3GPP TSG-RAN WG2 Meeting #131bis R2-250xxxx
Prague, Czech Republic, October 13th – 17th, 2025

Agenda Item: 11.1

Source: Session Chair (Ericsson)

Title: Report from session on R18 and R19 Mobility

Document for: Approval

Time Schedule
Please refer to the latest schedule in the RAN2 inbox on the public 3GPP servers.

## NBC Changes for Rel-18 corrections

## List and Status of Offline/Email Discussions

**POST Email discussion:**

**AT Email discussion:**

## Approved outgoing LSs

# 7 NR Rel-18

#### 7.0.2.22 Further NR mobility enhancements

(NR\_Mob\_enh2-Core; leading WG: RAN2; REL-18; WID:RP-233970)

R2-2506726 LS on the handling of inter-DU L2 reset for LTM (R3-255907; contact: Ericsson) RAN3 LS in Rel-18 NR\_Mob\_enh2-Core To:RAN2

R2-2507400 Handling of inter-DU L2 reset for LTM Ericsson discussion Rel-18 NR\_Mob\_enh2-Core

R2-2507386 On inter-DU Layer 2 Reset in LTM Nokia discussion Rel-18 NR\_Mob\_enh2-Core

R2-2507616 Correction on the execution of SCG LTM CATT CR Rel-18 38.331 18.7.0 5554 - F NR\_Mob\_enh2-Core

R2-2507630 Correction on the execution of SCG LTM CATT CR Rel-19 38.331 19.0.0 5558 - A NR\_Mob\_enh2-Core

R2-2507026 Correction on stop of cg-RRC-RetransmissionTimer upon configuredGrantTimer expiration vivo CR Rel-18 38.321 18.7.0 2124 - F NR\_Mob\_enh2-Core

R2-2507027 Correction on stop of cg-RRC-RetransmissionTimer upon configuredGrantTimer expiration vivo CR Rel-19 38.321 19.0.0 2125 - A NR\_Mob\_enh2-Core

R2-2507220 Corrections on validation of reported idle/inactive and reselection measurements Samsung CR Rel-18 38.331 18.7.0 5519 - F NR\_Mob\_enh2-Core

R2-2507381 Corrections on Rel-18 UE capabilities for LTM Huawei, HiSilicon CR Rel-18 38.306 18.7.0 1363 - F NR\_Mob\_enh2

R2-2507382 Corrections on Rel-18 UE capabilities for LTM Huawei, HiSilicon CR Rel-19 38.306 19.0.0 1364 - A NR\_Mob\_enh2

R2-2507526 Miscellaneous corrections on mobility enhancements ZTE Corporation, Sanechips CR Rel-18 38.331 18.7.0 5540 - F NR\_Mob\_enh2-Core

R2-2507527 Miscellaneous corrections on mobility enhancements ZTE Corporation, Sanechips CR Rel-19 38.331 19.0.0 5541 - A NR\_Mob\_enh2-Core

*Withdrawn*

R2-2506812 Correction on the execution of SCG LTM CATT CR Rel-18 38.331 18.6.0 5490 - F NR\_Mob\_enh2-Core Withdrawn

R2-2506813 Correction on the execution of SCG LTM CATT CR Rel-19 38.331 18.6.0 5491 - A NR\_Mob\_enh2-Core Withdrawn

# 8 NR Rel-19

## 8.6 Mobility Enhancement Ph4

(NR\_Mob\_Ph4-Core; leading WG: RAN2; REL-19; WID: [RP-252111](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_109/Docs/RP-252111.zip))

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 8.6.1 Organizational

Incoming LS, CR rapporteurs’ inputs, etc.

R2-2506740 LS on definition of CSI-RS based L1 intra/inter-frequency measurement (R4-2512334; contact: Apple) RAN4 LS in Rel-19 NR\_Mob\_Ph4-Core To:RAN2 Cc:RAN1

R2-2506816 Report of [POST131][115][MOB] Open issues on UE capability (CATT) CATT discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507170 38.300 open issue list for R19 mobility Apple discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507012 Miscellaneous corrections on MAC for Mob Ph4 vivo (Rapporteur) CR Rel-19 38.321 19.0.0 2123 - F NR\_Mob\_Ph4-Core

R2-2507013 List of MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507014 Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507401 Mobility Review file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

