**3GPP TSG-RAN2 Meeting #110-e *R2-200xxxx***

**Online, 1st - 12th June 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.321** | **CR** | **1479** | **rev** | **1** | **Current version:** | **16.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Clarification on PHR report for power class 14dBm UE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NB\_IOTenh2-Core | | | | |  | ***Date:*** | | | 2020-06-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **A** |  | | | | | ***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-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:*** | | Enhanced PHR report was introduced in Rel-15 NB-IoT.  According to section 5.4.5a in TS 36.321, if *enhancedPHR* is configured, a UE supporting extended power headroom reporting shall report extended power headroom level using the DPR MAC control element.  However, for power class 14dBm UE, RAN4 has only defined extended values for enhanced coverage level 0 (TS 36.133 section 9.1.23.4). | | | | | | | | |
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| ***Summary of change:*** | | Clarify in section 5.4.5a., that for a UE supporting power class 14dBm, extended power headroom level is only reported if enhanced coverage level 0 is selected during the RA procedure.  **Impact analysis**  Impacted functionality:  enhanced PHR  Inter-operability:  If the UE is implemented according to the CR and the NW is not, there is misunderstanding between the UE and the eNB on whether the enhanced power headroom level is reported.  If the NW is implemented according to the CR and the UE is not, there is misunderstanding between the UE and the eNB on whether the enhanced power headroom level is reported. | | | | | | | | |
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| ***Consequences if not approved:*** | | For a UE supporting power class 14dBm, if the selected enhanced coverage level is not 0, there is misunderstanding between the UE and the eNB on whether the enhanced power headroom level is reported. | | | | | | | | |
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| ***Clauses affected:*** | | 5.4.5a | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| Start of change |

5.4.5a Data Volume and Power Headroom Reporting

The Data Volume and Power Headroom reporting procedure is only applicable for NB-IoT UEs and is used to provide the serving eNB with information about the amount of data available for transmission in the UL buffers associated with the MAC entity, and to provide the serving eNB with information about the difference between the nominal UE maximum transmission power and the estimated transmission power for UL-SCH transmission for the Serving Cell. The reporting is done using the DPR MAC control element, which is sent in Msg3 together with a CCCH SDU. For EDT, the Data Volume in DPR MAC control element is set to zero.

If *enhancedPHR* is configured and the UE supports extended power headroom reporting, the UE shall:

- if the UE supports power class 14dBm and the MAC entity considers itself to be in enhanced coverage level other than 0:

- report power headroom level using the DPR MAC control element;

- else:

- report extended power headroom level using the DPR MAC control element for Extended Power Headroom level reporting.