3GPP TSG-RAN2 Meeting #115e Draft of R2-2108851

Online, 9th – 27th, August 2021

Agenda Item: 4.5, 7.1.1, 7.4

Source: Samsung

Title: [AT115-e][201][LTE] Miscellaneous LTE CRs

Document for: Discussion and Decision

# Introduction

This report gives a summary of this offline email discussion.

* [AT115-e][201][LTE] Miscellaneous LTE CRs (Samsung)

Scope:

* + - Discuss LTE CRs marked for this discussion (if needed)

 Intended outcome:

* + - Discussion report in [R2-2108851](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_115-e%5CR2-2108851.zip)
		- Agreeable CRs (if any)

 Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 1st week Thu, UTC 0900
		- Initial deadline (for rapporteur summary): 1st week Thu, UTC 1700
		- Deadline for CR finalization: 2nd week Wed, UTC 0900

The deadline for the first round is **Thu, UTC 0900**.

# Contact information

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| --- | --- |
| **Company** | **Email** |
| Samsung | seungri.jin@samsung.com |
| Lenovo | hchoi5@lenovo.com |
| Huawei, HiSilicon | jun.chen@huawei.com |
| Qualcomm | uphuyal@qti.qualcomm.com |
| Ericsson | emre.yavuz@ericsson.com |
| NEC | wang\_da@nec.cn |
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# Discussion

## On T330 resetting

[R2-2108312](file:///C%3A%5C_lenovo%5C3GPP%5C1-Meetings%5CRAN%20Meetings2019-21%5CRAN2%5CRAN2%23115%20%28e-Meeting-16_270821%29%5CDocs%5CR2-2108312.zip) On T330 resetting Ericsson, ZTE Corporation, Sanechips CR Rel-15 36.331 15.14.0 4712 - F LTE\_5GCN\_connect-Core

T330 (logged MDT DurationTimer) is used to indicate the effectiveness period of a logged MDT configuration which shall keep running irrespective of state transition or RAT type.

However, according current specs T330 will be stopped when UE enters RRC\_INACTIVE or when UE HO to another RAT, as a consequence, UE cannot continue logging MDT results when transiting to idle or connected (if configured to log MBSFN measurements) or coming back to LTE since T330 is stopped and not restarted.

**Question 1)
Do companies agree on this CR?**

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| **Company** | **Yes/No** | **Comments** |
| Lenovo | No | In stage 2 TS 37.320 the support of logged measurements for inactive state and NR was specified in R16. So, it’s correct in R15 to stop T330 when UE enters RRC\_INACTIVE or when UE HO to NR.[Lenovo] see our updated comments in [Lenovo2] below. |
| Huawei, HiSilicon | No | In Rel-15 LTE-5GC, the support of MDT was discussed, and RAN2 agreed on the LS R2-1714203 (at RAN2#100 meeting). In the LS, RAN2 agreed that:* From pure radio interfacce perspective, MDT could be supported with the same functionality as that of LTE connected to EPC but MDT is not part of the Rel-15 NR WID scope

For Rel-15 TS 36.331, currenlty the UE stops T330 upon entering RRC\_Inactive and HO to another RAT. We think that both cases are related to LTE-5GC, so the UE behaviours are reasonable as MDT for LTE-5GC was not supported in Rel-15.[Huawei, HiSilicon] we have new comments after some offline discussions (below). |
| Samsung | No | We have same view with Lenovo and Huawei.  |
| Qualcomm | ? | The CR has 2 changes for Rel-15. Both already exist in Rel-16 spec, which seems to be introduced by two separate Rel-16 Cat-F CRs. It is unclear why now there is a need for these to be ported to Rel-15. If these were essential changes, why were they not done from Rel-15 when Rel-16 was corrected? Therefore, no strong view on the need. |
| Ericsson | Yes | It seems like the purpose of the CR is misunderstood. The CR is not about introducing the logged MDT feature for a UE in RRC Inactive in LTE i.e., we do not want the UE to log MDT measurements while being in RRC Inactive. It is about making sure that this UE shall continue to perform logging of MDT when the UE is transitioned to RRC IDLE by the network. This is the aspect that we would like to change. The current behavior and the proposed behavior is summarized below.**The current behavior:**1. The UE is configured with logged MDT configuration by an LTE cell.
2. The UE is released to RRC Inacitve.
3. **The UE stops T330 timer and does not log any logged MDT measurements.**
4. The UE comes to connected.
5. The UE is released to RRC Idle.
6. **The UE does not log MDT measurement as T330 is already stopped.**

