3GPP TSG-RAN WG2 Meeting #119e Tdoc R2-22xxxxx

Electronical meeting, August 17th – 29th, 2022

Agenda: 6.14.2

Source: Ericsson

Title: Summary of [AT119-e][251][R17 QoE] NR RRC corrections to Rel-17 QoE (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

In this document the following offline is discussed:

* [AT119-e][251][R17 QoE] NR RRC corrections to Rel-17 QoE (Ericsson)

      Scope: Discuss NR RRC corrections for Rel-17 QoE marked for this discussion.

Intended outcome: Report in in [R2-2208777](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208777.zip). Merged 38.331 CR in [R2-2208778](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208778.zip).

Deadline: Deadline 1 (report) / Deadline 2 (final CRs)

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# 2 Discussion

## 2.1 Clarification of CAPC for SRB4

The following CR addresses a clarification for CAPC:

[R2-2207425](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207425.zip) Clarification of CAPC for SRB4 Apple CR Rel-17 38.331 17.1.0 3261 - F NR\_QoE-Core

In Clause 4.2.2, adding the CAPC definition for SRB4, which can be configurable.  
In Clause 6.3.2, the description of field channelAccessPriority for the IE LogicalChannelConfig is updated to support CAPC configurability for SRB4.

Rapporteur’s comment:

This seems to be a relevant correction.

Question 1: Do you have any comments on R2-2207425?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Not agree | We understood that NR-U is not in the scope of Rel-17 NR QoE. |
| Samsung | Not agree | Out of scope in Rel-17 |
| Huawei, HiSilicon | May need discussions | In our opinion, this CR is about applying QoE feature in NR-U scenario, which was not discussed in Rel-17. As mentioned by some companies, it is out of scope in Rel-17.  We think it may need some discussions, e.g. whether to support QoE in NR-U; if supported, whether CAPC for SRB4 is fixed, or configurable, and relevant spec impacts. |
| China Unicom | Not agree | NR QoE is not supported in NR-U for R17. |
| Apple | Agree (Proponent) | When we define a new feature, we must make sure it is backward-compatible to the existing features. NR-U is supported in Rel-16 and QoE is defined in Rel-17, so it goes without saying that we should make sure Rel-17 QoE should be compatible to Rel-16 NR-U too. We cannot assume that a Rel-17 UE configured with QoE will never operate in shared spectrum. At least we do not recall that we have any agreement about this.  As Huawei mentioned, in Rel-17 we have never discussed whether QoE can or cannot be applied in NR-U. Therefore, by default we should treat configuration of QoE reporting in NR-U as a possible scenario, to make sure it is backward compatible. Besides, from technical point of view, we do not see any problem of supporting QoE in NR-U. In fact, it is even more beneficial to have QoE reporting in NR-U as the air interface in the shared spectrum tends to be more unstable than licensed band, so network optimization may be more needful.  Finally, some companies think this is in NR-U scope. We would like to highlight that this CR is not changing the well-defined NR-U mechanism, but instead trying to define the characteristics of SRB4 and ensure it can work with features from previous releases. This should be clear that, definition of SRB4 is in the scope of QoE. |
| China Telecom | Not agree | Out of scope in Rel-17 |
| ZTE | Not agree | We think NR-U is out of scope in Rel-17 NR QoE . |
| CATT | Not agree | Same view as the majority. |
| LGE | Not agree | Out of scope in Rel-17 |
| Qualcomm | Need discussion | We never discusses this case, we need carefully check whether there is additional impact if applying QoE on NR-U. |
| Nokia | Not agree | We agree with companies: it has been out of scope for Rel-17 |
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Summary question 1:

TBD

## 2.2 Clarification of QoE Reporting with Session Start/Stop Information

The following CR proposes a clarification in the procedure text related to session start/stop indication:

[R2-2207426](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207426.zip) Clarification of QoE Reporting with Session Start/Stop Information Apple CR Rel-17 38.331 17.1.0 3262 - F NR\_QoE-Core

Change the text in Clause 5.7.16.2 as:  
  
2> if session start or stop information has been received from upper layers for the measConfigAppLayerId:  
3> set the appLayerSessionStatus in the MeasurementReportAppLayer message to the received value of session start or stop the application layer measurement information;

Rapporteur’s comment:

This correction seems to clarify the UE behaviour.

