**3GPP TSG-RAN2 Meeting # 125bis *R2-240xxxx***

**Changsha, China, April 15th - 19th, 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.331** | **CR** | **4467** | **rev** | **1** | **Current version:** | **17.8.0** |  |
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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:***  | Correction on posSIB(s) acquisition [SI-SCHEDULING] |
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| ***Source to WG:*** | Philips International B.V., Ericsson |
| ***Source to TSG:*** | R2 |
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| ***Work item code:*** | NR\_pos\_enh-Core |  | ***Date:*** | 2024-04-04 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | 1. TEI17 introduced SI scheduling enhancements (R2-2203993) to support scheduling SIs (SIBs and posSIBs) via *si-SchedulingInfo-v1700* in addition to *si-SchedulingInfo* and *posSI-SchedulingInfo* in SIB1. The current posSIB(s) request and acquisition procedure for UE only checks *posSI-BroadcastStatus* in *posSI-SchedulingInfo*, and does not check the broadcast status of the posSIB(s) scheduled in *si-SchedulingInfo-v1700* by checking the *si-BroadcastStatus* of the type 2 SIB. The change is reciprocal to what is specified for field description *si-RequestResources* in IE *SI-RequestConfig*: -      “If *si-SchedulingInfo-v1700* is present and *SI-RequestConfig* is configured in *PosSI-SchedulingInfo* for on-demand SI request, the UE generates a list of concatenated SI messages by appending the SI messages containing type2 SIB configured by *schedulingInfoList2* in *si-SchedulingInfo-v1700* to the SI messagesconfigured by *posSchedulingInfoList* in *posSI-SchedulingInfo.”* Reciprocal (similar) change is also needed when UE reads the positioning SI broadcast status.
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| ***Summary of change:*** | 1. In clause 6.3.1a, in the field description of *posSI-BroadcastStatus*, include text on UE to check broadcast status of the posSIB(s) scheduled in *si-SchedulingInfo-v1700* by checking the *si-BroadcastStatus* of the type 2 SIB in *schedulingInfoList2*.

**Impact analysis**Impacted 5G architecture options:NR SAImpacted functionality: posSIB(s) request and acquisitionInter-operability: If the network implements this CR but not the UE, there is no interoperability issue.If the UE implements this CR but not the network, there is no interoperabiilty issue. |
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| ***Consequences if not approved:*** | 1. UE will not be able to use the new SI scheduling mechanism introduced in TEI17 to acquire posSIB(s) in the SI broadcasting.
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| ***Clauses affected:*** | 6.3.1a |
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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:*** |  |
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| ***This CR's revision history:*** | 1. R2-2313100: initial CR submitted to RAN2 #124.
2. Rev1: revised CR consolidating inputs from co-signing companies.
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*Start of Change*

### 6.3.1a Positioning System information blocks

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#### – *PosSI-SchedulingInfo*

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| *PosSI-SchedulingInfo* field descriptions |
| ***areaScope***Indicates that a posSIB is area specific. If the field is absent, the posSIB is cell specific. |
| ***encrypted***The presence of this field indicates that the *pos-sib-type* is encrypted as specified in TS 37.355 [49]. |
| ***gnss-id***The presence of this field indicates that the positioning SIB type is for a specific GNSS. Indicates a specific GNSS (see also TS 37.355 [49]) |
| ***posSI-BroadcastStatus***Indicates if the SI message is being broadcasted or not. Change of *posSI-BroadcastStat*us should not result in system information change notifications in Short Message transmitted with P-RNTI over DCI (see clause 6.5). The value of the indication is valid until the end of the BCCH modification period when set to *broadcasting*.If *si-SchedulingInfo-v1700* is present, the UE checks the *posSI-BroadcastStatus* configured by *posSchedulingInfoList* in *posSI-SchedulingInfo* and also checks *si-BroadcastStatus* of the type 2 SIB configured by *schedulingInfoList2* in *si-SchedulingInfo-v1700*, and the network ensures that the total number of SI messages with *posSI-BroadcastStatus*and *si-BroadcastStatus*set to *notBroadcasting* in the concatenated list of SI messages configured by *posSchedulingInfoList* in *posSI-SchedulingInfo* and SI messages containing type2 SIB configured by *schedulingInfoList2* in *si-SchedulingInfo-v1700* does not exceed the limit of *maxSI-Message* when *posSI-RequestConfig* or *posSI-RequestConfigRedCap* or *posSI-RequestConfigSUL* is configured. |
| ***posSI-RequestConfig***Configuration of Msg1 resources that the UE uses for requesting SI-messages for which *posSI-BroadcastStatus* is set to notBroadcasting. |
| ***posSI-RequestConfigRedCap***Configuration of Msg1 resources for *initialUplinkBWP-RedCap*that the RedCap UE uses for requesting SI-messages for which *posSI-BroadcastStatus* is set to *notBroadcasting*. |
| ***posSI-RequestConfigSUL***Configuration of Msg1 resources that the UE uses for requesting SI-messages for which *posSI-BroadcastStatus* is set to notBroadcasting. |
| ***posSIB-MappingInfo***List of the posSIBs mapped to this *SystemInformation* message. |
| ***posSibType***The positioning SIB type is defined in TS 37.355 [49]. |
| ***posSI-Periodicity***Periodicity of the SI-message in radio frames, such that rf8 denotes 8 radio frames, rf16 denotes 16 radio frames, and so on. If the *offsetToSI-Used* is configured, the *posSI-Periodicity* of rf8 cannot be used. |
| ***offsetToSI-Used***This field, if present indicates that all the SI messages in *posSchedulingInfoList* are scheduled with an offset of 8 radio frames compared to SI messages in *schedulingInfoList*. *offsetToSI-Used* may be present only if the shortest configured SI message periodicity for SI messages in *schedulingInfoList* is 80ms. If SI offset is used, this field is present in each of the SI messages in the *posSchedulingInfoList*. |
| ***sbas-id***The presence of this field indicates that the positioning SIB type is for a specific SBAS. Indicates a specific SBAS (see also TS 37.355 [49]). |

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*End of Change*