**3GPP TSG-RAN WG4 Meeting #98-e R4-2100968**

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

**Source:** Samsung, KDDI

**Title:** TP for TR 38.717-03-02: CA\_n3-n41-n78

**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\_n3A-n41A-n78A and CA\_n3A-n41A-n78(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\_n3-n41-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\_n3-n41-n78 | n3 | 1710MHz | – | 1780MHz | 1805MHz | – | 1880MHz | FDD |
| n41 | 2496MHz | – | 2690MHz | 2496MHz | – | 2690MHz | TDD |
| n78 | 3300MHz | – | 3800MHz | 3300MHz | – | 3800MHz | 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\_n3A-n41A-n78A | CA\_n3A-n41A  CA\_n3A-n78A  CA\_n41A-n78A | n3 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n41 |  | 10 | 15 | 20 |  | 30 | 40 | 50 | 60 |  | 80 | 90 | 100 |
| n78 |  | 10 | 15 | 20 |  |  | 40 | 50 | 60 |  | 80 | 90 | 100 |
| CA\_n3A-n41A-n78(2A) | CA\_n3A-n41A  CA\_n3A-n78A  CA\_n41A-n78A | n3 | 5 | 10 | 15 | 20 | 25 | 30 | 40 |  |  |  |  |  |  | 0 |
| n41 |  | 10 | 15 | 20 |  | 30 | 40 | 50 | 60 |  | 80 | 90 | 100 |
| n78 | See CA\_n78(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\_n3-n41-n78 with 2UL are already covered in the constituent fall-back modes, it can get that:

- IMD3 and IMD 4of band n41 UL and band n78 UL falling to band n3 DL, while for IMD4 it doesn’t need MSD results for lower order IMD.

- IMD2, IMD3 and IMD5 of band n3 UL and band n41 UL falling to band n78 DL, while there was no IMD2 impact to n78 and for IMD5 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\_3A-n41A\_n78A and DC\_3A-41A\_n78A 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\_n3A-n41A-n78A  CA\_n3A-n41A-n78(2A) | n3 | 1730 | 5 | 25 | 1825 | N/A | FDD | N/A |
| n41 | 2560 | 10 | 50 | 2560 | N/A | TDD | N/A |
| n78 | 3390 | 10 | 50 | 3390 | 16.4 | TDD | IMD3 |
| n3 | 1745 | 5 | 25 | 1840 | 16.4 | TDD | IMD3 |
| n41 | 2620 | 5 | 25 | 2620 | N/A | FDD | N/A |
| n78 | 3400 | 10 | 52 | 3400 | N/A | TDD | N/A |

<End of Text Proposal>