**3GPP TSG-RAN WG4 Meeting #106R4-2303168**

**Athens, Greece, 27 Feb–3 Mar, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **3091** | **rev** | **-** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <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:*** | CR on R17 HST FR2 test case of SSB based L1-RSRP measurement | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Qualcomm | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_HST\_FR2-Perf | | | | |  | ***Date:*** | | | 2023-02-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | A |  | | | | | ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The time duration about when the UE would send L1-RSRP report is not correctly captured in the Test Requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Revise the uncertain and incorrect time duration about when the UE would send L1-RSRP report in the Test Requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | When UE would send L1-RSRP report, which is not clear in the test case. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.7.6.3.5.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS 38.533 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## << Start of 1st changes >>

#### A.7.6.3.5 SSB based L1-RSRP measurement when DRX is used for power class 6 UE configured with *highSpeedMeasFlagFR2-r17*

##### A.7.6.3.5.1 Test Purpose and Environment

The purpose of this test is to verify that the power class 6 UE makes correct reporting of L1-RSRP measurement when *highSpeedMeasFlagFR2-r17* is configured. This test will partly verify the L1-RSRP measurement requirements for power class 6 UE configured with *highSpeedMeasFlagFR2-r17* in clause 9.5.4.1, with the testing configurations for NR cells in Table A.7.6.3.X.1-1.

The AoA setup for this test is Setup 1 as defined in clause A.3.15

Table A.7.6.3.X.1-1: Applicable NR configurations for FR2 SSB based L1-RSRP test for power class 6 UE configured with *highSpeedMeasFlag-r17*

|  |  |
| --- | --- |
| Config | Description |
| 1 | NR 120 kHz SSB SCS, 100 MHz bandwidth, TDD duplex mode |
| 2 | NR 240 kHz SSB SCS, 100 MHz bandwidth, TDD duplex mode |
| Note: The UE is only required to be tested in one of the supported test configurations | |

##### A.7.6.3.5.2 Test parameters

There is one cells in the test, the FR2 PCell (Cell 1). The test parameters for the Cell 1 are given in Table A.7.6.3.5.2-1 and Table A.7.6.3.5.2-2 below.

In CSI measurement configuration, UE is indicated to perform L1-RSRP measurement on the SSBs and report periodically. The test consists of two successive time periods, with time duration of T1 and T2 respectively. The test has higher layer parameter *timeRestrictionForChannelMeasurements* configured*.*

There is no measurement gap configured in the test. Before the test, UE is configured to perform RLM, BFD and L1-RSRP measurement based on the SSBs.

Table A.7.6.3.5.2-1: General test parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Config | Unit | Value |
| highSpeedMeasFlagFR2-r17 | 1~2 |  | Set 1 |
| SSB GSCN | 1~2 |  | freq1 |
| Duplex mode | 1~2 |  | TDD |
| TDD Configuration | 1~2 |  | TDDConf.3.1 |
| BWchannel | 1~2 | MHz | 100: NRB,c = 66 |
| Data RBs allocated | 1~2 |  | 66 |
| PDSCH Reference measurement channel | 1 |  | SR.3.2 TDD |
| 2 | SR.3.3 TDD |
| RMSI CORESET Reference Channel | 1 |  | CR.3.1 TDD |
| 2 | CR.3.2 TDD |
| Dedicated CORESET Reference Channel | 1 |  | CCR.3.1 TDD |
| 2 | CCR.3.7 TDD |
| SSB configuration | 1 |  | SSB.1 FR2 |
|  | 2 |  | SSB.2 FR2 |
| OCNG Patterns | 1~2 |  | OP.1 |
| Initial BWP Configuration | 1~2 |  | DLBWP.0.1  ULBWP.0.1 |
| Dedicated BWP configuration | 1~2 |  | DLBWP.1.3  ULBWP.1.3 |
| SMTC configuration | 1~2 |  | SMTC.1 |
| TRS Configuration | 1~2 |  | TRS.2.1 TDD |
| PDCCH/PDSCH TCI Configuration | 1~2 |  | TCI.State.2 |
| DRX configuration | 1~2 |  | DRX.3 |
| reportConfigType | 1~2 |  | periodic |
| reportQuantity | 1~2 |  | ssb-Index-RSRP |
| Number of reported RS | 1~2 |  | 2 |
| L1-RSRP reporting period | 1~2 | slot | 320 |
| T1 | 1~2 | s | 5 |
| T2 | 1~2 | s | 3 |
| EPRE ratio of PSS to SSS | 1~2 | dB | 0 |
| EPRE ratio of PBCH DMRS to SSS |  |  |  |
| EPRE ratio of PBCH to PBCH DMRS |  |  |  |
| EPRE ratio of PDCCH DMRS to SSS |  |  |  |
| EPRE ratio of PDCCH to PDCCH DMRS |  |  |  |
| EPRE ratio of PDSCH DMRS to SSS |  |  |  |
| EPRE ratio of PDSCH to PDSCH DMRS |  |  |  |
| EPRE ratio of OCNG DMRS to SSSNote 1 |  |  |  |
| EPRE ratio of OCNG to OCNG DMRS Note 1 |  |  |  |
| Propagation condition | 1~2 |  | AWGN 19444Hz |
| Note 1: OCNG shall be used such that both cells are fully allocated and a constant total transmitted power spectral density is achieved for all OFDM symbols. | | | |

Table A.7.6.3.5.2-2: SSB specific test parameters

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Parameter | Config | Unit | SSB#0 | | SSB#1 | |
|  |  |  | T1 | T2 | T1 | T2 |
| Angle of arrival configuration |  |  | Setup 1 according to A.3.15.1 | | | |
| Beam AssumptionNote 4 | 1-2 |  | Rough | | | |
| Note2 | 1~2 | dBm/15kHz | -105 | | | |
| Note2 | 1 | dBm/SSB SCS | -96 | | | |
|  | 2 |  | -93 | | | |
|  | 1~2 | dB | 0 | 0 | -Infinity | 9 |
| SSB\_RP Note3 | 1 | dBm/SSB SCS | -96 | -96 | -Infinity | -87 |
|  | 2 |  | -93 | -93 | -Infinity | -84 |
| Io Note3 | 1 | dBm/95.04MHz | -63.97 | -63.97 | -66.98 | -57.47 |
|  | 2 |  | -63.97 | -63.97 | -66.98 | -57.47 |
|  | 1~2 | dB | 0 | 0 | -Infinity | 9 |
| Note 1: The resources for uplink transmission are assigned to the UE prior to the start of time period T2.  Note 2: Interference from other cells and noise sources not specified in the test is assumed to be constant over subcarriers and time and shall be modelled as AWGN of appropriate power for  to be fulfilled.  Note 3: SSB\_RP and Io levels have been derived from other parameters for information purposes. They are not settable parameters themselves.  Note 4: Information about types of UE beam is given in B.2.1.3, and does not limit UE implementation or test system implementation | | | | | | |

##### A.7.6.3.5.3 Test Requirements

The UE shall send L1-RSRP report every 320 slots. No later than 720 ms plus 320 slots from the beginning of time period T2, UE shall send L1-RSRP report including the results for both SSB#0 and SSB#1 while meeting the accuracy requirements defined in clause 10.1.20.1.

The reported L1-RSRP value shall include the Rx antenna gain in the range of -10 to +20 dB.

The rate of correct events observed during repeated tests shall be at least 90%.

<< End of 1st change >>