**3GPP TSG-RAN WG1 Meeting #108-e *R1-22xxxxx***

**e-Meeting, February 21st – March 3rd, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.212** | **CR** |  | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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:*** | Corrections on NR sidelink enhancement in 38.212 | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SL\_enh-Core | | | | |  | ***Date:*** | | | 2021-03-08 |
|  |  | | | |  | |  | | |  |
| ***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 can be 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Capture new agreements made in RAN1#107bis-e and RAN1#108-e for NR sidelink enhancement. | | | | | | | | |
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| ***Summary of change:*** | | 1. Reflect the working assumption related on SCI format 1-A. 2. Reflect agreements related to SCI format 2-C. | | | | | | | | |
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| ***Consequences if not approved:*** | | The specification for NR sidelink enhancement is incomplete. | | | | | | | | |
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| ***Clauses affected:*** | | 8.3.1.1, 8.4, 8.4.1.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | 38.213, 38.214 | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

#### 8.3.1.1 SCI format 1-A

SCI format 1-A is used for the scheduling of PSSCH and 2nd-stage-SCI on PSSCH

The following information is transmitted by means of the SCI format 1-A:

- Priority – 3 bits as specified in clause 5.4.3.3 of [12, TS 23.287] and clause 5.22.1.3.1 of [8, TS 38.321]. Value '000' of Priority field corresponds to priority value '1', value '001' of Priority field corresponds to priority value '2', and so on.

- Frequency resource assignment – bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 2; otherwise bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 3, as defined in clause 8.1.5 of [6, TS 38.214].

- Time resource assignment – 5 bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 2; otherwise 9 bits when the value of the higher layer parameter *sl-MaxNumPerReserve* is configured to 3, as defined in clause 8.1.5 of [6, TS 38.214].

- Resource reservation period – bits as defined in clause 16.4 of [5, TS 38.213], where is the number of entries in the higher layer parameter *sl-ResourceReservePeriodList*, if higher layer parameter *sl-MultiReserveResource* is configured; 0 bit otherwise.

- DMRS pattern – bits as defined in clause 8.4.1.1.2 of [4, TS 38.211], where is the number of DMRS patterns configured by higher layer parameter *sl-PSSCH-DMRS-TimePatternList*.

- 2nd-stage SCI format – 2 bits as defined in Table 8.3.1.1-1.

- Beta\_offset indicator – 2 bits as provided by higher layer parameter *sl-BetaOffsets2ndSCI* and Table 8.3.1.1-2.

- Number of DMRS port – 1 bit as defined in Table 8.3.1.1-3.

- Modulation and coding scheme – 5 bits as defined in clause 8.1.3 of [6, TS 38.214].

- Additional MCS table indicator – as defined in clause 8.1.3.1 of [6, TS 38.214]: 1 bit if one MCS table is configured by higher layer parameter *sl-Additional-MCS-Table*; 2 bits if two MCS tables are configured by higher layer parameter *sl- Additional-MCS-Table*; 0 bit otherwise.

- PSFCH overhead indication – 1 bit as defined clause 8.1.3.2 of [6, TS 38.214] if higher layer parameter *sl-PSFCH-Period* = 2 or 4; 0 bit otherwise.

- Reserved – a number of bits as determined by the following:

- bits as configured by higher layer parameter *sl-NumReservedBits,* with value set to zero, if higher layer parameter *indicationUEBScheme2* is not configured, or if higher layer parameter *indicationUEBScheme2* is configured and set to 'Disabled';

- bits otherwise, with value set to zero.

- Second UE flag – 0 or 1 bit

- 1 bit if higher layer parameter *indicationUEBScheme2* is configured and set to 'Enabled', where the bit value of 0 indicates that the UE cannot be a second UE and the bit value of 1 indicates that the UE can be a second UE as defined in Clause 16.3.0 of [5, TS 38.213];

- 0 bit otherwise.

< Unchanged parts are omitted >

## 8.4 Sidelink control information on PSSCH

SCI carried on PSSCH is a 2nd-stage SCI, which transports sidelink scheduling information, and/or inter-UE coordination related information.

< Unchanged parts are omitted >

#### 8.4.1.3 SCI format 2-C

SCI format 2-C is used for the decoding of PSSCH, and providing inter-UE coordination information or requesting inter-UE coordination information.

The following information is transmitted by means of the SCI format 2-C:

- HARQ process number – 4 bits

- New data indicator – 1 bit

- Redundancy version – 2 bits as defined in Table 7.3.1.1.1-2

- Source ID – 8 bits as defined in clause 8.1 of [6, TS 38.214]

- Destination ID – 16 bits as defined in clause 8.1 of [6, TS 38.214]

- HARQ feedback enabled/disabled indicator – 1 bit as defined in clause 16.3 of [5, TS 38.213]

- CSI request – 1 bit as defined in clause 8.2.1 of [6, TS 38.214] and in clause 8.1 of [6, TS 38.214]

- Providing/Requesting indicator – 1 bit, where value 0 indicates SCI format 2-C is used for providing inter-UE coordination information and value 1 indicates SCI format 2-C is used for requesting inter-UE coordination information

If the 'Providing/Requesting indicator' field is set to 0, all the remaining fields are set as follows:

- Resource combination(s) – bits as defined in Clause 8.1.5A of [6, TS 38.214], where

- and is the number of entries in the higher layer parameter *sl-ResourceReservePeriodList*, if higher layer parameter *sl-MultiReserveResource* is configured; otherwise

- is the number of subchannels in a resource pool provided by the higher layer parameter *sl-NumSubchannel*

- First resource location(s) – 8 bits as defined in Clause 8.1.5A of [6, TS 38.214].

- Reference slot location – ( bits as defined in Clause 8.1.5A of [6, TS 38.214], where is defined in Table 4.2-1 of Clause 4.2 of [4, TS 38.211].

- Resource set type – 1 bit, where value 0 indicates preferred resource set and value 1 indicates non-preferred resource set.

- Lowest indices – bits as defined in Clause 8.1.5A of [6, TS 38.214].

If the 'Providing/Requesting indicator' field is set to 1, all the remaining fields are set as follows:

- Priority – 3 bits as specified in clause 5.4.3.3 of [12, TS 23.287] and clause 5.22.1.3.1 of [8, TS 38.321]. Value '000' of Priority field corresponds to priority value '1', value '001' of Priority field corresponds to priority value '2', and so on.

- Number of subchannels – bits as defined in Clause 8.1.4A of [6, TS 38.214].

- Resource reservation period – bits as defined in Clause 8.1.4A of [6, TS 38.214], where is the number of entries in the higher layer parameter *sl-ResourceReservePeriodList*, if higher layer parameter *sl-MultiReserveResource* is configured; 0 bit otherwise.

- Resource selection window location – bits as defined in Clause 8.1.4A of [6, TS 38.214], where is defined in Table 4.2-1 of Clause 4.2 of [4, TS 38.211].

- Resource set type – 1 bit, where value 0 indicates a request for inter-UE coordination information providing preferred resource set and value 1 indicates a request for inter-UE coordination information providing non-preferred resource set, if higher layer parameter *determineResourceSetTypeScheme1* is configured to 'UE-B’s request'; otherwise, 0 bit.

- Padding bits, if required.

Zeros shall be appended to SCI format 2-C of which 'Providing/Requesting indicator' field is set to 1 until the payload size equals that of SCI format 2-C of which 'Providing/Requesting indicator' field is set to 0.

< Unchanged parts are omitted >