**3GPP TSG- RAN WG1 Meeting #102-e R1-2006476**

**e-Meeting, August 17th – 28th, 2020**

|  |
| --- |
| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.214** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **15.10.0** |  |
|  |
| *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)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Draft CR on Measurement Restriction for L1-RSRP |
|  |  |
| ***Source to WG:*** | Apple Inc |
| ***Source to TSG:*** | R1 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2020-08-07 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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 canbe 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:*** | In 38.214, the UE behavior for different configuration of measurement restriction for CSI measurement has been defined in section 5.2.2.1. However, the UE behavior for measurement restriction for L1-RSRP is not defined. In 38.133, there are some test cases defined for measurement restriction for L1-RSRP in section 9.5.4.1. Therefore, to keep consistency between RAN1 and RAN4 specification, the UE behavior for measurement restriction for L1-RSRP should be defined. |
|  |  |
| ***Summary of change:*** | Define UE behavior for L1-RSRP report with measurement restriction based on the same principle as CSI measurement |
|  |  |
| ***Consequences if not approved:*** | UE behavior for L1-RSRP report with measurement restriction is unclear |
|  |  |
| ***Clauses affected:*** | 5.2.1.4.3 |
|  |  |
|  | **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:*** | Impac analysis: This is based on common understanding. So no impact on legacy gNB and UE. |
|  |  |
| ***This CR's revision history:*** |  |

##### **5.2.1.4.3 L1-RSRP Reporting**

For L1-RSRP computation

- the UE may be configured with CSI-RS resources, SS/PBCH Block resources or both CSI-RS and SS/PBCH block resources, when resource-wise quasi co-located with 'QCL-Type C' and 'QCL-TypeD' when applicable.

- the UE may be configured with CSI-RS resource setting up to 16 CSI-RS resource sets having up to 64 resources within each set. The total number of different CSI-RS resources over all resource sets is no more than 128.

For L1-RSRP reporting, if the higher layer parameter *nrofReportedRS* in *CSI-ReportConfig* is configured to be one, the reported L1-RSRP value is defined by a 7-bit value in the range [-140, -44] dBm with 1dB step size, if the higher layer parameter *nrofReportedRS* is configured to be larger than one, or if the higher layer parameter *groupBasedBeamReporting* is configured as 'enabled', the UE shall use differential L1-RSRP based reporting, where the largest measured value of L1-RSRP is quantized to a 7-bit value in the range [-140, -44] dBm with 1dB step size, and the differential L1-RSRP is quantized to a 4-bit value. The differential L1-RSRP value is computed with 2 dB step size with a reference to the largest measured L1-RSRP value which is part of the same L1-RSRP reporting instance. The mapping between the reported L1-RSRP value and the measured quantity is described in [11, TS 38.133].

If a UE is not configured with higher layer parameter *timeRestrictionForChannelMeasurements* in *CSI-ReportConfig*, the UE shall derive the channel measurements for computing L1-RSRP value reported in uplink slot n based on only the SS/PBCH or NZP CSI-RS, no later than the CSI reference resource, (defined in TS 38.211[4]) associated with the CSI resource setting.

If a UE is configured with higher layer parameter *timeRestrictionForChannelMeasurements* in*CSI-ReportConfig*, the UE shall derive the channel measurements for computing L1-RSRP reported in uplink slot n based on only the most recent, no later than the CSI reference resource, occasion of SS/PBCH or NZP CSI-RS (defined in [4, TS 38.211]) associated with the CSI resource setting.

< Unchanged parts are omitted >