* [POST128][117][MOB] (Lenovo)

**Scope:** Prepare LS to RAN4 and RAN3 to take the RAN2 agreements (including C-LTM based on L3 measurements, and possible other agreements from inter-CU LTM and L1-event driven MR) into account for their jobs.

**Intended outcome:** LS in R2-2411134, to be approved.

**Deadline:** Short email discussion

Though the scope of the LS lists only RAN3 and RAN4 but for at least one agreement (#8 in C-LTM), RAN1 is also listed as a potential recipient. So, Q1) **do you agree generally that the shortlisted agreements should be sent to all three i.e., to RAN1, RAN3 and RAN4 groups? If not, what is your suggestion?**

|  |  |  |
| --- | --- | --- |
| Company | Send LS to R1, R3 and R4 (Yes, No) | Comment |
| Ericsson | Comment | Agree on RAN3/4, questioning RAN1 impact. In general, it doesn’t seem like good practice to send ALL agreements to other working groups, it could waste their time if discussions are started on irrelevant agreements. However, since the agreement to send has been taken, and there might not be time to agree on a smaller list of agreements we might have to send them all. For RAN1, did we really agree to send that on (it follows Rel-18). We don’t think they need to be included. |
| MediaTek | Yes | We agree with rapporteur’s observation that at least the following agreement said RAN1 should be one of the recipients:  **⇒The Early TA is signalled to the UE from the source cell (i.e., not from the candidate cell directly to the UE). This agreement will be included in the LS to RAN1/3/4**.  Also, some other agreements also have RAN1 impact (e.g., L1 MR, early TCI activation, condition evaluation layer) and it would be helpful to included RAN1 as well. |
| vivo | Yes | Share the similar view with MediaTek that at least Early TA related agreement should be included.  Generally it is not preferred to send other working groups such a bundle of agreements but we could consider to avoid this in the future. |

# Shortlisting of Agreements

## C-LTM Agreements

First starting with C-LTM agreements (for L3 measurements):

**Agreements on C-LTM:**

1. The triggering condition of conditional LTM can be based on L3 measurement.
2. CondEventA3 and CondEventA5 conditions can be baseline for the conditional LTM execution.
3. The L1 execution condition of a candidate cell is associated to only one triggering event.
4. For L3 execution condition, it may consist of one or two triggering condition(s). If there are two triggering conditions associated with the same candidate cell, the UE shall consider the execution condition is fulfilled only when both triggering conditions are met. Only single RS type is supported and at most two different trigger quantities can be configured simultaneously for the evaluation of execution condition of a single candidate cell.
5. To support initial and subsequent conditional LTM, the following items can be considered for the configuration of execution condition:

- The CLTM configuration of each candidate cell shall include the execution condition for initial conditional LTM, which is generated by the initial source cell to trigger the CLTM for the candidate cell.

- The CLTM configuration of each candidate cell may include execution conditions for subsequent conditional LTM, which is generated by the candidate cell to trigger the CLTM for other candidate cells when the candidate cell becomes a serving cell.

1. The network can configure measurement reports e.g., L1 periodic, semi-persistent, aperiodic and event triggered report, or L3 measurement reports for conditional LTM, e.g., to trigger PDCCH ordered early RACH.
2. For CLTM, the Candidate Cell TCI States Activation/Deactivation MAC CE is re-used for the early activation/deactivation of TCI state(s) of a CLTM candidate configuration.
3. The Early TA is signalled to the UE from the source cell (i.e., not from the candidate cell directly to the UE). This agreement will be included in the LS to RAN1/3/4.
4. The network can inform the candidate cell’s TA information to UE via new MAC CE, which is the TA value when UE switches to that candidate cell during CLTM.
5. Candidate cell TA is maintained by a new timer.
6. For L1-based conditional LTM the condition evaluation is at MAC level and for L3-based conditional LTM the condition evaluation is at RRC level.