**The proposed behavior:**1. The UE is configured with logged MDT configuration by an LTE cell.
2. The UE is released to RRC Inacitve.
3. **The UE does not log any logged MDT measurements..**
4. The UE comes to connected.
5. The UE is released to RRC Idle.
6. **The UE logs MDT measurement as T330 is still running.**

The measurement logging section in  5.6.8 is not changed at all i.e., the UE will not log the measurements while being in LTE RRC Inactive state. As can be seen below, there is no support for MDT logging when the UE is in RRC INACTIVE. 5.6.8       Measurements logging5.6.8.1          GeneralThis procedure specifies the logging of available measurements by a UE in RRC\_IDLE that has a logged measurement configuration and the logging of available measurements by a UE in both RRC\_IDLE and RRC\_CONNECTED if *targetMBSFN-AreaList* is included in *VarLogMeasConfig*.Based on this, we believe the CR has been misunderstood by the companies. |
| NEC | Yes | Seems correct. In the current spec, In 5.3.12, upon leaving RRC\_CONNECTED, T330 is not stopped, while in 5.3.8.7 upon entering RRC\_INACTIVE T330 is stopped and again in 5.3.12 upon leaving RRC\_INACTIVE T330 is not stopped. There seems to be inconsistency T330 handling. Also, there is no corresponding stop condition (i.e. upon entering RRC\_INACTIVE) for T330 in 7.3.1 Timers (Informative).  |
| Qualcomm2 | Yes | After explanation from Ericsson above, we are fine to have this CR. However, we suggest to update the cover-page to clearly explain the rationale as explained above. |
| Lenovo2 | Yes but | After offline discussion and checking the clarifications provided by Ericsson we now understand the intention of the CR. So we are ok with the changes proposed.But it may be good to update the CR cover page by adding the current and proposed behaviour as described by Ericsson. Otherwise, the intention of the CR can be misunderstood. |
| Huawei, HiSilicon(the 2nd round) | Yes | After some offline discussions, we understand that a Rel-15 LTE-5GC capable UE will not perform logged MDT if it only stays in Rel-15 LTE-5GC networks. However, as mentioned by Ericsson, if there is handover/cell reselection from LTE-EPC to LTE-5GC, the current TS 36.331 allows the UE to log MDT in RRC\_Idle and then send the available flag to the network. From the nework point of view, if the target network (which receives the available flag) is a Rel-15 eNB supporting LTE-5GC, it may not fetch MDT report from the UE (network implementation); else if the target network is a Rel-16 eNB supporting LTE-5GC, it can fetch MDT report from the UE.Based on the above considerations, we are fine with the CR and we agree with Qualcomm2 and Lenovo2 that the cover page may need some improvements. |
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## LTE RRC Rapporteur CRs

[R2-2108634](file:///C%3A%5C_lenovo%5C3GPP%5C1-Meetings%5CRAN%20Meetings2019-21%5CRAN2%5CRAN2%23115%20%28e-Meeting-16_270821%29%5CDocs%5CR2-2108634.zip) Minor changes collected by Rapporteur for Rel-15 Samsung CR Rel-15 36.331 15.14.0 4718 - F LTE\_eMTC4-Core, LTE\_sTTIandPT, LTE-L23

[R2-2108635](file:///C%3A%5C_lenovo%5C3GPP%5C1-Meetings%5CRAN%20Meetings2019-21%5CRAN2%5CRAN2%23115%20%28e-Meeting-16_270821%29%5CDocs%5CR2-2108635.zip) Minor changes collected by Rapporteur for Rel-16 Samsung CR Rel-16 36.331 16.5.0 4719 - A LTE\_eMTC4-Core, LTE\_sTTIandPT, LTE-L23

This CRs include the minor changes, especially removing the redundant editorial Notes which are reamined in the specifications.

