3GPP TSG-RAN WG2 #111-e R2-20xxxxx

Electronic Meeting, 17th – 28th August 2020

Agenda Item: 6.1.1

Source: Ericsson

Title: Summary of [AT111-e][014][NR16] RRC Misc II

Document for: Discussion, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* **[AT111-e][014][NR16] RRC Misc II (Ericsson)**

Scope: Treat R2-2007275, R2-2007276, [R2-2007077](file:///D:/Documents/3GPP/tsg_ran/WG2/TSGR2_111-e/Docs/R2-2007119.zip), R2-2006915, R2-2006934 (proponents to drive)

Part 1: Decision whether to make corrections, identify agreeable parts.

Deadline: Aug 20, 0900 UTC.

Part 2: For agreeable parts, continuation to agree CRs.

Deadline: Aug 26, 0900 UTC.

# 2 Discussion

Companies are requested to add their comments for each of the treated CRs of this email discussion in the boxes below (one for each CR to be treated).

### 2.1.1 Misc corrections for on-demand SIB in connected

[R2-2007275](file:///D:/Documents/3GPP/tsg_ran/WG2/TSGR2_111-e/Docs/R2-2007275.zip) Miscellaneous correction regarding on demand SIB in CONNECTED Ericsson CR Rel-16 38.331 16.1.0 1820 - F 5G\_V2X\_NRSL-Core, NR\_pos-Core

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| --- | --- | --- |
| Company | Agree?  (Yes or No) | Comments |
| Apple | Yes | There is one additonal typo needs tob e fixed in 5.2.2.3.2, the si-periodicity needs to be posSI-periodicity.  2> else if the concerned SI message is configured in the *pos-SchedulingInfoList* and *offsetToSI-Used* is not configured:  3> create a concatented list of SI messages by appending the *pos-SchedulingInfoList* in *posSI-SchedulingInfo* in *SIB1 to schedulingInfoList* in *si-SchedulingInfo* in *SIB1*  3> for the concerned SI message, determine the number *n* which corresponds to the order of entry in the concatenated list;  3> determine the integer value *x = (n – 1) × w*, where *w* is the *si-WindowLength*;  3> the SI-window starts at the slot #*a*, where *a* = *x* mod N, in the radio frame for which SFN mod *T* = FLOOR(*x*/N), where *T* is the *si-Periodicity* of the concerned SI message and N is the number of slots in a radio frame as specified in TS 38.213 [13]; |
| Nokia | Yes | Agree also with Apple comment |
| Huawei, HiSilicon | No | The first two changes to 5.2.2.3.2 are not quite necessary.  Cannot see a strong motivation to have the 3rd and the 4th change either. By requesting Si message, it is still correct to say that the SIBs are requested. |
| Samsung |  | 1. Changes in 5.2.2.3.2 are not needed 2. Impact analysis should be updated. EN-DC and NGEN-DC is not impacted by these changes |
| CATT | Yes in principle but few comments | 1. the modification is not necessary in Section 5.2.2.3.2: SI message when the requested SIB(s) on demand are acquired. The requested SIB(s) can be required by on demand or retrieved by broadcast. So no need to add on demand here.   There is no definition of posSI message(s). So the modification of posSI message(s) in Section 5.2.2.3.4 is not correct. Prefer to keep the original word “posSIB(s)”. |
| Ericsson (Tony) | Yes | We will try to include the provided comment in a revised version on the CR. |
| MediaTek (Nathan) | Partly | The change in 5.2.2.3.2 to move the bullet before the NOTEs is not strictly necessary but may help a bit with readability. The change to remove “on demand” in the same section seems not necessary as the text already says “the requested SIB(s)”.  The change to section 5.2.2.3.4 seems correct in principle, but CATT have a good point that there is no definition of “posSI message”. However, we think it’s good to have the change since the RRCSystemInfoRequest is structured to request SI messages, not SIBs; maybe the text can be changed to refer to “SI messages other than positioning” in the first bullet, and “SI messages for positioning” in the second. |
| vivo (WenMing) | Partly | Agree with MediaTek. |
| Qualcomm Incorporated (Masato) | Agree with intention | “PosSI” is not defined anywhere, but PosSIB is. So it is SI messages containing PosSIB. |

**Rapporteur input:** According to thereplies, it looks okay (in principle) to have this CR, but a revision is needed to take into account the input received in this email discussion.

1. The CR in R2-2007275 is considered as baseline for misc corrections and a revision is provided to address further inputs from companies.

