**3GPP TSG-RAN WG2 Meeting #110-e *R2-2004909***

**Elbonia, 01 – 11 June 2020 *R2-2002687***

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **0272** | **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:*** | Introduction of P-MPR reporting for FR2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_RF\_FR2\_req\_enh | | | | |  | ***Date:*** | | | 2020-05-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The Maximum Permissible Exposure (MPE) limit set by FCC aims at restricting the UE Tx power averaged over a defined period of time for limiting RF exposure on human body for FR2. UE may be required to apply a large P-MPR value to comply with those requirements. Unless network is aware of the applied P-MPR, radio link failure or connection releases due to significant and unpredictable UE P-MPR may occur. Therefore, UE reporting of the P-MPR used to meet the FR2 MPE limits is required to prevent this. | | | | | | | | |
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| ***Summary of change:*** | | Added per-UE capability in MAC-Parameters for support of FR2 MPE P-MPR reporting. | | | | | | | | |
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| ***Consequences if not approved:*** | | The capabilities for FR2 MPE P-MPR reporting are not captured in specifications. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS38.300 CR0210R1, TS38.321 CR0707R1, TS38.331 CR1515R1 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*First Modified Subclause*

4.2.6 MAC parameters

| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** | **FR1-FR2 DIFF** |
| --- | --- | --- | --- | --- |
| ***lch-ToSCellRestriction***  Indicates whether the UE supports restricting data transmission from a given LCH to a configured (sub-) set of serving cells (see allowedServingCells in LogicalChannelConfig). A UE supporting pdcp-DuplicationMCG-OrSCG-DRB or pdcp-DuplicationSRB (see PDCP-Config) shall also support lch-ToSCellRestriction. | UE | No | No | No |
| ***lcp-Restriction***  Indicates whether UE supports the selection of logical channels for each UL grant based on RRC configured restriction. | UE | No | No | No |
| ***logicalChannelSR-DelayTimer***  Indicates whether the UE supports the logicalChannelSR-DelayTimer as specified in TS 38.321 [8]. | UE | No | Yes | No |
| ***longDRX-Cycle***  Indicates whether UE supports long DRX cycle as specified in TS 38.321 [8]. | UE | Yes | Yes | No |
| ***p-MPR-Reporting***  Indicates whether UE supports FR2 MPE P-MPR reporting MAC CE signalling as specified in TS 38.321 [8] when P-MPR due to FR2 MPE requirements is triggered as specified in TS38.101-2 [3]. | UE | No | No | FR2 only |
| ***multipleConfiguredGrants***  Indicates whether UE supports more than one configured grant configurations (including both Type 1 and Type 2) in a cell group. For each cell, the UE supports at most one configured grant per BWP and the maximum number of configured grant configurations per cell group is 2. If absent, for each configured cell group, the UE only supports one configured grant configuration on one serving cell. | UE | No | Yes | No |
| ***multipleSR-Configurations***  Indicates whether the UE supports 8 SR configurations per PUCCH cell group as specified in TS 38.321 [8]. | UE | No | Yes | No |
| ***recommendedBitRate***  Indicates whether the UE supports the bit rate recommendation message from the gNB to the UE as specified in TS 38.321 [8]. | UE | No | No | No |
| ***recommendedBitRateMultiplier-r16***  Indicates whether the UE supports the bit rate multiplier for recommended bit rate MAC CE as specified in TS 38.321 [8], clause 6.1.3.20. This field is only applicable if the UE supports recommendedBitRate. | UE | No | No | No |
| ***recommendedBitRateQuery***  Indicates whether the UE supports the bit rate recommendation query message from the UE to the gNB as specified in TS 38.321 [8]. This field is only applicable if the UE supports recommendedBitRate. | UE | No | No | No |
| ***shortDRX-Cycle***  Indicates whether UE supports short DRX cycle as specified in TS 38.321 [8]. | UE | Yes | Yes | No |
| ***skipUplinkTxDynamic***  Indicates whether the UE supports skipping of UL transmission for an uplink grant indicated on PDCCH if no data is available for transmission as specified in TS 38.321 [8]. | UE | No | Yes | No |