**3GPP TSG-RAN WG1 Meeting #118 *R1-24NNNN***

Maastricht, Netherlands, August 19th – August 24th, 2024

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| *CR-Form-v12.3* |
| **DRAFT CHANGE REQUEST** |
|  |
|  | 38.211 | **CR** | xxxx | **rev** | - | **Current version:** | 18.3.0 |  |
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| *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:***  | Draft CR for correction to SRS for positioning with tx hopping in 38.211 |
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| ***Source to WG:*** | Moderator (Ericsson), Ericsson |
| ***Source to TSG:*** | RAN1 |
|  |  |
| ***Work item code:*** | NR\_pos\_enh2-Core |  | ***Date:*** | 2024-08-09 |
|  |  |  |  |  |
| ***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:*** | For SRS with Tx hopping, the starting position is separately configured for heach hop. The current specification mentions starting position configured under *resourceMapping*, which only pplies to the first hop. The parent IE for the remaining hop is not mentioned.  |
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| ***Summary of change:*** | Clarify the parent IE for startposition for the remaining hop in SRS tx hopping.  |
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| ***Consequences if not approved:*** | The parent IE for the remaining hop starting position is not clear.   |
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| ***Clauses affected:*** | 6.4.1.4.1 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

##### 6.4.1.4.1 SRS resource

An SRS resource is configured by the *SRS-Resource* IE or the *SRS-PosResource* IE and consists of

- $N\_{ap}^{SRS}\in \left\{1,2,4,8\right\}$ antenna ports $\left\{p\_{i}\right\}\_{i=0}^{N\_{ap}^{SRS}-1}$, where the number of antenna ports is given by the higher layer parameter *nrofSRS-Ports* or *nrofSRS-Ports-n8* if configured, otherwise $N\_{ap}^{SRS}=1$, and$p\_{i}=1000+i$ when the SRS resource is in a SRS resource set with higher-layer parameter *usage* in *SRS-ResourceSet* not set to 'nonCodebook', or determined according to [6, TS 38.214] when the SRS resource is in a SRS resource set with higher-layer parameter *usage* in *SRS-ResourceSet* set to 'nonCodebook'.

- $N\_{hop}$, the number of hops for SRS Tx hopping for an SRS resource configured by *SRS-PosResource* given by the higher layer parameter *numberOfHops* if configured, otherwise $N\_{hop}=1$.

- $N\_{symb}^{SRS}\in \left\{1,2,4,8,10,12,14\right\}$ consecutive OFDM symbols given by the field *nrofSymbols* contained in the higher layer parameter *resourceMapping*. If $N\_{hop}>1$,$N\_{symb}^{SRS}$is the number of consecutive OFDM symbol per hop.

- $l\_{0}$, the starting position in the time domain given by $l\_{0}=N\_{symb}^{slot}-1-l\_{offset}$ where the offset $l\_{offset}\in \left\{0,1,…,13\right\}$ counts symbols backwards from the end of the slot and is given by the field *startPosition* contained in the higher layer parameter *resourceMapping* and $l\_{offset}\geq N\_{symb}^{SRS}-1$. If $N\_{hop}>1$ $l\_{0}$ is the starting position of each hop in the time domain, determined by the field *startPosition* contained in the higher layer parameter *resourceMapping* for the first hop and contained in the higher layer parameter *SlotOffsetForRemainingHops* for each remaining SRS transmission hop.

- $k\_{0}$, the frequency-domain starting position of the sounding reference signal.