**3GPP TSG-RAN4 Meeting #95-e *R4-2008870***

**Electronic Me**e**ting, 25 May – 5 June 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.104** | **CR** | **0172** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  |
| *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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  |  Correction on requirement of UCI multiplexed on PUSCH |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Perf |  | ***Date:*** | 2020-05-25 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-16 |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | One of the requirements table is dupliced and the right table is missing. The change is for Rel-16 but it will make sure the Rel-15 requirements are captured. |
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| ***Summary of change:*** | Replace wrong table with right one based on Rel-15 sepecifcation.  |
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| ***Consequences if not approved:*** | The Rel-15 requirements will be not correctly captured. |
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| ***Clauses affected:*** | 11.2.2.3.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **x** |  |  Other core specifications  | TS/TR 38.104 CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR 38.141-1 CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

######################### Start of change ############################

##### 11.2.2.3.2 Minimum requirements

The CSI part 1 block error probability shall not exceed 0.1% at the SNR given in table 11.2.2.3.2-1 and table 11.2.2.3.2-2. The CSI part 2 block error probability shall not exceed 1% at the SNR given in table 11.2.2.3.2-3 and table 11.2.2.3.2-4.

Table 11.2.2.3.2-1: Minimum requirements for UCI multiplexed on PUSCH, Type B, with PT-RS, CSI part 1, 50 MHz Channel Bandwidth, 120 kHz SCS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of TX antennas | Number of demodulation branches | Cyclic prefix | Propagation conditions and correlation matrix (Annex G) | UCI bits(CSI part 1, CSI part 2) | Additional DM-RS position | FRC(Annex A) | SNR(dB) |
| 1 | 2 | Normal | TDLA30-300 Low | 7(5,2) | pos0 | G-FR2-A4-3 | 7.2 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos0 | G-FR2-A4-3 | 5.8 |
| 2 | Normal | TDLA30-300 Low | 7(5,2) | pos1 | G-FR2-A4-13 | 7.8 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos1 | G-FR2-A4-13 | 5.9 |

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Table 11.2.2.3.2-2: Minimum requirements for UCI multiplexed on PUSCH, Type B, Without PTRS, CSI part 1, 50 MHz Channel Bandwidth, 120 kHz SCS

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of TX antennas | Number of demodulation branches | Cyclic prefix | Propagation conditions and correlation matrix (Annex G) | UCI bits(CSI part 1, CSI part 2) | Additional DM-RS position | FRC(Annex A) | SNR(dB) |
| 1 | 2 | Normal | TDLA30-300 LOW | 7(5,2) | pos0 | G-FR2-A4-3 | 7.1 |
| 2 | Normal | TDLA30-300 LOW | 40(20,20) | pos0 | G-FR2-A4-3 | 5.8 |
| 2 | Normal | TDLA30-300 LOW | 7(5,2) | pos1 | G-FR2-A4-13 | 7.3 |
| 2 | Normal | TDLA30-300 LOW | 40(20,20) | pos1 | G-FR2-A4-13 | 5.5 |

Table 11.2.2.3.2-3: Minimum requirements for UCI multiplexed on PUSCH, Type B, with PTRS, CSI part 2, 50 MHz Channel Bandwidth, 120 kHz SCS

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| Number of TX antennas | Number of demodulation branches | Cyclic prefix | Propagation conditions and correlation matrix (Annex G) | UCI bits(CSI part 1, CSI part 2) | Additional DM-RS position | FRC(Annex A) | SNR(dB) |
| 1 | 2 | Normal | TDLA30-300 Low | 7(5,2) | pos0 | G-FR2-A4-3 | 1.1 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos0 | G-FR2-A4-3 | 4.0 |
| 2 | Normal | TDLA30-300 Low | 7(5,2) | pos1 | G-FR2-A4-13 | 1.3 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos1 | G-FR2-A4-13 | 4.0 |

Table 11.2.2.3.2-4: Minimum requirements for UCI multiplexed on PUSCH, Type B, Without PTRS, CSI part 2, 50 MHz Channel Bandwidth, 120 kHz SCS

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| Number of TX antennas | Number of demodulation branches | Cyclic prefix | Propagation conditions and correlation matrix (Annex G) | UCI bits(CSI part 1, CSI part 2) | Additional DM-RS position | FRC(Annex A) | SNR(dB) |
| 1 | 2 | Normal | TDLA30-300 Low | 7(5,2) | pos0 | G-FR2-A4-3 | 1.1 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos0 | G-FR2-A4-3 | 3.9 |
| 2 | Normal | TDLA30-300 Low | 7(5,2) | pos1 | G-FR2-A4-13 | 1.2 |
| 2 | Normal | TDLA30-300 Low | 40(20,20) | pos1 | G-FR2-A4-13 | 3.7 |

######################### end of change ############################