### 2.1.2 Redundant procedural text of on-demand SIB

[R2-2007276](file:///D:/Documents/3GPP/tsg_ran/WG2/TSGR2_111-e/Docs/R2-2007276.zip) Redundant procedural text of on demand SIB in CONNECTED Ericsson CR Rel-16 38.331 16.1.0 1821 - F 5G\_V2X\_NRSL-Core, NR\_pos-Core

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| --- | --- | --- |
| Company | Agree?  (Yes or No) | Comments |
| Apple | Yes |  |
| Nokia | Yes |  |
| Huawei, HiSilicon | Yes | There do seem to be some duplicate between Clause 5.2.2.3.5 and 5.2.2.4.2 for the SI message reception. With the change in the CR, UE only needs to acquire the SI after SI request in Clause 5.2.2.3.5 |
| Samsung (Anil) | No | The text was intentionally added (in RAN2 #109) to cover the scenario where UE already has a stored SIB1 in current modification period and SIB acquisition is triggered (e.g. upon initiation of V2X service).  The removal of text (as proposed in CR) would mean that request for on demand SIB can be done only as part of SIB1 processing. This will mandate UE to reacquire SIB1 even if SIB1 is already acquired in the modification period.  To not lose any functionality supported by current specification and also to avoid checking certain conditions twice during SIB1 processing, the text in 5.2.2.4.2 can be updated as follows:  1> if in RRC\_CONNECTED while T311 is not running:  2> disregard the *frequencyBandList*, if received, while in RRC\_CONNECTED;  2> forward the *cellIdentity* to upper layers;  2> forward the *trackingAreaCode* to upper layers;  2> apply the configuration included in the *servingCellConfigCommon*;  2> if the UE has a stored valid version of a SIB, in accordance with sub-clause 5.2.2.2.1, that the UE requires to operate within the cell in accordance with sub-clause 5.2.2.1:  3> use the stored version of the required SIB;  2> else acquire the required SIB(s) as defined in sub-clause 5.2.2.3.5 |
| CATT | No | 1. There is an exception that UE enters section 5.2.2.3.5 directly for on demand SI in connected mode without entering section 5.2.2.4.2 first. 2. Because if there is no common search space to get SIB1, UE won’t enter 5.2.2.4.2 directly when higher layer wants the positioning assistance data on SI message. Instead, UE enters 5.2.2.3.5 directly to require PosSIB(s). 3. So the checking of the si-broadcast status in section 5.2.2.3.5 still makes sense.   So no need to make the corrections. |
| Ericsson | Yes | We do believe that our CR does not change the UE actions in triggering the on-demand request but it avoids duplicate checkings that are done in section 5.2.2.4.2 and 5.2.2.3.5.  However, we are also fine to delete the redundant text in section 5.2.2.4.2 and leave section 5.2.2.3.5 as it is. We are fine to go with majority views as far as the redundant text is deleted. |
| MediaTek (Nathan) | No | We think Samsung and CATT are right that section 5.2.2.3.5 can also be triggered outside of SIB1 processing. Samsung’s proposed change seems to resolve the issue; it reads a little bit strangely because it removes the explicit requirement to acquire the SI message(s) from broadcast (the two bullets where in the original CR setion 5.2.2.3.5 is changed to 5.2.2.3.2), but this logic is actually present in section 5.2.2.3.5.  The current spec is not broken, only redundant, but it would be good to clean up the redundancy. So we would support pursuing the proposal from Samsung. |
| vivo | No | Agree with MediaTek. |
| Qualcomm Incorporated  (Masato) |  | We understood Samsung’s point. Their text proposal however removes the text on both broadcast SIBs and on-demand SIBs from 5.2.2.4.2, and points to 5.2.2.3.5 which is for “request for on-demand SIBs”. Some more work seems to be necessary. |

**Rapporteur input:** According to the replies from companies, it looks like something is needed to address the issue of the redundant text in the specification. The actual changes in the CR can be discussed during the second week.

1. The intention of the CR in R2-2007276 is agreed and the actual changes can be discussed during the second week of the meeting.

