66A  DC\_66A\_n66A2 |
| NOTE 2: Only single switched UL is supported | |

### 5.1.5.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_5-7-66\_n66 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n66 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_5-7-66\_n66 | 5 | 0.3 |
| 7 | 0 |
| 66 | 0.3 |
| n66 |

### 5.1.5.3 Reference sensitivity exceptions

MSD have been defined for lower order combinations. No further MSD is needed.

## 5.1.6 DC\_3-19-42\_n1

### 5.1.6.1 Configuration for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-19A-42A\_n1A  DC\_3A-19A-42C\_n1A | DC\_3A\_n1A  DC\_19A\_n1A  DC\_42A\_n1A |

### 5.1.6.2 ∆TIB and ∆RIB values

For DC\_3-19-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-3-19-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-19-42\_n1 | 3 | 0.6 |
| 19 | 0.3 |
| 42 | 0.8 |
| n1 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-19-42\_n1 | 3 | 0.2 |
| 19 | 0 |
| 42 | 0.5 |
| n1 | 0.2 |

### 5.1.6.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.7 DC\_3-21-42\_n1

### 5.1.7.1 Configuration for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-21A-42A\_n1A  DC\_3A-21A-42C\_n1A | DC\_3A\_n1A  DC\_21A\_n1A  DC\_42A\_n1A |

### 5.1.7.2 ∆TIB and ∆RIB values

For DC\_3-21-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-3-21-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-21-42\_n1 | 3 | 0.8 |
| 21 | 0.9 |
| 42 | 0.8 |
| n1 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-21-42\_n1 | 3 | 0.3 |
| 21 | 0.5 |
| 42 | 0.5 |
| n1 | 0.2 |

### 5.1.7.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.8 DC\_19-21-42\_n1

### 5.1.8.1 Configuration for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_19A-21A-42A\_n1A  DC\_19A-21A-42C\_n1A | DC\_19A\_n1A  DC\_21A\_n1A  DC\_42A\_n1A |

### 5.1.8.2 ∆TIB and ∆RIB values

For DC\_19-21-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-19-21-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_19-21-42\_n1 | 19 | 0.3 |
| 21 | 0.4 |
| 42 | 0.8 |
| n1 | 0.3 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_19-21-42\_n1 | 19 | 0 |
| 21 | 0 |
| 42 | 0.5 |
| n1 | 0 |

### 5.1.8.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.9 DC\_2-28-66\_n66

### 5.1.9.1 Operating bands for EN-DC

Table 5.1.9.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_2-28-66\_n66 | CA\_2-28-66 | n66 |

### 5.1.9.2 Configuration for EN-DC

Table 5.1.9.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-28A-66A\_n66A | DC\_2A\_n66A  DC\_28A\_n66A  DC\_66A\_n66A4 | CA\_2A-28A-66A | n66A |
| NOTE 4: Only single switched UL is supported. | | | |

### 5.1.9.3 ∆TIB and ∆RIB values

Table 5.1.9.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n66 | 2 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.9.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n66 | 2 | 0.3 |
| 28 | 0.2 |
| 66 | 0.3 |
| n66 | 0.3 |

## 5.1.10 DC\_7-28-66\_n66

### 5.1.10.1 Operating bands for EN-DC

Table 5.1.10.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_7-28-66\_n66 | CA\_7-28-66 | n66 |

### 5.1.10.2 Configuration for EN-DC

Table 5.1.10.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-28A-66A\_n66A  DC\_7C-28A-66A\_n66A | DC\_7A\_n66A  DC\_28A\_n66A  DC\_66A\_n66A4 | CA\_7A-28A-66A  CA\_7C-28A-66A | n66A |
| NOTE 4: Only single switched UL is supported. | | | |

### 5.1.10.3 ∆TIB and ∆RIB values

Table 5.1.10.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n66 | 7 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.10.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n66 | 7 | 0.5 |
| 28 | 0.2 |
| 66 | 0.5 |
| n66 | 0.5 |

## 5.1.11 DC\_2-7-28\_n66

### 5.1.11.1 Operating bands for EN-DC

Table 5.1.11.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_2-7-28\_n66 | CA\_2-7-28 | n66 |

### 5.1.11.2 Configuration for EN-DC

Table 5.1.11.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-28A\_n66A  DC\_2A-7C-28A\_n66A | DC\_2A\_n66A  DC\_7A\_n66A  DC\_28A\_n66A | CA\_2A-7A-28A  CA\_2A-7C-28A | n66A |

### 5.1.11.3 ∆TIB and ∆RIB values

Table 5.1.11.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 28 | 0.6 |
| n66 | 0.5 |

**Table 5.1.11.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 28 | 0.2 |
| n66 | 0.5 |

## 5.1.12 DC\_1-8-11\_n3

### 5.1.12.1 Configurations for EN-DC

Table 5.1.12.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA configuration | NR configuration |
| --- | --- | --- | --- |
| DC\_1A-8A-11A\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_11A\_n3A | CA\_1A-8A-11A | n3A |

### 5.1.12.2 ∆TIB and ∆RIB values

For DC\_1-8-11\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.12.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n3 | 1 | 0.3 |
| 8 | 0.3 |
| 11 | 0.8 |
| n3 | 0.9 |

Table 5.1.12.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n3 | 1 | 0 |
| 8 | 0 |
| 11 | 0.3 |
| n3 | 0.5 |

### 5.1.12.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-11\_n3 was covered by the studies for the fallback modes of DC\_1-8\_n3, DC\_1-11\_n3 and DC\_8-11\_n3. No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.13 DC\_1-8-42\_n28

### 5.1.13.1 Configurations for EN-DC

Table 5.1.13.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA configuration | NR configuration |
| --- | --- | --- | --- |
| DC\_1A-8A-42A\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_42A\_n28A | CA\_1A-8A-42A | n28A |
| DC\_1A-8A-42C\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_42A\_n28A  DC\_42C\_n28A | CA\_1A-8A-42C | n28A |

### 5.1.13.2 ∆TIB and ∆RIB values

For DC\_1-8-42\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.13.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n28 | 1 | 0.3 |
| 8 | 0.6 |
| 42 | 0.8 |
| n28 | 0.8 |

Table 5.1.13.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n28 | 1 | 0 |
| 8 | 0.2 |
| 42 | 0.5 |
| n28 | 0.5 |

### 5.1.13.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-42\_n28 was covered by the studies for the fallback modes of DC\_1-8\_n28, DC\_1-42\_n28 and DC\_8-42\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.14 DC\_1-7-32\_n28

### 5.1.14.1 Configuration for EN-DC

Table 5.1.14.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n28A | DC\_1A\_n28A  DC\_7A\_n28A |

### 5.1.14.2 ∆TIB and ∆RIB values

Table 5.1.14.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-32\_n28 | 1 | 0.5 |
| 7 | 0.6 |
| n28 | 0.7 |

Table 5.1.14.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-32\_n28 | 1 | 0 |
| 7 | 0 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.14.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.15 DC\_1-7-32\_n78

### 5.1.15.1 Configuration for EN-DC

Table 5.1.15.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n78A | DC\_1A\_n78A  DC\_7A\_n78A |

### 5.1.15.2 ∆TIB and ∆RIB values

Table 5.1.15.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-32\_n78 | 1 | 0.2 |
| 7 | 0.2 |
| n78 | 0.5 |

Table 5.1.15.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-32\_n78 | 1 | 0.6 |
| 7 | 0.6 |
| 32 | 0 |
| n78 | 0.8 |

### 5.1.15.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.16 DC\_1-20-32\_n28

### 5.1.16.1 Configuration for EN-DC

Table 5.1.16.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-32A\_n28A | DC\_1A\_n28A  DC\_20A\_n28A |

### 5.1.16.2 ∆TIB and ∆RIB values

Table 5.1.16.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n28 | 1 | 0.3 |
| 20 | 0.6 |
| n28 | 0.7 |

Table 5.1.16.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-32\_n28 | 1 | 0 |
| 20 | 0.2 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.16.3 Reference sensitivity exceptions

Exceptions for the B1 IMD5 hit from the 20A\_n28A UL are TBD.

