3GPP TSG-RAN WG2 Meeting #131bis DRAFT\_R2-2507705

Prague, Czech Republic, Oct. 13th-17th

Source: Session chair (Huawei)

Title: Report from session on XR and LTE-based 5G Broadcast

## List of AT-meeting offline discussions

* [AT131bis][500][XR] Organizational – Session on XR and LTE-based 5G Broadcast (Session chair)

Scope:

* + - * Share plans and list of ongoing email discussions for the session
      * Share meeting notes and agreements for review and endorsement
* [AT131bis][501][XR] Discuss remaining RLC issues (vivo)

Scope: Discuss remaining RLC issues and exact CR updates

Intended outcome: Report with TPs

Deadline: Wednesday online XR session

* [AT131bis][502][XR] Discuss remaining MAC issues (Qualcomm)

Scope: Discuss remaining MAC issues and exact CR updates

Intended outcome: Report with TPs

Deadline: Wednesday online XR session

* [AT131bis][503][LTE Broadcast] CRs for 36.331 and 36.306 (Qualcomm/Huawei)

Scope: Update/prepare the CRs for 36.331 and 36.306 according to the agreements

Intended outcome: CRs for approval

Deadline: Friday 2025-10-17, 08:00

* [AT131bis][504][TEI19] 5G CAS muting stage-2 CR (ZTE)

Scope: Revise R2-2507237 according to agreements

Intended outcome: CR for approval

Deadline: Friday 2025-10-17, 08:00

## List of POST-meeting offline discussions

# 2 General

## 2.4 Instructions

CRs

* Use latest CR template version 12.3 for all CRs submitted to RAN2 meeting

Rel-18 and earlier maintenance CRs

* Only essential/critical corrections are expected
* Editorial and clarification corrections should be sent to be reviewed and approved by spec rapporteurs prior to submission.
* Editorials corrections should be collected and submitted by spec rapporteurs.
* NOTE: the tdoc limit applies to all CRs (i.e. WI spec rapporteurs are NO longer expected to submit individual contributions). They can submit a company CR where they also include miscellaneous corrections that have been sent to them.

Rel-18 UE capabilities

- EUTRA UE capabilities corrections are covered by separate CRs

- RAN1/RAN4 NR UE capabilities (new) and corrections are covered in Rel-18 common MegaCRs (38306 and 38331) covering all rel-18 WIs (end outcome).

- UE capabilities in LPP 37355 and SLPP 38355 are covered in the main CRs for the Positioning WI.

**Rel-19 CRs**

* CR already agreed in principle but not yet officially agreed must be submitted to RAN2#131 for formal approval under in-principle agreed CRs AIs
* CR editors / Rapporteurs continue to support maintenance related to their respective CR / WI and are required to follow drafting rules
* **Single correction CR per spec** coordinated by CR editor/rapporteurs will be agreed per feature for RAN#132
* **Rapporteurs (except for RRC) should create open issue list for correction phase. See below.**
* CR editors / Rapporteurs should gather miscellaneous and non-controversial issues, if any, for their respective specification prior to submission deadline.  **Other companies are expected to give editorial inputs to the rapporteurs and not have contributions on such issues**.
* Emails to CR editors/rapporteurs should follow the following naming convention when sending emails to rapporteurs:

**[Pre\_RAN2#131bis][CR xx.yyy] Clarification CRs**

* The organizational AIs for each WIs are reserved for rapporteurs only.  CR rapporteurs are expected to submit only 1 CR per spec.
* Companies are expected to submit Tdocs with TP (not CRs).   More specifically, the Tdoc should contain description of open issues/proposal and the proposed corrections/TP in the contribution itself.   Small issues can be included in the tdoc with just short justification same level of detail as in cover sheet.
* RRC ASN.1 changes can be drafted in a NBC way until ASN.1 is frozen, to avoid unnecessary RRC overhead.   The focus should be on drafting the changes in the best possible way.
* Inter-op analysis on Rel-19 CR coverpages in NOT needed

**Open issues**

* A list of open issues for correction phase is expected to be created per CR per WI (except for RRC specification - issues will be maintained in RIL list) and shared as soon as possible.  **The list of CR open issues should be completed by Sept. 19th** from CR editors/rapporteurs.  Companies can contribute to the open issue list and input (if requested) possible resolution.
* Rapporteur and/or company identifying issue can provide proposal on how to resolve the issues
  + For each issue, rapporteurs are requested to explicitly indicate whether further contribution input on the open issue is needed. Input should be requested only for difficult to resolve issues and/or new open issues for which there wasn’t sufficient discussion time to resolve it.
  + Rapporteurs should critically consider the need for contribution on an issue.  If the issue can be resolved with a quick offline during the meeting, then the issue should be marked as to be resolved offline without contributions on that topic.
* Stage 2 corrections and UE capability corrections should be given to rapporteur directly over email discussion and no contributions are expected, unless really needed as specified by rapporteur.
* Companies should follow rapporteurs guidance (i.e. only address open issues for which the rapporteur indicates further input is needed).
* Companies should clearly indicate the open issue number they are addressing in their section and proposal, e.g. Proposal x: (RIL-1, MAC-1, etc) Agree to bla bla

**ASN.1 and Handling of RILs**

* Please review Hakan's email instructions on ASN.1 review.  Instructions are found at:  [Directory Listing /ftp/Email\_Discussions/RAN2/[Misc]/ASN1 review/Rel-19 2025-09](https://www.3gpp.org/ftp/Email_Discussions/RAN2/%5BMisc%5D/ASN1%20review/Rel-19%202025-09)
* Companies are expected to provide their TPs/Comments in the RIL Comment file and not submit contributions.   WI CR and RRC spec Rapporteurs can identify the critical RILs that require further contribution inputs.
* Single Tdoc containing 1 or more RIL resolutions per WI is expected.    Companies are highly encouraged to work offline to resolve the issues.

Rel-19 UE capabilities

- EUTRA UE capabilities are covered by separate CRs

- All NR UE capabilities will be included common Mega CRs (38306 and 38331) covering all Rel-19 WIs (end outcome).

