3GPP TSG-RAN WG2 Meeting #131bis R2-250xxxx

Prague, Czech Republic, 13th – 17th October, 2025

**Agenda item: 8.1.1**

**Source: CATT**

**Title: Open issues on UE capability for Mob Ph4**

**Document for: Discussion and Decision**

# Introduction

The following email discussion is re-triggered to collect open issues on UE capability for Mob Ph4:

* **[POST131][115][MOB] (CATT)**

**Scope:** Update MOB UE capability CRs (including this meeting agreements also).

**Intended outcome:** 38.331 CR in R2-2506227 and 38.306 CR in R2-2506228 to be endorsed.

**Deadline:** Oct. 1st

The CR from the previous round of the above discussion was agreed in R2-2506227(38.331 CR)[1] and in R2-2506228(38.306 CR) [2]. In this second round, open issues with the agreed CRs are discussed and resolved.

# Open issues

Rapporteur has identified the following open issues during the CR review phase.

Companies are invited to describe any other identified open issues.

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| **Issue number** | **Issue description and potential resolution** | **Rapporteur comment** |
| **1** | **[Issue]**: For cltm-ExecutionConditionL1-r19, Is it so that if UE signal this capability it shall also indicate support of some of the L1 measurements capability?  **[potential resolution]**: UE also indicate support at least the intra-frequency L1 measurements capability | This issue was raised by Ericsson during CR review but not included in the final CR due to no time to align the understanding between companies.  The Rapp thinks this is a valid issue to address and the potential resolution is clear.  The Rapp is making a proposal on this. No contributions from companies on this are expected.  **Proposal 1: For cltm-ExecutionConditionL1-r19, UE supporting this feature shall also indicate support of intraFreqL1-MeasConfig-r18 for at least one band combination.** |
| 2 (Samsung) | In Rel18, there are the following capabilities about MCG LTM with NR-DC.   |  | | --- | | ***ltm-MCG-NRDC-r18***  Indicates whether the UE supports LTM for MCG with RACH with NR-DC configured as defined in TS 38.331 [9] and TS 38.321 [8]. UE indicating support for this feature shall also indicate support of *ltm-MCG-IntraFreq-r18.* | | ***ltm-MCG-NRDC-Release-r18***  Indicates whether the UE supports LTM for MCG with the release of NR-DC configuration as part of LTM execution when LTM cell switch command MAC CE is received. UE indicating support for this feature shall also indicate support of *ltm-MCG-IntraFreq-r18.* |   In Rel-18, there was a restriction for MCG LTM as below  ***mrdc-SecondaryCellGroupConfig***  This field is used to configure and release an SCG in NR-DC and NE-DC.In an *RRCReconfiguration* message within an *LTM-Config* IE associated with the MCG, if this field is present its value can only be set to *release*.  The restriction is removed in Rel-19, without any conditions. i.e. MCG LTM for intra-CU LTM, Inter-CU MCG LTM and CLTM may include **mrdc-SecondaryCellGroupConfig** set to setup. Since network needs to identify UEs which supports SCG addition/modification during MCG LTM, a new capability similar to the above capabilities may be added, as below.  ***ltm-MCG-NRDC-Setup-r19***  Indicates whether the UE supports LTM for MCG with the setup of NR-DC configuration as part of LTM execution when LTM cell switch command MAC CE is received. UE indicating support for this feature shall also indicate support of *ltm-MCG-IntraFreq-r18.*  As an alternative, newly defined Rel-19 capabilities may specify the behaviour*. i.e. A UE supporting* ltm-KeyUpdateMCG-r19 or cltm-ExecutionConditionL1-r19 or cltm-ExecutionConditionL3-r19along with *ltm-MCG-NRDC-r18* supports the setup of SCG during MCG LTM, as below.   |  | | --- | | ***ltm-KeyUpdateMCG-r19***  Indicates whether the UE supports security key change during MCG LTM cell switch execution.  