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

**Online, 26th Oct-13th Nov, 2020**

**Source:** Samsung, KDDI

**Title:** TP for TR 38.717-03-01: CA\_n3A-n41A-n78(2A)

**Agenda item:**  10.9.2

**Document for:** Approval

1. Introduction

This contribution is a text proposal for TR 38.717-03-01 to include CA\_n3A-n41A-n78(2A) according to the request in [1].

# 2. Reference

1. RP-201787, New WID on Rel-17 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with 1 bands UL.

3. Text Proposal

**<Start of Text Proposal>**

## 6.4 CA\_n3-n41-n78

### 6.4.1 Operating bands for CA

Table 6.4.1-1: 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 |

### 6.4.2 Channel bandwidths per operating band for CA

Table 6.4.2-1: 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-n41A-n78A | - | n3 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n41 | 15 |  | Yes | 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 |
| n78 | 15 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| CA\_n3A-n41A-n78(2A) | - | n3 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n41 | 15 |  | Yes | 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 |
| n78 | See CA\_n78(2A) Bandwidth Combination Set 2 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.

### 6.4.3 Co-existence studies

Co-existence studies of CA\_n3-n41-n78 with 1UL are already covered in the constituent fall-back modes.

### 6.4.4 ∆TIB,c and ∆RIB,c values

For CA\_n3-n41-n78, the ΔTIB,c and ΔRIB,c values can reuse the values for DC\_3-41\_n78 as shown in table 6.4.4-1 and table 6.4.4-2, respectively.

Table 6.4.4-1: ΔTIB,c for 3DL aggregation

| **Inter-band CA Configuration** | **NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| CA\_n3-n41-n78 | n3 | 0.6 |
| n41 | 0.31/0.82 |
| n78 | 0.8 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2515-2690 MHz. NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2515 MHz. |

Table 6.4.4-2: ΔRIB,c for 3DL aggregation

| **Inter-band CA Configuration** | **NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| CA\_n3-n41-n78 | n3 | 0.2 |
| n41 | 01/0.52 |
| n78 | 0.5 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2515-2690 MHz. NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496-2515 MHz. |

### 6.4.5 REFSENS requirements

There are no additional MSD requirements for this band combination

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