1. In *PDSCH-ConfigDedicated* IE, below Editor’s note for eMTC is removed.

-- eNote (ToDo): Clarify that eMTC fields (i.e. fields starting with ce-) do not apply

-- for SCell (merging issue)

1. In *SPS-ConfigUL* IE, below Editor’s note for STTI is removed.

-- eNote (TBC) that no separate STTI field is required (alike in merged CR)

1. Editor’s note in Annex A is removed.

Editor's note No agreements have been reached concerning the extension of RRC PDUs so far. Any statements in this clause about the protocol extension mechanism should be considered as FFS.

1. In A.4.3.1, some below two TBD parts are removed.

<TBD: ref to seperate example>

**Question 2)
Do companies agree on this CR?**

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| **Company** | **Yes/No** | **Comments** |
| Lenovo | Yes but | * For the eNote in PDSCH-ConfigDedicated IE: it can be expected that an eMTC does not support CA, so further clarification might not be needed.
* For the eNote in SPS-ConfigUL IE: it is not fully clear whether it applies only for the field harq-ProcID-Offset-r15 or for all fields below the eNote. Anyway, it seemed that there was no further discussion on this eNote in the past, so it looks ok to remove it.
* Further issues can be fixed as well:

For the R15 CR:1. In 6.3.5: in the description of IE MTC-SSB-NR the highlighted changes can be made.

The IE *MTC-SSB-NR* specifies the SS/PBCH measurement timing configuration (SMTC) applicable for SSB based NR measurements i.e. the time occasions for performing these measurements, see 5.5.2.13.1. In 5.5.2.9: the reference to TS 38.133 should be corrected to "[84]".

2> if *mgta* is set to *TRUE*, apply a timing advance value of 0.5ms to the gap occurrences calculated above according to TS 38.133 [16];1. In 6.3.2, AUL-Config field descriptions: to be aligned with ASN.1 the letter “M” should be added in the field name “aul-StartingPartialBW-OutsideCOT”.

*aul-StartingPartialBW-OutsideMCOT*1. In 6.3.5, MeasConfig field descriptions: in the description of mgta the reference to TS 38.133 should be corrected to "[84]".

“Indicates whether a timing advance value of 0.5 ms is applicable to the measurement gap configuration provided by E-UTRAN according to TS 38.133 [16].”For the R16 CR:1. Same corrections as for R15 above.
2. In 5.6.1.3: in the sentence below a redundant word “the” can be removed.

" Upon receiving *DLInformationTransfer* message, the the IAB-MT shall:1. In 5.5.2.13: in the paragraph below, the name “duration” should be corrected to “ssb-Duration”.

If *smtc2-LP* is present, for cells indicated in the *pci-List* parameter in *smtc2-LP* for inter-RAT cell reselection, the UE shall setup an additional SS/PBCH block measurement timing configuration (SMTC) in accordance with the received *periodicity* parameter in the *smtc2-LP* configuration and use the *Offset* (derived from parameter *periodicityAndOffset*) and *duration* parameter from the *measTimingConfig* configuration for that frequency.  |
| Huawei, HiSilicon | Yes |  |
| Samsung | Yes | Further minor corrections (e.g. commented from Lenovo above) could be added on top of these CRs. |
| Qualcomm | Yes | Regarding Lenovo’s suggestions: regarding suggestion in 6.3.5: shouldn’t it be SS/PBCH block measurement timing configuration (SMTC)…? Also, adding abbreviation in 3.2 for SMTC could be helpful.In 5.2.2.9: gapOffset can be made *italics*.2>  if the gapOffset in *measGapConfig* indicates a non-uniform gap pattern:Fine with other suggestions from Lenovo. And thanks for thorough check. |
| Ericsson | Yes | Agree with the comments from Lenovo. |
| NEC | Yes |  |
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## Early security reactivation upon reception of RRCConnectionReject

[R2-2107774](file:///C%3A%5C_lenovo%5C3GPP%5C1-Meetings%5CRAN%20Meetings2019-21%5CRAN2%5CRAN2%23115%20%28e-Meeting-16_270821%29%5CDocs%5CR2-2107774.zip) Correction on early security reactivation upon reception of RRCConnectionReject NEC CR Rel-16 36.331 16.5.0 4696 - F TEI16, LTE\_eMTC5-Core

According to 5.3.3.18, early security reactivation includes UP transmission using PUR and resuming a suspended RRC connection in 5GC. However, in 5.3.3.8, early security reactivation, transmission using PUR and RRC connection resume in 5GC are listed as separate cases.

