**3GPP TSG-RAN WG4 Meeting # 98-e R4-2101514**

Electronic Meeting, Jan. 25-Feb. 5, 2021

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

**Title:** TP for TR 38.717-03-02: CA\_n38-n66-n78

**Agenda Item:** 9.11.2

**Document for:** Approval

# 1 Introduction

The WID for NR DC was updated in RAN #90-e meeting. This contribution provides a TP for TR 38.717-03-02 to finish the UE RF requirements for the band combination.

# 2 References

[1] RP-202201, “Revised WID on Rel-17 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with 2 bands UL”, ZTE Corporation

# Text Proposal

**<TP for TR 38.717-03-02>**

### 5.1.x CA\_n38-n66-n78

#### 5.1.x.1 Operating bands for CA

**Table 5.1.x.1-1: 3DL Inter-band CA operating bands**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NR CA Band** | **NR Band** | **Uplink (UL) operating band** | | | **Downlink (DL) operating band** | | | **Duplex Mode** |
| **BS receive / UE transmit** | | | **BS transmit / UE receive** | | |
| **FUL\_low – FUL\_high** | | | **FDL\_low – FDL\_high** | | |
| CA\_n38-n66-n78 | n38 | 2570 MHz | – | 2620 MHz | 2570 MHz | – | 2620 MHz | TDD |
| n66 | 1710 MHz | – | 1780 MHz | 2110 MHz | – | 2200 MHz | FDD |
| n78 | 3300 MHz | – | 3800 MHz | 3300 MHz | – | 3800 MHz | TDD |

#### 5.1.x.2 Channel bandwidths per operating band for CA

**Table 5.1.x.2-1: Supported channel bandwidths per CA configuration for 3DL inter-band CA**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NR CA configuration** | **UL config** | **NR Band** | **Channel bandwidth (MHz) (NOTE 3)** | | | | | | | | | | | | | **BCS** |
|  |  |  | **5** | **10** | **15** | **20** | **25** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** |  |
| CA\_n38A-n66A-n78A | CA\_n38A-n66A  CA\_n38A-n78A  CA\_n66A-n78A | n38 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n66 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  |  |
| n78 |  | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |  |
| CA\_n38A-n66A-n78(2A) | CA\_n38A-n66A  CA\_n38A-n78A  CA\_n66A-n78A | n38 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n66 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  |  |
| n78 | See CA\_n78(2A) Bandwidth Combination Set 2 in Table 5.5A.2-1 | | | | | | | | | | | | |  |
| CA\_n38A-n66(2A)-n78A | CA\_n38A-n66A  CA\_n38A-n78A  CA\_n66A-n78A | n38 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n66 | See CA\_n66(2A) Bandwidth Combination Set 1 in Table 5.5A.2-1 | | | | | | | | | | | | |  |
| n78 |  | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |  |
| CA\_n38A-n66(2A)-n78(2A) | CA\_n38A-n66A  CA\_n38A-n78A  CA\_n66A-n78A | n38 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n66 | See CA\_n66(2A) Bandwidth Combination Set 1 in Table 5.5A.2-1 | | | | | | | | | | | | |  |
| n78 | See CA\_n78(2A) Bandwidth Combination Set 2 in Table 5.5A.2-1 | | | | | | | | | | | | |  |

#### 5.1.x.3 UE co-existence studies

For 3DL/2UL NR CA, only the IMD issues due to dual uplink operation of two bands falling into the DL of the third band shall be verified.

* IMD3 interference generated by UL CA\_n38-n66 might affect DL n78.
* IMD4 interference generated by UL CA\_n38-n78 might affect DL n66.

#### 5.1.x.4 REFSENS requirements

For the case MSD values for IMD3 interference affect n66 DL, MSD values are derived from DC\_7A-66A\_n78A. For the case MSD values for IMD3 interference affect n78 DL, MSD values are derived from DC\_66A\_n38A-n78A.

Below are the updates needed in Table 7.3A.5-2 of TS 38.101-1.

**Table 5.1.x.4-1: 3DL/2UL interband Reference sensitivity QPSK PREFSENS and uplink/downlink configurations**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Band / Channel bandwidth / NRB / Duplex mode** | | | | | | | | **Source of IMD** |
| **NR CA**  **Configuration** | **NR band** | **UL Fc  (MHz)** | **UL/DL BW  (MHz)** | **UL  CLRB** | **DL Fc (MHz)** | **MSD  (dB)** | **Duplex mode** |
| CA\_n38A-n66A-n78A  CA\_n38A-n66A-n78(2A)  CA\_n38A-n66(2A)-n78A  CA\_n38A-n66(2A)-n78(2A) | n38 | 2550 | 5 | 25 | 2550 | N/A | TDD | N/A |
| n66 | 1750 | 5 | 25 | 2150 | 8.7 | FDD | IMD4 |
| n78 | 3625 | 10 | 50 | 3625 | N/A | TDD | N/A |
| n38 | 2610 | 5 | 25 | 2610 | N/A | TDD | N/A |
| n66 | 1760 | 5 | 25 | 2160 | N/A | FDD | N/A |
| n78 | 3460 | 10 | 50 | 3460 | 15.0 | TDD | IMD3 |
|  | | | | | | | | |

**<End of TP >**