## 5.1.17 DC\_1-20-32\_n78

### 5.1.17.1 Configuration for EN-DC

Table 5.1.17.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-32A\_n78A | DC\_1A\_n78A  DC\_20A\_n78A |

### 5.1.17.2 ∆TIB and ∆RIB values

Table 5.1.17.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n78 | 1 | 0.3 |
| 20 | 0.3 |
| n78 | 0.8 |

Table 5.1.17.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-32\_n78 | 1 | 0 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.17.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.18 DC\_3-7-32\_n78

### 5.1.18.1 Configuration for EN-DC

Table 5.1.18.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-7A-32A\_n78A | DC\_3A\_n78A  DC\_7A\_n78A |

### 5.1.18.2 ∆TIB and ∆RIB values

Table 5.1.18.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-32\_n78 | 3 | 0.6 |
| 7 | 0.6 |
| n78 | 0.8 |

Table 5.1.18.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-32\_n78 | 3 | 0.2 |
| 7 | 0.2 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.18.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.19 DC\_3-20-32\_n78

### 5.1.19.1 Configuration for EN-DC

Table 5.1.19.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-20A-32A\_n78A | DC\_3A\_n78A  DC\_20A\_n78A |

### 5.1.19.2 ∆TIB and ∆RIB values

Table 5.1.19.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n78 | 3 | 0.5 |
| 20 | 0.3 |
| n78 | 0.8 |

Table 5.1.19.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-20-32\_n78 | 3 | 0.2 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.19.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.20 DC\_7-20-32\_n1

### 5.1.20.1 Configuration for EN-DC

Table 5.1.20.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n1A | DC\_7A\_n1A  DC\_20A\_n1A |

### 5.1.20.2 ∆TIB and ∆RIB values

Table 5.1.20.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-32\_n1 | 7 | 0.6 |
| 20 | 0.3 |
| n1 | 0.5 |

Table 5.1.20.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-32\_n1 | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

### 5.1.20.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.21 DC\_7-20-32\_n28

### 5.1.21.1 Configuration for EN-DC

Table 5.1.21.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n28A | DC\_7A\_n28A  DC\_20A\_n28A |

### 5.1.21.2 ∆TIB and ∆RIB values

Table 5.1.21.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-32\_n28 | 7 | 0.3 |
| 20 | 0.5 |
| n28 | 0.7 |

Table 5.1.21.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-32\_n28 | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.21.3 Reference sensitivity exceptions

Compared to its fallback modes, there are no additional MSD requirements for this band combination.

## 5.1.22 DC\_1-20-32\_n3

5.1.22.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_1A-20A-32A\_n3A | DC\_1A\_n3A  DC\_20A\_n3A |

5.1.22.2 ∆TIB and ∆RIB values

For DC\_1-20-32\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n3 | 1 | 0.5 |
| 20 | 0.3 |
| n3 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n3 | 1 | 0 |
| 20 | 0 |
| 32 | 0 |
| n3 | 0 |

5.1.22.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.23 DC\_2-4-7\_n28

5.1.23.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-4A-7A\_n28A | DC\_2A\_n28A  DC\_4A\_n28A  DC\_7A\_n28A |

5.1.23.2 ∆TIB and ∆RIB values

For DC\_2-4-7\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-4-7\_n28 | 2 | 0.5 |
| 4 | 0.5 |
| 7 | 0.5 |
| n28 | 0.6 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-4-7\_n28 | 2 | 0.3 |
| 4 | 0.5 |
| 7 | 0.5 |
| n28 | 0.2 |

5.1.23.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.24 DC\_2-5-7\_n66

5.1.24.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-7A\_n66A  DC\_2A-5A-7C\_n66A | DC\_2A\_n66A  DC\_5A\_n66A  DC\_7A\_n66A |

5.1.24.2 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

5.1.24.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.25 DC\_2-5-66\_n7

5.1.25.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n7A  DC\_2A-5A-66A-66A\_n7A | DC\_2A\_n7A  DC\_5A\_n7A  DC\_66A\_n7A |

5.1.25.2 ∆TIB and ∆RIB values

For DC\_2-5-66\_n7, the ΔTIB,c and ΔRIB,c values are reused from the DC\_2-7-13\_n66, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n7 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n7 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.5 |
| n7 | 0.5 |

5.1.25.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.26 DC\_2-5-66\_n66

5.1.26.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n66A | DC\_2A\_n66A  DC\_5A\_n66A  DC\_66A\_n66A1 |
| NOTE1: Only single switched UL is supported | |

5.1.26.2 ∆TIB and ∆RIB values

For DC\_2-5-66\_n66, the ΔTIB,c and ΔRIB,c values are reused from the DC\_2-5\_n66, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n66 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.3 |
| n66 | 0.3 |

5.1.26.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.27 DC\_2-7-66\_n28

5.1.27.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n28A | DC\_2A\_n28A  DC\_7A\_n28A  DC\_66A\_n28A |

5.1.27.2 ∆TIB and ∆RIB values

For DC\_2-7-66\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n28 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n28 | 0.6 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n28 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n28 | 0.2 |

5.1.27.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.28 DC\_3-20-32\_n1

5.1.28.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_3A-20A-32A\_n1A | DC\_3A\_n1A  DC\_20A\_n1A |

5.1.28.2 ∆TIB and ∆RIB values

For DC\_3-20-32\_n1, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n1 | 3 | 0.5 |
| 20 | 0.3 |
| n1 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n1 | 3 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

5.1.28.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.29 DC\_1-3-18\_n3

### 5.1.29.1 Configuration for DC

**Table 5.1.29.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-18A\_n3A | DC\_1A\_n3A  DC\_3A\_n3A2  DC\_18A\_n3A |
| NOTE 2: Only single switched UL is supported | |

### 5.1.29.2 ∆TIB and ∆RIB values

For DC\_1-3-18\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-18A.

Table 5.1.29.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n3 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n3 | 0.3 |

Table 5.1.29.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n3 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n3 | 0 |

### 5.1.29.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.30 DC\_1-3-41\_n3

### 5.1.30.1 Configuration for DC

**Table 5.1.30.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-41A\_n3A  DC\_1A-3A-41C\_n3A | DC\_1A\_n3A  DC\_3A\_n3A2  DC\_41A\_n3A  DC\_41C\_n3A |
| NOTE 2: Only single switched UL is supported | |

### 5.1.30.2 ∆TIB and ∆RIB values

For DC\_1-3-41\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-41A.

Table 5.1.30.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n3 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n3 | 0.5 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

Table 5.1.30.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n3 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n3 | 0 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.30.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.31 DC\_1-3-41\_n41

### 5.1.31.1 Configuration for DC

**Table 5.1.31.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-41A\_n41A | DC\_1A\_n41A  DC\_3A\_n41A |

### 5.1.31.2 ∆TIB and ∆RIB values

For DC\_1-3-41\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-41A.

Table 5.1.31.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n41 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n41 | 0.31/0.82 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

Table 5.1.31.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n41 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n41 | 01/0.52 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.31.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.32 DC\_2-5-7\_n66 and DC\_2-5-7-7\_n66

### 5.1.32.1 Configuration for DC

**Table 5.1.32.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-5A-7A\_n66A  DC\_2A-5A-7C\_n66A  DC\_2A-5A-7A-7A\_n66A | DC\_2A\_n66A DC\_5A\_n66A  DC\_7A\_n66A |

### 5.1.32.2 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66 and DC\_2-5-7-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_2A-5A-7A-66A.

