**3GPP TSG-RAN WG4 Meeting #112 *R4-2412872***

**Maastricht, Netherlands, 19th – 23rd August, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0627** | **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\_perf\_enh-Perf) Correction CR on applicability of FR1 demodulation requirements (Rel-16) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_perf\_enh-Perf | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | ***F*** |  | | | | | ***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:*** | | There are some missing cases in the applicability rule of ‘Supported maximum number of ports across all configured NZP-CSI-RS resources per CC (maxConfigNumberPortsAcrossNZP-CSI-RS-PerCC)’ in 5.1.1.4. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The summary of changes in this CR as below:   * update requirements in Clause   5.1.1.4 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The applicability rule of of ‘Supported maximum number of ports across all configured NZP-CSI-RS resources per CC (maxConfigNumberPortsAcrossNZP-CSI-RS-PerCC)’ in 5.1.1.4 will miss some cases. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.1.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS 38.521-4 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**<Start of changes>**

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

The performance requirements in Table 5.1.1.4-1 shall apply for UEs which support mandatory UE features with capability signalling only.

Table 5.1.1.4-1: Requirements applicability for mandatory features with UE capability signalling

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UE feature/capability [14] | Test type | | Test list | Applicability notes |
| 256QAM modulation scheme for PDSCH for FR1 (*pdsch-256QAM-FR1*) | FR1 FDD | PDSCH | Clause 5.2.2.1.1 (Test 1-3)  Clause 5.2.3.1.1 (Test 1-3) |  |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.1 (Test 1-3)  Clause 5.2.3.2.1 (Test 1-3) |  |
| PDSCH mapping type B (*pdsch-MappingTypeB*) | FR1 FDD | PDSCH | Clause 5.2.2.1.3  Clause 5.2.3.1.3  Clause 5.2.2.1.7  Clause 5.2.3.1.7 |  |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.3  Clause 5.2.3.2.3  Clause 5.2.2.2.7  Clause 5.2.3.2.7 |  |
| Rate-matching around LTE CRS (*rateMatchingLTE-CRS*) | FR1 FDD | PDSCH | Clause 5.2.2.1.4  Clause 5.2.3.1.4 | For UEs supporting “Alternative additional DMRS position for co-existence with LTE CRS”, if Test 1-2 is tested, the test coverage can be considered fulfilled without executing Test 1-1. Otherwise, only Test 1-1 is tested. |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.4  Clause 5.2.3.2.4 |
| Supported maximum number of ports across all configured NZP-CSI-RS resources per CC (*maxConfigNumberPortsAcrossNZP-CSI-RS-PerCC*) | FR1 FDD | PDSCH | Clause 5.2.2.1.4 (Tests 1-1, 1-2)  Clause 5.2.3.1.1 (Tests 3-1, 4-1, 5-1)  Clause 5.2.3.1.4 (Tests 1-1, 1-2) | 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 | PDSCH | Clause 5.2.2.2.4 (Tests 1-1, 1-2)  Clause 5.2.3.2.1 (Test 3-1, 4-1, 5-1)  Clause 5.2.3.2.4 (Tests 1-1, 1-2) |  |
| Supported maximum number of PDSCH MIMO layers (*maxNumberMIMO-LayersPDSCH*) | FR1 FDD | PDSCH | Clause 5.2.2.1.1 (Tests 2-1, 2-2, 3-1)  Clause 5.2.2.1.2  Clause 5.2.3.1.1 (Tests 2-1, 2-2, 3-1, 4-1, 5-1)  Clause 5.2.3.1.2 | The requirements apply only in case the PDSCH MIMO rank in the test case does not exceed UE PDSCH MIMO layers capability |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.1 (Tests 2-1, 2-2, 3-1)  Clause 5.2.2.2.2  Clause 5.2.3.2.1 (Tests 2-1, 2-2, 3-1, 4-1, 5-1)  Clause 5.2.3.2.2 |  |
| Support number of active TCI states per BWP per CC, including control and data *(maxNumberActiveTCI-PerBWP)* | FR1 FDD | PDSCH | Clause 5.2.2.1.10 (Test 1-2)  Clause 5.2.3.1.10 (Test 1-2) | The requirements apply only when *maxNumberActiveTCI-PerBWP* is other than n1. |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.10 (Test 1-2)  Clause 5.2.3.2.10 (Test 1-2) |  |
| Support for maximum number of TRS resource sets per CC which the UE can track simultaneously (maxSimultaneousResourceSetsPerCC) | FR1 FDD | PDSCH | Clause 5.2.2.1.10 (Test 1-2)  Clause 5.2.3.1.10 (Test 1-2)  Clause 5.2.2.1.11  Clause 5.2.2.1.12  Clause 5.2.2.1.13  Clause 5.2.2.1.14  Clause 5.2.3.1.11  Clause 5.2.3.1.12  Clause 5.2.3.1.13  Clause 5.2.3.1.14 | The requirements apply only when maxSimultaneousResourceSetsPerCC ≥ 2 |
| FR1 TDD | PDSCH | Clause 5.2.2.2.10 (Test 1-2)  Clause 5.2.3.2.10 (Test 1-2)  Clause 5.2.2.2.11  Clause 5.2.2.2.12  Clause 5.2.2.2.13  Clause 5.2.2.2.14  Clause 5.2.3.2.11  Clause 5.2.3.2.12  Clause 5.2.3.2.13  Clause 5.2.3.2.14 |

**<End of changes>**