**3GPP TSG-RAN WG4 Meeting #111R4-2409848**

**Fukuoka City, Fukuoka, Japan, 20th – 24th May, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Draft CR to 38.101-4: PDCCH requirement for DSS enhancement (FDD 2Rx) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_DSS\_enh-Perf | | | | |  | ***Date:*** | | | 20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RAN4 agreed to define PDCCH requirement for the WI NR\_DSS\_enh. The draft Big CR (R4-2405485) were endorsed in RAN4#110-bis.   1. In R4-2405485, some sentences and parameter desciptions are not align in Clauses for NR\_DSS\_enh-Perf WI. 2. In R4-2405485, the SNR value for requirements is [TBD]. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Revise the sentences and parameter desciptions to align with other Clause for NR\_DSS\_enh-Perf WI. 2. Add the SNR value for requirements based on the simulation summary from companies. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | PDCCH requirement in DSS scenario is not complete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.2.1.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS38.521-4 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**START OF CHANGE 1**

##### 5.3.2.1.6 Minimum requirements for PDCCH overlapping with LTE CRS

The parameters specified in Table 5.3.2.1.6-1 are additional parameters for requirements with PDCCH overlapping with LTE CRS.

Table 5.3.2.1.6-1: Test parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | | Unit | Value |
| Duplex mode | |  | FDD |
| Active DL BWP index | |  | 1 |
| NR UL transmission with a 7.5 kHz shift to the LTE raster | |  | true |
| PDCCH configuration | Symbols with PDCCH |  | Symbol#1 and #2 | |
| CRS for rate matching (Note 1) | LTE carrier centre subcarrier location |  | Same as NR carrier centre subcarrier location |
|  | LTE carrier BW | MHz | 10 |
|  | Number of antenna ports |  | 4 |
|  | v-shift |  | 0 |
| Note 1: No MBSFN is configured on LTE carrier.  Note 2: NR PDCCH data REs and DMRS REs overlapped with LTE CRS are punctured at the transmitter side. | | | |

For the parameters specified in Table 5.3.2.1.6-1, the average probability of a missed downlink scheduling grant (Pm-dsg) shall be below the specified value in Table 5.3.2.1.6-2. The downlink physical setup is in accordance with Annex C.3.1.

Table 5.3.2.1.6-2: Minimum performance for PDCCH with 15 kHz SCS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test number | Bandwidth (MHz) | CORESET RB | CORESET duration | Aggregation level | Reference Channel | Propagation Condition | Antenna configuration and correlation Matrix | Reference value | |
| Pm-dsg (%) | SNR (dB) |
| 1 | 10 | 48 | 2 | 8 | R.PDCCH.1-2.9 FDD | TDLC300-100 | 4x2 Low | 1 | [-0.5] |

**END OF CHANGE 1**