Table 5.1.32.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66  DC\_2-5-7-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

Table 5.1.32.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66  DC\_2-5-7-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

### 5.1.32.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

5.1.33 DC\_1-3-11\_n28

5.1.33.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-11A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_11A\_n28A |

5.1.33.2 ∆TIB and ∆RIB values

For DC\_1-3-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-11\_n28 | 1 | 0.3 |
| 3 | 0.8 |
| 11 | 0.9 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-11\_n28 | 1 | 0 |
| 3 | 0.3 |
| 11 | 0.5 |
| n28 | 0.2 |

5.1.33.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-11\_n28 was covered by the studies for the fallback modes of DC\_1-3\_n28, DC\_1-11\_n28 and DC\_3-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.34 DC\_1-3-11\_n77

5.1.34.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-11A\_n77A | DC\_1A\_n77A  DC\_3A\_n77A  DC\_11A\_n77A |
| DC\_1A-3A-11A\_n77(2A) | DC\_1A\_n77A  DC\_3A\_n77A  DC\_11A\_n77A |

5.1.34.2 ∆TIB and ∆RIB values

For DC\_1-3-11\_n77, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-11\_n77 | 1 | 0.6 |
| 3 | 0.8 |
| 11 | 0.9 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-11\_n77 | 1 | 0.2 |
| 3 | 0.3 |
| 11 | 0.5 |
| n77 | 0.5 |

5.1.34.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-11\_n77 was covered by the studies for the fallback modes of DC\_1-3\_n77, DC\_1-11\_n77 and DC\_3-11\_n77.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.35 DC\_3-8-11\_n28

5.1.35.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-11A\_n28A | DC\_3A\_n28A  DC\_8A\_n28A  DC\_11A\_n28A |

5.1.35.2 ∆TIB and ∆RIB values

For DC\_3-8-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-11\_n28 | 3 | 0.8 |
| 8 | 0.6 |
| 11 | 0.9 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-8-11\_n28 | 3 | 0.3 |
| 8 | 0.2 |
| 11 | 0.5 |
| n28 | 0.2 |

5.1.35.3 Reference sensitivity exceptions

Co-existence study for DC\_3-8-11\_n28 was covered by the studies for the fallback modes of DC\_3-8\_n28, DC\_3-11\_n28 and DC\_8-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.36 DC\_3-8-11\_n77

5.1.36.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-11A\_n77A | DC\_3A\_n77A  DC\_8A\_n77A  DC\_11A\_n77A |
| DC\_3A-8A-11A\_n77(2A) | DC\_3A\_n77A  DC\_8A\_n77A  DC\_11A\_n77A |

5.1.36.2 ∆TIB and ∆RIB values

For DC\_3-8-11\_n77, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-11\_n77 | 3 | 0.8 |
| 8 | 0.6 |
| 11 | 0.9 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-8-11\_n77 | 3 | 0.3 |
| 8 | 0.2 |
| 11 | 0.5 |
| n77 | 0.5 |

5.1.36.3 Reference sensitivity exceptions

Co-existence study for DC\_3-8-11\_n77 was covered by the studies for the fallback modes of DC\_3-8\_n77, DC\_3-11\_n77 and DC\_8-11\_n77.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.37 DC\_1-8-11\_n28

5.1.37.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-11A\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_11A\_n28A |

5.1.37.2 ∆TIB and ∆RIB values

For DC\_1-8-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n28 | 1 | 0.3 |
| 8 | 0.6 |
| 11 | 0.4 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-8-11\_n28 | 1 | 0 |
| 8 | 0.2 |
| 11 | 0 |
| n28 | 0.2 |

5.1.37.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-11\_n28 was covered by the studies for the fallback modes of DC\_1-8\_n28, DC\_1-11\_n28 and DC\_8-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.38 DC\_1-3-18\_n28

### 5.1.38.1 Configuration for EN-DC

Table 5.1.38.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-18A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_18A\_n28A |

### 5.1.38.2 ∆TIB and ∆RIB values

Table 5.1.38.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18-n28 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n28 | 0.6 |

**Table 5.1.38.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18-n28 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n28 | 0.2 |

5.1.38.3 REFSENS requirements

## No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.39 DC\_1-3-18\_n41

### 5.1.39.1 Configuration for EN-DC

Table 5.1.39.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-18A\_n41A | DC\_1A\_n41A  DC\_3A\_n41A  DC\_18A\_n41A |

### 5.1.39.2 ∆TIB and ∆RIB values

Table 5.1.39.2-1: ΔTIB,c due to EN-DC(four bands)

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| DC\_1-3-18-n41 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n41 | 0.31 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz. | | |

**Table 5.1.39.2-1: ΔRIB,c due to EN-DC (four bands)**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| DC\_1-3-18-n41 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n41 | 01 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz. | | |

5.1.39.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.40 DC\_2-7-28\_n7

5.1.40.1 Configurations for EN-DC

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

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-28A\_n7A | DC\_2A\_n7A  DC\_7A\_n7A4 DC\_28A\_n7A |
| NOTE 4: Only single switched UL is supported. | |

5.1.40.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-28\_n7 | 2 | 0.5 |
| 7 | 0.5 |
| 28 | 0.3 |
| n7 | 0.5 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-28\_n7 | 2 | 0 |
| 7 | 0 |
| 28 | 0 |
| n7 | 0 |

5.1.40.3 Reference sensitivity exceptions

No further MSD is needed defined.

## 5.1.41 DC\_2A-66A-71A\_n71A

5.1.41.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-66A-71A\_n71A | DC\_2A\_n71A  DC\_66A\_n71A |

Note that DC\_71\_n71 is not used as uplink configuration.

5.1.41.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-66-71\_n71 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n71 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-66-71\_n71 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0 |
| n71 |

5.1.41.3 Reference sensitivity exceptions

REFSENS exceptions needed due to band 71 uplink harmonic into band 2 is already specified in Table 7.3B.2.3.1-1 of TS 38.101-3.

## 5.1.42 DC\_2-5-66\_n77A

5.1.42.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n77A DC\_2A-2A-5A-66A\_n77A DC\_2A-5A-66A-66A\_n77A | DC\_2A\_n77A  DC\_5A\_n77A  DC\_66A\_n77A |

5.1.42.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-66\_n77  DC\_2-2-5-66\_n77  DC\_2-5-66-66\_n77 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-66\_n77  DC\_2-2-5-66\_n77  DC\_2-5-66-66\_n77 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.42.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.43 DC\_2-13-66\_n77A

5.1.43.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-13A-66A\_n77A DC\_2A-2A-13A-66A\_n77A DC\_2A-13A-66A-66A\_n77A | DC\_2A\_n77A  DC\_13A\_n77A  DC\_66A\_n77A |

5.1.43.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-13-66\_n77  DC\_2-2-13-66\_n77  DC\_2-13-66-66\_n77 | 2 | 0.5 |
| 13 | 0.3 |
| 66 | 0.5 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-13-66\_n77  DC\_2-2-13-66\_n77  DC\_2-13-66-66\_n77 | 2 | 0.3 |
| 13 | 0 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.43.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.44 DC\_2-48-66\_n77A

5.1.44.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-48A-66A\_n77A | DC\_2A\_n77A  DC\_48A\_n77A  DC\_66A\_n77A |

5.1.44.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-48-66\_n77 | 2 | 0.6 |
| 48 | 0.8 |
| 66 | 0.6 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-48-66\_n77 | 2 | 0.3 |
| 48 | 0.5 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.44.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.45 DC\_1-3-40\_n78