R2-2507402 Mobility Comments file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

=> Revised in R2-2507658

R2-2507658 Mobility Comments file Ericsson report Rel-19 NR\_Mob\_Ph4-Core

R2-2507403 Mobility RILs conclusions Ericsson report Rel-19 NR\_Mob\_Ph4-Core

R2-2507404 Corrections on RRC for mobility enhancements Phase 4 Ericsson CR Rel-19 38.331 19.0.0 5529 - F NR\_Mob\_Ph4-Core

### 8.6.2 Control plane

Essential RRC corrections (including the issues related to RILs), stage-2, and UE capability corrections. Note stage-2 corrections may be handled with lower priority.

**1. [E005] Handling of radio bearers during LTM cell switch**

R2-2507405 Issue with handling of radio bearers during the LTM cell switch [E005] Ericsson, MediaTek Inc., Samsung, Huawei, HiSilicon, ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

=> Revised in R2-2507659

R2-2507659 Issue with handling of radio bearers during the LTM cell switch [E005] Ericsson, MediaTek Inc., Samsung, NEC, Huawei, HiSilicon, ZTE Corporation, Sanechips, Nokia discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1: RAN2 to agree on one of these two solutions to solve the problem with the bearer handling in LTM:

a. Solution 1: It is clarified in the procedural text that, upon the execution of an LTM cell switch procedure, the UE releases all RLC bearers (configurations and bearers itself).

b. Solution 2: A new field is introduced within the LTM candidate configuration (which is set by the candidate cell) which indicates to the UE to release all RLC bearers (configurations and bearers itself).

**2. [M202] Handling report configuration for early CSI acquisition**

R2-2506814 [M202] control plane issues for LTM CATT discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1 [M202]: To support early CSI reporting for subsequent LTM, UE should maintain the ltm-CSI-ReportConfig-r19 for early CSI reporting associated with the LTM candidate.

R2-2506924 [B110] [B111] [M202] Maintenance of CSI resource and CSI report configuration after cell switch Lenovo discussion Rel-19 Late

Proposal 1: UE releases LTM-CSI-ReportConfig IE in LTM-candidate IE e.g., after CSI reporting at the target cell after or during cell switch triggered by LTM.

**3. [H150] Configuration of execution conditions**

R2-2507378 RRC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core Late

Proposal 1: Use a single field for execution conditions i.e.,

- in LTM-Candidate, remove ltm-ExecutionCondition;

- remove the corresponding procedure text in 5.8.5.18.6;

- in the RRCReconfiguration message contained in ltm-CandidateConfig, allow including ltm-Config but with ltm-ServingCellExecutionCondition as the only present field.

**4. [H151] Configuration of L1 event-trigger report & execution condition**

R2-2507378 RRC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core Late

Proposal 3a: Create a new ToAddModList and ToReleaseList in MAC-CellGroupConfig for LTM L1 event-triggered reports.

Proposal 3b: Create a new ToAddModList and ToReleaseList in MAC-CellGroupConfig for L1 events used for execution conditions.

**5. [X153][X152] Configuration of L1 event-trigger report & execution condition**

R2-2507434 [X153] [X152] Discussion on RILs X153 and X152 Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1: Regarding issues pointed out in observation 1 (X153) and observation 2 (X152), following corrections can be considered and the proposed TP in Annex can be agreed:

- Change the bullet number of the procedure for whether to perform RLC re-establishment and PDCP data recovery (AM DRB) based on the Rel-18 ID (i.e., the corresponding L2 reset operation as defined in Rel-18) to the next level bullet of the conditions about Rel-19 ID, rather than the same level bullet.

- Replace the condition “else if the field ltm-NoSecurityChangeID is not configured for the LTM-Candidate IE in ltm-Config or ltm-ConfigNRDC indicated by lower layers and if the UE does not have any value stored of ltm-ServingCellNoSecurityChangeID within VarLTM-ServingCellNoSecurityChangeID; or” with "1> else:".

- Change the procedure for the update of Rel-18 ID of serving cell to the first level bullet (i.e., “1>”).

**5. [Z155] The missing description for VarLTM-ServingCellNoSecurityChange**

R2-2507528 Discussion on RIL issue [Z155][Z157] ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1a: [Z155] RAN2 to confirm that the NW can configure MCG LTM with NoSecurityChangeID in ltm-Config and SCG LTM with NoSecurityChangeID in ltm-ConfigNRDC simultaneously, for the coexistence of Intra-CU MCG/SCG LTM and Inter-CU SCG/MCG LTM.

