**3GPP TSG-RAN WG4 Meeting #116bis R4-2513443**

**Prague, Czech Republic, Oct. 13-17, 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **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:*** | draftCR on test cases of NTN less than 5MHz (MR-1) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Xiaomi | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_IoT\_NTN\_req\_test\_enh-Perf | | | | |  | ***Date:*** | | | 2025-9-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | There is not any test cases for RRM requirements specified for NR\_IoT\_NTN\_req\_test\_enh-Core | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To define the test case of intra-frequency measurement requirements for NTN less than 5MHz (MR-1). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The core requirements are not complete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.14.5. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 Change #1 ---**

#### A.14.5.1.x SA event triggered reporting tests without gap under non-DRX with SSB index reading under less 5MHz BW

##### A.14.5.1.x.1 Test purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event. This test will partly verify the FDD intra-frequency cell search requirements in clause 9.2C.5.1 and 9.2C.5.2.

##### A.14.5.1.x.2 Test parameters

Two cells are deployed in the test, which are FR1 PCell (Cell 1) and a FR1 neighbour cell (Cell 2) on the same frequency as the PCell. The test parameters for FDD PCell and neighbour cell are given in table A.14.5.1.x.2-1 and A.14.5.1.x.2-2 below. In the measurement control information, a measurement object is configured for the frequency of the PCell, and it is indicated to the UE that event-triggered reporting with Event A3 is used. The test consists of two successive time periods, with time duration of T1, and T2 respectively. During time duration T1, the UE shall not have any timing information of Cell 2.

The UE shall be provided with the valid information about the SAN serving the each cell in the test before the test.

UE is configured with 2 overlapping SMTC for the intra-frequency measurement. The SMTC periodicity is 20 ms, and SMTC1 is associated with Cell 1 with offset 0, and SMTC2 is associated with Cell 2 with offset 17 ms.

Table A.14.5.1.x.2-1: Supported test configurations

|  |  |
| --- | --- |
| **Configuration** | **Description** |
| 1 | GSO, NR FDD, SSB SCS 15 kHz, data SCS 15 kHz, BW 3 MHz |
| 2 | NGSO, NR FDD, SSB SCS 15 kHz, data SCS 15 kHz, BW 3 MHz |
| NOTE: If UE supports both NGSO and GSO, the GSO-based test cases can be skipped if the UE passes NGSO-based test cases. | |

Table A.14.5.1.x.2-2: General test parameters for SA intra-frequency event triggered reporting without gap for FDD PCell in FR1 with SSB index reading

| Parameter | Unit | Test configuration | Value | Comment |
| --- | --- | --- | --- | --- |
| Active cell |  | 1, 2 | Cell 1 |  |
| Neighbour cell |  | 1, 2 | Cell 2 | Cell to be identified. |
| RF Channel Number |  | 1, 2 | 1: Cell 1 and Cell 2 |  |
| SSB configuration |  | 1, 2 | SSB.13 FR1 |  |
| SMTC1 configuration |  | 1, 2 | SMTC.2 |  |
| SMTC2 configuration |  | 1, 2 | SMTC.6 |  |
| A3-Offset | dB | 1, 2 | -4.5 |  |
| CP length |  | 1, 2 | Normal |  |
| Hysteresis | dB | 1, 2 | 0 |  |
| Time To Trigger | s | 1, 2 | 0 |  |
| Filter coefficient |  | 1, 2 | 0 | L3 filtering is not used |
| DRX | ms | 1, 2 |  | OFF |
| Time offset between serving and neighbour cells |  | 1, 2 | 3 ms | Asynchronous cells.  The timing of Cell 2 is 3 ms earlier than the timing of Cell 1. |
| T1 | s | 1, 2 | 5 |  |
| T2 | s | 1, 2 | 5 |  |

**Table A.14.5.1.x.2-3: NR Cell specific test parameters for SA intra-frequency event triggered reporting without gap for FDD PCell in FR1 with SSB index reading**

| Parameter | Unit | Test configuration | Cell 1 | | Cell 2 | |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | T1 | T2 | T1 | T2 |
| Satellite information |  | 1 | SSC.1 | | NSC.1 | |
|  |  | 2 | SSC.2 | | NSC.2 | |
| SSB configuration |  | 1, 2 | SSB.13 FR1 | | SSB.13 FR1 | |
| PDSCH RMC configuration |  | 1, 2 | SR.1.1 FDD | | N/A | |
| RMSI CORESET RMC configuration |  | 1, 2 | CR.1.3 FDD | | N/A | |
| Dedicated CORESET RMC configuration |  | 1, 2 | CCR.1.7 FDD | | N/A | |
| OCNG Patterns |  | 1, 2 | OP.1 | | OP.1 | |
| TRS configuration |  | 1, 2 | TRS.1.1 FDD | | N/A | |
| IInitial BWP configuration |  | 1, 2 | DLBWP.0,1 ULBWP.0.1 | | DLBWP.0.1 ULBWP.0.1 | |
| Active DL BWP configuration |  | 1, 2 | DLBWP.1.1 | | DLBWP.1.1 | |
| Active UL BWP configuration |  | 1, 2 | ULBWP.1.1 | | ULBWP.1.1 | |
| RLM-RS |  | 1, 2 | SSB | | SSB | |
| Note 2 | dBm/SCS | 1, 2 | -98 | | | |
| Note 2 | dBm/15 kHz | 1, 2 | -98 | | | |
|  | dB | 1, 2 | 4 | -1.46 | -Infinity | -1.46 |
|  | dB | 1, 2 | 4 | 4 | -Infinity | 4 |
| SS-RSRP Note 3 | dBm/SCS kHz | 1, 2 | -94 | -94 | -Infinity | -94 |
| Io | dBm/3 MHz | 1, 2 | -69.99 | -69.99 | -75.44 | -67.60 |
| Propagation Condition |  | 1, 2 | AWGN | | | |
| 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: SS-RSRP levels have been derived from other parameters for information purposes. They are not settable parameters themselves. | | | | | | |

##### A.14.5.1.x.3 Test Requirements

The UE shall send one Event A3 triggered measurement report, with a measurement reporting delay less than X ms from the beginning of time period T2. The UE is required to read the neighbour cell SSB index and report the acquired SSB index in this test. X=1000 for test configuration 2 and if UE indicates ‘n1’ for *maxNumber-NGSO-SatellitesWithinOneSMTC*, otherwise X=880.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

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

NOTE: The actual overall delays measured in the test may be up to 2xTTIDCCH higher than the measurement reporting delays above because of TTI insertion uncertainty of the measurement report in DCCH.

## **--- End of Change #1 ---**