**3GPP TSG-RAN WG2 Meeting #113-e R2-2102260**

**E-Meeting, 25th January - 5th February 2020**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.321** | **CR** | **0990** | **rev** |  **1** | **Current version:** | **16.3.0** |  |
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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 resource re-selection |
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| ***Source to WG:*** | vivo |
| ***Source to TSG:*** | RAN2 |
|  |  |
| ***Work item code:*** | 5G\_V2X\_NRSL-Core |  | ***Date:*** | 2021-01-25 |
|  |  |  |  |  |
| ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | 1. In RAN1, it has been agreed that the minimum time gap between any two selected resources for a given TB transmission is ensured only when HARQ-ACK feedback is enabled for the TB transmission. However, TS 38.321 captured it as ‘ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources. To correctly reflect RAN1 agreement, The CR is proposed.

Agreements:* + In Step 2, a UE ensures a minimum time gap Z = a + b between any two selected resources of a TB where a HARQ feedback for the first of these resources is expected
		1. ‘a’ is a time gap between the end of the last symbol of the PSSCH transmission of the first resource and the start of the first symbol of the corresponding PSFCH reception determined by resource pool configuration and higher layer parameters of *MinTimeGapPSFCH* and *periodPSFCHresource*
		2. ‘b’ is a time required for PSFCH reception and processing plus sidelink retransmission preparation including multiplexing of necessary physical channels and any TX-RX/RX-TX switching time and is determined by UE implementation
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| ***Summary of change:*** | In Subclause 5.22.1.1, 1. Change the condition to ensure minimum time gap in resource selection procedure.

**Impact Analysis**Impacted functionality:Resource (re-)selection procedure  |
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| ***Consequences if not approved:*** | UE adopts the minimum time gap restriction for any TB transmission regardless whether HARQ-ACK feedback for the TB transmission is enabled or not. |
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| ***Clauses affected:*** | 5.22.1.1, 5.22.1.2 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

Start of change

#### 5.22.1.1 SL Grant reception and SCI transmission

…

If the MAC entity has been configured with Sidelink resource allocation mode 2 to transmit using pool(s) of resources in a carrier as indicated in TS 38.331 [5] or TS 36.331 [21] based on sensing or random selection, the MAC entity shall for each Sidelink process:

…

1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmissions of multiple MAC PDUs, and SL data is available in a logical channel:

…

2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check:

…

3> if one or more HARQ retransmissions are selected:

4> if there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities:

5> randomly select the time and frequency resources for one or more transmission opportunities from the available resources, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that *sl-HARQ-FeedbackEnabled* has been set to *enabled* for the logical channel and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

…

1> if the MAC entity has selected to create a selected sidelink grant corresponding to transmission(s) of a single MAC PDU, and if SL data is available in a logical channel, a SL-CSI reporting is triggered:

…

2> if the TX resource (re-)selection is triggered as the result of the TX resource (re-)selection check:

 …

3> if one or more HARQ retransmissions are selected:

4> if there are available resources left in the resources indicated by the physical layer according to clause 8.1.4 of TS 38.214 [7] for more transmission opportunities:

5> randomly select the time and frequency resources for one or more transmission opportunities from the available resources, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) allowed on the carrier by ensuring the minimum time gap between any two selected resources in case that *sl-HARQ-FeedbackEnabled* has been set to *enabled* for the logical channel and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];

…

NOTE 3B: If retransmission resource(s) cannot be selected by ensuring that the resource(s) can be indicated by the time resource assignment of a prior SCI, how to select the time and frequency resources for one or more transmission opportunities from the available resources is left for UE implementation by ensuring the minimum time gap between any two selected ‎resources in case that *sl-HARQ-FeedbackEnabled* has been set to *enabled* for the logical channel.

…

#### 5.22.1.2 TX resource (re-)selection check

If the TX resource (re-)selection check procedure is triggered on the selected pool of resources for a Sidelink process according to clause 5.22.1.1, the MAC entity shall for the Sidelink process:

…

1> if retransmission of a MAC PDU on the selected sidelink grant has been dropped by either sidelink congeston control as specified in clause 8.1.6 of TS 38.214 or de-prioritization as specified in clause 16.2.4 of TS 38.213 [6], clause 5.4.2.2 of TS 36.321 [22] and clause 5.4.4:

2> remove the resource(s) from the selected sidelink grant associated to the Sidelink process, if the resource(s) of the selected sidelink grant is indicated for re-evaluation or pre-emption by the physical layer;

2> randomly select the time and frequency resource from the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] for either the removed resource or the dropped resource, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of either SL data available in the logical channel(s) by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that *sl-HARQ-FeedbackEnabled* has been set to *enabled* for the logical channel, and that a resource can be indicated by the time resource assignment of a SCI for a retransmission according to clause 8.3.1.1 of TS 38.212 [9];

NOTE 4: If retransmission resource(s) cannot be selected by ensuring that the resource(s) can be indicated by the time resource assignment of a prior SCI, how to select the time and frequency resources for one or more transmission opportunities from the available resources is left for UE implementation by ensuring the minimum time gap between any two selected ‎resources in case that *sl-HARQ-FeedbackEnabled* has been set to *enabled* for the logical channel.

…

End of change