**3GPP TSG-SA5 Meeting #132e *S5-204396***

**e-meeting 17th 28th August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.552** | **CR** | **263** | **rev** | **1** | **Current version:** | **16.6.0** |  |
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| *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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Addition of RSRQ measurement | | | | | | | | | |
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| ***Source to WG:*** | China Mobile | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ePM\_KPI\_5G | | | | |  | ***Date:*** | | | 2020-8-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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)* | |
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| ***Reason for change:*** | | SS-RSRQ is used in 5G NR networks to determine the quality of the radio channel. RSRQ, unlike RSRP (wanted signal strength), also includes interference level due to the inclusion of RSSI in calculation. This measurement is usefule to eveluate the qulity of cell coverage through the SS-RSRQ distribution,especially to optimize cell selection and handover related parameters configration, mainly in border parts of cell. | | | | | | | | |
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| ***Summary of change:*** | | Addition of RSRQ measurement | | | | | | | | |
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| ***Consequences if not approved:*** | | It is not possbile to trouble shooting cell selection and handover related parameters accurately without RSRQ mearement. | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.1.x(new), A.x (new) | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |

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| **Start of 1st modification** |

#### 5.1.1.x RSRQ measurement

a) This measurement provides the distribution of SS-RSRQ received by gNB from UEs in the cell. The periodical UE measurement reports towards all of the UEs need to be triggered by gNB in the measured New Radio cell (See in TS 38.331[20]).

b) CC.

c) This measurement is obtained by incrementing the appropriate measurement bin using measured quantity value (See Table 10.1.11.1-1 in TS 38.133 [35], subclause 5.1.3 SS reference signal received quality (SS-RSRQ) in 38.215[34] ) when a RSRQ value is reported by a UE when RSRQ is used for *MeasQuantityResults* IE that is in *resultsSSB-Cell* IE within the *measResult* IE as configured by *MeasurementReport* configurations as defined in TS 38.331 [20].

d) A set of integer.

e) MR.NRScSSRSRQ.BinX

where X represents the range of Measured quantity SS-RSRQ value (-43 to 20 dB)

NOTE: Number of bins and the range for each bin is left to implementation.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

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| **End of 1st modification** |

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| **Start of 2nd modification** |

# A.x Monitoring of SS-RSRQ

SS-RSRQ is used in 5G NR networks to determine the quality of the radio channel. RSRQ, unlike RSRP (wanted signal strength), also includes interference level due to the inclusion of RSSI in calculation. This measurement is usefule to eveluate the qulity of cell coverage through the SS-RSRQ distribution,especially to optimize cell selection and handover related parameters configration, mainly in border parts of cell.

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| **End of 2nd modification** |