**3GPP TSG- Meeting # *R4-2008616***

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HELP***](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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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
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| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | It was agreed to specify an event triggered reporting test for a WCDMA cell when connected to NR to test SRVCC requirements | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add a test with similar parameters to the LTE to WCDMA event triggered reporting test for the neighbour cell. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing test coverage | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.6.6.5.1 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS/TR .38.533.. CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | This CR is based on technically endorsed CR R4-2005333 without modification | | | | | | | | |

A.6.6.5.1 SA NR - UTRAN FDD event-triggered reporting in non-DRX in FR1

A.6.6.5.1.1 Test Purpose and Environment

The purpose of this set of tests is to verify that the UE makes correct event-triggered reporting of inter-RAT UTRAN FDD measurements when operating in standalone (SA) operation with PCell in FR1. This test shall partly verify the cell search and measurement requirements in Clause 9.4.6.

In each test there are two cells: Cell 1 and Cell 2. Cell 1 is the NR PCell and Cell 2 is an inter-RAT UTRAN FDD neighbour cell. In the measurement control information from the PCell it is indictated to the UE that event-triggered reporting with Event B1 (Inter RAT neighbour becomes better than threshold2) is to be used. Each test consists of two consecutive time periods, with durations T1 and T2, respectively. Prior to the start of time duration T1, the UE shall be fully synchronized to Cell 1. During T1, the UE shall not have any information on Cell 2.

Supported test configurations are shown in table A.6.6.5.1.1-1. General test parameters are provided in Table A.6.6.5.1.1-2 below. Test parameters for Cell 1 and Cell 2, valid for both time duration T1 and T2, are provided in Tables A.6.6.5.1.1-3 and A.6.6.5.1.1-4, respectively.

**Table A.6.6.5.1.1-1: Supported test configurations in SA inter-RATUTRAN FDD event triggered reporting in non-DRX with PCell in FR1**

|  |  |
| --- | --- |
| **Configuration** | **Description** |
| 1 | NR 15 kHz SSB SCS, 10 MHz bandwidth, FDD duplex mode, UTRA FDD |
| 2 | NR 15 kHz SSB SCS, 10 MHz bandwidth, TDD duplex mode, UTRA FDD |
| 3 | NR 30 kHz SSB SCS, 40 MHz bandwidth, TDD duplex mode, UTRA FDD |
| Note: The UE is only required to be tested in one of the supported test configurations | |

**Table A.6.6.5.1.1-2: General test parameters for SA inter-RAT UTRAN FDD event triggered reporting in non-DRX with PCell in FR1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Unit** | **Value** | **Comment** |
| NR RF Channel Number |  | 1 | 1 NR carrier frequency is used in the test |
| UTRA RF Channel Number |  | 1 | 1 UTRA carrier frequency is used in the test |
| Channel Bandwidth | MHz | As specified in Tables A.6.6.5.1.1-2 and A.6.6.5.1.1-3. |  |
| Active cell |  | Cell 1 | Cell 1 is on RF channel number 1 |
| Neighbour cell |  | Cell 2 | Cell 2 is on RF channel number 2 |
| Gap Pattern Id |  | 0 | As specified in Clause Table 9.1.2-1. Per-UE gap pattern. |
| NR measurement quantity |  | SS-RSRP | Measurement quantity for Cell 1 |
| Inter-RAT UTRA measurement quantity |  | CPICH Ec/Io | Measurement quantity for Cell 2 |
| b1-Threshold2UTRA | dB | -16.5 | CPICH Ec/Io threshold for SS-RSRP measurement on cell1 for event B1 |
| Hysteresis | dB | 0 |  |
| TimeToTrigger | s | 0 |  |
| Filter coefficient |  | 0 | L3 filtering is not used |
| DRX |  | OFF | OFF |
| T1 | s | 5 |  |
| T2 | s | 5 |  |
| Note 1: Values are defined in Table A.6.6.5.1.1-3 | | | |