### 5.1.45.1 Configuration for EN-DC

Table 5.1.45.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-40A\_n78A  DC\_1A-3A-40C\_n78A | DC\_1A\_n78A  DC\_3A\_n78A  DC\_40A\_n78A |

### 5.1.45.2 ∆TIB and ∆RIB values

Table 5.1.45.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-40\_n78 | 1 | 0.6 |
| 3 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

**Table 5.1.45.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-40\_n78 | 1 | 0.2 |
| 3 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.45.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.46 DC\_1-7-40\_n78

### 5.1.46.1 Configuration for EN-DC

Table 5.1.46.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-7A-40A\_n78A  DC\_1A-7A-40C\_n78A | DC\_1A\_n78A  DC\_7A\_n78A  DC\_40A\_n78A |

### 5.1.46.2 ∆TIB and ∆RIB values

Table 5.1.46.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-40\_n78 | 1 | 0.6 |
| 7 | 0.5 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.46.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-40\_n78 | 1 | 0.2 |
| 7 | 0 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.46.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.47 DC\_1-8-40\_n78

### 5.1.47.1 Configuration for EN-DC

Table 5.1.47.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-8A-40A\_n78A  DC\_1A-8A-40C\_n78A | DC\_1A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.47.2 ∆TIB and ∆RIB values

Table 5.1.47.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-40\_n78 | 1 | 0.6 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.47.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-40\_n78 | 1 | 0.2 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.47.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.48 DC\_3-7-40\_n78

### 5.1.48.1 Configuration for EN-DC

Table 5.1.48.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-7A-40A\_n78A  DC\_3A-7A-40C\_n78A | DC\_3A\_n78A  DC\_7A\_n78A  DC\_40A\_n78A |

### 5.1.48.2 ∆TIB and ∆RIB values

Table 5.1.48.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-40\_n78 | 3 | 0.6 |
| 7 | 0.5 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.48.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-40\_n78 | 3 | 0.2 |
| 7 | 0 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.48.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.49 DC\_3-8-40\_n78

### 5.1.49.1 Configuration for EN-DC

Table 5.1.49.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-8A-40A\_n78A  DC\_3A-8A-40C\_n78A | DC\_3A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.49.2 ∆TIB and ∆RIB values

Table 5.1.49.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n78 | 3 | 0.6 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.49.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n78 | 3 | 0.2 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.49.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.50 DC\_7-8-40\_n78

### 5.1.50.1 Configuration for EN-DC

Table 5.1.50.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_7A-8A-40A\_n78A  DC\_7A-8A-40C\_n78A | DC\_7A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.50.2 ∆TIB and ∆RIB values

Table 5.1.50.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n78 | 7 | 0.5 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.50.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n78 | 7 | 0 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.50.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.51 DC\_1-7-8\_n28

### 5.1.51.1 Configurations for EN-DC

Table 5.1.51.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-7A-8A\_n28A | DC\_1A\_n28A  DC\_7A\_n28A  DC\_8A\_n28A |

### 5.1.51.2 ∆TIB and ∆RIB values

Table 5.1.51.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-8\_n28 | 1 | 0.5 |
| 7 | 0.6 |
| 8 | 0.6 |
| n28 | 0.6 |

**Table 5.1.51.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-7-8\_n28 | 1 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n28 | 0.2 |

### 5.1.51.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.52 DC\_3-7-8\_n28

### 5.1.52.1 Configurations for EN-DC

Table 5.1.52.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-8A\_n28A | DC\_3A\_n28A  DC\_7A\_n28A  DC\_8A\_n28A |

### 5.1.52.2 ∆TIB and ∆RIB values

Table 5.1.52.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-8\_n28 | 3 | 0.5 |
| 7 | 0.5 |
| 8 | 0.6 |
| n28 | 0.5 |

**Table 5.1.52.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-8\_n28 | 3 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n28 | 0.1 |

### 5.1.52.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.53 DC\_1-7-28\_n3

### 5.1.53.1 Configurations for EN-DC

Table 5.1.53.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-7A-28A\_n3A | DC\_1A\_n3A  DC\_7A\_n3A  DC\_28A\_n3A |

### 5.1.53.2 ∆TIB and ∆RIB values

Table 5.1.53.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-28\_n3 | 1 | 0.6 |
| 7 | 0.6 |
| 28 | 0.6 |
| n3 | 0.6 |

**Table 5.1.53.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-7-28\_n3 | 1 | 0 |
| 7 | 0 |
| 28 | 0.2 |
| n3 | 0 |

### 5.1.53.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.54 DC\_3-8-40\_n1

### 5.1.54.1 Configurations for EN-DC

Table 5.1.54.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-8A-40A\_n1A  DC\_3A-8A-40C\_n1A | DC\_3A\_n1A  DC\_8A\_n1A  DC\_40A\_n1A |

### 5.1.54.2 ∆TIB and ∆RIB values

Table 5.1.54.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n1 | 3 | 0.5 |
| 8 | 0.5 |
| 40 | 0.6 |
| n1 | 0.5 |

**Table 5.1.54.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n1 | 3 | 0 |
| 8 | 0 |
| 40 | 0.2 |
| n1 | 0.1 |

### 5.1.54.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.55 DC\_7-8-40\_n1

### 5.1.55.1 Configurations for EN-DC

Table 5.1.55.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-8A-40A\_n1A  DC\_7A-8A-40C\_n1A | DC\_7A\_n1A  DC\_8A\_n1A  DC\_40A\_n1A |

### 5.1.55.2 ∆TIB and ∆RIB values

Table 5.1.55.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n1 | 7 | 0.8 |
| 8 | 0.6 |
| 40 | 0.9 |
| n1 | 0.6 |

**Table 5.1.55.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n1 | 7 | 0.3 |
| 8 | 0.2 |
| 40 | 0.8 |
| n1 | 0 |

### 5.1.55.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

### 5.1.56 DC\_2-28-66\_n7

### 5.1.56.1 Configurations for EN-DC

Table 5.1.56.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-28A-66A\_n7A | DC\_2A\_n7A  DC\_28A\_n7A  DC\_66A\_n7A |

### 5.1.56.2 ∆TIB and ∆RIB values

Table 5.1.56.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n7 | 2 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.56.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n7 | 2 | 0.3 |
| 28 | 0.2 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.56.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.57 DC\_2-5-7\_n7

### 5.1.57.1 Configurations for EN-DC

Table 5.1.57.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-5A-7A\_n7A | DC\_2A\_n7A  DC\_5A\_n7A  DC\_7A\_n7A1 |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.57.2 ∆TIB and ∆RIB values

Table 5.1.57.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n7 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n7 | 0.5 |

**Table 5.1.57.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n7 | 2 | 0 |
| 5 | 0 |
| 7 | 0 |
| n7 | 0 |

### 5.1.57.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.58 DC\_2-7-66\_n7/DC\_2-7-66-66\_n7

### 5.1.58.1 Configurations for EN-DC

Table 5.1.58.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n7A  DC\_2A-7A-66A-66A\_n7A | DC\_2A\_n7A  DC\_7A\_n7A1  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.58.2 ∆TIB and ∆RIB values

Table 5.1.58.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n7  DC\_2-7-66-66\_n7 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.58.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n7  DC\_2-7-66-66\_n7 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.58.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.59 DC\_5-7-66\_n7/DC\_5-7-66-66\_n7

### 5.1.59.1 Configurations for EN-DC

Table 5.1.59.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_5A-7A-66A\_n7A  DC\_5A-7A-66A-66A\_n7A | DC\_5A\_n7A  DC\_7A\_n7A1  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.59.2 ∆TIB and ∆RIB values

Table 5.1.59.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n7  DC\_5-7-66-66\_n7 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.59.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n7  DC\_5-7-66-66\_n7 | 5 | 0 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.59.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.60 DC\_7-28-66\_n7