Question 2: Do you have any comments on R2-2207426?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Not agree | From the context it should be clear that   * the appLayerSessionStatus is set in the MeasurementReportAppLayer message (see title of clause 5.7.16 and ASN.1), * the appLayerSessionStatus refers to session start or stop information (see field description). |
| Samsung | Not agree | Seems not needed. Nevertheless, if adopted, the similar update is needed to other parameters as well. For example,  3> set the *playoutDelayForMediaStartup* in the *MeasurementReportAppLayer* message to the received value of playout delay for media start-up in the RAN visible application layer measurement report, if any; |
| Huawei, HiSilicon | Agree |  |
| China Unicom |  | Sounds reasonable if it won’t trigger too much similar changes as Samsung indicated. |
| Apple | Agree (Proponent) | From implementation point of view the developers may go over the procedures to get a clear picture first, before delving into details of ASN.1 codes. Therefore, this is important to make sure the specification of the procedure is written in a clear way.  The current procedural text is very vague and can be misinterpreted. We do not see why we should leave it vague when we can make it clear. Also, we agree with the change pointed out by Samsung too. |
| China Telecom | Agree |  |
| ZTE | Agree |  |
| CATT | Agree |  |
| LGE | Agree |  |
| Qualcomm | Agree |  |
| Nokia |  | Agree with China Unicom. Though it is clear that the information is to be set in MeasurementReportAppLayer (agree with Lenovo), the minor thing to correct would be to clarify the set information is not “a measurement”. I.e. this seems sufficient to apply the change as follows:  3> set the *appLayerSessionStatus* to the received value; |
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Summary question 2:

TBD

## 2.3 Corrections to application layer measurement reporting procedure

[R2-2207531](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207531.zip) Corrections to application layer measurement reporting procedure Lenovo draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core Late

Not available yet.

Question 3: TBD

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo |  | Intention was to provide the CR after online discussion if the issue addressed in the contribution R2-2207530 has been confirmed. Therefore, we suggest to skip any comments to this CR for now. |
| Samsung |  | Up to result of online discussion for R2-2207530, which is planned in Week 1. |
| Huawei, HiSilicon |  | Wait for online discussion progress |
| China Telecom |  | Wait for the result of online discussion. |
| ZTE |  | Depends on discussion based on outcome of offline 252 |
| CATT |  | Depends on the outcome of offline 252. |
| Nokia |  | The procedures that are referring to the following operations are not clear:   * “compile” – not clear how the UE complies? * “remove (…) from the list of available application layer measurements” – not clear what is the “list”? * “include the remaining application layer measurements from the list of available application layer measurements in the *MeasurementReportAppLayer* message” – not clear what are the “remaining” and how is the original “list” given? |
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Summary question 3:

TBD

## 2.4 Correction CR for QoE measurements

The following CR includes various corrections to 38.331:

**[**[R2-2207722](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207722.zip) Correction CR for QoE measurements Ericsson, Huawei CR Rel-17 38.331 17.1.0 3303 - F NR\_QoE-Core

Separate field descriptions for RAN-VisibleMeasurements in MeasurementReportAppLayer message in 6.2.2.

ApplicationLayerMeasurement-Parameters corrected to AppLayerMeasParameters in 6.3.3.

Suffix -r17 added for pauseReporting and transmissionOfSessionStartStop in 6.3.4.

Need code and field description for ran-VisibleParameters corrected in 6.3.4.

Field description corrected for ran-VisiblePeriodicity in 6.3.4.

Rapporteur’s comment: The corrections seem relevant.