**Q2) Which of the C-LTM L3 measurement agreements are not relevant (e.g., some of the red ones?) for any of the RAN1, RAN3 and RAN4 group?**

|  |  |  |
| --- | --- | --- |
| Company | Not Relevant Agreement(s) # | Comment |
| Ericsson | N/A | We think that to down-select among the agreements we need proper discussions which there is no time for. So we have to send them all to RAN3/4. |
| MediaTek | N/A | Agree with Ericsson |
| vivo | Red ones except #5 | #5 is relevant to RAN3 and it is better to include it in the LS.  But we are also ok to send all agreements for simplicity. |

## Inter-CU LTM Agreements

Rapporteur thinks that generally the security (PDCP Re-est./ SDU Discard) related agreements are not directly related to R1,3 and 4 groups. Also, agreements that do not need inter-CU exchanges can be avoided:

**Agreements on inter-CU LTM:**

1. Rel-19 Set ID is configured for a candidate configuration. For DRB:

- Inter-CU MCG LTM: When Rel-19 Set ID of candidate cell is different from serving cell,

> UE performs PDCP re-establishment to all radio bearers.

- Inter-CU SCG LTM: When Rel-19 Set ID of candidate cell is different from serving cell,

> For MN terminated bearer without change of termination point, UE does not perform PDCP re-establishment. PDCP recovery is needed if it is split bearer.

> For SN terminated bearer without change of termination point, UE performs PDCP re-establishment.

> If there is change of termination point for a radio bearer (the keyToUse in the RadioBearerConfig is different from the keyToUse in the current UE configuration), UE performs PDCP re-establishment.

1. For SRBs in inter-CU SCG LTM, Rel-19 ID is used to determine whether PDCP re-establishment or PDCP SDU discard is performed for LTM execution for SRB3.
2. For SRB1/2 in inter-CU SCG LTM, PDCP re-established is not performed based on NW configuration (PDCP re-establishment flag and SDU discard).
3. RAN2 confirms that inter-CU MCG LTM with SCG addition is supported assuming no much specification effort is required. If there are much specification efforts, we will not have it.
4. RAN2 confirms that the inter-CU MCG LTM with intra-SN PSCell change is supported in Rel19.
5. From RAN2 perspective, the following coexistence cases in NR-DC can be supported:

- Case 1: Intra-CU MCG LTM + Inter-CU MCG LTM

- Case 2: Intra-CU SCG LTM + Inter-CU SCG LTM

1. In coexistence cases of inter-CU MCG/SCG LTM and intra-CU MCG/SCG LTM, when inter-CU MCG or SCG LTM is executed, it’s up to the NW to ensure that maintained LTM candidate configurations are valid, e.g. reconfigure or release invalid intra-CU MCG/SCG LTM candidate configurations. UE does not autonomously release invalid intra-CU candidate configurations.
2. RAN2 to support intra-CU SCG LTM in MN RRC message (i.e. MN RRCReconfiguration message), in addition to SN RRC message.
3. RAN2 to support intra-CU MCG LTM with SCG configuration.
4. It’s up to NW to ensure that the complete configuration includes the MCG part and SCG part configuration when UE combines the reference and candidate configuration for inter-CU SCG LTM.
5. RAN2 assumes that how to indicate the list of candidate PSCells from source SN to MN is up to RAN3. From RAN2 perspective, in INM, source SN may send measurement results of candidate PSCells to the MN. The MN then forwards the measurement results to the candidate SN(s), and then the candidate SN(s) determines the LTM candidate cells based on the measurement results and the upper limit for the number of PSCells that can be prepared by each candidate SN. The existing IEs defined in INM can be reused as a baseline.

**Q3) Which of the Inter-CU LTM agreements are not relevant (e.g., the red ones?) for any of the RAN1, RAN3 and RAN4 group?**

|  |  |  |
| --- | --- | --- |
| Company | Not Relevant Agreement(s) # | Comment |
| Ericsson | N/A | We think that to down-select among the agreements we need proper discussions which there is no time for. So we have to send them all to RAN3/4. |
| MediaTek | N/A | Agree with Ericsson.  It seems inter-CU LTM agreements only have RAN3 impact. We can say in LS that these agreements are only for RAN3. |
| vivo | N/A | OK to send all agreements. |