### 5.1.60.1 Configurations for EN-DC

Table 5.1.60.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-28A-66A\_n7A | DC\_7A\_n7A1  DC\_78A\_n7A  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.60.2 ∆TIB and ∆RIB values

Table 5.1.60.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n7 | 7 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.60.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n7 | 7 | 0.5 |
| 28 | 0.2 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.60.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

### 5.1.61 DC\_2-7-66\_n77

### 5.1.61.1 Configurations for EN-DC

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

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n77A  DC\_2A-7A-7A-66A\_n77A  DC\_2A-7A-66A\_n77(2A)  DC\_2A-7A-7A-66A\_n77(2A)  DC\_2A-7C-66A\_n77A  DC\_2A-7C-66A\_n77(2A) | DC\_2A\_n77A  DC\_7A\_n77A  DC\_66A\_n77A |

### 5.1.61.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-66\_n77 | 2 | 0.6 |
| 7 | 0.5 |
| 66 | 0.6 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-66\_n77 | 2 | 0.2 |
| 7 | 0.5 |
| 66 | 0.5 |
| n77 | 0.5 |

### 5.1.61.3 Reference sensitivity exceptions

No further REFSENS exceptions needed.

## 5.1.62 DC\_1-20-40\_n78

### 5.1.62.1 Configuration for EN-DC

Table 5.1.62.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-40A\_n78A | DC\_1A\_n78A  DC\_20A\_n78A  DC\_40A\_n78A |

### 5.1.62.2 ∆TIB and ∆RIB values

It is proposed to re-use relaxation values from DC\_1-20\_n41-n78 which is very similar.

Table 5.1.62.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-40\_n78 | 1 | 0.5 |
| 20 | 0.3 |
| 40 | 0.59 |
| n78 | 0.89 |
| NOTE 9: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

Table 5.1.62.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-40\_n78 | 1 | 0 |
| 20 | 0 |
| 40 | 09 |
| n78 | 0.89 |
| NOTE 9: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

### 5.1.62.3 Reference sensitivity exceptions

MSD have been defined for lower order combinations. No further MSD is needed.

5.1.63 DC\_1-8-42\_n3

5.1.63.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-42A\_n3A  DC\_1A-8A-42C\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_42A\_n3A  DC\_42C\_n3A |

5.1.63.2 ∆TIB and ∆RIB values

For DC\_1-8-42\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n3 | 1 | 0.3 |
| 8 | 0.6 |
| 42 | 0.8 |
| n3 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-8-42\_n3 | 1 | 0 |
| 8 | 0.2 |
| 42 | 0.5 |
| n3 | 0.2 |

5.1.63.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-42\_n3 was covered by the studies for the fallback modes of DC\_1-8\_n3, DC\_1-42\_n3 and DC\_8-42\_n3.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.64 DC\_1-3-42\_n28

5.1.64.1 Configurations for EN-DC

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

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-42A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_42A\_n28A |
| DC\_1A-3A-42C\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_42A\_n28A  DC\_42C\_n28A |

5.1.64.2 ∆TIB and ∆RIB values

For DC\_1-3-42\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-42\_n28 | 1 | 0.6 |
| 3 | 0.6 |
| 42 | 0.8 |
| n28 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-42\_n28 | 1 | 0.2 |
| 3 | 0.2 |
| 42 | 0.5 |
| n28 | 0.5 |

5.1.64.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-42\_n28 was covered by the studies for the fallback modes of DC\_1-3\_n28, DC\_1-42\_n28 and DC\_3-42\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.65.1 Configuration for EN-DC

Table 5.1.65.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-29A-66A\_n78A | DC\_2A\_n78A  DC\_66A\_n78A |

### 5.1.65.2 ∆TIB and ∆RIB values

For DC\_2A-29A-66A\_n78A, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_2-13-48-66, and are given in the tables below

Table 5.1.65.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n78 | 2 | 0.6 |
| 66 | 0.6 |
| n78 | 0.8 |

**Table 5.1.65.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n78 | 2 | 0.3 |
| 66 | 0.3 |
| n78 | 0.5 |

### 5.1.65.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

### 5.1.66 DC\_7-8-32\_n1

#### 5.1.66.1 Configuration for EN-DC

Table 5.1.66.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-32A\_n1A | DC\_7A\_n1A  DC\_8A\_n1A |

#### 5.1.66.2 ∆TIB and ∆RIB values

Table 5.1.66.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-32A\_n1A | 7 | 0.7 |
| 8 | 0.6 |
| 32 | N/A |
| n1 | 0.7 |

Table 5.1.66.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-32A\_n1A | 7 | 0 |
| 8 | 0.2 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.66.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.67 DC\_7-20-32\_n78

#### 5.1.67.1 Configuration for EN-DC

Table 5.1.67.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n78A | DC\_7A\_n78A  DC\_20A\_n78A |

#### 5.1.67.2 ∆TIB and ∆RIB values

Table 5.1.67.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-32A\_n78A | 7 | 0.7 |
| 20 | 0.5 |
| 32 | N/A |
| n78 | 0.8 |

Table 5.1.67.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-32A\_n78A | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

#### 5.1.67.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.68 DC\_2A-12A-66A\_n41A

5.1.68.1 Operating bands for EN-DC

Table 5.1.68.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-12-66\_n41 | CA\_2-12-66 | n41 |  |

### 5.1.68.2 Configuration for DC

Table 5.1.68.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_12A\_n41A, DC\_66A\_n41A | CA\_2A-12A-66A | n41A |
| DC\_2A-2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_12A\_n41A, DC\_66A\_n41A | CA\_2A-2A-12A-66A | n41A |

5.1.68.3 ∆TIB and ∆RIB values

For DC\_2-12-66\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values CA\_2-7-12-66 in 36.101.

**Table 5.1.68.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n41 | 2 | 0.3 |
| 12 | 0.5 |
| 66 | 0.3 |
| n41 | 0.5 |

**Table 5.1.68.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n41 | 2 | 0.5 |
| 12 | 0.8 |
| 66 | 0.5 |
| n41 | 0.5 |

5.1.68.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.69 DC\_2A-66A-71A\_n41A

5.1.69.1 Operating bands for EN-DC

Table 5.1.69.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-66-71\_n41 | CA\_2-66-71 | n41 |  |

### 5.1.69.2 Configuration for DC

Table 5.1.69.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_66A\_n41A  DC\_71A\_n41A | CA\_2A-66A-71A | n41A |
| DC\_2A-2A-66A-71A\_n41A | DC\_2A\_n41A, DC\_66A\_n41A  DC\_71A\_n41A | CA\_2A-2A-66A-71A | n41A |

5.1.69.3 ∆TIB and ∆RIB values

For DC\_2-66-71\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for DC\_2-66-n41\_n71 in 38.101-3.

**Table 5.1.69.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n41 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.8 |
| n41 | 0.81 |
| 1.32 |

**Table 5.1.69.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n41 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0.5 |
| n41 | 0.51 |
| 12 |

5.1.69.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.70 DC\_2A-7A-12A\_n66A

5.1.70.1 Operating bands for EN-DC

Table 5.1.70.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n66 | CA\_2-7-12 | n66 |  |

### 5.1.70.2 Configuration for DC

Table 5.1.70.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-12A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_12A\_n66A | CA\_2A-7A-12A | n66A |
| DC\_2A-2A-7A-12A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_12A\_n66A | CA\_2A-2A-7A-12A | n66A |

5.1.70.3 ∆TIB and ∆RIB values

For DC\_2-7-12\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Based on values for CA\_2-7-12-66 in 36.101.