Question 4: Do you have any comments on the CR?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Agree but | * Cover page issues need to be fixed: meetings dates and Tdoc# are missing; “Impacted 5G architecture options” is not correct since NR QoE is supported only for NR SA. * “MeasurementReportAppLayer field descriptions” may be better changed to “MeasReportAppLayer field descriptions” and field description for ran-VisibleMeasurements should be added therein.   The following minor issues can be fixed as well:   * 6.3.4, MeasConfigAppLayerId: add “IE” in the sentence below.   The IE *MeasConfigAppLayerId* identifies the application layer measurement.   * 6.4: in the comment for constant maxNrofAppLayerMeas-1-r17, remove underline.   maxNrofAppLayerMeas-1-r17 INTEGER ::= 15 -- Max number of simultaneous application layer measurements\_minus 1 |
| Samsung | Agree | Including Lenovo’s update |
| Huawei, HiSilicon | Agree | Lenovo’s changes are also fine |
| China Unicom | Agree | Lenovo’s changes can also be include. |
| Apple | Agree |  |
| China Telecom | Agree | Also fine with Lenovo’s update |
| ZTE | Agree | Agree with Lenovo’s changes. |
| CATT | Agree |  |
| LGE | Agree |  |
| Qualcomm | Agree | Agree with Lenovo’s changes. |
| Nokia | Agree |  |
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Summary question 4:

TBD

## 2.5 Correction on QoE configuration and reporting

The following CR includes corrections on QoE configuration and reporting:

[R2-2207734](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207734.zip) Correction on QoE configuration and reporting Qualcomm Incorporated CR Rel-17 38.331 17.1.0 3305 - F NR\_QoE-Core

1. Clarify application layer measurement includes RAN visible application layer measurement.

2. Correct the despricption on receiving *pauseReporting* set to *False, to cover* both cases of the QoE configuration is suspended or not suspended.

3. Add a NOTE to clarify that in case the RRC message segmentation is enabled, UE will discard the RRC message if the number of segments of the RRC message is larger than 16.

Rapporteur’s comment: The first two changes seem relevant. The last change was briefly discussed in the last meeting and companies didn’t think it was necessary to clarify this as it is a rare case.