During the work on NR UE caps:

- In a Common Rel-19 Agenda Item (AI): RAN1 and RAN4 feature corrections are handled jointly under a common AI, with some explicit exceptions. UE capabilities will be included in UE cap MegaCR directly from UE capability rapporteur

- In WI-specific Rel-19 Agenda Items: RAN2 specific UE capabilities are handled per WI and endorsed as individual CRs. Final endorsed CRs will be merged into mega CR post meeting.

Tdoc limitations

Tdoc limitations doesn’t apply to Rapporteur Input, i.e.

- Assigned summary rapporteur input of the summary.

- Email / offline discussions outcomes by discussion rapporteur,

- Limit of 1 WI/SI rapporteurs input for WI planning. The work plan is not expected to be updated/submitted every meeting, unless needed. It can include progress of other WG groups in the same Tdoc (i.e. separate Tdocs on other WG agreements are not required).

- TS rapporteur input for TS maintenance.

- Contact Company of a LSin that triggers RAN2 action may submit one tdoc to facilitate the LS reply. This only applies to one of the contact companies in case there are several (default the first).

Tdoc limitations doesn’t apply to Input created at the meeting, revisions, assigned documents etc.

Tdoc limitations doesn’t apply to shadow / mirror CRs (Cat A), or In-Principle Agreed CRs.

Tdoc limitations applies to all other submitted tdocs (e.g. discussion tdoc and CR tdoc are counted as two).

Postponed CRs still count towards tdoc limit unless 3 or more companies are co-sourcing it.

For each R19 feature, 1 additional tdoc on top of the limit is allowed for a primary co-sourcing company for co-sourced contribution with 4 or more companies (this also applies to RILs).

Tdoc request/submission for RAN2#131bis deadlines:

* Tdoc Submission deadline: Oct 3rd, 2025

# 7 NR Rel-18

## 7.0 Common

Rel-18 WIs not covered under an explicit AI in 7.x. Multi-WI Rel-18 items, e.g. cross-WI-issues not handled under another WI. UE capabilities.

### 7.0.2 Rel-18 corrections

*Essential corrections only. For smaller corrections please contact CR editor / Rapporteur directly. Coordinate with rapporteurs and chair if input above limit is required*

*Tdoc limitation: 4*

#### 7.0.2.16 XR Enhancements for NR

(NR\_XR\_enh-Core; leading WG: RAN2; REL-18; WID: RP-230786)

[R2-2507028](file:///D:\3GPP\Extracts\R2-2507028_Discussion%20on%20DSR%20triggering%20for%20Rel-18%20XR.docx) Discussion on DSR triggering for R18 XR vivo discussion Rel-18 NR\_XR\_enh-Core

Proposal 1: RAN2 to discuss which is the correct understanding on the current specification, and whether any change on MAC is needed:

- alt1: “PDCP SDUs that are buffered for the LCG but have not been transmitted in any MAC PDU” in 5.4.9 in MAC means “PDCP SDUs that are buffered for the LCG but have not been completely transmitted in any MAC PDU”. -> SDU segment could trigger DSR

- alt2: “PDCP SDUs that are buffered for the LCG but have not been transmitted in any MAC PDU” in 5.4.9 in MAC means “PDCP SDUs that are buffered for the LCG but have not been partially transmitted in any MAC PDU”. -> SDU segment cannot trigger DSR

Proposal 2: If the change on MAC is needed in P1, from which release should it start, i.e. Rel-18 or Rel-19.

[R2-2507282](file:///D:\3GPP\Extracts\R2-2507282%20Discussion%20on%20DSR%20triggering%20for%20RLC%20segment.docx) Discussion on DSR triggering for RLC segment LG Electronics Inc. discussion Rel-18 NR\_XR\_enh-Core

Proposal 1. RAN2 confirms that in Rel-18 remaining RLC segment of the PDCP SDU may trigger DSR, if the remaining PDCP discard timer value is less than RemainingTimeThreshold.

Proposal 2. Clarify “have not been transmitted in any MAC PDU” in the MAC spec to “have not been completely transmitted by MAC PDU,” in order to report the delay information of RLC segment if a PDCP SDU is partially transmitted. Use TP in Annex A as a baseline.

[R2-2507473](file:///D:\3GPP\Extracts\R2-2507473.docx) Clarification on DSR Triggering Ericsson discussion

[Observation 1 There are many examples in specification that a SDUs refers to the complete PDU while the SDU segments refer to part of the PDU data.](#_Toc210375376)

[Observation 2 An RLC SDU is a PDCP PDU and a PDCP PDU is a PDCP SDU including PDCP headers.](#_Toc210375377)

[Proposal 1 RAN2 to confirm that the transmission or reception of an RLC SDU segment is not equivalent to a transmission or reception of the said RLC SDU or the PDCP SDU.](#_Toc210375379)

[Proposal 2 RAN2 agrees that the interpretation in Proposal 1 remains in Release 18 and any remaining RLC SDU segments of a PDCP SDU can trigger a DSR.](#_Toc210375380)

DISCUSSION:

* Xiaomi thinks that alt. 1 can work, but NW could also figure out there are segments left in the buffer. But are OK to confirm this way.
* Ericsson thinks that with the agreement it should be clear enough already.
* Vivo prefers to have a simple clarification in MAC. Current spec can be interpreted both way.
* OPPO also prefers to specify in MAC to avoid confusion in future.
* Nokia is OK to clarify.
* MTK is a bit worried about introducing “completely” as then we can start misinterpreting the rest of the specs. MTK thinks the specs is clear as it is.
* LGE thinks that in other cases we indicate whether this is part of SDU of a whole SDU. “Any PDU” is confusing. At least this should be changed, i.e. remove “any”. Vivo has similar view.
* Lenovo also thinks this should be clarified as it may come back.
* Apple thinks chair notes are sufficient.
* Huawei thinks some clarification is useful, but maybe “completely” may not be the best word.
* RAN2 understanding is that: “PDCP SDUs that are buffered for the LCG but have not been transmitted in any MAC PDU” in 5.4.9 in MAC means “PDCP SDUs that are buffered for the LCG but have not been completely transmitted in any MAC PDU”. -> SDU segment could trigger DSR
* We will try to clarify this in MAC. FFS the wording and CB next meeting

# 8 NR Rel-19

## 8.7 XR Enhancements Ph3

(NR\_XR\_Ph3-Core; leading WG: RAN2; REL-19; WID: RP-250107)

Time budget: 0 TU

Tdoc Limitation: 3 tdocs

### 8.7.1 Organizational

LS, rapporteur input, open issues lists etc.

