**3GPP TSG-RAN WG4 Meeting #97-e R4-20xxxxx**

**Online, 2nd-13th Nov, 2020**

**Source:** Samsung, KDDI

**Title:** TP for TR 38.717-03-02: CA\_n3-n28-n78

**Agenda item:**  10.11.2

**Document for:** Approval

1. Introduction

This contribution is a text proposal for TR 38.717-03-02 to include CA\_n3A-n28A-n78(2A) according to the request in [1].

# 2. Reference

1. RP-201541, 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-n28-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-n28-n78 | n3 | 1710MHz | – | 1780MHz | 1805MHz | – | 1880MHz | FDD |
| n28 | 703MHz | – | 748MHz | 758MHz | – | 803MHz | FDD |
| 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** | **UL Config** | **NR Band** | **SCS [kHz]** | **5** | **10** | **15** | **20** | **25** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** | **Bandwidth combination set** |
| CA\_n3A-n28A-n78A | CA\_n3A-n28A | n3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n28 | 15 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n78 | 15 |  | Yes | Yes | Yes |  |  | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 60 |  | Yes | Yes | Yes |  |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| CA\_n3A-n28A-n78(2A) | CA\_n3A-n28A | n3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n28 | 15 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n78 | See CA\_n78(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 in TS 38.101-1 |

NOTE: For the UE that signals support of any bandwidth combination set for carrier aggregation, the UE shall support all single carrier bandwidths for the constituent bands as defined in Table 5.3.5-1 of TS 38.101-1 [3] and in Table 5.3.5-1 of TS 38.101-2 when operating in single carrier mode.

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

Co-existence studies of CA\_n3-n28-n78 with 2UL are already covered in the constituent fall-back modes, it can get that:

- IMD5 of band n3 UL and band n28 UL falling to band n78 DL

### 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 for DC\_3A\_n28A-n78A.

**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-n28A-n78ACA\_n3A-n28A-n78(2A) | n3 | 1750 | 5 | 25 | 1845 | N/A | FDD | N/A |
| n28 | 743 | 5 | 25 | 798 | N/A | N/A |
| n78 | 3764 | 10 | 50 | 3764 | 4.5 | IMD5 |

<End of Text Proposal>