3GPP TSG-RAN WG2 Meeting #113 Electronic R2-2101962

Elbonia, 25 January – 05 February 2021

**Agenda item: 4.5**

**Source: Nokia (RAN2 VC)**

**Title: Summary of [AT113-e][202][LTE] LTE Miscellaneous corrections (RAN2 VC)**

**WID/SID: LTE\_MDT\_BT\_WLAN-Core, LTE\_5GCN\_connect-Core, TEI16 - Release 15/16**

**Document for: Discussion and Decision**

# 1 Introduction

This document is the report of the following email discussion:

* [AT113-e][202][LTE] LTE Miscellaneous corrections (RAN2 VC)

Scope:

* + - Discuss which CRs under AI 4.5 and 7.5 marked for this email discussion are agreeable and provide final CRs.
		- CRs may be merged to the RRC rapporteur CRs under [203] if seen necessary

 Intended outcome:

* + - Discussion summary in [R2-2101962](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101962.zip) (by email rapporteur)
		- Agreeable CRs by proponents (if revised documents are required, proponents should obtain Tdoc numbers from session chair or RAN2 secretary to provide those)

 Deadline for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): 1st week Thu, UTC 0900
		- Initial deadline (for rapporteur's summary): 1st week Fri, UTC 0900
		- Deadline for CR finalization: 2nd week Thu, UTC 1000

# 2 MDT-related issues

There are two sets of CRs related to the MDT-topics marked for this discussion, as shown below:

By Email [202] (2+2)

MDT-related CRs:

[R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) Releasing WLAN-BT configuration upon returning from Inactive Ericsson CR Rel-15 36.331 15.12.0 4575 - F LTE\_MDT\_BT\_WLAN-Core

[R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) Releasing WLAN-BT configuration upon returning from Inactive Ericsson CR Rel-16 36.331 16.3.0 4577 - A LTE\_MDT\_BT\_WLAN-Core

[R2-2101410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101410.zip) On the lack of PLMN identity check in case of anyCellSelected state related logging Ericsson CR Rel-15 36.331 15.12.0 4574 - F TEI15

[R2-2101412](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101412.zip) On the lack of PLMN identity check in case of anyCellSelected state related logging Ericsson CR Rel-16 36.331 16.3.0 4576 - A TEI15

First, the CRs in [R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) and [R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) handle clearing of WLAN/BT-name configurations from UE Inactive AS context (which are used for WLAN/BT-logging) upon RRCResume, in order to align with handling of other configurations within Other-Config.

**Question 1**: Is the intent of the CRs in [R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) and [R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) agreeable?

|  |
| --- |
| Answers to Question 1 |
| Company | Yes/No | Comments (e.g. changes required to be acceptable, why the CR is or is not needed) |
| Lenovo |  | Although it’s proposed for LTE it might be good to discuss the CRs in the Rel-16 NR SON/MDT session and to decide whether a common or different handling for LTE and NR should be adopted. For instance, we wonder about the re-establishment case. In NR the bt-NameListConfig, and wlan-NameListConfig are released for re-establishment, but in LTE they are still maintained. |
| Huawei, HiSilicon |  | For 1411/1413, we think both are related to 1425 in NR MDT session. According to the latest SON/MDT session minutes, 1425 will be discussed in email#808.So it is suggested to wait for 808 progress.All the following CRs will be discussed in 808.R2-2100873 Cleanup on miscellaneous issues in SON/MDT Apple CR Rel-16 38.331 16.3.1 2362 - F NR\_SON\_MDT-CoreR2-2101420 ON RA Report extension possibilities Ericsson, Nokia, Nokia Shanghai Bell discussionR2-2101421 On the lack measResultServingCell availability in Any Cell Selection state Ericsson discussionR2-2101425 On WLAN-BT-sensor configration related Ericsson CR Rel-16 38.331 16.3.1 2412 - F NR\_SON\_MDT-CoreR2-2101943 Clarification on location configuration in MDT ZTE Corporation, Sanechips discussion Rel-16 |
| Ericsson | Yes | Proponent.A UE that was configured with WLAN and Bluetooth configurations in the *otherConfig* would be retained by the UE for ever unless the network releases it explicitly. Further, we believe the error was introduced in LTE Rel-15. So, it is important to fix it here firstly and then this can be ported to NR. There is a tendency of companies to say that ‘we use LTE as the baseline for NR’ in NR email discussions and thus it becomes important to fix it in the release where the issue was introduced. |
| Nokia | Yes | We agree with the CR intention, the WLAN and BT configuration should be released just like the “obtainLocationConfig”. The latter was generic positioning method, while WLAN/BT were introduced for MDT reports for indoor positioning. The same rule applies. |
| Qualcomm | - | No strong view on need of the CR, but if changes are to be introduced, they could be captured in RRC Rapp CR (i.e. merge with R2-2100436 from offline 203) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Summary 1**: There is support for the CRs but some companies think these should be verified with NR session CRs, and note that NR and LTE differ for e.g. the re-establishment case. However, as one company also states, these were introduced in LTE Rel-15 and the NR discussion is for Rel-16, so LTE release takes precedence (it's likely NR was modelled after the LTE). Since these are small corrections, it is also proposed to merge them to the RRC rapporteur CRs (handled in offline [203]).

