**3GPP TSG-RAN WG4 Meeting # 111 R4-2410547**

**Fukuoka Meeting, May 20th – May 24th, 2024**

**Title: TP to TR 38.850 to add HP-NRCA n1-n3**

**Source: Nokia, BT plc**

**Agenda item: 6.18.2**

**Document for: Approval**

# 1 Introduction

This contribution is a text proposal for TR38.850 for adding PC2 of n3 in CA\_n1A-n3A.

This contribution is a text proposal to introduce PC2 n3 for DL CA\_n1A-n3A.

There is no cross-band isolation MSD for PC3 n3 for DL CA\_n1A-n3A and there’s no uplink harmonic of harmonic mixing MSD.

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5.x CA\_n1A-n3A

5.x.1 UE maximum output power

Table 5.5A.3.1-1: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NR CA configuration** | **Uplink CA configuration or single uplink carrier10** | **NR Band** | **Channel bandwidth (MHz)** | **Bandwidth combination set** |
| CA\_n1A-n3A | n38CA\_n1A-n3A | n1 | 5, 10, 15, 20 | 0 |
| n3 | 5, 10, 15, 20, 25, 30 |
| n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| n3 | 5, 10, 15, 20, 25, 30, 40 |
|  |  | n1 | 5, 10, 15, 20 | 2 |
|  |  | n3 | 5, 10, 15, 20, 25, 30, 35, 40 |  |
|  |  | n1 | n1 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
|  |  | n3 | n3 channel bandwidths in Table 5.3.5-1 |  |
| NOTE 8: Minimum requirements for Power Class 2 are applicable for this uplink combination with 1Tx antenna connector in each band or single uplink carrier with up to 2Tx antenna connectors in this downlink/uplink combinationNOTE 10: Only single uplink carriers with power class other than PC3 are listed. |

5.x.2 REFSENS requirements

Analysis of REFSENS exceptions or MSD requirements is needed due to higher power uplink.

#### 5.x.2.0 General

For PC3, CA\_ n1A-n3A has no cross-band isolation MSD for UL n3.

For PC3, CA\_ n1A-n3A has no uplink harmonic or harmonic mixing MSD for UL n3.

#### 5.x.2.1 Reference sensitivity requirements with PC2 with TxD

Based on vendor input the following MSD have been defined.**Table 5.x.2.1-1: Reference sensitivity exceptions and uplink/downlink configurations due to cross band isolation from NR UL band for NR DL CA FR1 for UE supporting Tx Diversity**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UL band | DL band | UL Fc | UL BW | SCS of UL band | UL RB Allocation | DL Fc | DL BW | MSD | Cross-bandInterferencesource |
| (MHz) | (MHz) | (kHz) | LCRB | (MHz) | (MHz) | (dB) |
| n3 | n1 | 1760 | 50 | 15 | 50 (RBstart=220) | 2112.5 | 5 | 1.1 | >ALCR2 |

#### 5.x.2.2 Reference sensitivity requirements with PC2 without TxD

Based on vendor input the following MSD have been defined.

**Table 5.x.2.1-2: Reference sensitivity exceptions and uplink/downlink configurations due to cross band isolation from NR UL band for NR DL CA FR1 for UE not supporting Tx Diversity**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UL band | DL band | UL Fc | UL BW | SCS of UL band | UL RB Allocation | DL Fc | DL BW | MSD | Cross-bandInterferencesource |
| (MHz) | (MHz) | (kHz) | LCRB | (MHz) | (MHz) | (dB) |
| n3 | n1 | 1760 | 50 | 15 | 50 (RBstart=220) | 2112.5 | 5 | 0.8 | >ALCR2 |

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