Question 5: Do you have any comments on R2-2207734?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Partly | To change 1): Agree, but it may be better to say “RAN visible application layer measurement **reports**”.  To change 2): Not sure. Does it make sense that the NW sets pauseReporting to False for a QoE configuration that has not been suspended?  To change 3): Here we have to distinguish two cases:   * Case 1: The MeasurementReportAppLayer message carries a single application layer measurement report and exceeds the max size of 144 kB. * Case 2: The MeasurementReportAppLayer message carries multiple application layer measurement reports and exceeds the max size of 144 kB. * To Case 1: we wonder whether this case can happen since SA4 estimated an average QoE load per application of <100 bits/sec. To exceed 144 kB the UE must collect measurements for hours. And even if a single measurement report may exceed the max size of 144 kB then it is better to discard such report immediately when it has been received from application layer instead of performing the reporting procedure and discarding the RRC message. * To Case 2: this case should not happen. The UE knows the size of the measurement reports to put in the MeasurementReportAppLayer message. So, if UL segmentation is enabled by NW then the UE should ensure that the size of MeasurementReportAppLayer message does not exceed the max size of 144 kB. |
| Samsung |  | Change 1) Agree with Lenovo  Change 2) Not needed. Even if NW sets pauseReporting to False for a QoE configuration that has not been suspended (Not sure of this scenario but), no action is needed in QoE configuration section, (i.e., 5.3.5.13d), as in current spec. UE has performed QoE reporting according to QoE reporting section (i.e., 5.7.16.2), since it has not been suspended.  Change 3) Agree with Lenovo to discard QoE report in Case 1, but not sure the need to clarify this in specification. Case 2 can be handled by UE implementation. |
| Huawei, HiSilicon |  | Change 1:  Not needed. In TS 38.331, the wording “application layer measurement” has been used for lots of times, and it includes RAN visible measurement if no explicit statements are made. If change 1 is adopted, we are afraid that lots of similar changes would be proposed in later meetings.  Change 2:  Not needed. Similar views as Samsung.  Change 3:  For UL segmentation for UE capability message, we did not have such note. In addition, we discussed during ASN.1 review whether we should capture UE behaviour for cases exceeding 16 segments and we decided not to do this.  So this change seems not needed. |
| China Unicom | Partly agree | Change 1:  Not needed. It make common sense that Application layer measurement includes RAN visible application layer measurement. Otherwise, “encapsulated application measurements” will replace the term “Application layer measurement”, which only represented as “non-RAN visible QoE measurements”.  Change 2:  Suggest to consider no-suspending scenario.  Change 3:  Not needed, we just need to reuse the UE capability message segmentation mechanism and no extra note is needed. |
| Apple | Partly | Agree with the rapporteur that the first two changes are okay, but the third change is not needed. |
| China Telecom |  | Change 1): Not needed. Without explicitly stating, the wording “application layer measurement” includes “RAN visible application layer meausrement report”. If the change is adopted, there may need numerous changes.  Change 2): Not needed. Same view as Samung.  Change 3): Not needed. Reuse the UE capability message segmentation mechanism is enough. |
| ZTE | Partly agree | Agree with China Unicom’s Comments. Change 1 and 3 are not needed, and Change 2 may be needed. |
| CATT | Partly agree | Change 1): Not needed.  Change 2): Agree to cover the false case to avoid the unclear action.  Change 3): Not needed. Agree with the Lenovo. The measurement report can be discarded in case1 and case 2 can be avoided by UE implementation. |
| LGE |  | Change 1:  Not needed. The application layer measurement includes RAN visible application layer measurement.  Change 2:  Not needed. The suggestion is already clear in QoE reporting section.  Change 3:  We need to ask SA4 if the size of a single application layer measurement report can exceed the max size of 144 kB. |
| Qualcomm | Proponent | For 1), current RRC specification separate description for container based QoE measurement and RAN visible QoE based measurement. In all other places for configuration and reporting, the “application layer measurement” means container based QoE measurement, “RAN visible application layer measurement” means RVQoE measurement. So, this place also needs to be clarified.  For 2), usually when a parameter is configured to UE, we need to define what is the meaning for the parameter and what UE should behave in case this parameter is present or absent in filed description or texture. For Samsung and Huawei’s comment, QoE reporting section (i.e., 5.7.16.2) only mentions what UE should do when the reporting is not suspended, not about in which condition the reporting is suspended.  Since the *pauseReporting* is optional parameter, another change way is to clarify in the field description of *pauseReporting* that “if this parameter is absent, the QoE reporting is not to be paused”, then we leave the explicit “False” value only refers to the case that the QoE reporting was paused previously.  pauseReporting BOOLEAN OPTIONAL, -- Need M  ***pauseReporting***  The field indicates whether the transmission of *measReportAppLayerContainer* is paused or not. If absent, transmission of application layer measurement report containers is not to be paused and gNB will not set this parameter to “False” if transmission of application layer measurement report containers has previously been suspended. |
| Nokia | Partly | Change 1 (updates to 5.3.5.13d on RAN visible QoE) not needed, as the original text clarifies “any application layer measurement”. Only the change on message transmission is needed.  Change 2 (NOTE X) is not QoE specific |
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Summary question 5:

TBD.

## 2.6 Correction on TS 38.331 for QoE

The following CR includes two changes:

[R2-2207821](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207821.zip) Correction on TS 38.331 for QoE CATT CR Rel-17 38.331 17.1.0 3318 - F NR\_QoE-Core

Change 1: In the description of *transmissionOfSessionStartStop* field, add the content that “The UE transmits a session stop indication upon configuration of this field if a session already has started in the application layer. ”

Change 2: In the description of *ran-VisiblePeriodicity,* add the content that “If this field is absent, RAN visible QoE reports are sent together with the non-RAN visible QoE reports.”

Rapporteur’s comment: The rapporteur has the understanding that no agreements have been made that motivate these changes. The first change could cause some issue in that the UE would have to remember if there has previously been a session running in case it later gets configured with QoE. The second change was discussed last meeting and RAN2 is waiting for a reply from RAN3.

