**3GPP TSG-RAN WG4 Meeting #111 R4-2410556**

**Fukuoka, Japan, May 20-24, 2024 Revision of R4-2407708**

**Source:** T-Mobile USA

**Title:** TP for TR 38.850: DL CA\_n71(2A) UL PC2 n71A

**Agenda item:** 6.18.2

**Document for:** Approval

1. **Introduction**

This contribution is a text proposal to update the PC2 n71 for DL CA\_n71(2A). This is based on input from several companies. It is anticipated that it will need to be updated in RAN4#111. For now the proposed values are [TBD].

This revision updates the TBD values with the linear average of the values proposed by Skyworks, Qualcomm and Murata.

1. **Reference**

[1]

1. **Text Proposal**

# 6 High Power UE for Intra-band DL CA with PC2 on single FDD band

## 6.1 CA\_n71(2A)

### 6.1.1 UE maximum output power

Table 5.5A.2-1: NR CA configurations and bandwidth combination sets defined for intra-band non-contiguous CA

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA Configuration | Uplink CA Configurations or single uplink carrier5 | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Channel bandwidths for carrier  (MHz) | Maximum  Aggregated bandwidth  (MHz) | Bandwidth combination set |
| CA\_n71(2A) | n713 | 5, 10, 15, 20 | 5,10,15, 20 |  |  | 30 | 0 |
|  |  | See n71 channel bandwidths in Table 5.3.5-1 for each carrier up to 25 MHz per carrier | |  |  | 30 | 4 and 5 |
| NOTE 3: Minimum requirements for Power Class 2 are applicable for this uplink combination or single uplink carrier in this downlink/uplink combination | | | | | | | |

### 6.1.2 Reference sensitivity requirements

#### 6.1.2.0 General

For PC2, CA\_n71(2A) has self-interference for UL n71. This section will examine the existing PC3 MSD and propose MSD for PC2 FDD.

#### 6.1.2.1 Reference sensitivity requirements with PC2 on n71 without TxD

For CA\_n71(2A), this is the configuration and MSD for UL n71 with PC3 based on the proposal in R4-2407158

Table 7.3A.2.2-1: Intra-band non-contiguous CA with one uplink configuration for reference sensitivity in FDD bands.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CA configuration | SCS  (PCC/SCC)  (kHz) | Aggregated channel bandwidth (PCC+SCC) | Wgap / [MHz] | UL PCC allocation  (LCRB) | ΔRIBNC (dB) | Duplex mode |
| CA\_n71(2A) | 15/15 |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  | 15MHz + 10MHz | Wgap = 10.0 | 5 (RBstart = 2) | 22.2 |  |
|  |  | 25MHz + 5MHzx | Wgap = 5.0 | 20 (RBstart = 19) | 25.1 |  |
| NOTE x: Applicable only to Bandwidth Combination Set 4 and 5 and for UEs supporting the symmetrical UL/DL channel bandwidths. | | | | | | |

The following is proposed as a the PC2 single Tx MSD which would require a new table in 38.101-1 based on the linear average of values proposed by Skyworks, Qualcomm and Murata:



**Table 7.3A.2.2-1a: Power class 2 intra-band non-contiguous CA reference sensitivity with one uplink carrier.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CA configuration** | **SCS**  **(kHz)** | **Aggregated channel bandwidth (PCC+SCC)** | **Wgap / [MHz]** | **UL PCC allocation** | **SCC**  **ΔRIBNC1 (dB)** | **SCC**  **ΔRIBNC2 (dB)** | **Duplex mode** |
| CA\_n71(2A) | 15/15 | 15MHz + 10MHz | Wgap = 10.0 | 5 (RBstart = 2) | 24.8 |  | FDD |
|  |  | 25MHz + 5MHz1 | Wgap = 5.0 | 20 (RBstart = 8) | 27.23 |  |  |
| NOTE 1: Applicable to UE supporting PC2 with single Tx.  NOTE 2: Applicable to UE supporting PC2 with dual Tx.  NOTE 3: Applicable only to BCS 4 and 5 and for UEs supporting the optional symmetrical UL/DL channel bandwidths. | | | | | | | |

#### 6.1.2.2 Reference sensitivity requirements with PC2 on n71 with TxD

tThe following is proposed as a the PC2 dual Tx MSD which would require a new table in 38.101-1 based on the linear average of values proposed by Skyworks, Qualcomm and Murata:

**Table 7.3A.2.2-1a: Power class 2 intra-band non-contiguous CA reference sensitivity with one uplink carrier.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CA configuration** | **SCS**  **(kHz)** | **Aggregated channel bandwidth (PCC+SCC)** | **Wgap / [MHz]** | **UL PCC allocation** | **SCC**  **ΔRIBNC1 (dB)** | **SCC**  **ΔRIBNC2 (dB)** | **Duplex mode** |
| CA\_n71(2A) | 15/15 | 15MHz + 10MHz | Wgap = 10.0 | 5 (RBstart = 2) |  | 29.3 | FDD |
|  |  | 25MHz + 5MHz1 | Wgap = 5.0 | 20 (RBstart = 8) |  | 31.83 |  |
| NOTE 1: Applicable to UE supporting PC2 with single Tx.  NOTE 2: Applicable to UE supporting PC2 with dual Tx.  NOTE 3: Applicable only to BCS 4 and 5 and for UEs supporting the optional symmetrical UL/DL channel bandwidths. | | | | | | | |