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

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

|  |
| --- |
| *CR-Form-v12.0* |
| **DRAFT CHANGE REQUEST** |
|  |
|  | **38.212** | **CR** | **-** | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Correction on UCI bit sequence generation |
|  |  |
| ***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 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***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%3A%5CAndy%5CDocs%5CR1-2004375.zip) **CR on UCI bit sequence determination ASUSTeK****Decision:** [R1-2004375](file:///D%3A%5CAndy%5CDocs%5CR1-2004375.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. |
|  |  |
| ***Summary of change:*** | Fixing the index in to solve the index mismatch problem. |
|  |  |
| ***Consequences if not approved:*** | When is not 0, wrong index mapping between sequence in UCI bit assignment process and SR bit sequence . |
|  |  |
| ***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 ...  |
|  |  |
| ***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.  |
|  |  |
| ***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 ;