**3GPP TSG-WG Meeting #111 *R4-2408038***

 **Fukuoka, Japan, May 20 – May 24, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-4** | **CR** | **draftCR** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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|  |
| ***Title:***  | Draft CR on definition and requirements applicability |
|  |  |
| ***Source to WG:*** | Qualcomm |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_redcap\_enh-Perf |  | ***Date:*** | 2024-05-10 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** |  Rel-18 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | 1. eRedCap definition needed in Clause 3
2. Applicability of demodulation requirements needed in Clause 5.1.1
3. Applicability of CSI reporting requirements needed in Clause 6.1.1
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| ***Summary of change:*** | 1. Added eRedCap definition in Clause 3
2. Added applicability of demodulation requirements in Clause 5.1.1
3. Added applicability of CSI reporting requirements in Clause 6.1.1
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| ***Consequences if not approved:*** | Incomplete requirements |
|  |  |
| ***Clauses affected:*** | 3.1, 5.1.1.x, 6.1.1.x |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

#### Start of change 1

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**DL BWP**: DL bandwidth part as defined in TS 38.213 [11].

**EN-DC**: E-UTRA-NR Dual Connectivity as defined in clause 4.1.2 of TS 37.340 [13].

**Enhanced Receiver Type 1:** SU-MIMO interference mitigation advanced receiver [14]

- R-ML (reduced complexity ML) receiver with enhanced inter-stream interference suppression for SU-MIMO transmissions with rank 2 with 2 RX antennas

- R-ML (reduced complexity ML) receiver with enhanced inter-stream interference suppression for SU-MIMO transmissions with rank 2, 3, and 4 with 4 RX antennas

**FR1**: Frequency range 1 as defined in clause 5.1 of TS 38.101-3 [8].

**FR2**: Frequency range 2 as defined in clause 5.1 of TS 38.101-3 [8].

**RedCap**: A UE with reduced capabilities as defined in clause 4.2 in TS 38.306 [14].

**eRedCap**: A UE with reduced peak data rate, with or without reduced baseband bandwidth in FR1 as defined in clause 4.2.22 in TS 38.306 [14].

**SSB:** SS/PBCH block as defined in clause 7.8.3 of TS 38.211 [9].

#### End of change 1

#### Start of change 2

#### 5.1.1.x Applicability of requirements for eRedCap

The performance requirements in Table 5.1.1.x-1 shall apply for UEs which support optional feature *supportOfERedCap-r18*.

Other performance requirements mandatory for UE supporting NR operation defined in Section 5 but not included in table 5.1.1.x-1 should not be considered applicable to eRedCap UEs.

**Table 5.1.1.x-1: Requirements applicability for eRedCap UEs**

|  |  |  |  |
| --- | --- | --- | --- |
| **UE capability** | **Test type** | **Test list** | **Applicability notes** |
| eRedCap with 1RX | FR1 FDD and HD-FDD (Note 1) | PDSCH | Clause 5.2.1.1.x |  |
|  |  | PDCCH | All tests in Clause 5.3.1.1.1 |  |
|  |  | PBCH | All tests in Clause 5.4.1.1 |  |
|  |  | SDR | Clause 5.5.1 |  |
|  | FR1 TDD | PDSCH | Clause 5.2.1.2.x |  |
|  |  | PDCCH | All tests in Clause 5.3.1.2.1 |  |
|  |  | PBCH | All tests in Clause 5.4.1.2 |  |
|  |  | SDR | Clause 5.5.1 |  |
| eRedCap with 2RX | FR1 FDD and HD-FDD (Note 1) | PDSCH | Clause 5.2.2.1.x |  |
|  |  | PDCCH | All tests in Clause 5.3.2.1.4 |  |
|  |  | PBCH | Clause 5.4.2.1 (Table 5.4.2.1-2 Test 1)Clause 5.4.2.1 (Table 5.4.2.1-3 Test 1) |  |
|  |  | SDR | Clause 5.5.1 |  |
|  | FR1 TDD | PDSCH | Clause 5.2.2.2.x |  |
|  |  | PDCCH | All tests in Clause 5.3.2.2.4 |  |
|  |  | PBCH | Clause 5.4.2.2 (Table 5.4.2.2-4 Test 1)Clause 5.4.2.2 (Table 5.4.2.2-5 Test 1) |  |
|  |  | SDR | Clause 5.5.1 |  |
| Note 1: If UE support only HD-FDD in a FDD band, this UE is tested with HD-FDD mode otherwise UE is tested with full-duplex FDD mode |

#### End of change 2

#### Start of change 3

#### 6.1.1.x Applicability of requirements for eRedCap

The performance requirements in Table 6.1.1.x-1 shall apply for UEs which support optional feature *supportOfERedCap-r18*.

Other performance requirements mandatory for UE supporting NR operation defined in Section 6 but not included in table 5.1.1.x-1 should not be considered applicable to eRedCap UEs.

**Table 6.1.1.x-1: Requirements applicability for eRedCap UEs**

|  |  |  |  |
| --- | --- | --- | --- |
| UE capability | Test type | Test list | Applicability notes |
| eRedCap with 1RX | FR1 FDD and HD-FDD (Note 1) | CQI | All tests in Clause 6.2.1.1.1.1 |  |
|  |  | PMI | All tests in Clause 6.3.1.1.1 |  |
|  | FR1 TDD | CQI | All tests in Clause 6.2.1.2.1.1 |  |
|  |  | PMI | All tests in Clause 6.3.1.2.1 |  |
| eRedCap with 2RX | FR1 FDD and HD-FDD (Note 1) | CQI | All tests in Clause 6.2.2.1.1.4 |  |
|  |  | PMI | Clause 6.3.2.1.1 (Test 1) |  |
|  | FR1 TDD | CQI | All tests in Clause 6.2.2.2.1.5 |  |
|  |  | PMI | Clause 6.3.2.2.7 (Test 1) |  |
| Note 1: If UE support only HD-FDD in a FDD band, this UE is tested with HD-FDD mode otherwise UE is tested with full-duplex FDD mode |

#### End of change 3