3GPP TSG-RAN WG2 Meeting #112e R2-20xxxx

Online Meeting, 02 – 13 November 2020

**Agenda item: 6.6.2**

**Source: Ericsson (Rapporteur)**

**Title: Offline 604 Positioning RRC proposals**

**WID/SID: NR\_POS-Core - Release 16**

**Document for: Discussion and Decision**

# 1 Introduction

This document is the report of the following email discussion.

* [AT112-e][604][POS] Positioning RRC proposals (Ericsson)

Scope: Discuss and resolve proposals 1 and 2 from R2-2010709.

Intended outcome: Agreeable CR in R2-2010864

Deadline: Tuesday 2020-11-10 1200 UTC

The reference document and the proposals to be discussed are listed below.

[R2-2010709](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2010709.zip) Summary for RRC Corrections for Positioning Ericsson discussion

[Proposal 1 RAN2 to agree the posSIB validity inclusion in RRC and review the CR for posSIB validity check provided in R2-2008806 by email discussion.](#_Toc54681748)

[Proposal 2 RAN2 to provide correction for field description for fields (sfn-Offset and sfn-SSB-Offset) available in SSB-Configuration. The exact changes are captured via email discussion review.](#_Toc54681749)

# 2 PosSIB Validity Check

The CR [R2-2008806](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2008806.zip) provides the changes needed to describe how UE will determine the posSIB validity in RRC. The valueTag and expiration duration are defined in LPP layer however the areaScope and SystemInformationAreaID are part of RRC.

**Question 1**: do you agree with the changes in the CR in [R2-2008806](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2008806.zip) where the posSIB validity has been provided in RRC?

Please use the comments column to provide any suggested changes to the CR or to add explanations/alternatives if you disagree with the CR or any parts of it.

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| Answers to Question 1 | | |
| Company | Yes/No | Comments |
| Intel | Yes |  |
| Huawei, HiSilicon (Yinghao) | No | We don’t this should be done in the RRC spec for the following reasons:  1/ In the RRC spec, the valueTag and ExpirationTime are not defined. For RRC spec, posSIB are OCTET STRINGs that are defined in the upper layer.    Hence, from modeling perspective, putting posSIB validity procedure in RRC spec is not reasonable.  2/ In the RRC spec, requirement for posSIB are from upper layer. So, if the request is already from upper layer, why the validity check should be performed in the RRC?    For us, this is a legacy issue that has already been existing in R15. We prefer not to address this or if this is the intention from all the other companies, address it in the LPP spec. |
| CATT | Yes | posSIB validity based on area scope is introduced in R16. It is not a legacy issue.  The requirement for posSIB are from upper layer doesn’t mean that the posSIB validity should not happen in RRC. We do not see the logical consequence of request and check.  The requirement for posSIB comes from higher layer because higher layer needs AD data in posSIB.  Considering the area scope in SIB1 which should not be transferred to higher layer, the posSIB validity in RRC makes sense.  Majority (5 companies within 7 companies' replies) preferred to capture posSIB validity in RRC in R2-2008268 in last meeting. |
| vivo | Yes |  |
| Xiaomi | Yes |  |
| Qualcomm | Yes | In Rel-15 we have only the value tag and the expiration time. Those two fields are described in the LPP field description and they imply the corresponding UE behaviour. However, the area scope is an addition in Rel-16 and should be clarified.  However, from the text in 5.2.2.2.1 it may be difficult (for "non-positioning people") to understand that the value tag and expiration time are defined in LPP ASN.1. Maybe we could make it more explicit:  If the UE stores the acquired posSIB, then the UE shall store the associated *areaScope*, if present, the *cellIdentity*, the *systemInformationAreaID*, if present, the *valueTag*, if provided in *assistanceDataSIB-Element*, and the *expirationTime* if provided in *assistanceDataSIB-Element*. The UE may use a valid stored version of the SI except *MIB*, *SIB1*, *SIB6*, *SIB7* or *SIB8* e.g. after cell re-selection, upon return from out of coverage or after the reception of SI change indication. The *valueTag* and *expirationTime* for posSIB is optionally provided in *assistanceDataSIB-Element*, as specified in TS 37.355 [49].  I think this may avoid some confusion of the RRC value tag and LPP value tag. Also, the value tag is not provided in "LPP signalling" (its just defined in LPP). |
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# 3 sfn-SSB-Offset, sfn-Offset, sfn0-offset

[R2-2008807](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2008807.zip), [R2-2008808](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2008808.zip), [R2-2010071](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2010071.zip), [R2-2010270](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2010071.zip) provides CR for correction of field description for SSB-Configuration related to fields: sfn-Offset and sfn-SSB-Offset and sequence sfn0-offset.

The CR [R2-2010991](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2010991.zip) in consolidates the changes and provides a merged version.

**Question 2**: do you agree with the changes in the CR in [R2-2010991](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2010991.zip)?

Please use the comments column to provide any suggested changes to the CR or to add explanations if you disagree with the CR or any parts of it.

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| Answers to Question 3 | | |
| Company | Yes/No | Comments |
| Intel | Yes |  |
| Huawei, HiSIlicon (Yinghao) | Yes |  |
| CATT | Yes |  |
| vivo | Yes |  |
| Xiaomi | Yes |  |
| Qualcomm | Yes | I think this  "Indicates the SFN offset of the transmitted SSB related to the start of the SSB period."  should be  "Indicates the SFN offset of the transmitted SSB relative to the start of the SSB period." |
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# 4 Conclusion

Based on the discussion in the previous sections we propose the following:

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