**3GPP TSG-RAN4 Meeting #111 *R4-2409263***

**Fukuoka, Japan, 20 – 24 May, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **-** | **rev** | **-** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | draftCR on RRM requirements for SL positioning | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_pos\_enh2-Core | | | | |  | ***Date:*** | | | 2024-04-23 |
|  |  | | | |  | |  | | |  |
| ***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 are some issues in SL RSTD measurement requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Update the SL RSTD requirements to reflect that measurement period ends after the UE has measured SL PRS resources from at least two different Tx UEs. 2. Add applicability condition that the time separation between the [last] SL-PRS from the reference UE and [last] SL-PRS from the target UE is no larger than [160 ms]. 3. Change the number of samples for 48 RB to 1. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Core requirements for SL RSTD are incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 12A.2.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | The draftCR is based on Big draftCR R4-2405983 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<Start of Change 1>

12A.2.5 Measurements Period Requirements

When the physical layer receives the last of *SL-TDOA-ProvideAssistanceData* and *SL-TDOA-RequestLocationInformation* from LMF or another UE via SLPP [37]*,* the UE shall be able to perform multiple SL RSTD measurements based on SL-PRS from one or more other SL UEs (up to the UE capability specified in Clause 12A.2.3), with each SL RSTD measurement based on SL-PRS from the reference UE and SL-PRS from another anchor UE, as defined in TS 38.215 [4]. The SL RSTD measurement shall be performed during the measurement period defined as:

,

where and are the measurement periods for the SL-PRS from the reference UE and SL-PRS from another anchor UE, respectively.

S is the number of samples per measured link, defined below:

= 1 for SL-PRS bandwidth > 44 PRBs,

= 4 for SL-PRS bandwidth ≤ 44 PRBs,

For each SL-PRS sample *s* of the target measured link, which is received within a slot where the UE receives SCI and the associated SL-PRS within its capabilities [Components 2 and 3 of FG 41-1-1], is defined as:

, for *s*<*S*, where and are the beginning of the first slot of SL-PRS sample *s+1* and SL-PRS sample *s*, respectively,

for *s*=*S*,

is the duration of the slot carrying SL-PRS sample *s* of the SL RSTD measurement,

is the processing time given by the UE capability in [Components 4 of FG 41-1-1].

[A UE may drop one or more SL PRS measurement samples if the number of active slots and number of active resources per slot for the ongoing SL PRS measurement exceed the UE capabilities in [FG 41-1-1]. For a single-sample measurement, the whole measurement may not be performed.]

Measurement requirements in this clause apply provided the time separation between the [last] SL-PRS from the reference UE and [last] SL-PRS from another anchor UE is no larger than [160 ms]

If the synchronization reference source changes during at the measuring UE [or at the UE configured to transmit SL-PRS for the target measured or reference link for the SL RSTD measurement, e.g., known from the UE’s own synchronization source or from *SL-RTD-Info* [37],] while the UE is performing the SL RSTD measurement, then the UE shall restart the SL RSTD measurement after the synchronization reference source change and shall send the measurement report during a measurement period, which can be longer than .

The requirements in this clause apply, provided that no SL-PRS symbols are dropped due to, e.g., selection or reselection of synchronization reference source according to clause 12.4 during the measurement period . Otherwise, the measurement period can be longer.

The requirements in this clause apply, provided that the reception of slots containing SL-PRS is not interrupted during the measurement period . Otherwise, if the reception of the slots containing SL-PRS is interrupted, the measurement period can be longer.

<End of Change 1>