**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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***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].