**3GPP TSG-RAN WG1 Meeting #114 R1-23xxxxx**

**Toulouse, France, 21-25 August, 2023**

**Agenda Item: 9.17**

**Source: Moderator (Huawei)**

**Title: Summary of email discussion [Post114-38.212-NR\_SL\_enh2-Core]**

**Document for: Discussion and Decision**

# Introduction

This document summarizes the discussions on the 38.212 draft CR on NR sidelink evolution, and aims to stabilize the 38.212 draft CR.

[Post114-38.212-NR\_SL\_enh2-Core] Email discussion on Rel-18 draft CRs by September 7 – Editors

# First round discussions

This section summarize the first round email discussions on draft CR v00. Companies are encouraged to provide the first round views by 09/05 (Tuesday), 6:00am UTC, then we can update the draft CR accordingly for the next step discussions.

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| *Company* | *View* |
| Editor | The changes are marked with author “Yan Cheng\_post RAN1#114” on top of the version R1-2306323 endorsed in RAN1#113, which are to reflect the agreements RAN1#114. |
| LGE | There is no explicit agreement that the existing SCI format 2-A always include the COT-SI related fields. We do not have any discussion on which combinations of 2nd SCI formats will be supported in NR SL-U. To be specific, there could be separated 2nd SCI formats: one is for PSCCH/PSSCH transmission allocation only, the other is for PSCCH/PSSCH transmission allocation and COT-SI. TX UE does not always share its own channel occupancy, and then it is not necessary to use 2nd SCI format with high overhead due to COT-SI. In our understanding, it will be discussed whether the new format or which format will be used to convey COT-SI during the maintenance phase. In those points of views, all the COT-SI related field in SCI format 2-A need to be removed, or at least brackets needs to be added. [LGE2]We have another comment on 2nd SCI mapping. Following agreement also needs to be captured. **Agreement**If a resource pool includes slots with 2 candidate starting symbols for a PSCCH/PSSCH transmission, for TBS determination and 2nd SCI overhead, in TS 38.214 Clause 8.1.3.2:* *L\_ref* replaces *sl-LengthSymbols*
	+ Value range of *L\_ref* is {7, 8, 9, 10, 11, 12, 13, 14} symbols
* $N\_{symb}^{PSFCH}$ is determined in the same way as in legacy NR SL

On the section 8.4.4, - $M\_{sc}^{SCI2}(l)$ is the number of resource elements that can be used for transmission of the 2nd-stage SCI in OFDM symbol $l$, for $l=0,1,2\cdots ,N\_{symbol}^{PSSCH}-1$ and for $N\_{symbol}^{PSSCH}=N\_{symb}^{sh}-N\_{symb}^{PSFCH}$, in PSSCH transmission, where $N\_{symb}^{sh}$$N\_{symb}^{slot}$ = *sl-lengthSymbols* - 2, where *sl-lengthSymbols* is the number of sidelink symbols within the slot provided by higher layers as defined in [6, TS 38.214]. If *startingSymbolFirst* and *startingSymbolSecond* are provided for a sidelink resource pool, the number of sidelink symbols assumed in transport block size determination is determined by a reference number of symbols, *numRefSymbolLength*, provided by higher layers. If higher layer parameter *sl-PSFCH-Period* = 2 or 4, $N\_{symb}^{PSFCH}$ = 3 if "PSFCH overhead indication" field of SCI format 1-A indicates "1", and $N\_{symb}^{PSFCH}$ = 0 otherwise. If higher layer parameter *sl-PSFCH-Period* = 0, $N\_{symb}^{PSFCH}=0$. If higher layer parameter *sl-PSFCH-Period* is 1, $N\_{symb}^{PSFCH}=3$. |
| **CATT/GH** | Thanks the editor for the great efforts on drafting the CR! Please find our comments below.* **Comment 1 (Clause 8.4.1.1):**
	+ Considering the detailed usage of remaining COT duration is defined in TS 37.213, we propose adding the reference as follows:

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| If higher layer parameter *transmissionStructureForPSCCHandPSSCH* in *SL-BWP-Config* is configured, all the remaining fields are set as follows:- CAPC – 2 bits. Value '00' of CAPC field corresponds to CAPC value '1', value '01' of CAPC field corresponds to priority value '2', and so on.- COT sharing cast type – 2 bits as defined in Table 8.4.1.1-1.- COT sharing additional ID – 24 bits. The 16 LSBs provide layer 1 destination ID and the 8 MSBs provide layer 1 source ID, as defined in [6, TS 38.214]. The 8 MSBs are reserved when value of COT sharing cast type field is set to '00' or '01'. - Remaining COT duration – $\left⌈log\_{2}(10∙2^{μ})\right⌉$ bits as defined in clause 4.5.3 of [X, TS 37.213], where $μ$ is defined in Table 4.2-1 of Clause 4.2 of [4, TS 38.211]. |

* **Comment 2 (for LGE’s first comment):**
	+ We think the current description of COT-SI should be kept. For SL-U, no matter whether COT is shared or not by a PSCCH/PSSCH transmission, the total bits of SCI should be the same. Otherwise, decoding complexity may be increased. A COT initiating UE can choose not to share a COT by setting a zero value for the field of remaining COT duration.
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| **Vivo** | 1. In the CR, the COT-SI is added for SCI format 2-A only, the COT-SI should be applied to other 2nd SCI format as well
2. In COT-SI, the COT sharing cast type should only indicate three states, i.e., unicast, groupcast and broadcast. There should be no distinguishment between groupcast option1 and option2.
3. In COT-SI, the remaining COT duration has the following bitsize

Agreement“Remaining COT duration” is expressed in physical slots and it is carried in the 2nd stage SCI. The payload size is 4 bits in 15kHz, 5 bits in 30kHz and 6 bits in 60kHz |

# Second round discussions

TBD