**3GPP TSG-RAN WG2 Meeting #121 *R2-2302195***

**Athens, GR, 27th Feb – 3rd Mar, 2023**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **38.321** | **CR** | **1553** | **rev** | **1** | **Current version:** | **17.3.0** |  |
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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 |  | Core Network |  |

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| ***Title:***  | Correction on discovery message filtering |
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| ***Source to WG:*** | Huawei, HiSilicon |
| ***Source to TSG:*** | R2 |
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| ***Work item code:*** | NR\_SL\_relay-Core  |  | ***Date:*** | 2023-02-17 |
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| ***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 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:*** | In RAN2 #120 meeting, RAN2 agreed that transmitting UE MAC entity always sets the cast type indicator for NR SL discovery messages sent by either BC or GC or UC Layer-2 ID to “broadcast”. However, in Model B discovery procedure, the Discovery Response message is transmitted in unicast mode, i.e. the DST ID is the source L2 ID of the peer UE. Additionally, RAN2 made the following agreement.Rx UE uses unicast address to filter broadcast-based discovery messages: The Rx UE sets its own source L2 ID as a destination L2 ID for broadcast message filtering. FFS MAC spec impact.According to clause 5.22.2.2.2 in current MAC specification, for broadcast the Rx UE (e.g. remote UE) only processes the MAC PDU whose DST ID is equal to its Destination L2 ID, resulting in discard of Discovery Response message since the DST ID is set by the Tx UE (e.g. relay UE) to the source L2 ID of Rx UE (e.g. remote UE) but not a broadcast destination ID. The above agreement is currently missing in the specs and therefore should be captured in MAC specification. |
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| ***Summary of change:*** | In clause 5.22.2.2.2, update the existing NOTE to clarify: If this TB is associated to broadcast and the associated LCID is equal to 58, and the DST field of the decoded MAC PDU subheader is equal to the 8 MSB of any of the Source Layer-2 ID(s) of the UE for which the 16 LSB are equal to the Destination ID in the corresponding SCI, deliver the decoded MAC PDU to the disassembly and demultiplexing entity.**Impact analysis**Impacted 5G architecture options:NR SA Impacted functionalityModel B discovery procedure for L2/L3 U2N relay discovery and non-relay discoveryInter-operability:This CR has impact only on Rx UE behaviour of filtering Discovery Response message, therefore there is no inter-operability issue between network and the UE or between two UEs.  |
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| ***Consequences if not approved:*** | Without the change, the Rx UE can not receive Discovery Response message during Model B discovery procedure for relay discovery or non-relay discovery. |
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| ***Clauses affected:*** | 5.22.2.2.2 |
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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:*** |  |

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| START OF CHANGE  |

5.22.2.2.2 Sidelink process

For each PSSCH duration where a transmission takes place for the Sidelink process, one TB and the associated HARQ information is received from the Sidelink HARQ Entity.

For each received TB and associated Sidelink transmission information, the Sidelink process shall:

1> if this is a new transmission:

2> attempt to decode the received data.

1> else if this is a retransmission:

2> if the data for this TB has not yet been successfully decoded:

3> instruct the physical layer to combine the received data with the data currently in the soft buffer for this TB and attempt to decode the combined data.

1> if the data which the MAC entity attempted to decode was successfully decoded for this TB; or

1> if the data for this TB was successfully decoded before:

2> if this is the first successful decoding of the data for this TB:

3> if this TB is associated to unicast, the DST field of the decoded MAC PDU subheader is equal to the 8 MSB of any of the Source Layer-2 ID(s) of the UE for which the 16 LSB are equal to the Destination ID in the corresponding SCI, and the SRC field of the decoded MAC PDU subheader is equal to the 16 MSB of any of the Destination Layer-2 ID(s) of the UE for which the 8 LSB are equal to the Source ID in the corresponding SCI; or

3> if this TB is associated to groupcast or broadcast and the DST field of the decoded MAC PDU subheader is equal to the 8 MSB of any of the Destination Layer-2 ID(s) of the UE for which the 16 LSB are equal to the Destination ID in the corresponding SCI:

4> deliver the decoded MAC PDU to the disassembly and demultiplexing entity.

NOTE: If this TB is associated to unicast and this TB is the first TB of a logical channel which associated LCID is equal to 0 or 1, or if this TB is associated to broadcast and the associated LCID is equal to 58, and if the DST field of the decoded MAC PDU subheader is equal to the 8 MSB of any of the Source Layer-2 ID(s) of the UE for which the 16 LSB are equal to the Destination ID in the corresponding SCI, deliver the decoded MAC PDU to the disassembly and demultiplexing entity. Whether the TB is the first TB can be determined based on the Source Layer-2 ID and Destination Layer-2 ID pair.

2> consider the Sidelink process as unoccupied.

1> else:

2> instruct the physical layer to replace the data in the soft buffer for this TB with the data which the MAC entity attempted to decode.

1> if HARQ feedback is enabled by the SCI:

2> if negative-only acknowledgement is indicated by the SCI according to clause 8.4.1 of TS 38.212 [9]:

3> if UE's location information is available and distance beteween UE's location and the central location of the nearest zone that is calculated based on the *Zone\_id* in the SCI and the value of *sl-ZoneLength* corresponding to the communication range requirement in the SCI as specified in TS 38.331 [5] is smaller or equal to the communication range requirement in the SCI; or

3> if none of *Zone\_id* and communication range requirement is indicated by the SCI; or

3> if UE's location information is not available:

4> if the data which the MAC entity attempted to decode was not successfully decoded for this TB and the data for this TB was not successfully decoded before:

5> instruct the physical layer to generate a negative acknowledgement of the data in this TB.

2> if negative-positive acknowledgement or unicast is indicated by the SCI according to clause 8.4.1 of TS 38.212 [9]:

3> if the data which the MAC entity attempted to decode was successfully decoded for this TB or the data for this TB was successfully decoded before:

4> instruct the physical layer to generate a positive acknowledgement of the data in this TB.

3> else:

4> instruct the physical layer to generate a negative acknowledgement of the data in this TB.

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| END OF CHANGE |