**3GPP TSG-RAN WG4 Meeting # 98-bis-e R4-2106029**

**Electronic Meeting, Apr. 12-20, 2021**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-4** | **CR** | **-** | **rev** | **-** | **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 for 38.101-4: Introduce PSBCH performance requirements for NR V2X | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT, GOHIGH | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_V2X\_NRSL-Perf | | | | |  | ***Date:*** | | | 2021-04-13 |
|  |  | | | |  | |  | | |  |
| ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduce PSBCH performance requirements for NR V2X | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the subsection for PSBCH performance requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The performance requirements for NR V2X PSBCH would be missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.521-4 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## *<Start of Change 1>*

## 11.1.4 PSBCH demodulation requirements

#### 11.1.4.1 2Rx requirements

##### 11.1.4.1.1 Minimum requirements

The purpose of the requirements in this subclause is to verify the PSBCH demodulation performance with a single active link.

The minimum requirements are specified in Table 11.1.4.1.1-2 with the test parameters specified in Table 11.1.4.1.1-1. The Sidelink UE 1 is synchronized to SLSS as synchronization reference.

Table 11.1.4.1.1-1: Test Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | | Unit | Test 1 |
| Active cell(s) | |  | 0 |
| Sidelink UE 1 | Sidelink Transmissions |  | SLSS+PSBCH (Note 3) |
| slssid |  | 0 |
| Time offset (Note 1) | μs | 0 |
| Frequency offset (Note 2) | Hz | 0 |
| Synchronization source |  | SLSS |
| Antenna configuration |  | 1x2 Low |
| Note 1: Time offset of Sidelink UE receive signal with respect to GNSS reference timing.  Note 2: Frequency offset of Sidelink UE with respect to GNSS reference frequency.  Note 3: PSBCH transmits together with corresponding SLSS in the same slot. | | | |

Table 11.1.4.1.1-2: Minimum performance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test number | Bandwidth (MHz) / Subcarrier spacing (kHz) | PSBCH Reference channel | Propagation condition | Reference value | |
| Probability of missed PSBCH (%) | SNR (dB) |
| 1 | 20 / 30 | R.PSBCH.2-1 | TDLA30-180 | 1 | [-0.5] |

## *<End of Change 1>*