**3GPP TSG-Meeting #95-E *R4-2008746***

**, May**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0223** | **rev** | 1 | **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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Perf | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***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:*** | | The reason for alignment in TRP assessment is not described, and the necessary alignment between test object and measurement antenna is different for different methods. When making TRP measurements appropriate alignment is crucial.  Firstly, the measurement antenna needs to be aligned with the measurement surface, here a sphere, in order to correctly measure the entire TRP.  Secondly, in methods where an over-estimate of the TRP is the end result, careful angular alignment is needed in order to measure peak values in the main beams and the side lobe regions. The remaining TRP methods are designed to be independent of rotations of the angular grid, and hence angular alignment is not needed.  This CR aligns the AAS test specifcation with agreements made for NR test specification TS 38.141-2 at earlier meeting.  This is a resubmitted version of R4-2005518 technically endoorsed last meeting. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Additional information is added in Annex F | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | If not approved, the actual measurement error may become larger than the agreed MU from the measurement error evaluation for the TRP measurement method. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | Annex F.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

# F.1 General

The annex describes various procedures for BS OTA TRP measurements. These procedures can provide either an accurate or an over-estimate of TRP values. The procedures for an accurate estimate can be applied to all TRP requirements. However, if a TRP requirement does not need accurate TRP estimate then the procedures for over-estimate of TRP may be used in order to have a reasonable OTA test time. Pre-scan does not provide an accurate TRP estimate or over-estimate of TRP. Pre-scan is a fast but coarse method that is used to identify the spurious emission frequencies with emission power as described in annex F.13. A sequential measurement is then made at the emission frequencies, to assess the TRP as described in annex F.2 to annex F.9.

When making TRP measurements the alignment between EUT and measurement antenna is important to achieve expected measurement uncertainty;

1. The measurement antenna needs to be aligned tangential to the measurement surface forming a sphere around the EUT, in order to measure the TRP properly.
2. Test methods described in subclauses F.5, F.10, F.11 and F.12 require angular alignment between the selected measurement grid and EUT radiation pattern in order to measure peak values in the main beams. Angular misalignment can lead to differences in the actual and measured angular positions of the intended maximum EIRP.
3. Test methods described in subclause F.6 and F.9 are designed to be independent of rotations of the angular grid, and hence angular alignment between the measurement grid and EUT is not needed.