**3GPP TSG-RAN4 Meeting #110bis *R4-2406596***

**Changsha, China, April 15 – 19, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.101-1** | **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 SL CA configured transmitted power |
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| ***Source to WG:*** | LG Electronics |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_SL\_enh2-Core |  | ***Date:*** | 2024-04-05 |
|  |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | As of now, the total transmitted power is specified for PSSCH/PSCCH, but is missed for PSFCH and S-SSB in the configured transmitted power for SL CA. The missed total transmitted power for PSFCH and S-SSB needs to be specified.  |
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| ***Summary of change:*** | 1. Add the total transmitted power PCMAX,PSFCH and PCMAX,S-SSB for SL CA.
2. Typo : 6.3.1-1 🡪 6.2E.1A.1-1
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| ***Consequences if not approved:*** | Total transmitted power for PSFCH and S-SSB is missed. |
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| ***Clauses affected:*** |  6.2E.4A |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS38.521-1 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | It is a revision of R4-2404601. |

< START OF CHANGE #1 >

### 6.2E.4A Configured transmitted power for Sidelink CA

For intra-band contiguous SL CA operation, MPR*c* = MPR and A-MPR*c* = A-MPR with MPR and A-MPR specified in subclause 6.2E.2 and subclause 6.2E.3respectively. There is one power management term for the UE, denoted P-MPR, and P-MPR*c* = P-MPR. PCMAX,*c* is calculated under the assumption that the transmit power is increased by the same amount in dB on all component carriers.

The total configured maximum output power PCMAX shall be set within the following bounds:

 PCMAX\_L ≤ PCMAX,  ≤ PCMAX\_H

For SL transmission of intra-band contiguous CA when same slot pattern is used in all aggregated component carriers.

PCMAX\_L = MIN{10 log10 ∑ pEMAX,C - TC,PEMAX,CA, PPowerClass, SL\_CA – MAX(MAX(MPR, A-MPR) + ΔTIB,c+TC, P-MPR), PRegulatory }

 PCMAX\_H = MIN{10 log10 ∑ pEMAX,C , PEMAX,CA, PPowerClass, SL\_CA, PRegulatory }

where

- For the total transmitted power PCMAX,PSSCH/PSCCH, pEMAX, C is the linear value of PEMAX,c given by the IE *sl-maxTransPower* for each component carrier and PEMAX, CA is the value given by the IE *sl-maxTransPower-CA* for maximum transmitted power of SL CA, defined by TS 38.331;

- For the total transmitted power PCMAX,S-SSB, the PCMAX\_L and PCMAX\_H are defined as follows:

PCMAX\_L = MIN {PPowerClass, SL\_CA – MAX(MAX(MPR , A-MPR) + TIB,*c* , P-MPR), PEMAX,CA , PRegulatory}

PCMAX\_H = MIN {PPowerClass, SL\_CA, PEMAX,CA , PRegulatory}

- For the total transmitted power PCMAX,PSFCH, pEMAX,C is the linear value of PEMAX,c given by IE *sl-maxTransPower* when single resource pool configured is transmitted at a given time and sum of the IEs *sl-maxTransPower* when multiple resource pools configured are transmitted at a given time, defined by TS 38.331;

- PPowerClass, SL\_CA is the maximum UE power specified in Table 6.2E.1A.1-1 without taking into account the tolerance;

- MPR and A-MPR are specified in subclause 6.2E.2 and subclause 6.2E.3 respectively;

- TIB,c and P-MPR are specified in clause 6.2.4 in TS38.101-1;

- TC is the highest value TC,c among all component carriers *c* in the subframe over both timeslots. TC,c = 1.5 dB when NOTE 3 in Table 6.2.1-1 in TS38.101-1 applies, otherwise TC,c = 0 dB;

- PRegulatory= 10 - Gpost connector dBm when V2X UE is within the protected zone in ETSI TS 102 792 of CEN DSRC tolling system and operating in Band n47; PRegulatory= 33 - Gpost connector dBm otherwise.

The maximum output power P*CMAX,PSSCH* and P*CMAX,PSCCH* are derived from PCMAX,c based on 0dB PSD offset between PSSCH and PSCCH.

For intra-band SL CA operation, when at least one different numerology/slot pattern is used in aggregated cells, the same requirement as specified in clause 6.2E.4.3 in TS38.101-1 shall be applied.

The measured configured maximum output power PUMAX,*c* for sidelink CA operation, when at least one slot has a different transmission numerology or slot pattern, the same requirement as specified in clause 6.2E.4.3 in TS38.101-1 shall be applied.

< END OF CHANGE #1 >