**3GPP TSG-WG4 Meeting #97-e *R4-2016826***

**Electronic Meeting, 2nd – 13th November, 2020**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-2** | **CR** | **0272** | **rev** | **1** | **Current version:** | **16.5.0** |  |
|  | | | | | | | | |
| *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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|  | | | | | | | | | | |
| ***Title:*** | Clarification of EIS spherical coverage for inter-band CA | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm, Intel | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_RF\_FR2\_req\_enh-Core | | | | |  | ***Date:*** | | | 2020-11-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | EIS spherical coverage requirement for inter-band CA is incomplete. The actual ‘common area’ requirement is missing in the requirement sub-clause. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Complete requirement specifications for EIS spherical coverage for inter-band CA for each power class by introducing passing criterion for common coverage area:  ‘The common coverage requirement is determined as <100 - percentile rank> %, where ‘percentile rank’ is included in the specification of spherical coverage for that power class from section 7.3.4’  Note that ‘percentile rank’ is the number that goes before ‘%ile’. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | EIS requirements for spherical coverage for inter-band CA would be incomplete | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3A.3.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.521-2 | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## **<Start of Changes>**

### 7.3A.3 EIS spherical coverage for DL CA

#### 7.3A.3.1 Void

#### 7.3A.3.2 Void

#### 7.3A.3.3 EIS spherical coverage for inter-band CA

The inter-band CA requirement applies per operating band, for all active component carriers with UL assigned to one band and one DL component carrier per band. The requirement on each component carrier shall be met when the power in the component carrier in the other band is set to its EIS spherical coverage requirement for inter-band CA specified in this sub-clause.

The inter-band CA spherical coverage requirement for each power class will be satisfied if the intersection set of spherical coverage areas exceeds the common coverage requirement. Intersection set of spherical coverage areas is defined as a fraction of area of full sphere measured around the UE where both bands meet their defined individual EIS spherical coverage requirements for inter-band CA operation. The common coverage requirement is determined as <100-percentile rank> %, where ‘percentile rank’ is the percentile value in the specification of spherical coverage for that power class from clause 7.3.4.

The requirement is verified with the test metric of EIS (Link=Beam peak search grids, Meas=Link angle).

The reference measurement channels and throughput criterion shall be as specified in clause 7.3A.2.3. The requirement shall be met for an uplink transmission using QPSK DFT-s-OFDM waveforms and for uplink transmission bandwidth less than or equal to that specified in clause 7.3.2.

Unless otherwise specified, the minimum requirements for reference sensitivity shall be verified with the network signalling value NS\_200 (Table 6.2.3.1-1) configured.

The required spherical coverage EIS for each band in inter-band CA operation is given in clause 7.3.4 and modified by ΔRIB,S,n. The value of ∆RIB,S,n is defined in Table 7.3A.3.3-1.

Table 7.3A.3.3-1: ΔRIB,S,n EIS spherical coverage requirement relaxation for inter-band CA for power class 3

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| --- | --- | --- |
| **NR CA bands** | **NR band** | **ΔRIB,S,n (dB)** |
| CA\_n260-n261 | n260 | [3.5] |
| n261 | [3.5] |

## 7.3D Reference sensitivity for UL MIMO

For UL MIMO, the reference sensitivity requirements in clause 7.3 apply. The requirements shall be met with the UL MIMO configurations specified in Table 6.2D.1.3-3.

## **<End of Changes>**