**3GPP TSG-RAN WG4 Meeting#104-e *REV\_R4-2212775***

**Electronic meeting, 15 – 26 August 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-2** | **CR** | **0486** | **rev** | **1** | **Current version:** | **17.6.0** |  |
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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 | **x** | Radio Access Network |  | Core Network |  |

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| ***Title:***  | Amendment of the requirement on TX power management  |
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| ***Source to WG:*** | Ericsson, Sony |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2022-08-15 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | The application of P-MPR when UL gaps for Tx power management are configured and activated and when not configured is unclear, the condition on the duty cycle Z is missing.  |
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| ***Summary of change:*** | Clause 6.2.5: clarification of the P-MPR setting for the UL gap minimum requirement. |
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| ***Consequences if not approved:*** | The behavior of the UE output power at largeduty cycle is ambiguous. |
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| ***Clauses affected:*** | 6.2.5 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** |  | **X** |  Test specifications | .  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |   |
|  |  |
| ***Other comments:*** |  |
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| ***This CR's revision history:*** | r1: correction of the requirement on P-MPR indication for the UL gap test, the step 3 test removed. |

*< start of changes >*

### 6.2.5 Requirements for UL gap for TX power management

The difference of the measured peak EIRP PUMAX,f,c\_GAP\_ON when UL gap for TX power management is configured and activated, and the measured peak EIRP PUMAX,f,c\_GAP\_OFF when UL gap is not configured or de-activated, shall meet the following requirement:

 PUMAX,f,c\_GAP\_ON - PUMAX,f,c\_GAP\_OFF $\geq $max((EIRPmeas\_peak – 23) + 10 \* log10(Z/20), 3)dB

where EIRPmeas\_peak  is the measured UE peak EIRP with zero MPR/A-MPR/P-MPR as specified in clause 6.2.1 for the corresponding power class, and Z% is duty cycle of the reference measurement channel. PUMAX,f,c\_GAP\_ONshall be measured outside of the UL gap symbol(s)*.* The period of measurement shall be at least 4s. The requirement is verified with the test metric of EIRP (Link=TX beam peak direction, Meas=Link angle) and in the test Z is set to 20 when maxUplinkDutyCycle-FR2 is less than 20 or not reported, and should be larger than maxUplinkDutyCycle-FR2 when maxUplinkDutyCycle-FR2 is equal to or greater than 20. The reference measurement channel is specified in Annex A.2.3.

When UL gap for Tx power management is configured and activated, the reported P-MPRf,c shall be less than 3dB. When UL gap for Tx power management is not configured and activated at the duty cycle percentage value Z of the reference measurement channel larger than *maxUplinkDutyCycle-FR2*, UE shall set the P bit in PHR to 1 in the test when PHR is configured.

*< end of changes >*