**3GPP TSG-RAN WG4 Meeting #97-e R4-2016333**

**Electronic Meeting, 02 November – 13 November 2020**

**Source:** Ericsson, T-Mobile US

**Title:** TP for TR 38.717-03-02: CA\_n25-n41-n77

**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\_n25A-n41A-n77A, CA\_n25A-n41(2A)-n77A and CA\_n25A-n41C-n77A as defined in WID [1].

# 2. Text Proposal

# ---Start of changes---

### 5.1.x CA\_n25-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\_n25-n41-n77 | n25 | 1850 MHz | – | 1915 MHz | 1930 MHz | – | 1995 MHz | FDD |
| n41 | 2496 MHz | – | 2690 MHz | 2496 MHz | – | 2690 MHz | TDD |
| n77 | 3300 MHz | – | 4200 MHz | 3300 MHz | – | 4200 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** | **SCS [kHz]** | **5** | **10** | **15** | **20** | **25** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** | **BCS** |
| CA\_n25A-n41A-n77A | CA\_n25A-n41A  CA\_n25A-n77A  CA\_n41A-n77A | n25 | 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 |
| n77 | 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\_n25A-n41(2A)-n77A | CA\_n25A-n41A  CA\_n25A-n77A  CA\_n41A-n77A | n25 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n41 | See CA\_n41(2A) Bandwidth Combination Set 1 in Table 5.5A.2-1 | | | | | | | | | | | | | |
| n77 | 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\_n25A-n41C-n77A | CA\_n25A-n41A  CA\_n25A-n77A  CA\_n41A-n77A | n25 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  | 0 |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n41 | See CA\_n41C Bandwidth Combination Set 0 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| n77 | 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 |
|  | | | | | | | | | | | | | | | | | |

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

IMD3 and IMD5 generated by UL n25-n41 might affect DL n77.

IMD5 generated by UL n25-n77 might affect DL n41.

IMD3 and IMD4 generated by UL n41-n77 might affect DL n25.

#### 5.1.x.4 REFSENS requirements

CA\_n25-n41-n77 need to have the same MSD requirements defined.

MSD values n77 are derived from DC\_2A\_n38A-n78A for IMD3 and DC\_2A\_n7A-n78A for IMD5.

MSD values n41 are derived from DC\_3A-41A\_n77A.

MSD values n25 are derived from DC\_3A-7A\_n77A for IMD3 and DC\_2A-7A\_n78A for IMD4.

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\_n25A-n41A-n77A  CA\_n25A-n41(2A)-n77A CA\_n25A-n41C-n77A | n25 | 1870 | 5 | 25 | 1950 | N/A | FDD | N/A |
| n41 | 2610 | 5 | 25 | 2610 | N/A | TDD | N/A |
| n77 | 3350 | 10 | 50 | 3350 | 14.8 | TDD | IMD3 |
| n25 | 1900 | 5 | 25 | 1980 | N/A | FDD | N/A |
| n41 | 2525 | 5 | 25 | 2645 | N/A | TDD | N/A |
| n77 | 3775 | 10 | 50 | 3775 | 4.2 | TDD | IMD5 |
| n25 | 1870 | 5 | 25 | 1950 | N/A | FDD | N/A |
| n41 | 2640 | 5 | 25 | 2640 | 5.3 | TDD | IMD5 |
| n77 | 4125 | 10 | 50 | 4125 | N/A | TDD | N/A |
| n25 | 1870 | 5 | 25 | 1950 | 17.6 | FDD | IMD3 |
| n41 | 2565 | 5 | 25 | 2565 | N/A | TDD | N/A |
| n77 | 3180 | 10 | 50 | 3310 | N/A | TDD | N/A |
| n25 | 1870 | 5 | 25 | 1950 | 8.6 | FDD | IMD4 |
| n41 | 2550 | 5 | 25 | 2685 | N/A | TDD | N/A |
| n77 | 3525 | 10 | 50 | 3475 | N/A | TDD | N/A |

---End of changes---

# Reference

[1] RP-201541, “Revised WID on Rel-17 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with 2 bands UL”, ZTE