**Table 5.1.70.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 12 | 0.8 |
| n66 | 0.5 |

**Table 5.1.70.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 12 | 0.5 |
| n66 | 0.3 |

5.1.70.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.71 DC\_2A\_2A-5A-7A\_n66A

5.1.71.1 Operating bands for EN-DC

Table 5.1.71.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-2-5-7\_n66 | CA\_2-5-7 | n66 |  |

### 5.1.71.2 Configuration for DC

Table 5.1.71.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-2A-5A-7A\_n66A | DC\_2A\_n66A, DC\_5A\_n66A  DC\_7A\_n66A | CA\_2A-2A-5A-7A | n66A |

5.1.71.3 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Based on values for DC\_2-7-13\_n66 in 38.101-3.

**Table 5.1.71.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-2-5-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

**Table 5.1.71.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-2-5-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

5.1.71.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.72 DC\_2A-7A-71A\_n66A

5.1.72.1 Operating bands for EN-DC

Table 5.1.72.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n66 | CA\_2-7-71 | n66 |  |

### 5.1.72.2 Configuration for DC

Table 5.1.72.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-71A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_71A\_n66A | CA\_2A-7A-71A | n66A |
| DC\_2A-2A-7A-71A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_71A\_n66A | CA\_2A-2A-7A-71A | n66A |

5.1.72.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for DC\_2-7-66\_n71 in 38.101-3.

**Table 5.1.72.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 71 | 0.3 |
| n66 | 0.5 |

**Table 5.1.72.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 71 | 0 |
| n66 | 0.3 |

5.1.72.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.73 DC\_2A-7A-12A\_n78A

5.1.73.1 Operating bands for EN-DC

Table 5.1.73.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n78 | CA\_2-7-12 | n78 |  |

### 5.1.73.2 Configuration for DC

Table 5.1.73.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-12A\_n78A | DC\_2A\_n78A,  DC\_7A\_n78A DC\_12A\_n78A | CA\_2A-7A-12A | n78A |
| DC\_2A-2A-7A-12A\_n78A | DC\_2A\_n78A,  DC\_7A\_n78A DC\_12A\_n78A | CA\_2A-2A-7A-12A | n78A |

5.1.73.3 ∆TIB and ∆RIB values

For DC\_2A-7A-12A\_n78A, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_1-7-28\_n78 in 38.101-3.

**Table 5.1.73.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n78 | 2 | 0.6 |
| 7 | 0.6 |
| 12 | 0.6 |
| n78 | 0.8 |

**Table 5.1.73.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n78 | 2 | 0.2 |
| 7 | 0.2 |
| 12 | 0.2 |
| n78 | 0.5 |

5.1.73.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.74 DC\_2A-12A-66A\_n78A

5.1.74.1 Operating bands for EN-DC

Table 5.1.74.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-12-66\_n78 | CA\_2-12-66 | n78 |  |

### 5.1.74.2 Configuration for DC

Table 5.1.74.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n78A | DC\_2A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_2A-12A-66A | n78A |
| DC\_2A-2A-12A-66A\_n78A | DC\_2A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_2A-2A-12A-66A | n78A |

5.1.74.3 ∆TIB and ∆RIB values

For DC\_2-12-66\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values DC\_2-48-66\_n12 in 38.101-3.

**Table 5.1.74.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n78 | 2 | 0.6 |
| 12 | 0.3 |
| 66 | 0.6 |
| n78 | 0.8 |

**Table 5.1.74.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n78 | 2 | 0.3 |
| 12 | 0 |
| 66 | 0.3 |
| n78 | 0.5 |

5.1.74.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.75 DC\_7A-12A-66A\_n78A

5.1.75.1 Operating bands for EN-DC

Table 5.1.75.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-12-66\_n78 | CA\_7-12-66 | n78 |  |

### 5.1.75.2 Configuration for DC

Table 5.1.75.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-12A-66A\_n78A | DC\_7A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_7A-12A-66A | n78A |

5.1.75.3 ∆TIB and ∆RIB values

For DC\_7-12-66\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_3-28-41-42 in 36.101.

**Table 5.1.75.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n78 | 7 | 0.8 |
| 12 | 0.5 |
| 66 | 1 |
| n78 | 0.8 |

**Table 5.1.75.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n78 | 7 | 0.5 |
| 12 | 0.2 |
| 66 | 0.5 |
| n78 | 0.5 |

5.1.75.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.76 DC\_7A-66A-71A\_n78A

5.1.76.1 Operating bands for EN-DC

Table 5.1.76.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-66-71\_n78 | CA\_7-66-71 | n78 |  |

### 5.1.76.2 Configuration for DC

Table 5.1.76.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-66A-71A\_n78A | DC\_7A\_n78A, DC\_66A\_n78A, DC\_71A\_n78A | CA\_7A-66A-71A | n78A |

5.1.76.3 ∆TIB and ∆RIB values

For DC\_7-66-71\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_3-7-20\_n78 in 38.101-3.

**Table 5.1.76.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n78 | 7 | 0.6 |
| 66 | 0.6 |
| 71 | 0.3 |
| n78 | 0.8 |

**Table 5.1.76.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n78 | 7 | 0.2 |
| 66 | 0.2 |
| 71 | 0 |
| n78 | 0.5 |

5.1.76.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.77 DC\_2A-7A -71A\_n78A

5.1.77.1 Operating bands for EN-DC

Table 5.1.77.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n78 | CA\_2-7-71 | n78 |  |

### 5.1.77.2 Configuration for DC

Table 5.1.77.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -71A\_n78A | DC\_2A\_n78A, DC\_7A\_n78A, DC\_71A\_n78A | CA\_2A-7A-71A | n78A |
| DC\_2A-2A-7A -71A\_n78A | DC\_2A\_n78A, DC\_7A\_n78A, DC\_71A\_n78A | CA\_2A-2A-7A-71A | n78A |

5.1.77.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_1-7-28\_n78.

**Table 5.1.77.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n78 | 2 | 0.6 |
| 7 | 0.6 |
| 71 | 0.6 |
| n78 | 0.8 |

**Table 5.1.77.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n78 | 2 | 0.2 |
| 7 | 0.2 |
| 71 | 0.2 |
| n78 | 0.5 |

5.1.77.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.78 DC\_2A-7A -66A\_n2A

5.1.78.1 Operating bands for EN-DC

Table 5.1.78.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-66\_n2 | CA\_2-7-66 | n2 |  |

### 5.1.78.2 Configuration for DC

Table 5.1.78.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -66A\_n2A | DC\_7A\_n2A, DC\_66A\_n2A | CA\_2A-7A-66A | n2A |

5.1.78.3 ∆TIB and ∆RIB values

For DC\_2-7-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for CA\_2-7-66 in 36.101.

**Table 5.1.78.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.78.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n2 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.3 |

5.1.78.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.79 DC\_2A-5A -7A\_n2A

5.1.79.1 Operating bands for EN-DC

Table 5.1.79.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-5-7\_n2 | CA\_2-5-7 | n2 |  |

### 5.1.79.2 Configuration for DC

Table 5.1.79.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A -7A\_n2A | DC\_5A\_n2A  DC\_7A\_n2A | CA\_2A-5A-7A | n2A |

5.1.79.3 ∆TIB and ∆RIB values

For DC\_2-5-7\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-7 in 36.101.

**Table 5.1.79.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n2 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n2 | 0.3 |

**Table 5.1.79.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n2 | 2 | 0 |
| 5 | 0 |
| 7 | 0 |
| n2 | 0 |

5.1.79.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.80 DC\_5A-7A -66A\_n2A

5.1.80.1 Operating bands for EN-DC

Table 5.1.80.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 5-7-66\_n2 | CA\_5-7-66 | n2 |  |

### 5.1.80.2 Configuration for DC

Table 5.1.80.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_5A-7A -66A\_n2A | DC\_5A\_n2A, DC\_7A\_n2A, DC\_66A\_n2A | CA\_5A-7A-66A | n2A |

5.1.80.3 ∆TIB and ∆RIB values

For DC\_5-7-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_2-7-13\_n66 in 38.101-3.

