**3GPP TSG-RAN4 Meeting #111 *R4-24xxxxx***

**Fukuoka, Japan, May 20 - 24, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **Draft** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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 on RMC table and clean up TC for NR SL-U | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | LG Electronics | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SL\_enh2-Perf | | | | |  | ***Date:*** | | | 2024-05-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | There were no SL-U configuration parameters for reference resource pool configuration. And the same resource pool configuration and RMC tables for PSSCH and PSCCH for pervious release were captured for SL-U. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The revisions have been based on endorsed draft Big CR R4-2406517.  The Tables for RMC and UE autonomous resource selection configuration have been removed.  The referred sub clauses have been updated, and square brackets for PCCA\_SL\_SyncRefUE\_1 and PCCA\_SL\_SyncRefUE\_2 have been removded in the test case for initiation/cease of S-SSB transmission for SL-U. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The performance requirements for NR sidelink evolution are not completed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.3.21A, A.9.1.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS38.533 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |



















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

### A.9.1.2 Test for Initiation/Cease of S-SSB Transmission with V2X Sidelink Communication

----- Ommit unchanged part -----

#### A.9.1.2.4 Test for SyncRef UE as synchronization reference source with CCA

##### A.9.1.2.4.1 Test Purpose and Environment

The purpose of this test is to verify the requirements related to the evaluation time allowed to initiate and cease S-SSB transmissions defined in clause 12.3A.1.4, when the reference timing used for sidelink transmissions is a SyncRef UE.

The test parameters are given in Table A.9.1.2.4.1-1 and Table A.9.1.2.4.1-2 below. There are neither active cells nor GNSS signals in this test. There is one active SyncRef UE (SyncRef UE 1) in this test. The test system shall emulate SyncRef UE 1 to transmit S-SSB every synchronization period.

Prior to start of test, test system is required to ensure that the sidelink UE is synchronized to the SyncRef UE 1 and is transmitting S-SSB as derived from the S-SSB of SyncRef UE 1 as per clause 5.8.5.3 of TS 38.331[2]. For the test configuration, the SLSSID used by the sidelink UE shall be 30 with *inCoverage* IE in MIB-SL set as FALSE. The test consists of three successive time periods, with time duration of T1, T2 and T3 respectively. Two counters, *l*CCA\_2 and *l*CCA\_3, as defined in A.3.26.4.1 will be used with time duration of T2 and T3 respectively.

During T1, the PSBCH-RSRP of SyncRef UE 1 is above *syncTxThreshOOC* and the UE is not expected to be transmitting S-SSB.

During T2, the PSBCH-RSRP of SyncRef UE 1 is lowered below *syncTxThreshOOC* and the UE is expected to initiate S-SSB transmissions. The counter *l*CCA\_2 is initialized as 0 at the beginning of T2 and tracks the number of unavailable SSB periods as defined in A.3.26.4.1 until the end of T2.

During T3, the PSBCH-RSRP of SyncRef UE 1 is increased back to be above *syncTxThreshOOC* and the UE is expected to cease S-SSB transmissions. The counter *l*CCA\_3 is initialized as 0 at the beginning of T3 and tracks the number of unavailable SSB periods as defined in A.3.26.4.1 until the end of T3.

Table A.9.1.2.4.1-1: Test Parameters for Initiation/Cease of S-SSB Transmission Test for SyncRef UE as synchronization reference source with CCA

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Unit | Value | Comment |
| SCS | kHz | 30 |  |
| Active cell |  | None |  |
| Active SyncRef UE |  | SyncRef UE 1 | Transmitting S-SSB on RF channel number 1 |
| Active sidelink UE |  | Sidelink UE | Transmitting S-SSB on RF channel number 1 |
| Sidelink communication preconfiguration |  | As specified in Table A.3.21.2-1 and Table A.3.21.2-2 | IE values unless specified otherwise in this test |
| networkControlledSyncTx |  | Not configured |  |
| syncTxThreshOoC | dBm/30kHz | -97 |  |
| T1 | s | 3 |  |
| T2 | s | 5.24 |  |
| T3 | s | 5.24 |  |

Table A.9.1.2.4.1-2: SyncRef UE Specific Test Parameters for Initiation/Cease of S-SSB Transmission Test for SyncRef UE as synchronization reference source with CCA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Unit | SyncRef UE 1 | | |
| T1 | T2 | T3 |
| NR RF Channel Number |  | 1 | | |
| SL CCA model |  | As specified in clause A.3.26.4.1 | | |
| PCCA\_SL\_SyncRefUE\_1 |  | 0.75 | | |
| PCCA\_SL\_SyncRefUE\_2 |  | 0.75 | | |
| LCCA\_SL |  | 4 | | |
| SL communication resource pool configuration |  | As specified in Table A.3.21.2-1 and Table A.3.21.2-2 | | |
| Channel Bandwidth (BWchannel) Note3 | MHz | 20(NRB,c = 50) or 40(NRB,c = 100) | | |
| SLSSID |  | 30 | | |
| inCoverage |  | TRUE | | |
| networkControlledSyncTx |  | ON | | |
| Note1 | dBm/30 kHz | -98 | | |
|  | dB | 5.5 | -3.5 | 5.5 |
| PSBCH | dB | 5.5 | -3.5 | 5.5 |
| PSBCH-RSRPNote2 | dBm/30 kHz | -92.5 | -101.5 | -92.5 |
| IoNote2 | dBm/3.96MHz | -70.2 | -75.2 | -70.2 |
| Propagation condition |  | AWGN | | |
| Note 1: Interference from other UEs and noise sources not specified in the test is assumed to be constant over subcarriers and time and shall be modelled as AWGN of appropriate power for  to be fulfilled.  Note 2: PSBCH-RSRP and Io levels have been derived from other parameters for information purposes. They are not settable parameters themselves. Io level is based on the allocated RBs for S-PSS/S-SSS/PSBCH symbols.  Note 3: The UE is only required to be tested in one of the supported test configurations.  Note 4: S-PSS Es/Noc and S-SSS Es/Noc are set the same as PSBCH Es/Noc. | | | | |

##### A.9.1.2.4.2 Test Requirements

The S-SSB transmission initiation delay is defined as the time from the beginning of time period T2 up to the moment when the UE initiates the S-SSB transmission.

The S-SSB transmission initiation delay shall be less than Tevaluate,SLSS\_CCA + S-SSB period.

The S-SSB transmission cease delay is defined as the time from the beginning of time period T3 up to the moment when the UE ceases the S-SSB transmission.

The S-SSB transmission cease delay shall be less than Tevaluate,SLSS\_CCA + S-SSB period.

Where:

- Tevaluate,SLSS\_CCA = (4+LSLSS)×S-SSB periods [ms] (as specified in clause 12.3A.1.4) and LSLSS = *l*CCA\_2 or *l*CCA\_3, is the number of unavailable S-SSB period during time duration of T2 and T3 respectively;

- S-SSB period = 160ms.

The rate of correct initiation/cease delay of S-SSB transmissions observed during repeated tests shall be at least 90%.

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