**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:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***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:*** | | PMI reporting requirements of typeII-doppler-r18 and typeII-CJT-r18 codebook agreed to be defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update existing chapters  • Update Chapter 6.1.1.3  • Update Chapter 6.1.1.4 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The PMI reporting requirements of typeII-doppler-r18 and typeII-CJT-r18 codebook will be incomplete. | | | | | | | | |
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| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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**

#### 6.1.1.3 Applicability of requirements for optional UE features

The performance requirements in Table 6.1.1.3-1 shall apply for UEs which support optional UE features with capability signalling only.

Table 6.1.1.3-1: Requirements applicability for optional features with UE capability signalling

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UE feature/capability [14] | Test type | | Test list | Applicability notes |
| CQI table with target BLER of 10^-5New CQI table (cqi-TableAlt) | FR1 FDD | CQI | Clause 6.2.2.1.1.2  Clause 6.2.3.1.1.2 |  |
| FR1 TDD | CQI | Clause 6.2.2.2.1.2  Clause 6.2.3.2.1.2 |
| Alternative 64QAM MCS table for PDSCH New 64QAM MCS table for PDSCH (*dl-64QAM-MCS-TableAlt*) | FR1 FDD | CQI | Clause 6.2.2.1.1.2  Clause 6.2.3.1.1.2 |  |
| FR1 TDD | CQI | Clause 6.2.2.2.1.2  Clause 6.2.3.2.1.2 |  |
| Validating P/SP-CSI-RS reception (*periodicAndSemi-PersistentCSI-RS-r16*) | FR1 TDD | CQI | Clause 6.2.2.2.1.3  Clause 6.2.3.2.1.3  Clause 6.2A.3.1.2  Clause 6.2A.4.1.1 | The requirements apply only in case tested UE supporting operations in shared spectrum access and validation of P/SP-CSI-RS reception based on DCI |
| Supported UL channels for dynamic channel access mode (*ul-DynamicChAccess-r16* ) or UL channel access for semi-static channel access mode (*ul-Semi-StaticChAccess-r16*) or both | FR1 TDD | CQI | Clause 6.2.2.2.1.3  Clause 6.2.3.2.1.3 | The requirements apply only in case tested UE supports one of UL channels for dynamic channel access mode and UL channel access for semi-static channel access mode |
| 1024QAM modulation for PDSCH for FR1 (pdsch-1024QAM-FR1-r17) | FR1 FDD | CQI | Clause 6.2.2.1.1.3 (Test 1)  Clause 6.2.3.1.1.3 (Test 1) |  |
|  | FR1 TDD | CQI | Clause 6.2.2.2.1.4 (Test 1)  Clause 6.2.3.2.1.4 (Test 1) |  |

The performance requirements in Table 6.1.1.3-2 shall apply for UEs which support optional UE features only.

Table 6.1.1.3-2: Requirements applicability for optional UE features

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UE feature/capability [14] | Test type | | Test list | Applicability notes |
| Support of Type II codebook  (*CodebookParameters* contains *type2, supportedCSI-RS-ResourceList, parameterLx, amplitudeScalingType, amplitudeSubsetRestriction*) | FR1 FDD | PMI | Clause 6.3.2.1.5  Clause 6.3.3.1.5 |  |
| FR1 TDD | PMI | Clause 6.3.2.2.5  Clause 6.3.3.2.5 |
| Support of Enhanced Type II codebook with at least 16 ports per CSI-RS resource(*codebookParametersAddition-r16* contains *etype2R1-r16,* *supportedCSI-RS-ResourceListAdd-r16, maxNumberTxPortsPerResource*) | FR1 FDD | PMI | Clause 6.3.2.1.6  Clause 6.3.3.1.6 |  |
| FR1 TDD | PMI | Cluase 6.3.2.2.6  Cluase 6.3.3.2.6 |
| Support of Enhanced Type II Codebook (eType-II) based on doppler CSI (*codebookParametersetype2DopplerCSI-r18 contains eType2Doppler-r18, supportedCSI-RS-ResourceList-r18, maxNumberTxPortsPerResource*) | FR1 FDD | PMI | Clause 6.3.2.1.X1  Clause 6.3.3.1.X1 | The requirements apply only in case the number of NZP-CSI-RS ports in the test case satisfies UE capability on maximum number of NZP-CSI-RS ports. |
| FR1 TDD | PMI | Clause 6.3.2.2.X2  Clause 6.3.3.2.X1 |
| Support of Enhanced Type II Codebook (eType-II) with refinement for multi-TRP CJT (*codebookParametersetype2CJT-r18 contains eType2CJT-r18, supportedCSI-RS-ResourceList-r18, maxNumberTxPortsPerResource*) | FR1 FDD | PMI | Clause 6.3.2.1.X3  Clause 6.3.3.1.X3 | The requirements apply only in case the number of NZP-CSI-RS ports in the test case satisfies UE capability on maximum number of NZP-CSI-RS ports. |

**END OF CHANGE 1**

**START OF CHANGE 2**

#### 6.1.1.4 Applicability of requirements for mandatory UE features with capability signalling

The performance requirements in Table 6.1.1.4-1 shall apply for UEs which support mandatory UE features with capability signalling only.

Table 6.1.1.4-1: Requirements applicability for mandatory features with UE capability signalling

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UE feature/capability [14] | Test type | | Test list | Applicability notes |
| Supported maximum number of PDSCH MIMO layers (maxNumberMIMO-LayersPDSCH) | FR1 FDD | CQI | Clause 6.2.3.1.1.1 | The requirements apply only in case the PDSCH MIMO rank in the test case does not exceed UE PDSCH MIMO layers capability |
| PMI | Clause 6.3.3.1.2 |
| RI | Clause 6.4.2.1  Clause 6.4.3.1 |
| FR1 TDD | CQI | Clause 6.2.3.2.1.1 |
| PMI | Clause 6.3.3.2.2 |
| RI | Clause 6.4.2.2  Clause 6.4.3.2 |
| Supported maximum number of ports across all configured NZP-CSI-RS resources per CC (maxConfigNumberPortsAcrossNZP-CSI-RS-PerCC) | FR1 FDD | PMI | Clause 6.3.2.1.1  Clause 6.3.2.1.2  Clause 6.3.2.1.3  Clause 6.3.2.1.4  Clause 6.3.2.1.X1  Clause 6.3.2.1.X3  Clause 6.3.3.1.1  Clause 6.3.3.1.2  Clause 6.3.3.1.3  Clause 6.3.3.1.4  Clause 6.3.3.1.X1  Clause 6.3.3.1.X3 | The requirements apply only in case the number of NZP-CSI-RS ports in the test case satisfies UE capability on maximum number of NZP-CSI-RS ports |
| RI | Clause 6.4.3.1 (Test 4) |
| FR1 TDD | PMI | Clause 6.3.2.2.1  Clause 6.3.2.2.2  Clause 6.3.2.2.3  Clause 6.3.2.2.4  Clause 6.3.2.2.X2  Clause 6.3.3.2.1  Clause 6.3.3.2.2  Clause 6.3.3.2.3  Clause 6.3.3.2.4  Clause 6.3.3.2.X1 |
| RI | Clause 6.4.3.2 (Test 4) |

**END OF CHANGE 2**