**Rapporteur CRs**

[R2-2506810](file:///D:\3GPP\Extracts\R2-2506810%20Corrections%20for%20XR%20enhancements.docx) Corrections for XR enhancements Qualcomm France CR Rel-19 38.321 18.6.0 2122 - D NR\_XR\_Ph3

[R2-2507016](file:///D:\3GPP\Extracts\R2-2507016_Miscellaneous%20corrections%20on%20RLC%20for%20R19%20XR.docx) Miscellaneous corrections on RLC for R19 XR vivo CR Rel-19 38.322 19.0.0 0066 - F NR\_XR\_Ph3-Core

[R2-2507054](file:///D:\3GPP\Extracts\R2-2507054%20Correction%20to%20RRC%20spec%20for%20R19%20XR.docx) Correction to RRC spec for R19 XR Huawei, HiSilicon CR Rel-19 38.331 19.0.0 5504 - F NR\_XR\_Ph3-Core Late

* H201 will be removed from RRC CR as it is handled by RRC spec rapporteur
* The CRs above are endorsed as a baseline for further changes after the meeting
* PDCP CR will be provided after this meeting

**Open issues**

[R2-2507052](file:///D:\3GPP\TSGR2\TSGR2_131bis\Docs\R2-2507052.zip) R19 XR RRC comment file Huawei, HiSilicon discussion NR\_XR\_Ph3-Core Late

[R2-2507053](file:///D:\3GPP\Extracts\R2-2507053%20XR%20RRC%20review%20file_v12_Rapp.docx) R19 XR RRC review file Huawei, HiSilicon discussion NR\_XR\_Ph3-Core Late

The following RILs are proposed as PropAgree: H200, S039, S055, Z203

The following RILs are proposed as PropReject: V051, O400, S038

The following RILs are ToDo in XR WI: V050, N091

The following RIL is ToDo in general ASN.1 AI: H202

* The following RILs are agreed: H200, S039, S055, Z203
* The following RILs are rejected: O400
* The following RIL will be handled in general ASN.1 AI: H202

[R2-2507017](file:///D:\3GPP\Extracts\R2-2507017_List%20of%20RLC%20open%20issues%20for%20R19%20XR.docx) List of RLC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: Following open issues are suggested to be discussed based on companies’ contributions: RLC-X01, RLC-V01, RLC-N01, RLC-N02.

Proposal 2: Proponent companies are invited to provide proposals on the following issues, which Rapporteur understands there is no problem: RLC-E01, RLC-H02, RLC-S01.

Proposal 3: Following open issues are suggested to be discussed during the CR phase: RLC-H01, RLC-V02.

* Noted

[R2-2507245](file:///D:\3GPP\Extracts\R2-2507245%20XR%20Stage%202%20Open%20Issues.docx) Offline 504 on XR Stage 2 Open Issues Nokia (Rapporteur) discussion Rel-19 NR\_XR\_Ph3-Core

Summary: No open issues identified and the Stage 2 can be kept as is.

* Noted

[R2-2507130](file:///D:\3GPP\Extracts\R2-2507130%20PDCP%20open%20issues%20for%20XR.docx) PDCP open issues for XR LG Electronics Inc. (Rapporteur) discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1 (S001). Include “i:th” in the definition of “Non-delay-reporting PDCP SDU”.

Proposal 2 (H001). Discuss whether to change the definition of “Non-delay-reporting PDCP SDU” so that each of a non-delay-reporting PDCP SDU associated with the i:th DSR-ReportingThreshold is exclusive.

Proposal 3 (N001). Discuss whether to capture a NOTE to specify that “whether to re-send the gap report after HO can be left to UE implementation”.

* (S001) Include “i:th” in the definition of “Non-delay-reporting PDCP SDU”.

[R2-2507430](file:///D:\3GPP\Extracts\draft%20R2-2507430%20Summary%20of%20%5bPOST131%5d%5b508%5d%5bXR%5d%20Discussion%20on%20XR%20MAC%20open%20issues.docx) Summary of [POST131][508][XR] Discussion on XR MAC open issues Qualcomm France discussion

Proposal 1. Adopt the TPs proposed in Issue A.2, B.2, C.4 and C.5.

Proposal 2. Improve the wordings for the issues raised in Issue C.3 and D.1.

Proposal 3. Discuss more on Issue D.2.

*Rapporteur suggestion: Discuss wording for D.2 offline considering TPs from Tdocs 6841, 7301, 7057, 7309*

* Issue A.2, B.2, C.4, C.5, C3. and D.1 are agreed (already part of rapporteur CR)

### 8.7.2 RRC corrections

Corrections to TS 38.331 which require Tdoc submission as per RIL list.

**Simultaneous configuration of auto-ReTx and enhanced polling (V050)**

[R2-2507160](file:///D:\3GPP\Extracts\R2-2507160%20Views%20on%20RIL050%20and%20RIL051.docx) Views on RIL050 and RIL051 Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: [RIL-V050] We propose to allow configuring both thresholds (remaining time based RLC polling and remaining time based RLC retransmission) for the same RLC entity.

[R2-2507018](file:///D:\3GPP\Extracts\R2-2507018_%5bV050,%20V051%5d%20Discussion%20on%20RRC%20open%20issues%20for%20R19%20XR.docx) [V050, V051] Discussion on RRC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: [V050] Capture in the field description that the value of remainingTimeThresholdRLC-ReTx should be set lower than remaingTimeThresholdRLC-Polling.