### 2.1.3 Correction to on-demand SI acquisition in RRC\_CONNECTED

[R2-2007077](file:///D:/Documents/3GPP/tsg_ran/WG2/TSGR2_111-e/Docs/R2-2007077.zip) Corrections to on demand SI acquisition in RRC\_CONNECTED Samsung Electronics Co., Ltd CR Rel-16 38.331 16.1.0 1780 - F 5G\_V2X\_NRSL-Core, NR\_pos-Core

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| Company | Agree?  (Yes or No) | Comments |
| Apple | No | If Ericsson CR R2-2007276 is agreed, the change proposed in R2-2007077 is not needed. |
| Nokia | Yes | But both this and 7276 are not needed. Only one. |
| Huawei, HiSilicon | Yes | The correction is ok but already covered by 7276 |
| Samsung (Anil) | Yes | See comments on 7276 |
| CATT | No | 1. The original description makes it possible to try to retrieve the SI message (i.e. entering section 5.2.2.3.2) even if UE can’t request SI by on demand(i.e. entering section 5.2.2.3.6). Perhaps it happens that UE can still retrieve the SI message in section 5.2.2.3.2 just when gNB is broadcasting the required SI message. 2. However UE retrieves the assistance data on SI only when the condition of on demand is met, according to the correction in [R2-2007077](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_111-e\Docs\R2-2007077.zip).   So from the positioning service perspective, RRC of UE should try to retrieve the SI for positioning assistance data by on demand in connected mode or other ways when there is SI request from LPP of UE. |
| Ericsson | Yes but | Depending on the outcome of R2-2007276, this CR may not be needed. |
| MediaTek (Nathan) | Conditional, see comment | If we take the changes from R2-2007276 with some kind of fix to cover the cases other than SIB1 processing (as discussed there), then the affected bullet is gone and no change is needed. If instead we pursue something like the Samsung proposal from the comments on 7276, this change seems still needed. |
| vivo | Yes | Either 7077 or 7276 is needed to fix the issue. |
| Qualcomm Incorporated (Masato) | Agree with intention | Agree with other companies that interaction with other CRs should be assessed. |

**Rapporteur input:** According to the replies, the intention of the CR is agreed but whether to have the proposed change it depends from the outcome of R2-2007276.

1. The intention of the CR in R2-2007077 is agreed but whether to have the proposed change it depends from the outcome of R2-2007276

### Handling of CPC in fast MCG recovery

[R2-2006934](file:///D:/Documents/3GPP/tsg_ran/WG2/TSGR2_111-e/Docs/R2-2006934.zip) Handling of CPC in fast MCG recovery Intel Corporation CR Rel-16 38.331 16.1.0 1755 - F NR\_Mob\_enh-Core, LTE\_NR\_DC\_CA\_enh-Core

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| --- | --- | --- |
| Company | Agree?  (Yes or No) | Comments |
| Apple | Yes | A comment on Minor editorial issue:  The sentence below needs tob e ended with a colon :  2> if the *RRCReconfiguration* message was received via SRB3 within *DLInformationTransferMRDC*; |
| Nokia | No | Issue 1: Yes the procedural combination exists, but that does not mean it will ever happen. 37.340 captures “CPC configuration in HO command, ...is not supported.”, and the message in DLInfoTransfer in response to MCGFailureInfo is a HO command. If anything, RRC spec could capture this explicitly, instead of proposed tabular text which only addresses a sub-case.  Issue 2: As a general principle, on SRB3 37.340 captures “SN RRC Reconfiguration Complete messages are mapped to the same SRB as the message initiating the procedure”, and this principle is implemented by the current RRC procedure. |
| Intel | Yes | To Nokia, it is also ok to us if in stage 3 specification, we can clarify “The *RRCReconfiguration* message contained in *DLInformationTransferMRDC* includes *ReconfigurationWithSync* if it is used for fast MCG failure recovery.*”* |
| Huawei, HiSilicon | Yes | Coversheet needs to include impact analysis. Otherwise the CR is OK |
| Samsung ([june77.hwang@samsung](mailto:june77.hwang@samsung).com) | Yes/No | For1st correction: agree  For 2nd correction: this is for ENDC case, so only DLInformationTransferMRDC can carry dl-DCCH-MessageEUTRA, i.e., RRCconnectionReconfiguration. And this procedure should be referred in 36.331. So no need of 2nd correction. We had similar CR (**R2-2008109**) |
| Ericsson (Tony) | Maybe No | We agree with Nokia and we fails to understand whether this is really needed. As mentioned by Nokia, is already clear from stage 2 that into the DLInfoTransfer there is an HO command (for fast MCG recovery). We may go for a clarification on this, but we should also check whether stage2 or stage3 are not clear already. |
| MediaTek (Nathan) | Yes | We think that it is correct. |
| Vivo | Yes | A minor editorial issue: if the parallel assumption is removed, then a colon is needed to replace the semicolon.   1. if the UE is configured with E-UTRA *nr-SecondaryCellGroupConfig* (UE in (NG)EN-DC):   2> if the *RRCReconfiguration* message was received via E-UTRA SRB1 as specified in TS 36.331 [10];  3> if the *RRCReconfiguration* is applied due to a conditional reconfiguration execution:  4> submit the *RRCReconfigurationComplete* message via the E-UTRA MCG embedded in E-UTRA RRC message *ULInformationTransferMRDC* as specified in TS 36.331 [10], clause 5.6.2a. |
| Qualcomm Incorporated (Masato) | Yes | With the CR, it is clearer what cases the UE shall support. |