**Proposal 1**: Merge the CRs in [R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) and [R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) to RRC rapporteur CRs (as part of discussion [203]). Inform the decision to NR R16 SON/MDT session so they can determine whether there NR should align with LTE.

Second, [R2-2101410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101410.zip) and [R2-2101412](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101412.zip) discuss what should happen if operator1 UE collects information from PLMN of operator2 via "Any Cell"-logging introduced in Rel-15, which could expose information on operator2. Hence, it proposes to apply *areaConfiguration* to the logging.

**Question 2**: Is the intent of the CRs in [R2-2101410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101410.zip) and [R2-2101412](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101412.zip) agreeable?

|  |
| --- |
| Answers to Question 2 |
| Company | Yes/No | Comments (e.g. changes required to be acceptable, why the CR is or is not needed) |
| Lenovo | Yes, but | Shouldn’t the condition for logging “in any selection” state be changed as well (with regards to RPLMN and areaConfiguration)? |
| Huawei, HiSilicon | No | For 1410/1412, it is related to NR MDT discussion. Based on the latest SON/MDT session minutes, the issue 4 in 1419 was not pursued and the issue 4 is the same as the changes in 1410/1412.So we think 1410/1412 should not be pursued, i.e. follow NR MDT conclusion.R2-2101419 On open issues of RA report, MHI and logged MDT Ericsson CR Rel-16 38.331 16.3.1 2409 - F NR\_SON\_MDT-Core=> The changes of issue 1 are agreed and will be merged into the big CR provided by email discussion 801.=> issue 2 will be discussed in 808.=> issue 4 is not pursued. |
| Ericsson | Yes | Proponent.We believe this was overlooked during Rel-15 standardization. The intention of this feature was to aid the operator to find coverage holes in their network and also provide some indication related to the cell identities of the last serving cell that the UE was served by before entering the coverage hole so that the OAM can optimize the coverage parameters of that cell. However, the UE might end up reporting the last cell information which belongs to a different PLMN than the PLMN that configured the UE to perform the logged MDT.3> else:4> if the UE is in *any cell selection* state (as specified in TS 36.304 [4]):5> set *anyCellSelectionDetected* to indicate the detection of no suitable or no acceptable cell found;5> set the *servCellIdentity* to indicate global cell identity of the last logged cell that the UE was camping on;5> set the *measResultServCell* to include the quantities of the last logged cell the UE was camping on;When the UE performs the normal periodic logging, we clearly check if the cell in which the UE is camping is belonging to the correct PLMN or not. The same check is missing for the last serving cell information included while logging in any cell selection state.3> else if the UE is camping normally on an E-UTRA cell and if the RPLMN is included in *plmn-IdentityList* stored in *VarLogMeasReport* and, if the cell is part of the area indicated by *areaConfiguration* if configured in *VarLogMeasConfig*:Further, we believe that the technical issue needs to be discussed in Rel-15 itself (i.e., the source at which the error was introduced) as the Rel-16 NR SON-MDT work seem to assume LTE as the baseline. Any discussions in Rel-16 NR work is not feasible unless the issue is fixed for LTE as the companies see this as a ‘change’ to Rel-16 NR spec rather than as a ‘correction’. However, in our opinion, this is a correction that was missed in LTE and thus ended up trickling into NR as well. So, we would like to make the corrections in LTE spec first and then follow it up in NR. In NR session companies say that ‘we use LTE as the baseline’ and therefore we should not include any changes in NR spec. And in LTE session, it is strange if companies quote the agreement from NR session and say that ‘it was not agreed in NR session’. We would like to mention that it was explicitly mentioned during NR session that if this change is agreed for LTE, then the same change will be ported to NR.  |
| Nokia  | No | The proposed change is enhancing PLMN check concept (not a correction). The concept assumed that:* detection of out of coverage (anyCellSelectionState) was introduced to mark any coverage holes
* data retrieval is based on PLMN check. The check is based on preconfigured PLMN, which triggered MDT logging. That PLMN id is stored and further checked by the UE once the log is requested to ensure that no leakage of data is happening (to a PLMN that request the log, which id is different from the one that configured MDT).