DISCUSSION:

* Ericsson thinks that we can leave it up to NW implementation how to set the thresholds.
* LGE has not strong view on whether to capture the limitation.
* Huawei thinks we can leave this up to NW implementation. There seem to be no issues, as it depends when the network wants to include polling
* Vivo asks what is the aim of polling after retransmission has been triggered.
* Huawei clarifies that the transmitter may want to move the window.
* Vivo thinks this was not the intention to introduce this feature.
* Samsung is OK to leave up to NW.
* [RIL-V050] Allow configuring both thresholds (remaining time based RLC polling and remaining time based RLC retransmission) for the same RLC entity.
* [V050] Do not capture in the field description that the value of remainingTimeThresholdRLC-ReTx should be set lower than remaingTimeThresholdRLC-Polling.

**UL rate query as a subset of UL rate control (V051)**

[R2-2507160](file:///D:\3GPP\Extracts\R2-2507160%20Views%20on%20RIL050%20and%20RIL051.docx) Views on RIL050 and RIL051 Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 2: [RIL-V051] Specify that ul-RateQueryConfigList is the subset of ul-RateControlConfigList.

[R2-2507018](file:///D:\3GPP\Extracts\R2-2507018_%5bV050,%20V051%5d%20Discussion%20on%20RRC%20open%20issues%20for%20R19%20XR.docx) [V050, V051] Discussion on RRC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 2: [V051] Clarify in the field description that the QoS flow(s) configured in rate query should be the subset of QoS flow(s) configured for rate control.

DISCUSSION:

* LGE agrees with the proposals, but the network should ensure this. Ericsson agrees.
* Nokia think this may have an impact on MAC specifications. This may require us to refer to QoS flows separately for DL and UL.
* OPPO agrees that this should be like this, but we do not have to clarify this in RRC. We usually do not specify such restrictions. QCM, Lenovo agrees.
* [V051] Do not clarify in the field description that the QoS flow(s) configured in rate query should be the subset of QoS flow(s) configured for rate control.
* [V051] RAN2 assumes the network implementation will configure it properly, i.e. the QoS flow(s) configured in rate query should be the subset of QoS flow(s) configured for rate control.

**UAI transmission and prohibit timer for UAI (N091, S038)**

[R2-2507510](file:///D:\3GPP\Extracts\R2-2507510%20RIL%20N091%20S038%20on%20UAI%20for%20measuremeng%20gap.docx) RIL N091 and S038 on UAI for measurement gap skipping Nokia, Nokia Shanghai Bell, Huawei discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: (RIL-N091) Adopt the TP above to change the first condition to transmission of UAI for preference for a measurement gap configuration other than the UAI message itself.

Proposal 2: (RIL-S038) If the prohibit timer T346o checking is moved to the 1> level, it should be reset upon new MG configuration to avoid preventing reported preference for the newly configured MG, otherwise the specification should be left as it is.

[R2-2507629](file:///D:\3GPP\Extracts\R2-2507629%20RRC%20Corrections%20for%20XR.docx) RRC Corrections for XR Samsung discussion Rel-19 Late

Proposal 1: [N091] No specification change is considered for UAI to be sent without delay for a new configuration of gap occasion ratio.

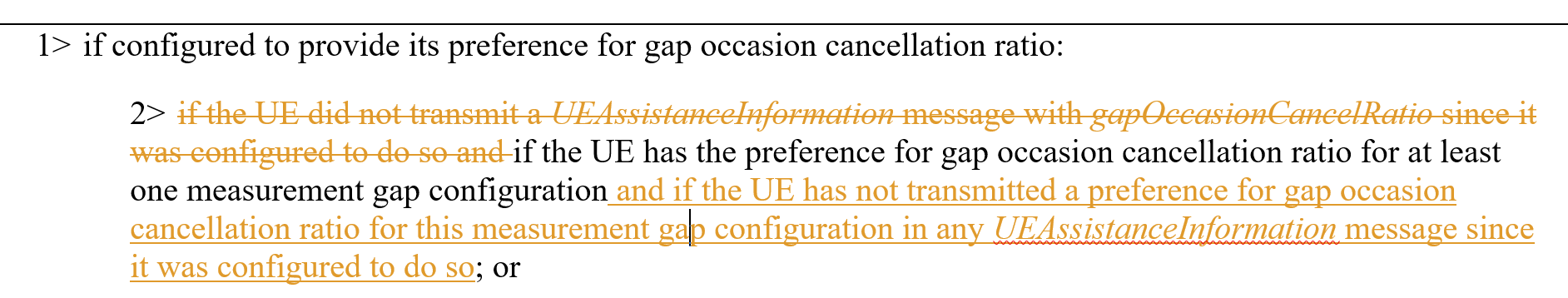
Proposal 2: [S038] Agree to keep T346o not running check as general condition and place it in 1> bullet. (Adopt TP1)

DISCUSISON on N091:

* QCM supports Nokia’s proposal.
* Fujitsu thinks a clarification is not necessary as we agreed to have a common timer for all configurations. We do not have to optimize. Xiaomi agrees.
* Nokia thinks this is not an optimization. Prohibit timer should be applied only after information has been sent, not before.
* Ericsson asks what the problem is if we send it later. Is there any impact on the performance?
* Nokia thinks it is better to provide this information earlier if we can.
* Lenovo thinks Nokia’s proposal captures RAN4 intended behaviour and supports it.
* Ofinno supports the TP from Nokia as it follows the current UAI principles. There is no need to delay.
* Samsung is OK with the trigger proposed by Nokia.
* ZTE thinks it is not critical, but is OK with the change.
* MTK is also OK with the change as this is consistent with UAI.
* LGE thinks that after sending UAI due to new trigger we need to restart the prohibit timer. Nokia agrees.

DISCUSISON on S038:

* Xiaomi thinks we should keep the timer where it is, otherwise it conflicts with N091 resolution.
* Vivo thinks we should move the timer upwards.
* (RIL-N091) We allow UAI triggering for a new MG configuration that has not been sent in UAI before, use the following TP from R2-2507510 as a baseline:



* (S038) Keep the prohibit timer where it is.

