**3GPP TSG-RAN4 Meeting # 111**  ***R4-2408839***

**Fukouka, Japan, 20th May - 24th May**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **-** | **rev** | **-** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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\_HST\_FR2\_enh-Perf) draft CR on SA event triggered reporting tests for Rel-18 FR2 HST intra-band CA without SSB time index detection when DRX is not used | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_HST\_FR2\_enh-Perf | | | | |  | ***Date:*** | | | 2024-05-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Remove Config. 1 in test configuration  Remove CA configuration  Change HST signaling set2 to set 1 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Remove Config. 1 in test configuration  Remove CA configuration  Change HST signaling set2 to set 1 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Config.1 is redundant. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.7.6.2.X4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Re-submit R4-2406407 | | | | | | | | |

Start of Change 1

#### A.7.6.2.X4 SA event triggered reporting tests without SSB time index detection when DRX is not used (PCell in FR2) for FR2 power class 6 UE configured with *highSpeedMeasFlagFR2-r17*

##### A.7.6.2.X4.1 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 SA inter-frequency NR cell search requirements for FR2 power class 6 UE which is configured with *highSpeedMeasFlagFR2-r17* and supports [*measurementEnhancementCAInterFreqFR2-r18*] in clause 9.3.4.

In this test, there are two cells: NR cell 1 as PCell in FR2 on NR RF channel 1 and NR cell 2 as neighbour cell in FR2 on NR RF channel 2. The test parameters and configurations are given in Tables A.7.6.2.X4.1-1, A.7.6.2.X4.1-2, and A.7.6.2.X4.1-3.

In the measurement gap pattern configuration defined in Table A.7.6.2.X4.1-2 is provided for a UE that does not support per-FR gap, and no gap pattern (Gap Pattern Id and Measurement gap offset) is configured for a UE capable of per-FR gap.

In the Measurement control information, 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 NR cell 2.

Supported test configurations are shown in table A.7.6.2.X4.1-1.

Table A.7.6.2.X4.1-1 SA event triggered reporting tests without SSB index reading for FR2-FR2

|  |  |
| --- | --- |
| Config | Description |
|  | 120 kHz SSB SCS, 100 MHz bandwidth, TDD duplex mode |

Table A.7.6.2.X4.1-2: General test parameters for SA inter-frequency event triggered reporting for FR2 power class 6 UE configured with *highSpeedMeasFlagFR2-r17* without SSB time index detection

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Unit | Value | Comment |
| *highSpeedMeasFlagFR2-r17* |  | Set1 | *highSpeedMeasFlagFR2-r17* = set1 is configured |
| NR RF Channel Number |  | 1, 2 | Two FR2 NR carrier frequencies are used. |
| Active cell |  | NR cell 1 | NR Cell 1 is on NR RF channel number 1. |
| Neighbour cell |  | NR cell 2 | NR cell 2 is on NR RF channel number 2. |
| Gap Pattern Id |  | 13 | As specified in clause 9.1.2-1. |
| Measurement gap offset |  | 39 |  |
| SMTC-SSB parameters |  | SSB.3 FR2 | As specified in clause A.3.10.2 |
| offsetMO | dB | 16 | Applied to NR Cell 2 measurement object |
| A3-Offset | dB | -11 |  |
| Hysteresis | dB | 0 |  |
| CP length |  | Normal |  |
| TimeToTrigger | s | 0 |  |
| Filter coefficient |  | 0 | L3 filtering is not used |
| DRX |  | OFF | DRX is not used |
| Time offset between serving and neighbour cells |  | 3μs | Synchronous cells. |
| T1 | s | 5 |  |
| T2 | s | 4.5 |  |

Table A.7.6.2.X4.1-3: Cell specific test parameters for SA inter-frequency event triggered reporting for FR2 power class 6 UE configured with *highSpeedMeasFlagFR2-r17* without SSB time index detection

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Parameter | | Unit | Cell 1 | | Cell 2 | |
|  | |  | T1 | T2 | T1 | T2 |
| AoA setup | |  | Setup 3 as specified in clause A.3.15.3 | | | |
|  | |  | AoA1 | | AoA2 | |
| Beam AssumptionNote 7 | |  | Rough | | Rough | |
| NR RF Channel Number | |  | 1 | | 2 | |
| Duplex mode | |  | TDD | | TDD | |
| TDD configuration | |  | TDDConf.3.1 | | TDDConf.3.1 | |
| BWchannel | | MHz | 100: NRB,c = 66 | | 100: NRB,c = 66 | |
| Data RBs allocated | |  | 66 | | 66 | |
| BWP BW | | MHz | 100: NRB,c = 66 | | 100: NRB,c = 66 | |
| BWP configuration | Initial DL BWP |  | DLBWP.0.1 | | N/A | |
|  | Initial UL BWP |  | ULBWP.0.1 | | N/A | |
|  | Dedicated DL BWP |  | DLBWP.1.1 | | N/A | |
|  | Dedicated UL BWP |  | ULBWP.1.1 | | N/A | |
| OCNG Patterns defined in A.3.2.1.1 | |  | OP.1 | | OP.1 | |
| PDSCH Reference measurement channel | |  | SR.3.1 TDD | | - | |
| CORESET Reference Channel | |  | CR.3.1 TDD | | - | |
| SMTC configuration defined in A.3.11.1 and A.3.11.2 | |  | SMTC.1 | | SMTC.1 | |
| PDSCH/PDCCH subcarrier spacing | | kHz | 120 | | 120 | |
| TRS configuration | |  | TRS.2.1 TDD | | N/A | |
| PDSCH/PDCCH TCI state | |  | TCI.State.2 | | N/A | |
| EPRE ratio of PSS to SSS | |  |  | |  | |
| 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 | |  | 0 | | 0 | |
| EPRE ratio of PDSCH DMRS to SSS | |  |  | |  | |
| EPRE ratio of PDSCH to PDSCH | |  |  | |  | |
| EPRE ratio of OCNG DMRS to SSS(Note 1) | |  |  | |  | |
| EPRE ratio of OCNG to OCNG DMRS (Note 1) | |  |  | |  | |
| Ês | | dBm/SCS | -87 | -87 | -Infinity | -87 |
| SSBRP Note 3 | | dBm/SCS Note5 | -87 | -87 | -Infinity | -87 |
| BB Note 8 | | dB | 1.89 | 1.89 | -Infinity | 1.89 |
| Io Note3 | | dBm/95.04 MHz Note5 | -58.01 | -58.01 | -Infinity | -58.01 |
| Propagation Condition | |  | AWGN | | AWGN 19444Hz Note 9 | |

##### A.7.6.2.X4.2 Test Requirements

The UE shall send one Event A3 triggered measurement report, with a measurement reporting delay less than [1] s from the beginning of time period T2.

The UE is not required to report SSB time index. 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