The UE staying in a PLMN logs periodically the radio measurements results of the concerned PLMN, and if any coverage loss is detected, it is clear the UE loses the connection to that PLMN. Technically, the proposed procedures still refer to PLMN “prior” entering the state, as no PLMN for actual out of coverage can be detected (no cell, no PLMN). The proposed change unnecessarily overcomplex the logging procedure (each periodical stamp on out of Coverage detection require PLMN check from prior entering the state). This is not a correction but new proposal. |
| Qualcomm | No | In our understanding, UE collecting data for one PLMN and reporting it to other PLMN is bad implementation. So, such level of “checks” are not necessary to be explicitly captured in procedural text, otherwise we may end up adding many similar checks just to avoid bad implementations. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Summary 2**: Companies agree that UE shouldn't collect "cross-PLMN" information and doing otherwise would be incorrect UE implementation. there is no consensus that CR is needed, with som companies even citing NR discussions.

**Proposal 2**: The CRs in [R2-2101410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101410.zip) and [R2-2101412](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101412.zip) are not pursued.

# 3 Overheating-related issues

There are two sets of CRs related to the overheating configuration marked for this discussion, as shown below:

By Email [202] (2)

Overheating assistance information:

[R2-2101658](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101658.zip) CR on overheatingAssistanceConfig release Huawei, HiSilicon CR Rel-15 36.331 15.12.0 4585 - F LTE\_5GCN\_connect-Core

[R2-2101659](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101659.zip) CR on overheatingAssistanceConfig release Huawei, HiSilicon CR Rel-16 36.331 16.3.0 4586 - F LTE\_5GCN\_connect-Core

By Email [202] (1)

*Overheating (see also contributions in 4.5):*

[R2-2101665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101665.zip) Correction on SCG overheating configuration release Google Inc. CR Rel-16 36.331 16.3.0 4587 - F TEI16

First, the CRs in consider the case of UE resuming from RRC\_INACTIVE, and propose (similarly as for the CRs [R2-2101658](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101658.zip) and [R2-2101659](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101659.zip) in section 2) that UE should release *overheatingAssistanceConfig-r14* upon resuming.

**Question 3**: Is the intent of the CRs in [R2-2101658](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101658.zip) and [R2-2101659](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101659.zip) agreeable?

|  |
| --- |
| Answers to Question 3 |
| Company | Yes/No | Comments (e.g. changes required to be acceptable, why the CR is or is not needed) |
| Lenovo | Yes, but | * Description of T345 in 7.3.1 Timers (Informative) needs to be updated as well.
* overheatingAssistanceConfig has been introduced in Rel-14, so shouldn’t the change made from Rel-14 onwards?
* Cover page, inter-operability statement: we wonder why there is no inter-operability issue if the UE is implemented according to the CR and the NW is not. In this case, the NW assumes that overheatingAssistanceConfig is still maintained by the UE and to receive overheating assistance info from the UE.