**Table 5.1.80.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n2 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.80.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n2 | 5 | 0 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.3 |

5.1.80.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.81 DC\_2A-7A -71A\_n2A

5.1.81.1 Operating bands for EN-DC

Table 5.1.81.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n2 | CA\_2-7-71 | n2 |  |

### 5.1.81.2 Configuration for DC

Table 5.1.81.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -71A\_n2A | DC\_7A\_n2A, DC\_71A\_n2A | CA\_2A-7A-71A | n2A |

5.1.81.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-7\_n71 in 38.101-3.

**Table 5.1.81.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 71 | 0.6 |
| n2 | 0.5 |

**Table 5.1.81.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n2 | 2 | 0 |
| 7 | 0 |
| 71 | 0.2 |
| n2 | 0 |

5.1.81.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.82 DC\_2A-66A -71A\_n2A

5.1.82.1 Operating bands for EN-DC

Table 5.1.82.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-66-71\_n2 | CA\_2-66-71 | n2 |  |

### 5.1.82.2 Configuration for DC

Table 5.1.82.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-66A -71A\_n2A | DC\_66A\_n2A, DC\_71A\_n2A | CA\_2A-66A-71A | n2A |

5.1.82.3 ∆TIB and ∆RIB values

For DC\_2-66-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-66-71 in 36.101.

**Table 5.1.82.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n2 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n2 | 0.5 |

**Table 5.1.82.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n2 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0 |
| n2 | 0.3 |

5.1.82.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.83 DC\_2A-7A -12A\_n2A

5.1.83.1 Operating bands for EN-DC

Table 5.1.83.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n2 | CA\_2-7-12 | n2 |  |

### 5.1.83.2 Configuration for DC

Table 5.1.83.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -12A\_n2A | DC\_7A\_n2A, DC\_12A\_n2A | CA\_2A-7A-12A | n2A |

5.1.83.3 ∆TIB and ∆RIB values

For DC\_2-7-12\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-7\_12 in 36.101.

**Table 5.1.83.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 12 | 0.3 |
| n2 | 0.5 |

**Table 5.1.83.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n2 | 2 | 0 |
| 7 | 0 |
| 12 | 0 |
| n2 | 0 |

5.1.83.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.84 DC\_7A-66A-71A\_n2A

5.1.84.1 Operating bands for EN-DC

Table 5.1.84.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-66-71\_n2 | CA\_7-66-71 | n2 |  |

### 5.1.84.2 Configuration for DC

Table 5.1.84.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-66A-71A\_n2A | DC\_7A\_n2A, DC\_66A\_n2A, DC\_71A\_n2A | CA\_7A-66A-71A | n2A |

5.1.84.3 ∆TIB and ∆RIB values

For DC\_7-66-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_2-7-66\_n71.

**Table 5.1.84.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n2 | 7 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n2 | 0.5 |

**Table 5.1.84.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n2 | 7 | 0.5 |
| 66 | 0.5 |
| 71 | 0 |
| n2 | 0.3 |

5.1.84.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.85 DC\_7A-12A-66A\_n2A

5.1.85.1 Operating bands for EN-DC

Table 5.1.85.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-12-66\_n2 | CA\_7-12-66 | n2 |  |

### 5.1.85.2 Configuration for DC

Table 5.1.85.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-12A-66A\_n2A | DC\_7A\_n2A, DC\_12A\_n2A, DC\_66A\_n2A | CA\_7A-12A-66A | n2A |

5.1.85.3 ∆TIB and ∆RIB values

For DC\_7-12-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-4-7-12 in 36.101.

**Table 5.1.85.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n2 | 7 | 0.5 |
| 12 | 0.8 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.85.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n2 | 7 | 0.5 |
| 12 | 0.5 |
| 66 | 0.3 |
| n2 | 0.3 |

