3GPP TSG-RAN WG4 Meeting # 100-e R4-2112656

Electronic Meeting, 16th – 27th August 2021

Source: Verizon, Samsung

Title: TP for TR 37.717-11-21 for DC\_13\_n5-n77

Agenda item: 8.19.2

Document for: Approval

# **Introduction**

This contribution is a text proposal for TR 37.717-11-21 to include DC\_13\_n5-n77 according to the request in [1].

**Reference**

[1] [RP-211043,](https://www.3gpp.org/ftp/TSG_RAN/TSG_RAN/TSGR_92e/Docs/RP-211043.zip) Revised WID on Rel-17 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)

# **Text Proposal**

**<Start of Text Proposal>**

## 6.107 DC\_13\_n5-n77

### 6.107.1 Operating bands for DC

Table 6.107.1-1: DC band combination of one LTE + 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\_13\_n5-n77 | 13 | 777 MHz | – | 787 MHz | 746 MHz | – | 756 MHz | FDD |
| n5 | 824 MHz | – | 849 MHz | 869 MHz | – | 894 MHz | FDD |
| n77 | 3300 MHz | – | 4200 MHz | 3300 MHz | – | 4200 MHz | TDD |

### 6.107.2 Configuratoin for DC

Table 6.107.2-1: Inter-band EN-DC configurations (three bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_13A\_n5A-n77A | DC\_13A\_ n77A | 13A | CA\_n5A-n77A |

### 6.107.3 Co-existence studies

According to the studies in 37.717-11-11, the Rx impacts are identified as below,

* For UL DC\_13A\_n77A, IMD5 of the 2UL may fall into band n5 Rx

Thus additional MSD should be considered to mitigate the impact of the interference for DC\_13A\_n5A-n77A combination.

### 6.107.4 ∆TIB and ∆RIB values

For DC\_13\_n5-n77, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.107.4-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_13\_n5-n77 | 13 | 0.5 |
| n5 | 0.6 |
| n77 | 0.8 |

Table 6.107.4-2: ΔRIB

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_13\_n5-n77 | 13 | 0.2 |
| n5 | 0.2 |
| n77 | 0.5 |

### 6.107.5 MSD

Based on Table 5.3-1 in TR 37.717-11-21, there is IMD5 produced by Band 13 and NR band n77 that impact the reference sensitivity of NR band n5.

The required MSD level and test configuration are specified in Table 6.107.5-1 for this dual connectivity configuration.

Table 6.107.5-1: Reference sensitivity exceptions for Scell due to dual uplink operation for DC in NR FR1 (three bands)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC bands | UL DC | IMD | | UL Fc  (MHz) | UL BW (MHz) | UL  RB # | DL Fc  (MHz) | DL BW  (MHz) | MSD  (dB) |
| DC\_13A\_n5A-n77A11 | 13 | IMD5 | |4\*fB13 -fn77| | 782 | 5 | 25 | 751 | 5 | **N/A** |
| n77 | 4013 | 10 | 50 | 4013 | 10 |
| n5 | 840 | 5 | 25 | 885 | 5 | **4.5** |
| NOTE 11:The MSD test points cannot be verified for the band combination in US due to the Band n77 frequency range restriction. | | | | | | | | | |

**<End of Text Proposal>**