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

eMeeting, August 17 – 28, 2020

Agenda Item: 7.2.4.2.1

Source: Moderator (Ericsson)

Title: Resource allocation for NR sidelink Mode 1 – Thread 1

Document for: Discussion, Decision

# 1 List of issues for discussion

[102-e-NR-5G\_V2X\_NRSL-Mode-1-01] Email discussion/approval covering:

* Remaining issues for configured grant
	+ Whether clarifications for the formula determining the granted slots are necessary and whether the issue should be left to RAN2.
	+ Clarifications on signalling for number of retransmissions
	+ Editorial corrections and clarifications for configured grant (if any).
* DCI aspects
	+ Alignment of DCI format 3\_0 with other DCI formats.
	+ Cells on which the UE monitors DCI formats 3\_0 and 3\_1, including discussion on PUCCH cell.
	+ Editorial corrections and clarifications for DCI (if any).

By 8/20, followed by potential TPs by 8/25 – Ricardo (Ericsson)

# Discussion

## 1.1 Remaining issues for configured grant

### Issue 1.1-1 Clarifications on the formula for determining the granted slots

**Regarding the formula for determining the granted slots for a configured grant:**

1. **A correction is necessary (please provide details in your reply).**
2. **No correction is necessary in RAN1 (Note: RAN2 can determine whether a correction is necessary and apply it.)**

**(For other answers, please explain)**

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### Issue 1.1-2 Clarifications on signalling the number of retransmissions

**A few contributions discuss how to signal the number of retransmissions in Mode 1 and set the corresponding TDRA and FDRA fields in SCI (e.g., R1-2005797, R1-2006434). This does not seem to be covered in the specification, which currently refers only to Mode 2 (see TS 38.213, Clause 16.4).**

**For Mode-1, the following two agreements determine how to set the TDRA and FDRA fields in DCI/SCI.**

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| Agreements:* For dynamic grant, DCI indicates the time-frequency resource allocation with the signalling format used for SCI.
	+ In addition, the starting sub-channel for initial transmission is signalled in DCI.

Agreements:* At least the following parameters are part of a SL configured grant configuration:
	+ Configuration index of the CG
	+ Time offset (for type-1 only)
	+ Time-frequency allocation (for type-1 only)
		- Using the same format as in DCI.
	+ Periodicity
	+ The configured grant is associated with a single transmit resource pool.
	+ RAN2 can add other parameters if deemed necessary by RAN2
* A UE in mode 1 is configured at least with one transmit resource pool
* For type-2 CG, the time-frequency allocation and the configuration index of the CG are indicated in DCI.
	+ All parameters for CG type 2 for activation DCI re-use the same respective parameters configured for CG type 1, when applicable
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**Proposal:**

* **Capture how to set the TDRA and FRDA fields in the specification based on the above agreements.**

**(For other answers, please explain)**

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| NTT DOCOMO | Agree |
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## 1.2 DCI aspects

### Issue 1.2-1 Alignment of DCI format 3\_0 with other DCI formats

**In the past, RAN1 made the following agreement and WA**

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| Agreements:* Existing DCI size budget is maintained when the UE is configured with SL
* (working assumption): The size of the new DCI format and the size of one of the existing NR DCI formats are aligned.
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**Which DCI format should be used for size alignment of DCI format 3\_0?**

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| NTT DOCOMO | Basically DCI format 0\_1.But the following two cases should be discussed:- when DCI format 0\_1 is not configured- when there is no DCI format configured with larger payload size than 3\_0 |
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### Issue 1.2-2 Cells on which the UE monitors DCI formats 3\_0 and 3\_1

**One contribution proposes to clarify that the UE monitors DCI formats 3\_0/3\_1 (if configured) only in PCell** (**R1- 2006769). Another contribution discusses PUCCH cell as well (R1-2006694).**

**Proposal:**

* **DCI formats 3-0 and 3-1 are only monitored on PCell.**
* **PUCCH carrying SL HARQ-ACK reports is transmitted on PCell.**

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| NTT DOCOMO | For 1st bullet, we are not sure the restriction is needed.- For example, if SL is operated on a shared carrier and the carrier is SCell, then it seems that SL scheduling from the same cell is more feasible.For both bullets, we would like to clarify whether NR-CA with PUCCH SCell or NR-DC is considered for this discussion or not.- If not considered, discussion on the 1st bullet is only above our comment and the 2nd bullet is unnecessary since PUCCH can be transmitted on PCell only.- If considered, restriction on cross-FR/band/PUCCH-group scheduling shall be discussed since it would not be OK from UE implementation perspective. Otherwise, any scheduling combination among PDCCH/SL-resource/PUCCH is allowed, e.g. PDCCH is band X in FR1, SL is band Y in FR1, and PUCCH cell is FR2. Note that, PUCCH SCell or PSCell is the other candidate for PUCCH cell, in this case. So the 2nd bullet needs to be discussed.- We believe that ‘NR-CA with PUCCH SCell or NR-DC’ should be considered in RAN1. Current RAN4 spec does not support, but would support in future. In the timing, time for RAN1 discussion is not guaranteed. |
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## Other comments

NOTE: I will prepare TPs or list of TPs for editorial aspects. I will share it in a later iteration.

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