Question 6: Do you have any comments on R2-2207821?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Partly | Change 1 looks ok.  Change 2 should be postponed for now. Agree with rapporteur’s comment that we should wait for the response from RAN3 on this reporting requirement. |
| Samsung |  | Agree with rapporteur. |
| Huawei, HiSilicon |  | Change 1:  Agree with the intention, but this should be clarified in SA4 specs, i.e. UE includes this when indication from app layer is received, so we should make sure such indicaiton will be delivered for a session that has already started.  Change 2:  We agree with this change, but we need to wait for the reply from RAN3. |
| China Unicom |  | Agree with Rapp. |
| Apple |  | Agree with Rapporteur. |
| China Telecom |  | Agree with Rapp. |
| ZTE |  | Agree with Rapporteur |
| CATT | Agree | Change1: We just think it is not sufficient that the field description only covers the start indication transmission but lacks the end indication transmission. Because the sessions stop indication may have impact on radio measurement. And in MeasReportAppLayer IE, the field *appLayerSessionStatus*can indicate the session end. But in the current RRC spec and SA4 specs, it has not specified the condition for send a session stop indication. So we still think it is necessary to specify the condition of sending stop indication in RRC spec and other specs.  Change2: Agree with the Rapp. We are fine to wait for the reply form RAN3. |
| LGE |  | Agree with Rapporteur. |
| Qualcomm |  | For 1), Currently, application layer delivers session start or session end indication to AS layer only after the *transmissionOfSessionStartStop* is configured. That means AS layer does not know whether the session has already started or stopped, and the parameter is forwarded to application layer, it is application layer to handle this parameter, AS layer should do nothing about this parameter, just report session start or stop indication upon of receiving from application layer. So the current description of *transmissionOfSessionStartStop* brings confusion. It is suggested to change to the following,  ***transmissionOfSessionStartStop***  The field indicates whether the UE shall transmit indications when sessions in the application layer start and stop. The UE transmits a session start or stop indication upon of reception of session status indication from the application layer. |
| Nokia |  | Agree with rapporteur -> no change is needed at this moment |
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Summary question 6:

TBD

## 2.7 Correction to the transmission of appLayerSessionStatus when pause is enabled

The following CR includes a change related to appLayerSessionStatus:

[R2-2207950](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_119-e\\R2-2207950.zip) Correction to the transmission of appLayerSessionStatus when pause is enabled Huawei, HiSilicon, China Unicom CR Rel-17 38.331 17.1.0 3333 - F NR\_QoE-Core

NOTE 2 in section 5.3.5.13d is updated to clarify that the transmission of *appLayerSessionStatus* is also not paused when *pauseReporting* is set to true.

Rapporteur’s comment: The clarification seems relevant.

Question 7: Do you have any comments on R2-2207950?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Agree but | Instead of referring to field appLayerSessionStatus it may be better to say “application layer measurement session start or stop information”. |
| Samsung | Not agree | Some discussion may be needed whether to pause appLayerSessionStatus. In our recollection, RAN2 decided RVQoE report is not affected by pause even in RAN overload, as it may be used for gNB to address RAN overload. However, since we think appLayerSessionStatus is not useful to address RAN overload, it seems better for UE to pause appLayerSessionStatus to overloaded RAN. |
| Huawei, HiSilicon | Agree | Proponent  In our understanding, the current spec is clear that only container based QoE reports are suspended when *pauseReorting* is set to true, so the transmission of *appLayerSessionStatus* is still performed. We think RAN2 may need to firstly discuss it, and see if it is agreeable or not. And then, RAN2 spec impacts could be checked. |
| China Unicom | Agree | Share the same view with Huawei. |
| Apple | Not Agree | We do not think the UE should keep on reporting application status information when QoE reporting is paused. |
| China Telecom | Agree | Agree with Huawei. |
| ZTE | Agree | We think RAN2 may need to discuss this question, and agree with Huawei’s understanding. |
| CATT | Agree | Agree to discussion this question firstly and then check the impact on RAN2 spec. |
| LGE | Agree | The session status needs to be reported even in RAN overload for NW to align the MDT configuration with the QoE measurement. |
| Qualcomm |  | We agree session status is not subject to pause, but not sure whether we need to capture anything, because current pause and resume procedure is only for application layer measurement in configuration and reporting sections. |
| Nokia |  | Share Qualcomm’s view |
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Summary question 7:

TBD

## 2.8 Correction to storage of application layer measurements during Pause

The following CR includes changes related to transmission of reports:

