**3GPP TSG-RAN WG4 Meeting #98-e R4-2100969**

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

**Source:** Samsung, KDDI

**Title:** TP for TR 38.717-03-02: CA\_n28-n41-n77

**Agenda item:**  9.11.2

**Document for:** Approval

1. Introduction

This contribution is a text proposal for TR 38.717-03-02 to include CA\_n28A-n41A-n77A and CA\_n28A-n41A-n77(2A) according to the request in [1].

# 2. Reference

1. RP-202201, Revised WID on Rel-17 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with 2 bands UL.

3. Text Proposal

**<Start of Text Proposal>**

## 5.1.x CA\_n28-n41-n77

### 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\_n28-n41-n77 | n28 | 703MHz | – | 748MHz | 758MHz | – | 803MHz | FDD |
| n41 | 2496MHz | – | 2690MHz | 2496MHz | – | 2690MHz | TDD |
| n77 | 3300MHz | – | 4200MHz | 3300MHz | – | 4200MHz | 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** | **Uplink CA configuration** | **NR Band** | **Channel bandwidth (MHz) (NOTE 3)** | | | | | | | | | | | | | **Bandwidth combination set** |
| **5** | **10** | **15** | **20** | **25** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** |
| CA\_n28A-n41A-n77A  CA\_n28A-n41A-n77(2A) | CA\_n28A-n41A  CA\_n28A-n77A  CA\_n41A-n77A | n28 | 5 | 10 | 15 | 20 |  | 30 |  |  |  |  |  |  |  | 0 |
| n41 |  | 10 | 15 | 20 |  | 30 | 40 | 50 | 60 |  | 80 | 90 | 100 |
| n77 | See CA\_n77(2A) Bandwidth Combination Set 2 in Table 5.5A.2-1 in TS 38.101-1 | | | | | | | | | | | | |

### 5.1.x.3 Co-existence studies

Co-existence studies of CA\_n28-n41-n77 with 2UL are already covered in the constituent fall-back modes, it can get that:

- IMD2, IMD3 and IMD 5 of band n41 UL and band n77 UL falling to band n28 DL, while for IMD3 it doesn’t need MSD results for lower order IMD.

- IMD2 and IMD3 of band n28 UL and band n77 UL falling to band n41 DL, while for IMD3 it doesn’t need MSD results for lower order IMD.

- IMD2, IMD3 and IMD4 of band n28 UL and band n41 UL falling to band n77 DL, while for IMD3 and IMD4 it doesn’t need MSD results for lower order IMD.

### 5.1.x.4 REFSENS requirements

Table 5.1.x.4-1 shows the required MSD levels for the CA configuration, its value can reuse the value of DC\_41A\_n28A-n77A, DC\_28A-41A\_n77A and DC\_28A-41A\_n77A in TS 38.101-3.

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

| **EN-DC Configuration** | **EUTRA/NR band** | **UL Fc  (MHz)** | **UL/DL BW  (MHz)** | **UL**  **LCRB** | **DL Fc (MHz)** | **MSD  (dB)** | **Duplex mode** | **IMD order** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CA\_n28A-n41A-n77(2A) | n41 | 2642 | 5 | 25 | 2642 | N/A | TDD | N/A | |
| n77 | 3440 | 10 | 50 | 3440 | N/A | TDD | N/A | |
| n28 | 743 | 5 | 25 | 798 | 30.8 | FDD | IMD21 | |
| n41 | 2567.5 | 10 | 50 | 2567.5 | N/A | TDD | N/A | |
| n77 | 3460 | 10 | 50 | 3460 | N/A | TDD | N/A | |
| n28 | 727.5 | 5 | 25 | 782.5 | 3.0 | FDD | IMD5 | |
| n28 | 738 | 5 | 25 | 793 | N/A | FDD | N/A | |
| n77 | 3380 | 10 | 50 | 3380 | N/A | TDD | N/A | |
| n41 | 2642 | 5 | 25 | 2642 | 29.5 | TDD | IMD2 | |
| n41 | 2580 | 5 | 25 | 2580 | N/A | TDD | N/A | |
| n28 | 743 | 5 | 25 | 798 | N/A | FDD | N/A | |
| n77 | 3323 | 10 | 50 | 3323 | 28.2 | TDD | IMD21 | |
| NOTE 1: This band is subject to IMD3 also which MSD is not specified. | | | | | | | | |

<End of Text Proposal>