[R2-2506840](file:///D:\3GPP\Extracts\R2-2506840%20Discussion%20on%20RRC%20for%20XR.DOCX) Discussion on RRC for XR CATT,CBN discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507300](file:///D:\3GPP\Extracts\R2-2507300_xrRRC.docx) XR RRC Corrections ZTE Corporation, Sanechips discussion

[R2-2507470](file:///D:\3GPP\Extracts\R2-2507470.docx) N091, S038 Ericsson discussion Rel-19

### 8.7.3 User plane corrections

Corrections to 38.321, 38.322 and 38.323 for all features.

**RLC-X01**

[R2-2507084](file:///D:\3GPP\Extracts\R2-2507084%20Remaining%20issues%20on%20DSR%20and%20proposed%20TP.docx) Remaining issues on DSR and proposed TP Xiaomi Communications discussion

Proposal 1. RAN2 to confirm whether the calculation of non-delay reporting data in RLC should follow RLC’s own buffer status or just follow PDCP’s indication.

Proposal 2. If the calculation of non-delay reporting data in RLC should follow RLC’s own buffer status, then PDCP only needs to indicate the delay reporting data to RLC. Thus, RLC will calculate the non-delay reporting RLC SDU based on its own buffer status.

[R2-2506841](file:///D:\3GPP\Extracts\R2-2506841%20Leftover%20Issue%20on%20User%20Plane.docx) Leftover Issue on User Plane CATT discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 2: [RLC-X1] RLC layer follows the same order as in PDCP layer for SDU handling， remove the RLC calculation of the non-delay reporting data.

* (RLC-X01) We keep the spec as it is.

**RLC-V01**

[R2-2507020](file:///D:\3GPP\Extracts\R2-2507020_Discussion%20on%20RLC%20open%20issues%20for%20R19%20XR.docx) Discussion on RLC open issues for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1 [RLC-V01] The receiving RLC entity should indicate the SN of obsolete RLC SDUs to the receiving PDCP entity when t-RxDiscard expires for HFN synchronization and avoiding packet delivery delay.

[R2-2507129](file:///D:\3GPP\Extracts\R2-2507129%20Remaining%20open%20issues%20related%20to%20RLC%20enhancements.docx) Remaining open issues related to RLC enhancements LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1. (RLC-V01) No need to indicate the SN of obsolete RLC SDUs to the receiving PDCP entity after t-RxDiscard expires.

* (RLC-V01) No need to indicate the SN of obsolete RLC SDUs to the receiving PDCP entity after t-RxDiscard expires.

**RLC-N01**

[R2-2507310](file:///D:\3GPP\Extracts\R2-2507310%20(R19%20NR%20XR%20AI873).docx) Remaining RLC open issues on avoiding unnecessary re-transmissions InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 2: Update the RX\_Next state variable description in the TS 38.322 as follows:

a) RX\_Next – Receive state variable

If *t-RxDiscard* is not configured, this state variable holds the value of the SN following the last in-sequence completely received RLC SDU. If *t-RxDiscard* is configured, this state variable holds the value of the SN following either the last in-sequence completely received RLC SDU or the last discarded AMD PDU. It serves as the lower edge of the receiving window. It is initially set to 0, and is updated whenever the AM RLC entity receives an RLC SDU with SN = RX\_Next or *t-RxDiscard* expires.

DISCUSISON:

* Ericsson’s understanding was that the current text works as the receiver just assumes tit was fully received.
* Huawei does not think the change is necessary.
* LGE thinks that in case of fake ACK the SDUs are actually not received. Has not strong view, but IDT proposal is fine.
* Nokia would prefer to clarify in the text and prefer their TP.
* Lenovo would also prefer to clarify. The current text is not correct.
* Ericsson suggest to clarify that when the timer expires, then SDUs are considered received and then we do not clarify in the definition.
* (RLC-N01) We will clarify RX\_Next state variable update when t-RxDiscard expires. FFS an exact wording and where to do the change (e.g. procedure or variable definition) (offline)

**RLC-N02**

[R2-2507159](file:///D:\3GPP\TSGR2\TSGR2_131bis\Docs\R2-2507159.zip) UP Open Issues Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 5: [RLC-N02] The NOTE in clause 5.3.3.3 is updated as below:

NOTE: If *stopRetxDiscardedSDU* is configured, when all RLC SDUs with SNs up to and including POLL\_SN are already positively acknowledged or indicated as discarded from upper layer (e.g., PDCP), the transmitting side of an AM RLC entity may stop and reset the running *t-PollRetransmit*.

[R2-2507532](file:///D:\3GPP\Extracts\R2-2507532%20User%20plane%20corrections%20for%20XR%20Enhancements%20Ph3.docx) User plane corrections for XR Enhancements Ph3 NTT DOCOMO INC.. discussion Rel-19

Proposal 3. It is no problem to stop and reset the running t-PollRetransmit even when all RLC SDUs with SNs up to and including POLL\_SN are already negatively acknowledged. There is no change of NOTE in 5.3.3.3 other than adding “If stopReTxDiscardedSDU is configured” at the beginning of the sentence

DISCUSSION:

* LGE thinks Nokia’s change is aligned with the procedure. We can remove borth NACK and ACK from the note. Samsung has the same view.
* Apple disagrees with LGE and Samsung. This proposal does not always work. We just need a change from NTT DCM.
* Ofinno suggests not to speak of “positively or negatively”, just “acknowledged.
* (RLC-N02) In NOTE in 5.3.3.3 we add “If stopReTxDiscardedSDU is configured” at the beginning of the sentence.
* (RLC-N02) FFS whether any other changes are needed, e.g. as in R2-2507159 (offline)

**RLC-E01**

[R2-2507471](file:///D:\3GPP\Extracts\R2-2507471.docx) RLC-E01, RLC-X01 Ericsson discussion Rel-19

Proposal 1 (RLC-E01) Allow the RLC Rx entity to receive ‘full SNs’ before triggering the t-RxDiscard timer i.e., start t-RxDiscard if RX\_Next\_Highest> RX\_Next +1.

DISCUSSION:

* LGE thinks that this is not critical as there are other ways of detecting RLF.
* Ericsson thinks there are situations where PHY layer will not detect RLF and they would like to be able to detect such case.
* Xiaomi thinks this scenario is very rare, current spec is fine.
* Sharp, Samsung agrees with Xiaomi and LGE. Proper configuration should cover this.
* Ericsson would prefer to be careful on these rare cases as well.
* (RLC-E01) No change is needed.

