**3GPP TSG- RAN WG4 Meeting #111R4-2409849**

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

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| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-4** | **CR** | **-** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  |
| *For* ***[HELP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <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 TS38.101-4: Introduction of PDCCH requirement for DSS enhancement -TDD 4Rx |
|  |  |
| ***Source to WG:*** | ZTE Corporation,Sanechips |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_DSS\_enh-Perf |  | ***Date:*** | 2024-05-20 |
|  |  |  |  |  |
| ***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:*** | Introduction of PDCCH requirement for DSS enhancement is missing. |
|  |  |
| ***Summary of change:*** | Introduction of PDCCH requirement for DSS enhancement for TDD 4Rx. |
|  |  |
| ***Consequences if not approved:*** | RAN4 introduced eDSS feature in R-18. Otherwise, PDCCH requirements for DSS enhancement is missing. |
|  |  |
| ***Clauses affected:*** | 5.3.3.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS/TR 38.521-4  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

#### < START OF CHANGE>

##### 5.3.3.2.5 Minimum requirement for PDCCH overlapping with LTE CRS

The parameters specified in Table 5.3.3.2.5-1 are additional parameters for requirements with PDCCH overlapping with LTE CRS.

**Table 5.3.3.2.5-1: Test Parameters**

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Unit** | **Value** |
| TDD UL-DL pattern |  | FR1.15-1 |
| NR UL transmission with a 7.5 kHz shift to the LTE raster  |  | true |
| CCE to REG mapping type |  | Non-interleaved |
| REG bundle size |  | 6 |
| Shift Index |  | 0 |
| 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: LTE carrier is configured with Uplink-downlink configuration 2 [Table 4.2-2, TS 36.211] and Special subframe configuration 7 [Table 4.2-1, TS 36.211]. The start of transmission of LTE frame is delayed by 2 LTE subframes with respect to the start of transmission of NR frame.Note 3: NR PDCCH data REs and DMRS REs overlapped with LTE CRS are punctured at the transmitter side |

For the parameters specified in Table 5.3.3.2.5-1, the average probability of a missed downlink scheduling grant (Pm-dsg) shall be below the specified value in Table 5.3.3.2.5-2. The downlink physical setup is in accordance with Annex C.3.1.

Table 5.3.3.2.5-2: Minimum performance for PDCCH with 15kHz 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 | 4 | R.PDCCH.1-2.7 TDD | TDLA30-10 | 4x4 Low | 1 | [-0.3] |

#### < End OF CHANGE>