**3GPP TSG-WG1 Meeting #108R1-22xxxxx**

**e-meeting, February 21 – March 3, 2022**

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| *CR-Form-v12.2* |
| **DRAFT CHANGE REQUEST** |
|  |
|  | **36.212** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  |
| *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:***  | Correction to additional enhancements for NB-IoT and LTE-MTC |
|  |  |
| ***Source to WG:*** | FUTUREWEI |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NB\_IOTenh4\_LTE\_eMTC6 |  | ***Date:*** | 03-07-2022 |
|  |  |  |  |  |
| ***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:*** | Correction is needed for the UL SCH processing for NB-IoT. |
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| ***Summary of change:*** | Clarify the difference of modulation between NB-IoT and section 5.1.4.1.2 in the TB processing. |
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| ***Consequences if not approved:*** | Difference between NB-IoT and section 5.1.4.1.2 is not properly captured. |
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| ***Clauses affected:*** | 6.3.2 |
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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 ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

### 6.3.2 Uplink shared channel

Figure 6.3.2-1 shows the processing structure for the UL-SCH transport channel. Data arrives to the coding unit in the form of a maximum of one transport block over a number of resource units per UL cell. The number of resource units is scheduled according to [3]. The following coding steps can be identified:

- CRC attachment

- Channel coding

- Rate matching



Figure 6.3.2-1: Transport block processing for UL-SCH

The CRC attachment, channel coding, and rate matching are performed according to clauses 5.2.2.1, 5.2.2.3, and 5.2.2.4, respectively, with the following differences:

- In clause 5.1.4.1.2 in the calculation of  , *Qm* is 2 for π/4-QPSK, and *rvidx* = 0 or 2.

In addition, after rate matching interleaving is applied per resource unit according to clauses 5.2.2.7 and 5.2.2.8 without any control information in order to apply a time-first rather than frequency-first mapping, where the input sequence to 5.2.2.7 is the portion of *e* for a resource unit instead of *f*, and where  is the number of SC-FDMA symbols for NPUSCH in a UL resource unit as given in clause 10.1.2.3 of [2].