3GPP TSG RAN WG1 #105-e R1-210xxxx

**e-Meeting, May 10th – 27th, 2021**

Agenda Item: 7.2.4

Source: Moderator (Ericsson)

Title: Feature lead summary#1 on Resource allocation for NR sidelink Mode 1 – Thread 3

Document for: Discussion, Decision

# List of topics

**Group M1 – SL HARQ-ACK reports to gNB**

* **M1-1-1**: SL HARQ-ACK reporting when SL FB is not used (see CATT (P1-P3), OPPO (Section 2), Ericsson)
	+ This topic is related to Q1 in the LS from RAN2 (R1-2104559) which is discussed in some contributions (see LGE (P2))
	+ FL assessment: A correction is needed.
* **M1-1-2**: SL HARQ-ACK reporting when the UE does not perform SL transmission on the resources provided by a DG (see Fujitsu (P1), DCM (TP1))
	+ FL assessment: This has been discussed in the past without consensus. A correction could be introduced but not everyone believes it is necessary. It can be discussed together with M1-1-1.
* **M1-1-3**: SL HARQ-ACK reporting when multiple pools are configured (see vivo (TP3), ZTE (P2), ASUSTeK (TP1))
	+ FL assessment: There were objections to treat this in the preparation of the previous meeting, stating that this could be addressed through configuration. In any case, a correction of a clarification of the behaviour could be discussed.
* **M1-1-4**: SL HARQ-ACK reporting in an incomplete PSFCH period (see vivo (TP4), ZTE (P1))
	+ FL assessment: There were objections to treat this in the preparation of the previous meeting, stating that this could be addressed through configuration.
* **M1-1-5**: Aspects related to PUCCH power control (see vivo (TP5))
	+ FL assessment: a clarification seems necessary
* **M1-1-6**: k>0 in offset between PSFCH and HARQ-ACK reporting (see Sharp (TP3))
	+ FL assessment: Not a critical correction.

**Group M2 – DCI-related aspects**

* **M1-2-1**: Value of n\_CI (see vivo (TP1))
	+ FL assessment: looks like a necessary correction
* **M1-2-2**: DCI size alignment (see vivo (TP2))
	+ FL assessment: It is not clear that there is an issue with the specification. in any case, the change is almost editorial.
* **M1-2-3**: Configuration index in DCI format 3\_0 for SL-CS-RNTI for retransmissions (see ASUSTeK (TP5), Sharp (TP1))
	+ FL assessment: clarification looks ok, but it is not clear that there is any impact if not taken.
* **M1-2-4**: Search space overlapping between SL and Uu in the same carrier (LGE (P1))
	+ FL assessment: it looks like the corresponding agreements have not been captured in the spec.

**Group M3 – Editorial corrections**

* **38.213**
	+ Clause 10.2A: clarification of the CG validated (ASUSTeK (TP4))
	+ Clause 16.5: Correct “One HARQ-ACK information bit” (Sharp (TP4))
		- FL assessment: The correction seems reasonable but it was discussed earlier without consensus.
* **38.214**
	+ Clause 8.1.2: correct reference (ASUSTeK (TP3))
	+ Clause 8.1.2.1:
		- Indicate how the “Configuration index” field is set (see ZTE (P5), ASUSTeK (TP3))
		- RRC parameter name alignment *timeGapFirstSidelinkTransmission* (ASUSTeK (TP3))
	+ Clause 8.4.1.2.2 typo (see OPPO (TP3))

**Group M4 – TPs corresponding to agreements in previous meetings**

* TS 38.213 Clause 16.5: Agreement/LS from RAN1#104, reply LS received in R2-2104463 (see vivo (TP6), ZTE (P4), Nokia+NSB (P1), DCM (TP2))

A few contributions discuss topics like priorities of SL HARQ feedback that have been treated by other FLs in the past. There are also some proposed editorial corrections belonging to other AIs.

FL proposal:

* For a first thread: discuss M1-1-1.
* For a second thread: one of M1-2-1 or M1-1-3.

As agreed at the start of the meeting, the following related threads will be discussed:

[105-e-NR-5G\_V2X-02] Email discussion/approval regarding

* Issue M1-1-1: SL HARQ-ACK reporting when SL FB is not used (considering LS in [R1-2104559](file:///C%3A%5CUsers%5Cwanshic%5COneDrive%20-%20Qualcomm%5CDocuments%5CStandards%5C3GPP%20Standards%5CMeeting%20Documents%5CTSGR1_105%5CDocs%5CR1-2104559.zip))

till 5/24 with any follow-up TPs till 5/26 – Ricardo (Ericsson)

[105-e-NR-5G\_V2X-03] Email discussion/approval regarding

* Issue M1-2-1: Value of n\_CI

till 5/24 with any follow-up TPs till 5/26 – Ricardo (Ericsson)

[105-e-NR-5G\_V2X-04] Email discussion/approval regarding

* Issue M1-4: TPs corresponding to agreements in previous meetings (Agreement/LS from RAN1#104, reply LS received in [R1-2104160](file:///C%3A%5CUsers%5Cwanshic%5COneDrive%20-%20Qualcomm%5CDocuments%5CStandards%5C3GPP%20Standards%5CMeeting%20Documents%5CTSGR1_105%5CDocs%5CR1-2104160.zip), M1-2-2: DCI size alignment)

till 5/24 – Ricardo (Ericsson)

This document deals with issue M1-2-1.

# M1-2-1 M1-2-1: Value of n\_CI

R1-2105462 explains that for some SL cross-carrier scheduling configurations, it is unclear what values of $n\_{CI}$ and *nrofCandidates* are used for SL DCI detection. It discusses two possible solutions:

* Option1.$ n\_{CI}$ of PDCCH candidates of a SL DCI format = 0
* Option2.$ n\_{CI}$ of PDCCH candidates of a SL DCI format = CIF value in a Uu DCI format scheduling the SL cell

and argues that the second one may not work well of cross-carrier scheduling in the ITS band. Thus, they propose to adopt Option 1. The FL proposal is to start the discussion with the following proposal from R1-2105462, which I split in two parts to facilitate discussion.

**Proposal**:

* The value of $n\_{CI}$ of PDCCH candidates for a SL DCI format is set to zero
* The number of PDCCH candidates associated with a SL DCI format blind decoding is set to the value of nrofCandidates corresponding to the scheduling cell.

The contribution also includes a TP with the corresponding changes. We can discuss that after concluding on the above proposal.

Please share your views on the above proposal using the table below.

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# Other

Please use the table below to share your views on other topics

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# List of identified contributions

R1-2104477 Discussion and TP on Mode1 resource allocation CATT, GOHIGH

R1-2104750 Remaining open issues and corrections for mode 1 RA OPPO

R1-2105056 Maintenance for mode-1 resource allocation for NR sidelink Fujitsu

R1-2105202 Discussion on essential corrections in resource allocation procedure LG Electronics

R1-2105462 Maintenance on NR sidelink mode-1 resource allocation mechanism vivo

R1-2105611 Remaining issues on mode 1 ZTE, Sanechips

R1-2105627 Remaining issues on resource allocation for NR sidelink Sharp

R1-2105680 Maintenance for resource allocation mechanism mode 1 NTT DOCOMO, INC.

R1-2105740 Remaining issues on resource allocation mode-1 and sidelink procedure ASUSTeK

R1-2105896 Corrections to Mode 1 Ericsson

R1-2105943 Maintenance for Resource allocation for sidelink - Mode 1 Nokia, Nokia Shanghai Bell