**3GPP TSG-RAN WG4 Meeting #98-e R4-2100349**

**Online, 25th Jan-5th Feb, 2021**

**Agenda item: 9.7.2**

**Source: KDDI**

**Title: TP for TR 37.717-11-21: DC\_1-3-18\_n41-n78**

**Document for: Approval**

# 1 Introduction

This contribution is a text proposal for TR 37.717-11-21 to include DC\_1-3-18\_n41-n78 and according to the request in [1].

# 2. Reference

1. RP-201477, New WID on Dual Connectivity (DC) of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL).

# 3. Text Proposal

**[Start of text Proposal]**

## 8.X DC\_1-3-18\_n41-n78

### 8.X.1 Operating bands for DC

Table 8.X.1-1: DC band combination of LTE 3DL/1UL + inter-band NR 2DL/1UL

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E-UTRA and NR DC Band combination | E-UTRA and NR DC Band | Uplink (UL) band | | | Downlink (DL) band | | | **Duplex**  mode |
| BS receive / UE transmit | | | BS transmit / UE receive | | |
| FUL\_low – FUL\_high | | | FDL\_low – FDL\_high | | |
| DC\_1-3-18\_n41-n78 | 1 | 1920 MHz | – | 1980 MHz | 2110 MHz | – | 2170 MHz | FDD |
| 3 | 1710 MHz | – | 1785 MHz | 1805 MHz | – | 1880 MHz | FDD |
| 18 | 815 MHz | – | 830 MHz | 860 MHz | – | 875 MHz | FDD |
| n41 | 2496 MHz | – | 2690 MHz | 2496 MHz | – | 2690 MHz | TDD |
| n78 | 3300 MHz | – | 3800 MHz | 3300 MHz | – | 3800 MHz | TDD |

### 8.X.2 Channel bandwidths per operating band for DC

Table 8.X.2-1: Supported bandwidths per DC LTE 3DL/1UL + inter-band NR 2DL/1UL

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DC operating / channel bandwidth** | | | | | | | | | | | | | | | | | | | |
| **E-UTRA and NR DC Configuration** | **UL Configurations** | **E-UTRA and NR Band** | **Subcarrier Spacing**  **[kHz]** | **5**  **MHz** | **10**  **MHz** | **15**  **MHz** | **20**  **MHz** | **25**  **MHz** | **30**  **MHz** | **40**  **MHz** | **50**  **MHz** | **60**  **MHz** | **70**  **MHz** | **80**  **MHz** | **90**  **MHz** | **100**  **MHz** | **200**  **MHz** | **400**  **MHz** | **Maximum aggregated bandwidth For DL**  **[MHz]** |
| DC\_1A-3A-18A\_n41A-n78A | DC\_1A\_n41A  DC\_1A\_n78A  DC\_3A\_n41A  DC\_3A\_n78A  DC\_18A\_n41A  DC\_18A\_n78A | 1 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  | 255 |
| 3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 18 | 15 | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |  |
| n41 | 15 |  | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| 60 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| n78 | 15 |  | Yes | Yes | Yes |  |  | Yes | Yes |  |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  |  | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| 60 |  | Yes | Yes | Yes |  |  | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| DC\_1A-3A-18A\_n41A-n78(2A) | DC\_1A\_n41A  DC\_1A\_n78A  DC\_3A\_n41A  DC\_3A\_n78A  DC\_18A\_n41A  DC\_18A\_n78A | 1 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  | 355 |
| 3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 18 | 15 | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |  |
| n41 | 15 |  | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| 60 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |
| n78 | See CA\_n78(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 in TS38.101-1 | | | | | | | | | | | | | | | |

### 8.X.3 Co-existence studies

Co-existence studies of DC\_1A-3A-18A\_n41A-n**7**8**A** and protected bands are already covered in the constituent fall-back modes.

### 8.X.4 ∆TIB and ∆RIB values

For DC\_1-3-18\_n41-n78, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 8.X.4-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n41-n77 | 1 | 0.5 |
| 3 | 0.5 |
| 18 | 0.3 |
| n41 | 0.31 |
| 0.82 |
| n78 | 0.8 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz  NOTE 2 Applicable for the frequency range of 2496-2515 MHz. | | |

Table 8.X.4-2: ΔRIB

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n41-n77 | 1 | 0.0 |
| 3 | 0.5 |
| 18 | 0 |
| n41 | 01 |
| 0.52 |
| n78 | 0.5 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz  NOTE 2 Applicable for the frequency range of 2496-2515 MHz. | | |

### 8.X.5 MSD

As mentioned in 8.X.3, there is no need to specify additional MSD requirement for this UL DC configuration.

**[End of text Proposal]**