**Table A.6.6.5.1.1-3: PCell specific test parameters for SA inter-RAT UTRA FDD event triggered reporting in non-DRX with PCell in FR1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | | | **Unit** | **Configuration** | **Cell 1** | |
|  | **T1** | **T2** |
| RF channel number | | |  | 1, 2, 3 | 1 | |
| Duplex mode | | |  | 1, 2, 3 | FDD | |
| TDD Configuration | | SCS=15 KHz |  | 2 | TDDConf.1.1 | |
| SCS=30 KHz |  | 3 | TDDConf.1.2 | |
| BWchannel | | | MHz | 1 | 10: NRB,c = 52 (FDD) | |
| 2 | 10: NRB,c = 52 (TDD) | |
| 3 | 40: NRB,c = 106 (TDD) | |
| PDSCH reference measurement channel | | |  | 1 | SR.1.1 FDD | |
| 2 | SR.1.1 TDD | |
| 3 | SR.2.1 TDD | |
| CORSET reference channel | | |  | 1 | CR.1.1 FDD | |
| 2 | CR.1.1 TDD | |
| 3 | CR.2.1 TDD | |
| BWP configurations | Initial DL BWP | |  | 1, 2, 3 | DLBWP.0.1 | |
| Dedicated DL BWP | |  | 1, 2, 3 | DLBWP.1.1 | |
| Initial UL BWP | |  | 1, 2, 3 | ULBWP.0.1 | |
| Dedicated UL BWP | |  | 1, 2, 3 | ULBWP.1.1 | |
| OCNG patternNote1 | | |  | 1, 2, 3 | OP.1 | |
| SMTC configuration | | |  | 1, 2, 3 | SMTC.1 | |
| SSB configuration | | |  | 1, 2 | SSB.1 FR1 | |
| 3 | SSB.2 FR1 | |
| b2-Threshold1 | | | dBm | 1, 2 | -98 | |
| 3 | -95 | |
| EPRE ratio of PSS to SSS | | | dB | 1, 2, 3 | 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 SSS | | |
| EPRE ratio of OCNG to OCNG DMRS | | |
| *Noc*Note2 | | | dBm/15 KHz | 1, 2, 3 | -106 | |
| *Noc*Note2 | | | dBm/SCS | 1, 2 | -106 | |
| 3 | -103 | |
| Ês/Noc | | | dB | 1, 2, 3 | 18 | -2 |
| Ês/IotNote3 | | | dB | 1, 2, 3 | 18 | -2 |
| SS-RSRPNote3 | | | dBm/SCS | 1, 2 | -88 | -108 |
|  | | | 3 | -85 | -105 |
| SSB\_RPNote3 | | | dBm/SCS | 1, 2 | -88 | -108 |
|  | | | 3 | -85 | -105 |
| IoNote3 | | | dBm/9.36 MHz | 1, 2 | -59.98 | -75.92 |
| dBm/38.16 MHz | 3 | -53.88 | -69.82 |
| Propagation condition | | |  | 1, 2, 3 | ETDLA30 | |
| Antenna Configuration and Correlation Matrix | | |  | 1, 2, 3 | 1x2 Low | |
| 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.  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: Ês/Iot, SS-RSRP, SSB\_RP and Io levels have been derived from other parameters for information purposes. They are not settable parameters themselves. | | | | | | |

**Table A.6.6.5.1.1-4: UTRAN neighbour cell specific test parameters for SA inter-RAT UTRAN event triggered reporting in non-DRX with PCell in FR1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Unit** | **Cell 2** | |
|  |  | T1 | T2 |
| UTRA RF Channel Number |  | 1 | |
| CPICH\_Ec/Ior | dB | -10 | |
| PCCPCH\_Ec/Ior | dB | -12 | |
| SCH\_Ec/Ior | dB | -12 | |
| PICH\_Ec/Ior | dB | -15 | |
| DPCH\_Ec/Ior | dB | N/A | |
| OCNS |  | -0.941 | |
|  | dB | -Infinity | -1.8 |
|  | dBm/3.84 MHz | -70 | |
| CPICH\_Ec/Io | dB | -Infinity | -14 |
| Propagation Condition |  | AWGN | |
| Note 1: The DPCH level is controlled by the power control loop.  Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. | | | |

A.6.6.5.1.2 Test Requirements

The UE shall send one Event B1 triggered measurement report for Cell 2 to the PCell, with a measurement reporting delay less than 2.4s from the start of period T2, i.e. when Cell 2 becomes detectable. The measurement reporting delay is defined as the time from the beginning of time period T2 to the moment when the UE sends the measurement report on PUSCH.

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

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