**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](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:*** | (NR\_NTN\_solutions-Perf) CR to 38.101-5 to update section with PDSCH demod requirements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | RAN4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | Incorrect reference to downlink channels setup  Missing note for requirements for disabled HARQ | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Corrected reference to downlink channels setup  Added note for requirements for disabled HARQ | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The requirements will not be complete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.2.1.2.2.1.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS/38.531-5 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision of R4-2407355 | | | | | | | | |

8.2.1.2.2.1.1 Minimum requirements for PDSCH Mapping Type A

The performance requirements are specified in Table 8.2.1.2.2.1.1-3 with the addition of test parameters in Table 8.2.1.2.2.1.1-2 and the downlink physical channel setup according to Annex C.3.1.

The test purposes are specified in Table 8.2.1.2.2.1.1-1.

**Table 8.2.1.2.2.1.1-1: Tests purpose**

|  |  |
| --- | --- |
| **Purpose** | **Test index** |
| Verify the PDSCH mapping Type A normal performance under 2 receive antenna conditions and with different channel models and MCS | 1-1, 1-2, 1-3, 1-4 |

**Table 8.2.1.2.2.1.1-2: Test parameters**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | | **Unit** | **Value** |
| Duplex mode | |  | FDD |
| Active DL BWP index | |  | 1 |
| PDSCH configuration | Mapping type |  | Type A |
|  | k0 |  | 0 |
|  | Starting symbol (S) |  | 2 |
|  | Length (L) |  | 12 |
|  | PDSCH aggregation factor |  | 1 |
|  | PRB bundling type |  | Static |
|  | PRB bundling size |  | 2 |
|  | Resource allocation type |  | Type 0 |
|  | RBG size |  | Config2 |
|  | VRB-to-PRB mapping type |  | Non-interleaved |
|  | VRB-to-PRB mapping interleaver bundle size |  | N/A |
| PDSCH DMRS configuration | DMRS Type |  | Type 1 |
|  | Number of additional DMRS |  | 1 |
|  | Maximum number of OFDM symbols for DL front loaded DMRS |  | 1 |
| CSI-RS for tracking | CSI-RS periodicity | Slots | 20 for CSI-RS resource 1,2,3,4. |
|  | CSI-RS offset | Slots | 10 for CSI-RS resource 1 and 2 11 for CSI-RS resource 3 and 4. |
| Number of HARQ Processes | |  | 16 for Test 1-1, Test 1-2 32 for Test 1-3  4 with feedback disabled, 12 with feedback enabled in 16 HARQ processes with re-Tx disable for all HARQ for Test 1-4 in which 4 disabled processes are randomly select at test configuration |
| The number of slots between PDSCH and corresponding HARQ-ACK information | |  | 10 for Test 1-1, Test 1-2, Test 1-3 N/A for Test 1-4 |
| Maximum number of HARQ transmission | |  | 4 for Test 1-1, Test 1-2, Test 1-3  Disabled for all HARQ processes  for Test 1-4 |

**Table 8.2.1.2.2.1.1-3: Minimum performance for Rank 1**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test num.** | **Reference channel** | **Bandwidth (MHz) / Subcarrier spacing (kHz)** | **Modulation format and code rate** | **Propagation condition** | **Correlation matrix and antenna configuration** | **Reference value** | |
|  |  |  |  |  |  | **Fraction of maximum throughput (%)** | **SNR (dB)** |
| 1-1 | R.PDSCH.1-1.1 FDD | 10 / 15 | QPSK, 0.30 | NTN-TDLA100-200 | 1x2, ULA Low | 70 | 0.3 |
| 1-2 | R.PDSCH.1-2.1 FDD | 10 / 15 | 16QAM, 0.48 | NTN-TDLC5-200 | 1x2, ULA Low | 70 | 7.6 |
| 1-3 | R.PDSCH.1-1.1 FDD | 10 / 15 | QPSK, 0.30 | NTN-TDLC5-200 | 1x2, ULA Low | 70 | -0.4 |
| 1-4 | R.PDSCH.1-1.1 FDD(1) | 10 / 15 | QPSK, 0.30 | NTN-TDLA100-200 | 1x2, ULA Low | 70 | 1.1 |
| Note1: The Maximum throughput is based on the HARQ processes with HARQ feedback enabled. | | | | | | | |