**3GPP TSG-RAN WG4 Meeting #111R4-2409991**

**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 canbe 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].
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| ***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.
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| ***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 | [-0.2] |

**END OF CHANGE 1**