**3GPP TSG-RAN WG1 Meeting 102-eR1-200xxxx**

**e-Meeting, August 17th – 28th, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.215** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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 | **X** | Core Network |  |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** | Intel Corporation | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_V2X\_NRSL-Core | | | | |  | ***Date:*** | | | 2020-08-31 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
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| ***Reason for change:*** | | 1. Implementation of corrections RAN4 decision on calculation of RSRP on DMRS of PSSCH in case of two ports.  2. RAN2 has renamed “configured sidelink grant” to “selected sidelink grant” for sidelink resource allocation mode 2 | | | | | | | | |
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| ***Summary of change:*** | | 1. Add clarification that the linear average of RSRP is first calculated per antenna port and then is summed over the antenna ports.  2. Replaced “configured sidelink grant” with “selected sidelink grant”. | | | | | | | | |
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| ***Consequences if not approved:*** | | 1. Sensing and resource selection in the system with mixed single port and two port transmissions is degraded since current RSRP calculation does not reflect total received power in a sub-channel in case of multiple ports.  2. RAN1 and RAN2 specifications are not aligned. | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.23, 5.1.26 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

### 5.1.23 PSSCH reference signal received power (PSSCH-RSRP)

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| **Definition** | PSSCH Reference Signal Received Power (PSSCH-RSRP) is defined as the linear average over the power contributions (in [W]) of the resource elements of the antenna port(s) that carry demodulation reference signals associated with physical sidelink shared channel (PSSCH) , summed over the antenna ports.  Demodulation reference signals transmitted on antenna ports 1000 and 1001 shall be used for PSSCH-RSRP determination if two antenna ports are indicated.  For frequency range 1, the reference point for the PSSCH-RSRP shall be the antenna connector of the UE. For frequency range 2, PSSCH-RSRP shall be measured based on the combined signal from antenna elements corresponding to a given receiver branch. For frequency range 1 and 2, if receiver diversity is in use by the UE, the reported PSSCH-RSRP value shall not be lower than the corresponding PSSCH-RSRP of any of the individual receiver branches. |
| **Applicable for** | RRC\_IDLE intra-frequency,  RRC\_IDLE inter-frequency,  RRC\_CONNECTED inter-frequency |

NOTE 1: The power per resource element is determined from the energy received during the useful part of the symbol, excluding the CP.

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### 5.1.26 Sidelink channel occupancy ratio (SL CR)

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| **Definition** | Sidelink Channel Occupancy Ratio (SL CR) evaluated at slot *n* is defined as the total number of sub-channels used for its transmissions in slots [*n-a*, *n-1*] and granted in slots [*n*, *n+b*] divided by the total number of configured sub-channels in the transmission pool over [*n-a*, *n+b*]. |
| **Applicable for** | RRC\_IDLE intra-frequency,  RRC\_IDLE inter-frequency,  RRC\_CONNECTED intra-frequency,  RRC\_CONNECTED inter-frequency |

NOTE 1: *a* is a positive integer and *b* is 0 or a positive integer; *a* and *b* are determined by UE implementation with *a+b+1 =* 1000 or 1000·2µ slots, according to higher layer parameter *timeWindowSize-CR*, b < (a+b+1)/2, and n+b shall not exceed the last transmission opportunity of the grant for the current transmission.

NOTE 2: SL CR is evaluated for each (re)transmission.

NOTE 3: In evaluating SL CR, the UE shall assume the transmission parameter used at slot *n* is reused according to the existing grant(s) in slot [*n+1*, *n+b*] without packet dropping.

NOTE 4: The slot index is based on physical slot index.

NOTE 5: SL CR can be computed per priority level

NOTE 6: A resource is considered granted if it is a member of a selected sidelink grant as defined in TS 38.321 [7].