This misalignment would be caused by two overlapping approved CRs in RAN#87, where one was introducing 5.3.3.18 for TEI16 (CR4167r2/ [RP-200357](http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200357.zip)) and the other was adding PUR and RRC connection resume in 5GC for eMTC (CR4191r1/ [RP-200360](http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200360.zip)).

This CR proposed to delete “or for transmission using PUR or for resuming a suspended RRC connection in 5GC”, and add a reference to 5.3.3.18.

**Question 3)
Do companies agree on this CR?**

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| **Company** | **Yes/No** | **Comments** |
| Huawei, HiSilicon | Yes | This also applies to NB-IoT and ‘NB\_IOTenh3-Core’ should be added to the list of WI codes.We think this could be merged in the rapporteur CR. |
| Samsung  | Yes | We also think this change can be merged in the Rap CR because the change is just an alignment of procedures. |
| Qualcomm | Yes | It was merging issue of two CRs. Agree with above comments about WI code and that this can be merged with Rapp CR. |
| Ericsson | Yes | We have the same interpretation but considering that this is an editorial update it can be merged with the rapporteur CR. |
| NEC | Yes | We are also fine to merge it with the LTE RRC rapporteur CR |
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## ReportConfigEUTRA for CHO/CPAC

[R2-2108701](file:///C%3A%5C_lenovo%5C3GPP%5C1-Meetings%5CRAN%20Meetings2019-21%5CRAN2%5CRAN2%23115%20%28e-Meeting-16_270821%29%5CDocs%5CR2-2108701.zip) 36.331 Correction on ReportConfigEUTRA for CHO/CPAC CATT CR Rel-16 36.331 16.5.0 4720 - F LTE\_feMob-Core

In the current specification, the field of triggerType is mandatory present in IE ReportConfigEUTRA. However, if condReconfigurationTriggerEUTRA-r16 is configured for conditional reconfiguration (CHO/CPC), both the fields of triggerType and condReconfigurationTriggerEUTRA-r16 will be present in the IE of ReportConfigEUTRA. It is not clear which trigger type should be applied for the associated reprot configuration. Considering that for CHO/CPC, the field of triggerType is not applicable, and the UE should ignore the field of triggerType when condReconfigurationTriggerEUTRA-r16 is configured.

Moreover, the fields of triggerQuantity/ reportQuantity/ maxReportCells/ reportInterval/ reportAmount are all mandatory present fields. Except the field of triggerQuantity, all the other fields are related with measurement report configuration which is not applicable for CHO/CPC. Hence if the condReconfigurationTriggerEUTRA-r16 is configured, the UE should ignore them.

**Question 4)
Do companies agree on this CR?**

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| **Company** | **Yes/No** | **Comments** |
| Huawei, HiSilicon | Yes | In TS 36.331, the procedural text (as below) mentions that the UE will not perform legayc meaurement reporting (related to legacy measurement configurations), and the UE only goes to CHO execution section. Based on the text, we think the UE will anyway ignore the mandatory fields included in the same ReportConfigEUTRA IE.2> perform the evaluation of reporting criteria as specified in 5.5.4, except if *reportConfig* is *condReconfigurationTriggerEUTRA*;NOTE 2c: The evaluation of conditional reconfiguration execution criteria is specified in 5.3.5.9.4.For the CR, the changes are technically correct, and they are aligned with our above analysis. |
| Samsung | Yes | We share the intention of this CR. |
| Qualcomm | Yes |  |
| Ericsson | Agree with the intention | We agree with the intention, but with the following modifications:“Event configured for conditional reconfiguration. If this field is configured, the UE shall ignore the configuration of *triggerType, reportQuantity, maxReportCells, reportInterval,* and *reportAmount.”* |
| NEC | Yes | We agree with the intention. |
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# Summary of email discussion

TBD

# Conclusions

TBD

# References