A UE supporting this feature shall also indicate support of *ltm-MCG-IntraFreq-r18* in at least one band. A UE supporting this feature and ***ltm-MCG-NRDC-r18*** supports setup of NR-DC configuration as part of LTM execution when LTM cell switch command MAC CE is received. | | ***cltm-ExecutionConditionL1-r19***  Indicates whether the UE supports the evaluation of LTM conditions evaluation based on L1 measurements. The UE supporting this feature shall also indicate support of *ltm-MCG-IntraFreq-r18* for at least one band. A UE supporting this feature and ***ltm-MCG-NRDC-r18*** supports setup of NR-DC configuration as zpart of LTM execution when conditional LTM cell switch is executed. | | ***cltm-ExecutionConditionL3-r19***  Indicates whether the UE supports the evaluation of LTM conditions evaluation based on L3 measurements, by indicating the maximimum number of trigger events for the same execution condition. A UE supporting this feature shall also indicate support of *ltm-MCG-IntraFreq-r18* for at least one band. A UE supporting this feature and ***ltm-MCG-NRDC-r18*** supports setup of NR-DC configuration as part of LTM execution when conditional LTM cell switch is executed. |   Out of these alternatives, we prefer a separate capability, since according to the RRC CR, Intra-CU MCG LTM can also add/modify SCG. Without the capability, some restriction also may need to be specified in RRC for this case, which is not required. | The Rapp thinks no new capability is needed as if the UE indicates the support of ltm-KeyUpdateMCG-r19 and  ltm-MCG-NRDC-r18,then the NW can know the mrdc-SecondaryCellGroupConfig can be set to value other than *release.*Otherwise,it can only set it to *release.*  The Rapp is making a proposal on this. No contributions from companies on this are expected.  **Proposal 2:** **If the UE indicates the support of ltm-KeyUpdateMCG-r19 and**  **ltm-MCG-NRDC-r18,then the NW can know the mrdc-SecondaryCellGroupConfig can be set to value other than release. Otherwise, it can only set it to release.** |
| 3 (Samsung) | For R18 reporting, there are some restrictions on the maximum number of LTM-CSI-ReportConfig for the number of periodic/aperiodic/semi-persistent reporting.  For e.g. there are following capabilities  -supportedMaxAperiodic-LTM-CSI-ReportConfig-r18 indicates maximum number of aperiodic LTM-CSI-ReportConfig;  -supportedMaxPeriodic-LTM-CSI-ReportConfig-r18 indicates maximum number of periodic LTM-CSI-ReportConfig;  -supportedMaxSemiPersistent-LTM-CSI-ReportConfig-r18 indicates maximum number of semi-persistant LTM-CSI-ReportConfig;  For L3 measurement configuration, even though there are no capabilities for the maximum number of measurement identities, there is a RRC constant which caps the maxNrofMeasId to 64. For NR-DC, this is shared by both MN and SN triggered measurement configuration.  For event triggered L1 MR reporting, there is no capability on the maximum number of configurations. If we consider that the upper cap is based on the number of LTM-CSI-ReportConfig possible, it can be up to 48 based on RRC constant, and for NR-DC it can be up to 96, which is larger than even the maximum number of measurement identifiers for L3 measurements. This value seems to be not reasonable, and we think some constraints, preferably through capability reporting is required.  UE can inform the maximum number of LTM Event configurations that it can support using capability reporting. | This is valid issue to clarify.  The Rapp is making a proposal on this. No contributions from companies on this are expected.  **Proposal 3: Discuss whether to define a new UE capability for the supported maximum number of LTM Event configurations.** |
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# Conclusion

**Proposal 1: For cltm-ExecutionConditionL1-r19, UE supporting this feature shall also indicate support of intraFreqL1-MeasConfig-r18 for at least one band combination.**

**Proposal 2:** **If the UE indicates the support of ltm-KeyUpdateMCG-r19 and ltm-MCG-NRDC-r18,then the NW can know the mrdc-SecondaryCellGroupConfig can be set to value other than *release*. Otherwise, it can only set it to release.**

**Proposal 3: Discuss whether to define a new UE capability for the supported maximum number of LTM Event configurations.**

# Reference

1. R2-2506227, Draft 331 running CR for UE capability for Mob Ph4, CATT, RAN2#131
2. R2-2506228, Draft 306 running CR for UE capability for Mob Ph4, CATT, RAN2#131