Proposal 1b: [Z155] The UE can maintain two independent VarLTM-ServingCellNoSecurityChange, one associated with the ltm-Config and one associated with the ltm-ConfigNRDC, if both are configured.

**6. [Z157] Release SCG configuration in case of MCG LTM with SCG configuration**

R2-2507528 Discussion on RIL issue [Z155][Z157] ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 2: [Z157] RAN2 to discuss how to handle the release of the current SCG configuration in case of MCG LTM with SCG configuration:

• Option 1: The network does not set mrdc-ReleaseAndAdd for MCG LTM with SCG configuration, and the UE autonomously release the SCG part of the current UE configuration upon LTM cell switch execution, i.e. follow the same actions as LTM cell switch triggered on the SCG (see TP2-1 in the Annex).

• Option 2: The network always sets mrdc-ReleaseAndAdd for MCG LTM with SCG configuration, but the UE shall not release the LTM configuration for the SCG if MR-DC release is triggered due to LTM cell switch execution for MCG LTM with SCG configuration (see TP2-2 in the Annex).

**7. [S036] Release SCG configuration in case of MCG LTM with SCG configuration**

R2-2507238 [S036][S037]Discussion on Mobility RILs Samsung discussion Late

Proposal 1: [S036] Update L1-MeasConfigNRDC to include CSI-RS measurement related capabilities.

**8. [S037] Mandatory LTM information in inter-node RRC message**

R2-2507238 [S036][S037]Discussion on Mobility RILs Samsung discussion Late

Proposal 2: [S037] Absence of LTM configuration and Reference configuration in in CG-Config and CG-ConfigInfo means that the receiver maintains the values informed via the previous message.

**9. [N101] Description of reference configuration**

R2-2507436 Remaining Open Issues for RRC Nokia discussion

Proposal 4: The description of reference configuration is modified to reflect the changes corresponds to Inter-CU SCG LTM. The proposed changes are given in Annexure.A.3

**10. [N102] Field description of ltm-ConfigurationSCG**

R2-2507436 Remaining Open Issues for RRC Nokia discussion

Proposal 4: The description of reference configuration is modified to reflect the changes corresponds to Inter-CU SCG LTM. The proposed changes are given in Annexure.A.3

R2-2507093 RRC open issues for R19 mobility OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2506814 [M202] control plane issues for LTM CATT discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2506924 [B110] [B111] [M202] Maintenance of CSI resource and CSI report configuration after cell switch Lenovo discussion Rel-19 Late

R2-2507015 Discussion on RRC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507121 Miscellaneous corrections for stage-2 in Rel-19 Mobility Enhancements Apple Inc CR Rel-19 38.300 19.0.0 1040 - F NR\_Mob\_Ph4-Core

R2-2507238 [S036][S037]Discussion on Mobility RILs Samsung discussion Late

R2-2507378 RRC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core Late

R2-2507434 [X153] [X152] Discussion on RILs X153 and X152 Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507436 Remaining Open Issues for RRC Nokia discussion

R2-2507528 Discussion on RIL issue [Z155][Z157] ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507550 Remaining CP issues in R19 mobility MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

### 8.6.3 User plane

Essential MAC corrections.

**1. MAC-V01 RACH based LTM with MIMO 2TA**

R2-2507014 Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1: [MAC-V01] RAN2 selects from the following three options to address the mismatch issue that the TCI state ID indicated in the LTM Cell Switch Command MAC CE and TA value in the RAR within the RACH-based LTM procedure are associated with different TAGs:

- Option 2: Target DU sends a new TCI state in RACH Msg 4.

- Option 3: If the mismatch issue occurs, UE follows the TCI state associated with the RACH-based LTM procedure. Otherwise, UE follows the indicated TCI state in the LTM cell switch command.

- Option 4: UE selects the SSB associated with the same TAG ID as the TAG ID associated with the indicated TCI state in LTM Cell Switch Command MAC CE during the RACH-based LTM procedure.

R2-2507573 User Plane issues for CLTM and event triggered L1 MR Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 1: (MAC-V01) Rel-18 agreement and solution can be applied to Rel-19 inter-CU LTM, i.e., no spec impact is needed.