**RLC-H02**

[R2-2507056](file:///D:\3GPP\Extracts\R2-2507056%20Discussion%20on%20remaining%20issues%20for%20RLC%20in%20R19%20XR.docx) Discussion on remaining issues for RLC for R19 XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

Proposal1: (RLC-H02) Confirm that when t-RxDiscard expires, RX\_Next might be larger or equal than RX\_Highest\_Status. Specify the content of the RLC STATUS PDU triggered by the t-RxDiscard expiry in a separate condition.

DISCUSSION:

* Nokia thinks that this is already clear from other sections.
* LGE thinks that according to current specification this case will not happen. Current spec is OK.
* Fujitsu indicates that the variable is not updated when t-Rx discard expires, so there can be a problem.
* Huawei and Lenovo think the situation can happen so it is better to clarify.
* MTK also thinks this can happen.
* Discuss offline RLC-H02

**RLC-S01**

[R2-2507315](file:///D:\3GPP\Extracts\R2-2507315%20Discussion%20on%20open%20issues%20for%20RLC%20and%20PDCP.docx) Discussion on open issues for RLC and PDCP Samsung discussion Rel-19

[RLC-S01] Proposal 5: PDCP triggers a PDCP SN gap report when stopReTxDiscardedSDU is configured in all RLC entities and at least one byte for the discarded PDCP SDU(s) have not been submitted by any RLC entity to lower layers. (Adopt TP3)

DISCUSSION:

* LGE thinks we have already discussed this and we agreed not to modify the specs. LGE thinks even if it is under HARQ, we can report to receiving entity. LGE thinks Samsung’s change is not complete, but LGE prefers to change nothing.
* (RLC-S01) No change needed as per the previous agreement

R2-2507903 [CB]

[R2-2507905](file:///D:\3GPP\Extracts\R2-2507905_Discussion%20report%20on%20%5bAT131bis%5d%5b501%5d%5bXR%5d%20Discuss%20remaining%20RLC%20issues%20(vivo).docx) [CB]

* (RLC-N01) Try to capture it in the procedure “If t-RxDiscard is configured and expires, the receiving side of an AM RLC entity consider the corresponding SDUs as received.”, if problem is identified or companies have strong concern during CR phase, it will be postponed.
* (RLC-N01) Add “or t-RxDiscard expires” at the end of definition of RX\_Next.
* (RLC-N02) Companies will bring contribution in next meeting to explain the use cases and the TP.
* (RLC-H02) Confirm that when t-RxDiscard expires, RX\_Next might be larger or equal than RX\_Highest\_Status. Companies are invited to bring contributions on the solutions to address it.
* RLC-V02 is closed without any spec impact.
* RLC-H01 is updated according to the CR in R2-2507016.

**PDCP-H001**

[R2-2507058](file:///D:\3GPP\Extracts\R2-2507058%20Discussion%20on%20non-delay-reporting%20PDCP%20SDU%20definition.docx) Discussion on non-delay-reporting PDCP SDU definition Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

Proposal 1: To align with the procedure description as in data volume calculation, the definition of non-delay-reporting PDCP SDU should be changed as “a non-delay-reporting PDCP SDU associated with the i:th *DSR-ReportingThreshold* is a PDCP SDU that will be transmitted prior to any of the delay-reporting PDCP SDUs associated with the i:th *DSR-ReportingThreshold* but after all delay-reporting PDCP SDUs associated with the i-1:th *DSR-ReportingThreshold*,and that is not a delay-reporting PDCP SDU associated with any of the k:th *DSR-ReportingThreshold* where k<=i**”**

[R2-2507279](file:///D:\3GPP\Extracts\R2-2507279%20Remaining%20open%20issues%20for%20DSR.docx) Remaining open issues for DSR LG Electronics Inc. discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 2. [PDCP-H001] Keep the current definition of delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

DISCUSSION:

* Fujitsu supports Huawei’s proposal. In addition, procedural text could be simplified. There are several issues with the definition, e.g. it is not aligned with how delay-critical data was defined.
* OPPO supports LGE proposal, the procedure is clear. Huawei’s proposal is not entirely accurate.
* Apple thinks this has been discussed already, it ‘s not worth to reopen the discussion.
* Xiaomi, Nokia, Samsung thinks there is no issue.
* [PDCP-H001] Keep the current definition of delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

**PDCP-N001**

[R2-2507159](file:///D:\3GPP\TSGR2\TSGR2_131bis\Docs\R2-2507159.zip) UP Open Issues Nokia, Nokia Shanghai Bell discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: [PDCP-N001] The agreement on RLC-12 from the RAN2#131 meeting is captured in the clause 5.16.1 of the PDCP specification as follows:

NOTE: It is up to UE implementation whether to re-send a PDCP SN gap report when upper layer requests a PDCP entity re-establishment (e.g., based on a previously submitted PDCP SN gap report not having been successfully delivered before PDCP entity re-establishment).

[R2-2507315](file:///D:\3GPP\Extracts\R2-2507315%20Discussion%20on%20open%20issues%20for%20RLC%20and%20PDCP.docx) Discussion on open issues for RLC and PDCP Samsung discussion Rel-19

[PDCP N001] Proposal 7: RAN2 to not introduce a NOTE specifying re-sending the PDCP SN gap report after HO can be left to UE implementation.

