**3GPP TSG-RAN WG4 Meeting # 100-e R4-2113060**

Electronic Meeting, August 16-27, 2021

**Source:** Huawei, HiSilicon, Bell Mobility, Telus

**Title:** TP for TR 37.717-11-21: DC\_12\_n66-n78

**Agenda Item:** 8.19.2

**Document for:** Approval

# Introduction

The WID for NR DC was updated in RAN #92-e meeting. This contribution provides a TP for TR 37.717-11-21 to finish the UE RF requirements for the band combination.

# References

[1] RP-211043, “Revised WID on DC of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL) in Rel-17”, LG Electronics

# Text Proposal

**<TP for TR 37.717-11-21>**

6.x DC\_12\_n66-n78

6.x.1 Operating bands for DC

**Table 6.x.1-1: DC band combination of LTE 1DL/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\_12\_n66-n78 | 12 | 699 MHz | – | 716 MHz | 729 MHz | – | 746 MHz | FDD |
| n66 | 1710 MHz | – | 1780 MHz | 2110 MHz | – | 2200 MHz | FDD |
| n78 | 3300 MHz | – | 3800 MHz | 3300 MHz | – | 3800 MHz | TDD |

### 6.x.2 Configuration for DC

**Table 6.x.2-1: Inter-band DC configurations (three bands)**

| **EN-DC**  **configuration** | **Uplink EN-DC**  **configuration**  **(NOTE 1)** |
| --- | --- |
| DC\_12A\_n66A-n78A  DC\_12A\_n66(2A)-n78A  DC\_12A\_n66A-n78(2A)  DC\_12A\_n66(2A)-n78(2A) | DC\_12A\_n66A  DC\_12A\_n78A |

6.x.3 Co-existence studies

Based on co-existence studies,

* 5th order IMD generated by dual uplink of 12\_n66 may fall into own Rx of band n78
* 3rd order IMD generated by dual uplink of 12\_n78 may fall into own Rx of band n66

6.x.4 ∆TIB and ∆RIB values

For DC\_12\_n66-n78, the ΔTIB,c and ΔRIB,c values are derived from DC\_12-66\_n78 and are given in the tables below.

**Table 6.x.4-1: ΔTIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| DC\_12\_n66-n78 | 12 | 0.6 |
| n66 | 0.6 |
| n78 | 0.8 |

**Table 6.x.4-2: ΔRIB**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB [dB]** |
| --- | --- | --- |
| DC\_12\_n66-n78 | 12 | 0.2 |
| n66 | 0.2 |
| n78 | 0.5 |

6.x.5 MSD

As mentioned in 6.x.3, 3rd order IMD generated by dual uplink of 12\_n78 may fall into own Rx of band n66, and 5th order IMD generated by dual uplink of 12\_n66 may fall into own Rx of band n78. As agreed in TR 37.716-21-21, the MSD is defined in Table 6.x.5-1.

**Table 6.x.5-1: Reference sensitivity exceptions due to dual uplink operation for EN-DC in NR FR1 (three bands)**

| **NR or E-UTRA Band / Channel bandwidth / NRB / MSD** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EN-DC Configuration** | **EUTRA / NR band** | **UL Fc  (MHz)** | **UL/DL BW  (MHz)** | **UL**  **LCRB** | **DL Fc (MHz)** | **MSD  (dB)** | **IMD order** |
| DC\_12A\_n66A-n78A  DC\_12A\_n66(2A)-n78A  DC\_12A\_n66A-n78(2A)  DC\_12A\_n66(2A)-n78(2A) | 12 | 703 | 5 | 25 | 733 | N/A | N/A |
| n66 | 1740 | 5 | 25 | 2140 | 16.5 | IMD3 |
| n78 | 3546 | 10 | 50 | 3546 | N/A | N/A |
| DC\_12A\_n66A-n78A  DC\_12A\_n66(2A)-n78A  DC\_12A\_n66A-n78(2A)  DC\_12A\_n66(2A)-n78(2A) | 12 | 703 | 5 | 25 | 733 | N/A | N/A |
| n66 | 1720 | 5 | 25 | 2120 | N/A | N/A |
| n78 | 3754 | 10 | 50 | 3754 | 4.1 | IMD5 |

**<End of TP >**