**2. MAC-V02 CFRA resource in LTM Cell Switch Command MAC CE**

R2-2507014 Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 3: [MAC-V02] For inter-CU LTM, a target cell specific CFRA resource pool could be provided by target gNB-DU to source gNB-DU, and the CFRA resource are assigned by S-DU in the LTM cell switch command MAC CE.

R2-2507078 Handling of MAC open issues on C(LTM) Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 2: No need to discuss and specify anything in R19 for MAC-V02.

**3. MAC-V04 TA update of CLTM TAT**

R2-2507014 Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 7: [MAC-V04] Upon receiving an LTM Cell switch Command MAC CE with valid TA, UE shall store the TA value for the target cell and start or restart the CLTM TAT of the target cell.

R2-2507573 User Plane issues for CLTM and event triggered L1 MR Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 5: (MAC-V04) When the UE receives LTM cell switch command including a TA value and this command indicate one LTM candidate cell, the UE does NOT maintain this TA value as a TA value for a candidate cell and does NOT start associated TAT for CLTM.

**4. MAC-O03 Handling of TA when CLTM candidate is released**

R2-2507094 MAC open issues for R19 mobility OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 3: Upon release of the CLTM execution condition, the UE stops CLTM TAT if running even if the corresponding LTM candidate configuration is kept.

R2-2507457 Discussion on remaining User Plane issues Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 7: (MAC-O03) The UE keeps any TA validity timer for an LTM candidate which has its execution conditions removed.

**5. MAC-V05/MAC-K01/MAC-N01 Handling of TA when CLTM candidate is released**

R2-2507014 Discussion on MAC open issues for R19 mobility vivo discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 8: [MAC-V05] Upon receiving an (Absolute) Timing Advance Command MAC CE or a RAR, UE shall store the TA value and start or restart the CLTM TAT of the candidate cell(s) that share the same PCI as the serving cell(s) of the TAG.

R2-2507573 User Plane issues for CLTM and event triggered L1 MR Sharp discussion Rel-19 NR\_Mob\_Ph4-Core

Proposal 6. (MAC-V05, MAC-K01, MAC-N01) When the UE receives a TAC MAC CE for a serving cell, UE does NOT store a valid TA value for a CLTM candidate cell and update its CLTM TAT of the source cell for possible RACH-less CLTM back to the source cell.

**6. MAC-F02 Handling of TA when CLTM candidate is released**

R2-2507190 [MAC-F02] Threshold for beam selection Ofinno discussion Rel-19 NR\_Mob\_Ph4

Proposal 1. For beam selection for L3-based RACH-less CLTM based on a configured threshold, RAN2 to agree the configured threshold is one of:

ALT1: Reusing existing Rel-18 threshold (cg-RRC-RSRP-ThresholdSSB), according to TP1 for ALT1;

ALT2: Introduce new Rel-19 threshold (cg-LTM-RSRP-ThresholdSSB), according to TP2 for ALT2.

R2-2506815 Discussion on SP CSI-RS and CSI-IM for early CSI acquisition CATT discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507304 Collision between PUSCH for early CSI and measurement gap NEC discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507078 Handling of MAC open issues on C(LTM) Samsung discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507094 MAC open issues for R19 mobility OPPO discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507190 [MAC-F02] Threshold for beam selection Ofinno discussion Rel-19 NR\_Mob\_Ph4

R2-2507379 MAC issues for LTM Huawei, HiSilicon discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507435 Discussion on mobility MAC open issues Xiaomi discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507457 Discussion on remaining User Plane issues Ericsson discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507462 On the open MAC issues for Rel-19 LTM Nokia discussion Rel-19 NR\_Mob\_Ph4

R2-2507485 LTM MAC remaining issues Qualcomm Incorporated discussion

R2-2507529 Discussion on MAC open issues ZTE Corporation, Sanechips discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507537 Discussion on MAC open issues for CLTM ASUSTeK discussion Rel-19 38.321 NR\_Mob\_Ph4-Core

R2-2507551 Remaining MAC issues in R19 mobility MediaTek Inc. discussion Rel-19 NR\_Mob\_Ph4-Core

R2-2507573 User Plane issues for CLTM and event triggered L1 MR Sharp discussion Rel-19 NR\_Mob\_Ph4-Core