DISCUSSION:

* Sharp prefers to capture the note as currently it is not clear in specs that UE can do this.
* CATT thinks we can capture sth in chair notes.
* OPPO thinks no need to capture in specs. We do not have to capture UE implementation for this.
* Lenovo is fine with the note, the current specs may suggest this is not allowed.
* Nokia thinks the UE should not re-send whenever it wants.
* Samsung has strong concerns on this note.
* LGE thinks this behaviour should be limited to AM DRB as UM DRB state variables are reset. LGE wonders whether this is useful for AM DRB.
* (PDCP-N001) Capture a NOTE in the clause 5.16.1 of the PDCP specification that the UE can (re)send the PDCP SN gap report when upper layer requests a PDCP entity re-establishment. FFS exact wording and whether this should be limited to AM DRB (to be handled during CR update)

**MAC – D.2**

[R2-2507812](file:///D:\3GPP\Extracts\R2-2507812%20Summary%20of%20%5bAT131bis%5d%5b502%5d%5bXR%5d.docx) Summary of [AT131bis][502][XR] Remaining MAC issues (Qualcomm)

* (MAC-D.2) Adopt the following TP for clause 5.4.1 in TS 38.321:

|  |
| --- |
| ……Omitted……In this selection, the priority of a logical channel configured with *priorityAdjustmentThreshold* shall be the highest priority, depending on the presence of a priority adjustable PDCP SDU (see clause 5.4.3.1.3), that can be applied or has been applied for it in the LCP procedure for the MAC PDU . ……Omitted…… |

**MAC – other**

[R2-2507305](file:///D:\3GPP\Extracts\R2-2507305.docx) XR user plane corrections NEC discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: Like Bj, we propose moving specification on applied priority determination out of the LCP procedure to allow greater flexibility for UE implementation.

Proposal2: for clearness and simplicity, define two MAC CE names “UL rate control recommendation” and “UL rate control Query” but share the same MAC CE format and its description.

DISCUSSION on P1:

* LGE thinks this is not essential, the UE implementation is not restricted.
* Xiaomi agrees this is up to UE implementation.

DISCUSSION on P2:

* Samsung thinks this is reasonable. Lenovo agrees, this is now confusing to have a single name for two different MAC CEs.
* QCM clarifies they followed legacy style. In the procedure it is still clear as they are differentiated, e.g. by using UL or DL.
* Ericsson think it makes sense, but at this stage they prefer to keep it as it is.
* P1 and P2 from R2-2507305 are not pursued

[R2-2507632](file:///D:\3GPP\Extracts\R2-2507632%20Outstanding%20LCP%20issues%20and%20related%20TPs.docx) Outstanding LCP issues and related TPs Samsung discussion

Proposal 2. RAN2 is kindly asked to agree the following TP:

Proposal 3. RAN2 is kindly asked to agree the following TP:

DISCUSSION on P2:

* Nokia thinks it is not needed, we already refer to LCP
* OPPO thinks anyway this is according to LCP, so this is OK. Do not want to impact legacy text.
* LGE agrees with Nokia and OPPO. No need to describe additional details here.

DISCUSSION on P3:

* QCM thinks it is clear enough already. Enhanced LCP is too generic.
* P2 and P3 from R2-2507632 are not pursued

[R2-2506926](file:///D:\3GPP\Extracts\R2-2506926%20Discussion%20on%20avoiding%20unnecessary%20retransmissions.docx) Discussion on avoiding unnecessary retransmissions Lenovo discussion Rel-19

[R2-2506964](file:///D:\3GPP\Extracts\R2-2506964_xr_non-delay-reporting_v2.docx) On the definition of non-delay-reporting PDCP SDU Fujitsu discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507019](file:///D:\3GPP\Extracts\R2-2507019_Discussion%20on%20MAC%20open%20issues%20on%20rate%20control%20for%20R19%20XR.doc) Discussion on MAC open issues on rate control for R19 XR vivo discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507057](file:///D:\3GPP\Extracts\R2-2507057%20Discussion%20on%20remaining%20issues%20for%20MAC%20for%20R19%20XR.docx) Discussion on remaining issues for MAC for R19 XR Huawei, HiSilicon discussion NR\_XR\_Ph3-Core

[R2-2507112](file:///D:\3GPP\Extracts\R2-2507112%20Open%20Issues%20of%20RLC%20CR%20for%20Rel-19%20XR.docx) Open Issues of RLC CR for Rel-19 XR Apple discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507192](file:///D:\3GPP\Extracts\R2-2507192%20XR%20UP%20issues.docx) Discussion on XR User Plane Open Issues Sharp discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507299](file:///D:\3GPP\Extracts\R2-2507299_xrRlcEnh.docx) XR RLC Issues ZTE Corporation, Sanechips discussion

[R2-2507301](file:///D:\3GPP\Extracts\R2-2507301_xrSchedulingEnh.docx) XR Scheduling enhancement open issues ZTE Corporation, Sanechips discussion

[R2-2507309](file:///D:\3GPP\Extracts\R2-2507309%20(R19%20NR%20XR%20AI873).docx) Remaining MAC open issues InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507311](file:///D:\3GPP\Extracts\R2-2507311%20(R19%20NR%20XR%20AI873).docx) Remaining RLC open issue on timely re-transmissions InterDigital discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507342](file:///D:\3GPP\Extracts\R2-2507342%20-%20Discussion%20on%20PDCP%20open%20issues.docx) Discussion on PDCP open issues OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507343](file:///D:\3GPP\Extracts\R2-2507343%20-%20Discussion%20on%20RLC%20open%20issues.docx) Discussion on RLC open issues OPPO discussion Rel-19 NR\_XR\_Ph3-Core

[R2-2507472](file:///D:\3GPP\Extracts\R2-2507472.docx) H001, N001 Ericsson discussion Rel-19

[R2-2507516](file:///D:\3GPP\Extracts\R2-2507516.docx) Discussion on open issues of XR RLC AM enhancements Xiaomi discussion Rel-19 NR\_XR\_Ph3-Core

Withdrawn

[R2-2506931](file:///D:\3GPP\Extracts\R2-2506931%20Discussion%20on%20remaining%20issues%20for%20RLC.docx) Discussion on remaining issues for RLC Huawei, HiSilicon discussion Rel-19 NR\_XR\_Ph3-Core Withdrawn

### 8.7.4 Other corrections

Including corrections to stage-2, UE capabilities etc.

[R2-2506842](file:///D:\3GPP\Extracts\R2-2506842%20Discussion%20on%20UE%20Capabilities%20for%20XR.DOCX) Discussion on UE Capabilities for XR CATT discussion Rel-19 NR\_XR\_Ph3-Core

Proposal 1: Use reporting threshold(s) instead of multiple reporting thresholds to describe UE capability delayStatusReportNonDelayReportingData and multipleEntryDelayStatusReport.