**Rapporteur input:** According to the replies, it seems that there is good support for the changes proposed in the CR. Therefore, we suggest:

1. The intention of the CR in R2-2006934 is agree and a revision is provided to take into account companies’ inputs.

### 2.1.4 Positioning correction related to on-demand SIB in CONNECTED

In the NR positioning correction section, there are two CR that propose changes related to the on-demand SIB feature in CONNECTED but for the posSIB. We would like to ask company to provide inputs on these.

[R2-2007076](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202008%20-%20RAN2_111-e,%20Online\Extracts\R2-2007076_CR1779_38331_Rel16_Corrections%20to%20acquisition%20of%20posSIB(s)%20in%20RRC_CONNECTED.docx) Corrections to acquisition of posSIB(s) in RRC\_CONNECTED Samsung Electronics Co., Ltd CR Rel-16 38.331 16.1.0 1779 - F NR\_pos-Core

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| --- | --- | --- |
| Company | Agree?  (Yes or No) | Comments |
| Ericsson (Tony) | Yes but | This is looks a straighforward change. If we agree on the R2-2007276 with Samsung suggestion, this is needed. Otherwise, if we agree on the original text proposed in R2-2007276, then the CR is not needed. |
| Apple | No | If R2-2007276 is agreed, this is not needed. |
| Samsung (Anil) | Yes | See comments on 7276 |
| vivo | Yes but | Depends on the final decision of 7276. |
| Qualcomm Incorporated (Masato) | No | R2-2006755 below addresses the same issue, without duplicating T350 text. |
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**Rapporteur input:** According to the replies, the intention of the CR is agreed but whether to have the proposed change it depends from the outcome of R2-2007276.

1. The intention of the CR in R2-2007076 is agreed but whether to have the proposed change it depends from the outcome of R2-2007276

[R2-2006755](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202008%20-%20RAN2_111-e,%20Online\Extracts\38331_CR1736_(Rel-16)_R2-2006755.docx) Correction on on-demand SI in RRC\_CONNECTED CATT CR Rel-16 38.331 16.1.0 1736 - F NR\_pos-Core

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| --- | --- | --- |
| Company | Agree?  (Yes or No) | Comments |
| Ericsson (Tony) | No (see comment) | We fail to understand what is broken with the current specification. Our opinion that what is proposed by CATT is may be considered as a text enhacement that is not needed at this stage (even if we still prefer the current text). We should pursue only necessary correction to fix errors.  However, the last change is obvious and we are fine to include it in the Misc correction CR in R2-2007275. |
| Apple | Partially | For the change to moving the “starting T350 timer” to 5.2.2.3.6, we do not agree. It is better to merge the solicitation of SIB and/or posSIB(s) together in one procedure in 5.2.3.5 and start timer only once.  The second change about removing redundancy can be agreed. |
| Samsung (Anil) | Partially | 1st change is not essential. Agree with the last change. |
| vivo | Partially | Agree with the last change. |
| Qualcomm Incorporated (Masato) | Yes | 1st change addresses the same issue as addressed in R2-2007076 above, while avoiding duplicated text on T350.  2nd change is correct. |
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**Rapporteur input:** According to the replies, companies are fine to agree on the last change for removing the duplicate stop of T350, but the other change seems to not have much support.

1. The duplicate stop of T350 is agreed and is included in the misc correction CR in R2-2007275.

# Conclusion

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

1. The CR in R2-2007275 is considered as baseline for misc corrections and a revision is provided to address further inputs from companies.
2. The intention of the CR in R2-2007276 is agreed and the actual changes can be discussed during the second week of the meeting.
3. The intention of the CR in R2-2007077 is agreed but whether to have the proposed change it depends from the outcome of R2-2007276
4. The intention of the CR in R2-2006934 is agree and a revision is provided to take into account companies’ inputs.
5. The intention of the CR in R2-2007076 is agreed but whether to have the proposed change it depends from the outcome of R2-2007276
6. The duplicate stop of T350 is agreed and is included in the misc correction CR in R2-2007275.

# References

[1]