**3GPP TSG RAN WG1 #110 R1-220XXXX**

**Toulouse, France, August 22nd – 26th, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **36.213** | **CR** |  | **rev** |  | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 on determination of TBS for NPDSCH | | | | | | | | | |
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| ***Source to WG:*** | ASUSTeK | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NB\_IOTenh-Core, TEI17 | | | | |  | ***Date:*** | | | 2022-08-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **D** |  | | | | | ***Release:*** | | | Release 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)* | |
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| ***Reason for change:*** | | During the phase of introducing Rel-14 feature in v.14.2.0 in RAN1#88, some changes on Rel-13 feature were accedentally conducted by changing “carries” to “carrier”. Note that an initial version of CR provided by the rapporteur under the thread ” [88-04-213] NB-IoT 213 CR” does not include such change, while it was reflected in the final version even though comments provided over emails do not touch the concerned section. Currently Rel-13 spec still reads ”carries” while the releases including Rel-14 and beyaond read “carriers” due to above mentioned accident. The condition for determining NPDSCH TBS becomes unclear since the term ”carriers” is ambiguous, e.g. whether it’s referring NB-IoT carrier. | | | | | | | | |
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| ***Summary of change:*** | | Change “carriers” to “carries”. | | | | | | | | |
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| ***Consequences if not approved:*** | | The term “carriers” under” condition for determining NPDSCH TBS is unclear. | | | | | | | | |
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| ***Clauses affected:*** | | 16.4.1.5 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Isolated impact analysis  It’s RAN1’s common understanding that the changes in this CR comply with previous releases | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

#### 16.4.1.5 Modulation order and transport block size determination

To determine the modulation order in the NPDSCH, the UE shall

- if the UE is configured with higher layer parameter *npdsch-16QAM-Config* and the DCI is mapped onto the UE specific search space given by C-RNTI, or the UE is configured with higher layer parameter *pur-DL-16QAM-Config* and the DCI is mapped onto the UE specific search space given by PUR-RNTI,

- If the 4-bit "modulation and coding scheme" field () in the DCI is set to ‘1111’,

- use modulation order, **=** 4

- otherwise

- use modulation order, **=** 2

- otherwise

- use modulation order, **=** 2.

To determine the transport block size in the NPDSCH, the UE shall first,

- if NPDSCH carries SystemInformationBlockType1-NB

- set  to the value of the parameter schedulingInfoSIB1 configured by higher-layers

- else if NPDSCH with 16QAM

- read the 4-bit "modulation and coding scheme for 16QAM" () in the DCI

- If for the carrier on which NPSS/NSSS/NPBCH are detected the value of the higher layer parameter *operationModeInfo* is set to '00' or '01', or if the value of the higher layer parameter *inbandCarrierInfo-r13* is configured for a higher layer configured carrier if any, set , otherwise set

- otherwise

- read the 4-bit "modulation and coding scheme" field () in the DCI and set .

and second,

- if NPDSCH carries SystemInformationBlockType1-NB

- use Clause 16.4.1.5.2 for determining its transport block size.

- otherwise,

- read the 3-bit "resource assignment" field () in the DCI and determine its TBS by the procedure in Clause 16.4.1.5.1.

For a NPDCCH UE-specific search space, if the UE is configured with higher layer parameter *twoHARQ-ProcessesConfig*, or the UE is configured with higher layer parameter *npdsch-MultiTB-Config* and single TB is scheduled in the corresponding DCI

- the NDI and HARQ process ID as signalled on NPDCCH, and the TBS, as determined above, shall be delivered to higher layers,

otherwise

- the NDI as signalled on NPDCCH, and the TBS, as determined above, shall be delivered to higher layers. If the UE is configured with higher layer parameter *npdsch-MultiTB-Config* and multiple TB are scheduled in the corresponding DCI, the HARQ process ID of 0 is for the first TB and HARQ process ID of 1 shall be assumed for the second TB, otherwise, HARQ process ID of 0 shall be assumed.