DISCUSSION:

* Xiaomi thinks current text is OK, but we could also change to say “using multiple entry DSR MAC CE”.
* Vivo thinks procedure was already updated according to the same way as in CATT’s TP, so they support it.
* LGE agrees the change is needed, prefer CATT’s text.
* Nokia supports Xiaomi’s proposal.
* OPPO prefers CATT’s TP.
* Use “reporting threshold(s)” instead of “multiple reporting thresholds” to describe UE capability delayStatusReportNonDelayReportingData and multipleEntryDelayStatusReport.

## 8.18 LTE-based 5G Broadcast

(LTE\_terr\_bcast\_Ph2; leading WG: RAN1; REL-19; WID RP-250794)

Time budget: 0 TU

Tdoc Limitation: 1 tdoc

### 8.18.1 Organizational

Incoming LS, rapporteur input etc.

[R2-2507467](file:///D:\3GPP\Extracts\R2-2507467%20LTE_TerrBcast_Comments_file_v003_rapp.docx) WI TerrBcast ASN.1 comments file Qualcomm Incorporated discussion Rel-19 LTE\_terr\_bcast\_Ph2-Core Late

* Noted

[R2-2507468](file:///D:\3GPP\Extracts\R2-2507468%20LTE_TerrBcast-Review-File_v003_rapp.docx) WI TerrBcast ASN.1 review file Qualcomm Incorporated discussion Rel-19 LTE\_terr\_bcast\_Ph2-Core Late

* Noted

[R2-2507469](file:///D:\3GPP\Extracts\R2-2507469%2036.331CR5168%20LTE-based%205GB.docx) Corrections to LTE-based 5G Broadcast Phase 2 after ASN.1 review Qualcomm Incorporated CR Rel-19 36.331 19.0.0 5168 - F LTE\_terr\_bcast\_Ph2-Core Late

* Revised by e-mail to include the agreements from this meeting

### 8.18.2 RRC corrections

Corrections to TS 36.331 which require Tdoc submission as per RIL list.

[R2-2507581](file:///D:\3GPP\Extracts\R2-2507581%20RRC%20corrections%20on%20LTE-based%205G%20Broadcast.docx) RRC corrections on LTE-based 5G Broadcast Samsung discussion Rel-19 Late

* RIL S903 is agreed
* Already covered by the rapporteur CR

### 8.18.3 Other corrections

Corrections to other specifications including 36.321 and UE capabilities

[R2-2507339](file:///D:\3GPP\Extracts\R2-2507339%20Consideration%20on%20cyclic%20shift%20for%20PMCH.docx) Consideration on cyclic shift for PMCH Samsung discussion Rel-19

Proposal 1: Specify UE capability to support “alpha3” for cyclic shift for PMCH in TS 36.306 and TS36.331. Adopt TP1 and TP2 respectively.

* QCM think we need this capability
* Specify UE capability to support “alpha3” for cyclic shift for PMCH in TS 36.306 and TS36.331. Adopt TP1 and TP2 respectively.
* RRC TP will be included in rapporteur RRC CR
* Prepare a CR for 36.306
* [AT131bis][503][LTE Broadcast] CRs for 36.331 and 36.306 (Qualcomm/Huawei)

Scope: Update/prepare the CRs for 36.331 and 36.306 according to the agreements

Intended outcome: CRs for approval

Deadline: Friday 2025-10-17, 08:00

## 8.19 TEI19

Time budget: 1 TU

Tdoc Limitation: 1 tdoc for new proposals and 1 tdoc for old proposals for RAN2-led.

1 additional tdoc for primary co-sourcing company on top of the limit is allowed for co-sourced contribution with 4 or more companies.

Companies are encouraged to submit co-sourced contributions, which will have priority for discussion in RAN2#130

### 8.19.2 Other WG-led

[R2-2507139](file:///D:\3GPP\Extracts\R2-2507139%20Rapporteur%20correction%20on%20CAS%20muting%20for%20LTE%20based%205G%20broadcast%20%5b5GB_CASMuting%5d.docx) Rapporteur correction on CAS muting for LTE based 5G broadcast [5GB\_CASMuting] Huawei, HiSilicon, Samsung CR Rel-19 36.331 19.0.0 5162 - F TEI19 Revised

[R2-2507237](file:///D:\3GPP\Extracts\R2-2507237%20CAS%20Muting%20in%20stage%202%20spec%20%5b5GB_CASMuting%5d.docx) 5G Broadcast CAS Muting in stage 2 spec [5GB\_CASMuting] ZTE Corporation, Sanechips, Samsung, Huawei CR Rel-19 36.300 19.0.0 1436 - F TEI19

* Cover page need to be revised, e.g. untick ME box, remove TEI ID from WI code, add other CRs, copy relevant RAN3 agreement, change to Cat. B
* Approve by e-mail
* ZTE received some comment to untick ME box
* Lenovo asks why?
* QCM thinks this does not impact UE, but wonders if we need this CR at all
* ZTE clarifies that there is an agreement in RAN3 but it has not been captured

[R2-2507263](file:///D:\3GPP\Extracts\R2-2507263%20Rapporteur%20correction%20on%20CAS%20muting%20for%20LTE%20based%205G%20broadcast%20%5b5GB_CASMuting%5d.docx) Rapporteur correction on CAS muting for LTE based 5G broadcast [5GB\_CASMuting] Huawei, HiSilicon, Samsung CR Rel-19 36.331 19.0.0 5162 1 F TEI19 [R2-2507139](file:///D:\3GPP\Extracts\R2-2507139%20Rapporteur%20correction%20on%20CAS%20muting%20for%20LTE%20based%205G%20broadcast%20%5b5GB_CASMuting%5d.docx)

* The CR is agreed in principle
* [AT131bis][504][TEI19] 5G CAS muting stage-2 CR (ZTE)

Scope: Revise R2-2507237 according to agreements

Intended outcome: CR for approval

Deadline: Friday 2025-10-17, 08:00