[Huawei]1. For comments on T345, we agree and we incorporate the comments in the CRs later
2. For comments on release, we think it is correct after double check. Then we will prepare R14 CR, and R15/R16 shadow CR correspondingly
3. For this case, we understand that the UE will release the overheating configuration and the UE won’t report the overheating UAI to NW, so the NW may consider that UE does not experience overheating. Thus, we think there is no inter-operability issue
 |
| Ericsson |  | We do not think it is an essential correction, but fine if companies prefer to have it. |
| Nokia  | Maybe  | We believe it was overlooked, as in general overheating maintenance through RRC Inactive was not addressed. In general UE stores ASconfig when in RRC Inactive, without the CR it is required to keep overheating configuration. While this configuration should be irrelevant for inactive state, the CR seems reasonable to keep things aligned with other configurations. |
| Qualcomm | Yes, but | Agree with the changes, but given the nature of change, we think this could be captured in RRC Rapp CR (i.e. merge with R2-2100436 from offline 203) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Summary 3**: The companies agree to the intent but there are also some missing changes (T345 description in 7.3), and the CR is proposed to be included in the RRC rapporteur CR. Finally, it is questioned whether these changes should be done already from Rel-14 onwards since that was when the overheating UAI was included, but rapporteur thinks that since the reason for the CRs is INACTIVE state (which was only introduced from Rel-15 onwards), Rel-14 CR is not applicable.

**Proposal 3**: Include the changes from the CRs [R2-2101658](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101658.zip) and [R2-2101659](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101659.zip) in RRC rapporteur CR (see discussion [203].

Second, [R2-2101665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101665.zip) concerns a case of simultaneous configuration of overheating assistance for MCG and SCG when the configurations are released: Current procedural text can be interpreted so that UE should not stop providing overheating assistance information for NR SCG.

**Question 4**: Is the intent of the CR in [R2-2101665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101665.zip) agreeable?

|  |
| --- |
| Answers to Question 4 |
| Company | Yes/No | Comments (e.g. changes required to be acceptable, why the CR is or is not needed) |
| Lenovo | No | Presence of overheatingAssistanceConfigForSCG-r16 is condition to the presence of overheatingAssistanceConfig, and acc. to condition “overheating” any existing value of overheatingAssistanceConfigForSCG-r16 shall be deleted by the UE if overheatingAssistanceConfig is not set to setup.Therefore, there is no stringent need to add an additional check for overheatingAssistanceConfigForSCG. |
| Huawei, HiSilicon | No | Based on previous discussion, we understand the overheating assistance information for NR SCG is a portion of overheating assistance information, if the *overheatingAssistanceConfig* is not set to *setup*, the *overheatingAssistanceConfigForSCG* cannot be included, so it clear that the UE is not to be configured to provide overheating assistance information which includes overheating for SCG. |
| Ericsson | No | In general, we think it is clear that the release procedure releases the whole UE overheating assistance framework. Even if the UE would still, in theory, be configured for overheating assistance information for NR SCG, if the LTE framework was released, the UE would not be able to provide such information to the MN. It may be sufficient to capture something in the meeting notes. |
| Nokia | No | Agree with Lenovo |
| Qualcomm | No | Agree with above comments – current spec seems clear. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Summary 4**: All responding companies think the existing specification is clear and the CR is not needed.

**Proposal 4**: The CR [R2-2101665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101665.zip) is not pursued.

# 4 Conclusion

A total of 5 companies provided responses to the discussions. The proposed conclusions are:

**Proposal 1**: Merge the CRs in [R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) and [R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) to RRC rapporteur CRs (as part of discussion [203]). Inform the decision to NR R16 SON/MDT session so they can determine whether there NR should align with LTE.

**Proposal 2**: The CRs in [R2-2101410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101410.zip) and [R2-2101412](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101412.zip) are not pursued.

**Proposal 3**: Include the changes from the CRs [R2-2101658](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101658.zip) and [R2-2101659](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101659.zip) in RRC rapporteur CR (see discussion [203].

**Proposal 4**: The CR [R2-2101665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101665.zip) is not pursued.

# Annex – Contact Points

Respondents to the email discussion are kindly asked to fill in the following table.

|  |  |  |
| --- | --- | --- |
| Company | Name | Email Address |
| RAN2 VC (Rapporteur) | Tero Henttonen | tero.henttonen@nokia.com |
| Lenovo | Hyung-Nam Choi | hchoi5@lenovo.com |
| Huawei | Jun Chen | jun.chen@huawei.com |
| Ericsson | Pradeepa Ramachandra | pradeepa.ramachandra@ericsson.com |
| Nokia | Malgorzata Tomala | malgorzata.tomala@nokia.com |
| Qualcomm | Umesh Phuyal | uphuyal @qti.qualcomm.com |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |