**3GPP TSG RAN WG1 Meeting #105-e R1-210xxxx**

**e-Meeting, May 10– May 27, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.213** | **CR** |  | **rev** | **-** | **Current version:** | **V16.5.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <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 UE procedure for uplink MTB scheduling in TDD | | | | | | | | | |
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| ***Source to WG:*** | Moderator(Ericsson), ZTE, Sanechips, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_eMTC5-Core | | | | |  | ***Date:*** | | | 2021-05-25 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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:*** | | 1. According to the current spec in 5.1.1.1 TS36.213, if UL index is set to ‘11’, PUSCH transmit power is the same for the 2 uplink subframes or 2TBs, which is not aligned with the legacy behavior. 2. When *ce-PUSCH-MultiTB-Config* is configured, if the PDSCH repetition number N=1 and UL index in DCI format 6-0A is set as ‘11’, the HARQ process number indicated by UL index is conflicting with that indicated by multi-TB scheduling. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add the behavior of excluding the case of ‘UL index=11’ for 2 uplink subframe scheduling with the same PUSCH transmit power. 2. Add the following UE behavior:   The UE is not expected to receive DCI format 6-0A with both the MSB and LSB of the UL index set to 1 when *ce-PUSCH-MultiTB-Config* is configured. | | | | | | | | |
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| ***Consequences if not approved:*** | | 1. The legacy power control based on UL index indication would be changed. 2. The HARQ process number derived from ‘UL index’ and ‘Scheduling TBs for Unicast’ may be conflicted. | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.1.1, 8.0 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

#### 5.1.1.1 UE behaviour

**<Unchanged parts are omitted>**

For a BL/CE UE configured with CEModeA, if the PUSCH transmission, scheduled by one DCI, is transmitted in more than one subframe *i0*, *i1*, …, *iN-1* where *i0*< *i1*< …< *iN-1*, the PUSCH transmit power in subframe *ik* , *k*=0, 1, …, *N*-1, is determined by



except in case the DCI contains an UL index set to ‘11’.

For a BL/CE UE configured with CEModeB, the PUSCH transmit power in subframe *ik* is determined by



**<Unchanged parts are omitted>**

## 8.0 UE procedure for transmitting the physical uplink shared channel

**<Unchanged parts are omitted>**

- for TDD UL/DL configuration 0 and a BL/CE UE in CEModeA, if the MSB of the UL index in the MPDCCH with DCI format 6-0A is set to 1, the value of *x* isgiven as the value of *k* in Table 8-2 for the corresponding TDD UL/DL configuration; if the LSB of the UL index in the MPDCCH with DCI format 6-0A is set to 1, *x = 7.* The UE is not expected to receive DCI format 6-0A with both the MSB and LSB of the UL index set to 1 when *N>1* or *ce-PUSCH-MultiTB-Config* isconfigured. In case both the MSB and LSB of the UL index are set to 1, the HARQ process number of the PUSCH corresponding the MSB of the UL index is  and the HARQ process number of the PUSCH corresponding the LSB of the UL index is , where  is determined according to the *HARQ process number* field in DCI format 6-0A

**<Unchanged parts are omitted>**