[R2-2208238](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208238.zip) Correction to storage of application layer measurements during Pause Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3387 - F NR\_QoE-Core

1. Storing application layer measurements during Pause concerns only newly coming measurement results from application layer (not previous).
2. Storing application layer measurements uon RRC Relase with *suspendConfig* concerns only newly coming measurement results from application layer (not previous).
3. Clarifying the variable *measReportAppLayerContainer* is used for storing the application layer based mesurements upon Pause

Rapporteur’s comment: The first changes may possibly cause some issue on the network side. If the UE submits part of a report before the pause and the rest of the report after resume, the network may not be able to reassemble the whole report if the resume is done in a different gNB. The first part of the report may need to be transferred in network signalling to the new gNB and this may currently not be supported. The MCE has little use of incomplete reports according to previous information from SA4. It is also unclear whether there is any issue with the existing UE behaviour and why the behaviour would need to be changed. The need for the last change is a bit unclear, there is currently no UE variable measReportAppLayerContainer.

Question 8: Do you have any comment on R2-2208328?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Not agree | To our understanding the first two changes imply that the UE sends application layer measurement reports “immediately” upon reception from application layer. But such requirement has neither been agreed nor specified in the reporting procedure.  The third change is not needed since the UE AS layer receives the QoE reports encapsulated in the container from the application layer. |
| Samsung | Not agree | Agree with Rapporteur and Lenovo |
| Huawei, HiSilicon | Not agree | Agree with the Rapporteur. |
| China Unicom | Not agree | Agree with the Rapporteur. |
| Apple | Not Agree | There may be cases where the UE has not transmitted the previously received QoE measurements yet when the flag is received. In this case, our understanding is the UE should store these measurements too. |
| China Telecom | Not agree | Agree with the Rapporteur. |
| ZTE | Not agree | Agree with the Rapporteur. |
| CATT | Not agree | Agree with the Rapporteur. |
| LGE | Not agree | Agree with the Rapporteur. |
| Qualcomm | Not agree | Agree with the Rapporteur. |
| Nokia | Agree | Proponent |
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Summary question 8:

TBD

## 2.9 Correction to paused reporting of the application layer measurements

The following CR is related to paused reporting:

[R2-2208239](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208239.zip) Correction to paused reporting of the application layer measurements Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3388 - F NR\_QoE-Core

1. Adding reference to application layer based measurements reporting procedure upon receivng *pauseReporting* set to *false*
2. Adding resumed pausing related actions in section dedicated to application layer based reporting

Rapporteur’s comment: This is related to the change in CR R2-2207734 in 2.5. A clarification of the UE behaviour when pauseReporting is set to False may be useful, but the proposed change in R2-2207734 may be clearer.

Question 9: Do you have any comments on R2-2208239?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Partly | The first change looks ok to us in-principle, but in the new condition below we prefer to say “application layer measurement **reports**” and to remove “in the measReportAppLayerContainer” (see our comment to 3rd change in R2-2208238 above).  4> initiate reporting of the stored application layer measurement in the *measReportAppLayerContainer* associated with the *measConfigAppLayerId* according to 5.7.16.2;  If we are not wrong the second change is missing in the CR. |
| Samsung | Agree |  |
| Huawei, HiSilicon | Not agree | The previous text is correct. The changes look like wording improvements, and there are no functional differences between the previous text and the changes. |
| China Unicom |  | Both of the previous text and the proposed change in R2-2207734 are ok. |
| Apple |  | This is not clear to us what is the need for such change. Besides, the proposed text seems to preclude the cases where the UE does not have any stored QoE measurements. |
| China Telecom | Not agree | There seems no technical difference between the previous text and the change. |
| ZTE |  | Agree with the Rapporteur. |
| CATT | Not agree | Seems no technical difference. |
| LGE | Not agree |  |
| Qualcomm |  | For 1), fine.  For 2) propose to discuss together with R2-2207734. |
| Nokia |  | (Proponent)  Without the CR it is not clear where the UE should store the data and how to interpret “any previously received” reports (from which point of time from the past, i.e. before Pause, the UE should gather the previously received reports) |
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Summary question 9:

TBD

## 2.10 Correction on MeasurementReportAppLayer message per measConfigAppLayerId

The following CR changes the procedure description at segmentation:

[R2-2208393](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208393.zip) Correction on MeasurementReportAppLayer message per measConfigAppLayerId Samsung draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core

Indentation levels regarding RRC segmentation and submission of *MeasurementReportAppLayer* message are updated

Rapporteur’s comment: It is the rapporteur’s understanding that the content of the message is first set, and then it is determined whether the message should be segmented or not. If so, the current specification is correct.

