**3GPP TSG-RAN WG1 #102-e *R1-*** ***200xxxx***

**e-Meeting, August 17th – 28th, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **38.212** | **CR** | **-** | **rev** | **-** | **Current version:** | **16.2.0** |  |
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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:*** | Correction on UCI bit sequence generation | | | | | | | | | |
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| ***Source to WG:*** | ASUSTeK | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2020-08-18 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | In UCI bit sequence generation procedure, when the number of HARQ-ACK bits is not 0, there is an index mismatch problem between sequence in UCI bit assignment process for  and SR bit sequence .  A draft CR for Rel-15 was submitted in RAN1#101-e meeting as R1-2004375 with the following conclusion.   |  | | --- | | [**R1-2004375**](file:///D:\Andy\Docs\R1-2004375.zip) **CR on UCI bit sequence determination ASUSTeK**  **Decision:** [R1-2004375](file:///D:\Andy\Docs\R1-2004375.zip) is not pursued for Rel-15 but can be considered for Rel-16. |   From the specification’s point of view, it is proposed to fix the index mismatch problem in UCI bit sequence generation process for Rel-16. | | | | | | | | |
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| ***Summary of change:*** | | Fixing the index in to solve the index mismatch problem. | | | | | | | | |
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| ***Consequences if not approved:*** | | When is not 0, wrong index mapping between sequence in UCI bit assignment process and SR bit sequence . | | | | | | | | |
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| ***Clauses affected:*** | | 6.3.1.1.1, 6.3.1.1.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:**  The change in this CR complies with existing implementation because it is RAN1’s common understanding of the intended behaviour. | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

6.3.1.1.1 HARQ-ACK/SR only

If only HARQ-ACK bits are transmitted on a PUCCH, the UCI bit sequence  is determined by setting  for  and , where the HARQ-ACK bit sequence  is given by Clause 9.1 of [5, TS38.213].

If only HARQ-ACK and SR bits are transmitted on a PUCCH, the UCI bit sequence  is determined by setting  for , for , and , where the HARQ-ACK bit sequence  is given by Clause 9.1 of [5, TS 38.213], and the SR bit sequence  is given by Clause 9.2.5.1 of [5, TS 38.213].

<Unchanged Text omitted>

6.3.1.1.3 HARQ-ACK/SR and CSI

If none of the CSI reports for transmission on a PUCCH is of two parts, the UCI bit sequence  is generated according to the following, where :

- if there is HARQ-ACK for transmission on the PUCCH, the HARQ-ACK bits are mapped to the UCI bit sequence , where  for , the HARQ-ACK bit sequence  is given by Clause 9.1 of [5, TS38.213], and  is number of HARQ-ACK bits; if there is no HARQ-ACK for transmission on the PUCCH, set ;

- if there is SR for transmission on the PUCCH, set for , where the SR bit sequence  is given by Clause 9.2.5.1 of [5, TS 38.213]; if there is no SR for transmission on the PUCCH, set ;

- the CSI fields of all CSI reports, in the order from upper part to lower part in Table 6.3.1.1.2-12, are mapped to the UCI bit sequence  starting with , where  is the number of CSI bits.

If at least one of the CSI reports for transmission on a PUCCH is of two parts, two UCI bit sequences are generated,  and , according to the following, where  and :

- if there is HARQ-ACK for transmission on the PUCCH, the HARQ-ACK bits are mapped to the UCI bit sequence , where  for , the HARQ-ACK bit sequence  is given by Clause 9.1 of [5, TS38.213], and  is number of HARQ-ACK bits; if there is no HARQ-ACK for transmission on the PUCCH, set ;

- if there is SR for transmission on the PUCCH, set for , where the SR bit sequence  is given by Clause 9.2.5.1 of [5, TS 38.213]; if there is no SR for transmission on the PUCCH, set ;