**3GPP TSG RAN WG1 Meeting # 110bis-eR1-22110639**

**E-meeting, October 10th – 19th, 2022**

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| *CR-Form-v12.2* |
| **DRAFT CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.3.0** |  |
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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 | **X** | Core Network |  |

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| ***Title:***  | Draft CR on power control for PUCCH |
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| ***Source to WG:*** | , Apple, Samsung, Ericsson  |
| ***Source to TSG:*** | R1 |
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| ***Work item code:*** | NR\_IIOT\_URLLC\_enh-Core |  | ***Date:*** | 2022-10-18 |
|  |  |  |  |  |
| ***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:*** | Power control for PUCCH carrying UCIs of different priorities is according to high priority UCI(s). The effective coding rate of the high priority UCI is used in two power control formulae for a case with larger than 11 bits and another case with no larger than 11 bits. The effective coding rate is formed as a ratio between a numerator part and a denominator part. While the specification text clearly prescribes the calculation of the denominator part, the calculation of the numerator part is not clear. |
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| ***Summary of change:*** | The introduced change prescribes the calculation of the numerator part for two cases (i.e. no larger than 11 bits and larger than 11 bits). |
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| ***Consequences if not approved:*** | Due to ambiguity in the specification text, a UE may transmit PUCCH carrying UCIs of different priorities at a power level not intended by the network. |
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| ***Clauses affected:*** | 9.2.5.3 |
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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 ...  |
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| ***Other comments:*** | **Isolated impact analysis:**This CR is based on RAN1’s common understanding, which has no impact on UE behavior.  |
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| ***This CR's revision history:*** | This is the first version for this CR. |

9.2.5.3 UE procedure for reporting UCI of different priorities

\*\*\* Unchanged text is omitted \*\*\*

If a UE transmits a PUCCH that includes HARQ-ACK information bits of priority 0 and 1 using a PUCCH resource that includes PUCCH format 2, 3 or 4, the UE determines a power for the PUCCH transmission as described in clause 7.2.1 assuming that the PUCCH includes only UCI bits of priority 1, where . If bits, replaces in the calculation in clause 7.2.1; otherwise, replaces in the calculation in clause 7.2.1.

\*\*\* Unchanged text is omitted \*\*\*