**3GPP TSG-RAN WG4 Meeting # 98-bis-e *R4-2110521***

**Electronic Meeting, 12 - 20 April, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-4** | **CR** | **-** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Draft CR: Introduction of NR V2X power imbalance test | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei,HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | RAN4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_V2X\_NRSL-Perf | | | | |  | ***Date:*** | | | 2021-05-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The square bracket is still existing in power imbalance test. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Updated the required SNR based on the simulation results submitted on this meeting and remove the square bracket | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The requirements will still be incompleted. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 11.1.6.1.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS38.521-4 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Revised version from R4-2110521 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**----- << Start of Change 1>> -----**

### 11.1.6 Power imbalance performance with two links

#### 11.1.6.1 2RX requirements

##### 11.1.6.1.1 Minimum requirements

The purpose of this test is to check the demodulation performance when receiving PSSCH transmissions from two Sidelink UEs with power imbalance in one slot.

The minimum requirements are specified in Table 11.1.6.1.1-2 with the test parameters specified in Table 11.1.6.1.1-1. The Sidelink UE 1 and 2 are synchronized to GNSS or GNSS-equivalent synchronization reference.

**Table 11.1.6.1.1-1: Test Parameters**

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | | Unit | Test 1 |
| Active cell(s) | |  | None |
| Active Sidelink UE(s) | |  | Sidelink UE 1, Sidelink UE 2 |
| Sidelink UE 1 | Sidelink Transmissions |  | PSCCH + PSSCH |
| PSSCH DMRS pattern(Note 1) |  | {2,3} |
| Sub-channel allocation |  | Sub-channel 0 |
| Time offset (Note 2) | μs | 0 |
| Frequency offset (Note 3) | Hz | 0 |
| Antenna configuration |  | 1x2 Low |
| PSFCH periodicity | Slots | 4 |
| MinTimeGapPSFCH | Slots | 3 |
| Sidelink UE 2 | Sidelink Transmissions |  | PSCCH + PSSCH |
| PSSCH DMRS pattern(Note 1) |  | {2,3} |
| Sub-channel allocation |  | Sub-channnel 3 |
| Time offset (Note 2) | μs | 0 |
| Frequency offset (Note 3) | Hz | 0 |
| Antenna configuration |  | 1x2 Low |
| PSFCH periodicity | Slots | 4 |
| MinTimeGapPSFCH | Slots | 3 |
| Note 1: {x, y}: x and y means the number of DMRS symbols for slot with PSFCH transmission and without PSFCH transmission, respectively.  Note 2: Time offset of received signal by Sidelink UE with respect to GNSS reference timing.  Note 3: Frequency offset of received signal by Sidelink UE with respect to GNSS reference frequency. | | | |

Table 11.1.6.1.1-2: Minimum performance

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Test number | Bandwidth (MHz)/ Subcarrier spacing(kHz) | Sidelink UE | PSSCH Reference channel | Modulation format and  code rate | Propagation condition | Reference value | |
| PSSCH BLER (%) | SNR (dB) of PSSCH |
| 1 | 20 / 30 | 1 | R.PSSCH.2-1.4 | QPSK, 0.30 | AWGN | (Note 1) | 30.35 |
| 2 | R.PSSCH.2-1.4 | QPSK, 0.30 | AWGN | 10 | 4.8 |
| Note 1: There is no BLER requirement for Sidelink UE 1. | | | | | | | |

**----- << End of Change 1>> -----**