Question 10: Do you have any comment on R2-2208393?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Samsung | Agree (Proponent) | Based on current specification, for each *measConfigAppLayerId* (which is 1st level bullet), UE performs RRC segmentation and submission of *MeasurementReportAppLayer* message.  5.7.16.2 Initiation  A UE capable of application layer measurement reporting in RRC\_CONNECTED may initiate the procedure when configured with application layer measurement, i.e. when *appLayerMeasConfig* and SRB4 have been configured by the network.  Upon initiating the procedure, the UE shall:  1> for each *measConfigAppLayerId*:  *<..omitted>*  2> if the encoded RRC message is larger than the maximum supported size of one PDCP SDU specified in TS 38.323 [5]:  3> if the RRC message segmentation is enabled based on the field *rrc-SegAllowed* received in *appLayerMeasConfig*:  4> initiate the UL message segment transfer procedure as specified in clause 5.7.7;  3> else:  4> discard the RRC message;  2> else:  3> submit the *MeasurementReportAppLayer* message to lower layers for transmission upon which the procedure ends.  However, a *MeasurementReportAppLayer* message can be set to include multiple *measConfigAppLayerId*s. Afterwards, UE should perform RRC segmentation and submission of the message. |
| Huawei, HiSilicon | Agree |  |
| Apple | Agree |  |
| China Telecom | Agree |  |
| ZTE | Agree |  |
| CATT | Agree |  |
| LGE | Agree | A single QoE reporting message can include multiple IDs |
| Qualcomm | Agree |  |
| Nokia | Agree | Fine with majority view |
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Summary question 10:

TBD

## 2.11 Correction on QoE report only including measConfigAppLayerId

The following CR clarifies the UE behaviour if only measConfigAppLayerId is received from the application layer:

[R2-2208394](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208394.zip) Correction on QoE report only including measConfigAppLayerId Samsung draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core

After *MeasReportAppLayer* is set,

* If *MeasReportAppLayer* includes *measConfigAppLayerId* only, the *MeasReportAppLayer* is removed from *measurementReportAppLayerList.*
* Else, the *MeasReportAppLayer* is included in *measurementReportAppLayerList.*

Rapporteur’s comment: The addition seems to be related to an abnormal case where the application layer only sends the measConfigAppLayerId and no other information together with the Id. It may not be needed to capture all different failure cases in the specification.

Question 11: Do you have any comment on R2-2208394?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Not agree | We are not sure about the scenario where the UE receives measConfigAppLayerId without associated QoE data (i.e., application layer QoE report, session start/stop indication, and RAN visible QoE report). When does this scenario happen? |
| Samsung | Agree (Proponent) | Based on current specification, when making *MeasurementReportAppLayer* message, UE checks each *measConfigAppLayerId* (i.e., 1> for each *measConfigAppLayerId*). We understood this indicates each ID “configured” to UE. If so, UE creates *MeasurementReportAppLayer* message to include every *measConfigAppLayerId* configured. The CR is proposed to address this misunderstanding. Alternatively, the following simple update may be considered:  1> for each *measConfigAppLayerId* received from upper layers |
| Huawei, HiSilicon | Agree, but | Instead of adding and removing the measID, our suggestion is that at the beginning "for each MeasID provided by application layer" or something like this (we assume that application layer will not send measID only). |
| China Unicom | Not agree | We are not clear in what case that the UE will generate nothing except the *measConfigAppLayerId* when it was configured with QoE measurement configuration. |
| Apple |  | RAN2 should clarify this such cases exist |
| China Telecom | Agree | Assuming that the application layer will not only send the *measConfigAppLayerId*, then the following simple description may be considered:  1> for each *measConfigAppLayerId* received from application layer. |
| ZTE | Not agree | Share the same view as Lenovo and China Unicom. |
| CATT | Agree | Agree with the simple update style in Samsung’s comments. |
| LGE | Change is needed, but | The Application layer measurement reporting should be initiated only when the meaningful information, i.e. application layer measurement report, RAN visible application layer measurement report, or session start or stop information, is received from upper layer. Even though the change is accepted, it is still unclear when RRC layer starts the QoE reporting procedure. |
| Qualcomm | Not agree | There is no case that MeasReportAppLayer includes measConfigAppLayerId only, no CR is needed. |
| Nokia | Not agree | The first change is covered on the subsequent procedure "in the MeasurementReportAppLayer" should not be redundantly mentioned twice.  The second change on the processing the entries and immediate removal after it appears empty - seems too internal UE behaviour |
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Summary question 11:

