**3GPP TSG-RAN WG4 Meeting #112 *R4-2412871***

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

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-4** | **CR** | **0626** | **rev** | **-** | **Current version:** | **17.13.0** |  |
|  |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:***  | (NR\_perf\_enh-Perf) Correction CR on applicability of FR1 demodulation requirements (Rel-17) |
|  |  |
| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_perf\_enh-Perf |  | ***Date:*** | 2024-08-05 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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)* |
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| ***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. |
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| ***Summary of change:*** | The summary of changes in this CR as below:* update requirements in Clause

5.1.1.4 |
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| ***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. |
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| ***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

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| --- | --- | --- | --- |
| 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 5.2.2.1.3Clause 5.2.3.1.3Clause 5.2.2.1.7Clause 5.2.3.1.7 |  |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.3Clause 5.2.3.2.3Clause 5.2.2.2.7Clause 5.2.3.2.7 |  |
| Rate-matching around LTE CRS (*rateMatchingLTE-CRS*) | FR1 FDD | PDSCH | Clause 5.2.2.1.4Clause 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 5.2.2.2.4Clause 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 5.2.2.1.19 (Test 1-1, 2-1)Clause 5.2.3.1.1 (Tests 3-1, 4-1, 5-1)Clause 5.2.3.1.4 (Tests 1-1, 1-2)Clause 5.2.3.1.16 (Test 2-1)Clause 5.2.3.1.18 (Tests 1-1, 2-1) | 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 5.2.2.2.19 (Test 1-1)Clause 5.2.2.2.20 (Tests 1-1, 1-2,2-1,2-2)Clause 5.2.3.2.1 (Test 3-1, 4-1, 5-1)Clause 5.2.3.2.4 (Tests 1-1, 1-2)Clause 5.2.3.2.17 (Test 2-1)Clause 5.2.3.2.18 (Test 1-1)Clause 5.2.3.2.19 (Test 1-1, 1-2,2-1,2-2) |  |
| 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 5.2.2.1.2Clause 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 5.2.2.2.2Clause 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 5.2.2.1.11Clause 5.2.2.1.12Clause 5.2.2.1.13Clause 5.2.2.1.14Clause 5.2.3.1.11Clause 5.2.3.1.12Clause 5.2.3.1.13Clause 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 5.2.2.2.11Clause 5.2.2.2.12Clause 5.2.2.2.13Clause 5.2.2.2.14Clause 5.2.3.2.11Clause 5.2.3.2.12Clause 5.2.3.2.13Clause 5.2.3.2.14 |

**<End of changes>**