5.1.85.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

# Annex A - Change history

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2020-08 | 3GPP RAN4#96-e | R4-2010681 |  |  |  | TR skeleton | 0.0.1 |
| 2020-08 | 3GPP RAN4#96-e |  |  |  |  | Implemented TP’s from RAN4 #96-e:  R4-2010246, “TP for TR 37.717-31-11 DC\_1-3\_(n)41”, Samsung, KDDI  R4-2010247, “TP for TR 37.717-31-11 DC\_1-3-41\_n28”, Samsung, KDDI  R4-2010434, “TP for 37.717-31-11 to introduce DC\_3A-7A-8A\_n40A”, Nokia  R4-2010435, “TP for 37.717-31-11 to introduce DC\_3A-7A-28A\_n1A”, Nokia  R4-2010437. “TP for 37.717-31-11 to introduce DC\_5A-7-66A\_n66A”, Nokia  R4-2010514, “TP for DC\_3-19-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010515, “TP for DC\_3-21-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010516, “TP for DC\_19-21-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010896, “TP for TR 37.717-31-11: DC\_2A-28A-66A\_n66A”, Huawei, HiSilicon  R4-2010897, “TP for TR 37.717-31-11: DC\_7A-28A-66A\_n66A / DC\_7C-28A-66A\_n66A”, Huawei, HiSilicon  R4-2010898, “TP for TR 37.717-31-11: DC\_2A-7A-28A\_n66A / DC\_2A-7C-28A\_n66A”, Huawei, HiSilicon  R4-2010899, “TP for TR 37.717-31-11: DC\_3A-7A-28A\_n1A”, Huawei, HiSilicon  R4-2009996, ”TP for TR 37.717-31-11: EN-DC\_1-8-11\_n3”, SoftBank Corp.  R4-2009997, ”TP for TR 37.717-31-11: EN-DC\_1-8-42\_n28”, SoftBank Corp.  R4-2009770, “TP for TR 37.717-31-11: DC\_1-7-32\_n28”, VODAFONE Group Plc  R4-2009771, “TP for TR 37.717-31-11: DC\_1-7-32\_n78”, VODAFONE Group Plc  R4-2009772, “TP for TR 37.717-31-11: DC\_1-20-32\_n28”, VODAFONE Group Plc  R4-2009774, “TP for TR 37.717-31-11: DC\_1-20-32\_n78”, VODAFONE Group Plc  R4-2009775, “TP for TR 37.717-31-11: DC\_3-7-32\_n78”, VODAFONE Group Plc  R4-2009776, “TP for TR 37.717-31-11: DC\_3-20-32\_n78”, VODAFONE Group Plc  R4-2009777, “TP for TR 37.717-31-11: DC\_7-20-32\_n1”, VODAFONE Group Plc  R4-2009778, “TP for TR 37.717-31-11: DC\_7-20-32\_n28”, VODAFONE Group Plc | 0.1.0 |
| 2020-11 | 3GPP RAN4#97-e | R4-2015925 |  |  |  | Implemented TP’s from RAN4 #97-e:  R4-2014037, “TP for 37.717-31-11 for DC\_1-20-32\_n3”, Huawei,HiSilicon  R4-2014038, “TP for 37.717-31-11 for DC\_2-4-7\_n28”, Huawei,HiSilicon  R4-2014039, “TP for 37.717-31-11 for DC\_2-5-7\_n66”, Huawei,HiSilicon  R4-2014040, “TP for 37.717-31-11 for DC\_2-5-66\_n7”, Huawei,HiSilicon  R4-2014041, “TP for 37.717-31-11 for DC\_2-5-66\_n66”, Huawei,HiSilicon  R4-2014042, “TP for 37.717-31-11 for DC\_2-7-66\_n28”, Huawei,HiSilicon  R4-2014043, “TP for 37.717-31-11 for DC\_3-20-32\_n1”, Huawei,HiSilicon  R4-2014107, “TP for TR 37.717-31-11 DC\_1-3-18\_n3”, Samsung, KDDI  R4-2014108, “TP for TR 37.717-31-11 DC\_1-3-41\_n3”, Samsung, KDDI  R4-2014109, “TP for TR 37.717-31-11 DC\_1-3-41\_n41”, Samsung, KDDI  R4-2014130, “TP for TR 37.717-31-11 DC\_2-5-7\_n66”, Samsung, TELUS, Bell mobility  R4-2014615, ”TP for TR 37.717-31-11: EN-DC\_1-3-11\_n28”, SoftBank Corp.  R4-2014616, ”TP for TR 37.717-31-11: EN-DC\_1-  3-11\_n77”, SoftBank Corp.  R4-2014617, ”TP for TR 37.717-31-11: EN-DC\_3-8-11\_n28”, SoftBank Corp.  R4-2014618, ”TP for TR 37.717-31-11: EN-DC\_3-8-11\_n77”, SoftBank Corp.  R4-2014619, ”TP for TR 37.717-31-11: EN-DC\_1-8-11\_n28”, SoftBank Corp.  R4-2014807, “TP for TR 37.717-31-11: DC\_1A-3A-18A\_n28A”, KDDI Corporation  R4-2014845, “TP for TR 37.717-31-11: DC\_1A-3A-18A\_n41A”, KDDI Corporation  R4-2015231, “TP for 37.717-31-11 to introduce DC\_2A-7A-28A\_n7A”, Nokia  R4-2015247, “TP for 37.717-31-11 to introduce DC\_2A-66A-71A\_n71A”, Nokia, T-Mobile  R4-2015248, “TP for 37.717-31-11 to introduce DC\_2-5-66\_n77A”, Nokia, Verizon  R4-2015249, “TP for 37.717-31-11 to introduce DC\_2-13-66\_n77A”, Nokia, Verizon  R4-2015250, “TP for 37.717-31-11 to introduce DC\_2-48-66\_n77A”, Nokia, Verizon  R4-2015272, “TP to TR 37.717-31-11 DC\_1A-3A-40C\_n78A”, Huawei, HiSilicon, Nokia, Ericsson  R4-2015273, “TP to TR 37.717-31-11 DC\_1A-7A-40C\_n78A”, Huawei, HiSilicon, Ericsson  R4-2015274, “TP to TR 37.717-31-11 DC\_1A-8A-40C\_n78A”, Huawei, HiSilicon, Nokia  R4-2015275, “TP to TR 37.717-31-11 DC\_3A-7A-40C\_n78A”, Huawei, HiSilicon, Ericsson  R4-2015276, “TP to TR 37.717-31-11 DC\_3A-8A-40C\_n78A”, Huawei, HiSilicon, Nokia  R4-2015277, “TP to TR 37.717-31-11 DC\_7A-8A-40C\_n78A”, Huawei, HiSilicon  R4-2015405, “TP for TR 37.717-31-11: DC\_1A-7A-8A\_n28A”, Huawei, HiSilicon  R4-2015406, “TP for TR 37.717-31-11: DC\_3A-7A-8A\_n28A”, Huawei, HiSilicon  R4-2015407, “TP for TR 37.717-31-11: DC\_1A-7A-28A\_n3A”, Huawei, HiSilicon  R4-2015408, “TP for TR 37.717-31-11: DC\_3A-8A-40A\_n1A/DC\_3A-8A-40C\_n1A”, Huawei, HiSilicon  R4-2015409, “TP for TR 37.717-31-11: DC\_7A-8A-40A\_n1A/DC\_7A-8A-40C\_n1A”, Huawei, HiSilicon  R4-2015411, “TP for TR 37.717-31-11: DC\_2A-28A-66A\_n7A”, Huawei, HiSilicon  R4-2015412, “TP for TR 37.717-31-11: DC\_2A-5A-7A\_n7A”, Huawei, HiSilicon  R4-2015413, “TP for TR 37.717-31-11: DC\_2A-7A-66A\_n7A/DC\_2A-7A-66A-66A\_n7A”, Huawei, HiSilicon  R4-2015414, “TP for TR 37.717-31-11: DC\_5A-7A-66A\_n7A/DC\_5A-7A-66A-66A\_n7A”, Huawei, HiSilicon  R4-2015415, “TP for TR 37.717-31-11: DC\_7A-28A-66A\_n7A”, Huawei, HiSilicon  R4-2015712, “TP for TR 37.717-31-11: DC\_2-7-66\_n77”, Huawei, HiSilicon, Bell Mobility, Telus | 0.2.0 |
| 2021-02 | 3GPP RAN4#98-e | R4-2101892 |  |  |  | Implemented TP’s from RAN4 #98-e:  R4-2103007, “TP to TR 37.717-31-11: DC\_1-20-40\_n78”, Nokia, Telefonica  R4-2100652, ”TP for TR 37.717-31-11: EN-DC\_1-8-42\_n3”, SoftBank Corp.  R4-2100671, ”TP for TR 37.717-31-11: EN-DC\_1-3-42\_n28”, SoftBank Corp.  R4-2100985, “TP for TR 37.717-31-11: DC\_2-29-66\_n78”, Samsung, TELUS, Bell mobility  R4-2101552, “TP for TR 37.717-31-11: DC\_7-8-32\_n1”, VODAFONE Group Plc  R4-2101553, “TP for TR 37.717-31-11: DC\_7-20-32\_n78”, VODAFONE Group Plc  R4-2101895, “TP to TR TR 37.717-31-11 to include 3-20-40\_n78”, Ericsson  R4-2102020, “TP to TR 37.717-31-11 to include 2A-12A-66A\_n41A, 2A-2A-12A-66A\_n41A”, Ericsson  R4-2102021, “TP to TR 37.717-31-11 to include 2A-66A-71A\_n41A, 2A-2A-66A-71A\_n41A”, Ericsson  R4-2102022, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n66A, 2A-2A-7A-12A\_n66A”, Ericsson  R4-2102023, “TP to TR 37.717-31-11 to include 2A-2A-5A-7A\_n66A”, Ericsson  R4-2102024, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n66A, 2A-2A-7A-71A\_n66A”, Ericsson  R4-2102025, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n78A, 2A-2A-7A-12A\_n78A”, Ericsson  R4-2102026, “TP to TR 37.717-31-11 to include 2A-12A-66A\_n78A, 2A-2A-12A-66A\_n78A”, Ericsson  R4-2102027, “TP to TR 37.717-31-11 to include 7A-12A-66A\_n78A”, Ericsson  R4-2102028, “TP to TR 37.717-31-11 to include 7A-66A-71A\_n78A”, Ericsson  R4-2102029, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n78A, 2A-2A-7A-71A\_n78A”, Ericsson  R4-2102030, “TP to TR 37.717-31-11 to include 2A-7A-66A\_n2A”, Ericsson  R4-2102031, “TP to TR 37.717-31-11 to include 2A-5A-7A\_n2A”, Ericsson  R4-2102032, “TP to TR 37.717-31-11 to include 5A-7A-66A\_n2A”, Ericsson  R4-2102033, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n2A”, Ericsson  R4-2102034, “TP to TR 37.717-31-11 to include 2A-66A-71A\_n2A”, Ericsson  R4-2102035, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n2A”, Ericsson  R4-2102036, “TP to TR 37.717-31-11 to include 7A-66A-71A\_n2A”, Ericsson  R4-2102037, “TP to TR 37.717-31-11 to include 7A-12A-66A\_n2A”, Ericsson | 0.3.0 |