TBD

## 2.12 Correction on MeasurementReportAppLayer retransmission

The following CR corrects the behaviour related to reconfigurationWithSync:

[R2-2208479](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208479.zip) Correction on MeasurementReportAppLayer retransmission Google Inc. CR Rel-17 38.331 17.1.0 3426 - F NR\_QoE-Core

Add the bullet “2> if reconfigurationWithSync was included in masterCellGroup:” to specify only the PCell change may cause the application layer measurement report retransmission.

Rapporteur’s comment: The change seems to be relevant.

Question 12: Do you have any comment on R2-2208479?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | Agree |  |
| Samsung | Agree | To clarify PCell change not PSCell change |
| Huawei, HiSilicon | Agree |  |
| China Unicom | Agree |  |
| Apple | Agree |  |
| China Telecom | Agree |  |
| ZTE | Agree |  |
| CATT | Agree |  |
| LGE | Agree |  |
| Qualocmm | Agree |  |
| Nokia | Agree |  |
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Summary question 12:

TBD

# 3 Summary

Based on the discussion in the previous sections the following is proposed:

[Proposal 1 TBD.](#_Toc103256338)

# 4 References

1. [R2-2207425](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_119-e\\R2-2207425.zip) Clarification of CAPC for SRB4 Apple CR Rel-17 38.331 17.1.0 3261 - F NR\_QoE-Core
2. [R2-2207426](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207426.zip) Clarification of QoE Reporting with Session Start/Stop Information Apple CR Rel-17 38.331 17.1.0 3262 - F NR\_QoE-Core
3. [R2-2207531](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207531.zip) Corrections to application layer measurement reporting procedure Lenovo draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core Late
4. [R2-2207722](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207722.zip) Correction CR for QoE measurements Ericsson, Huawei CR Rel-17 38.331 17.1.0 3303 - F NR\_QoE-Core
5. [R2-2207734](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207734.zip) Correction on QoE configuration and reporting Qualcomm Incorporated CR Rel-17 38.331 17.1.0 3305 - F NR\_QoE-Core
6. [R2-2207821](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207821.zip) Correction on TS 38.331 for QoE CATT CR Rel-17 38.331 17.1.0 3318 - F NR\_QoE-Core
7. [R2-2207950](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2207950.zip) Correction to the transmission of appLayerSessionStatus when pause is enabled Huawei, HiSilicon, China Unicom CR Rel-17 38.331 17.1.0 3333 - F NR\_QoE-Core
8. [R2-2208238](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208238.zip) Correction to storage of application layer measurements during Pause Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3387 - F NR\_QoE-Core
9. [R2-2208239](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208239.zip) Correction to paused reporting of the application layer measurements Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3388 - F NR\_QoE-Core
10. [R2-2208393](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208393.zip) Correction on MeasurementReportAppLayer message per measConfigAppLayerId Samsung draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core
11. [R2-2208394](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208394.zip) Correction on QoE report only including measConfigAppLayerId Samsung draftCR Rel-17 38.331 17.1.0 F NR\_QoE-Core
12. [R2-2208479](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_119-e\R2-2208479.zip) Correction on MeasurementReportAppLayer retransmission Google Inc. CR Rel-17 38.331 17.1.0 3426 - F NR\_QoE-Core