**3GPP TSG RAN WG2 Meeting #127bis R2-24xxxxx**

**Hefei, China, 14 - 18 October 2024**

**Agenda Item: 7.4.3**

**Source: Huawei, HiSilicon**

**Title: [AT127b][108][MOB] (Huawei)**

**Document for: Discussion and Decision**

# 1 Introduction

This document is a summary of

* [AT127b][108][MOB] (Huawei)

 **Scope:** 1) To discuss and capture R2-2409138, R2-2408297, R2-2408784, and 1st change in R2-2408755 in MAC CR rapporteur’s miscellaneous CR. 2) To discuss 2nd change in R2-2408755 and R2-2408817.

 **Intended outcome:** 1) MAC CR in R2-2409361 to be in principle agreed. Email approval. 2) Discussion summary in R2-2409362. Comeback in Thursday CB session

**Deadline:** 1)Thursday 10:00am, 2) Thursday CB session

# 2 Discussion

Companies providing comments are invited to indicate the name and email address of the delegate:

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| --- | --- | --- |
| Company | Name | Email |
| Huawei, HiSilicon | David Lecompte | david.lecompte@huawei.com |
| Ericsson | Antonino Orsino | antonino.orsino@gmail.com |
| MediaTek | Xiaonan Zhang | xiaonan.zhang@mediatek.com |
| Samsung | Anil Agiwal | anilag@samsung.com |
| ZTE | Fei Dong | Dong.fei@zte.com.cn |
| LG Electronics | Gyeong-Cheol LEE | gyeongcheol.lee@lge.com |
| Google | Frank Wu | frankwu@google.com |

A revision of the following CR is provided:

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| R2-2409138 | Miscellaneous corrections for LTM | Huawei, HiSilicon |

Companies are invited to check the revision and can provide comments in the draft CR or below:

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| Company | Comments |
| Ericsson | The changes look fine for us |
| LGE | For all changes related to “not initiated for recovery using an LTM candidate configuration as specified in TS 38.331 [5] clause 5.3.7.3”, according to the reason for change, the reason is that when the UE executes LTM for recovery, the UE performs CBRA with common resource and resources in rach-ConfigDedicated are not used. However, I cannot find which parts in the 38.331 mention that the UE should not use resources in rach-ConfigDedicated for LTM for recovery. So, this change should not be adopted. For changes in section 5.1.6, the following changes seems to adopt same behaviour for DAPS handover. However, LTM is different from the DAPS handover. The UE can perform data tx/rx with a source cell during DAPS handover to the target cell and then the UE stop performing data tx/rx with a source cell after receiving indication of the successful completion of the Random Access procedure to the target cell. In our view, LTM does not have any data tx/rx during performing LTM handover and this change to indicate the successful completion of the Random Access procedure to the upper layer is not needed. Upon successful completion of the Random Access procedure initiated for LTM Cell switch, the MAC entity shall:1 > indicate the successful completion of the Random Access procedure to the upper layer.For the change in section 5.18.35, we would like to keep the original wording. This “if” statement is for the case that the MAC reset is performed after successful checking of the below yellow highlight part. So, if the yellow part is valid, the MAC reset is performed by the upper layer (as green highlight). Otherwise, this “if” statement is not satisfied since the upper layer (i.e., RRC) does not request the MAC reset. So, no change is needed for this part.2> indicate to upper layers that the LTM cell switch procedure is triggered and the Target Configuration ID included in the LTM Cell Switch Command MAC CE;2> after the MAC reset operation as specified in clause 5.12 is performed, as requested by upper layers: |
| Google | We’d like change the following:1> else if this Random Access procedure is initiated by PDCCH order for an LTM candidate cell:2> select the set of Random Access resources for early UL synchronization corresponding to cell indicated by the field *Cell indicator* in the PDCCH order as specified in TS 38.212 [9].To1> else if this Random Access procedure is initiated by PDCCH order for an LTM candidate cell:2> select the set of Random Access resources configured in *EarlyUL-SyncConfig* corresponding to cell indicated by the field *Cell indicator* in the PDCCH order as specified in TS 38.212 [9]. |

There were additional proposals not captured:

R2-2408755 and R2-2408817 propose to initiate RA explicitly when RACH-less LTM cell switch is not initiated in 19.35 upon reception of the LTM cell switch MAC CE.

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| Company | Change needed? | Comments |
| Huawei, HiSilicon | No | For the SCG case, the RA is already initiated in TS 38.331 clause 5.3.5.3.For the MCG case, the RA is initiated in TS 38.321 clause 5.4.4 because a SR is pending for the RRCReconfigurationComplete to be transmitted on SRB1. |
| Ericsson | Yes | We think the change is needed.When the TA is not available, even if the RRCReconfigurationComplete message is pending the SR will not be triggered because in legacy procedure the UE triggers the random access and there receives a grant which is big enough to send the complete message.Also, in section of 5.4.4 of 38.321 we have the following:As long as at least one SR is pending, the MAC entity shall for each pending SR: 1> if the MAC entity has no valid PUCCH resource configured for the pending SR; and 1> if there is no ongoing RACH-less LTM cell switch; and 1> if rach-LessHO is not configured: 2> initiate a Random Access procedure (see clause 5.1) on the SpCell and cancel the pending SR.The problem with this text is that it works only if the SR is already pending at the time this procedure is executed, which is not the case for LTM. This text works only when DG is used as the UE may triggered the BSR, which will trigger the SR. |
| MediaTek | No | We tend to agree with Rapporteur’s observation |
| Samsung | No | Agree with Rapporteur |
| ZTE | Yes | LTM is not the same as the previous handover method, the RACH resources for RACH are directly carried in the MAC CE that means UE should perform the RACH as soon as the LTM Cell switch MAC CE is received not due to the pending SR. In this sense, we should explicitly indicate the RACH initiation for LTM. Otherwise, it is an issue where and how long the MAC entity of the UE can store the RACH resources since there is processing time that is needed for the BSR triggered and the subsequent SR triggering. |
| LGE | See comments | This change would be helpful to make the specification clear, but there is nothing broken and we can leave without the change. So, we can follow the majority.  |
| Google | Yes | For CBRA, the RRCReconfigurationComplete will trigger the CBRA. However, for CFRA configured in the LTM cell switch command, the UE should perform the CFRA immediately as described in the change to avoid delay.  |

R2-2408784 proposes

1) to add *ssb-PerRACH-Occasion* in 5.1.1 to the list of parameters for the Random Access procedures, and capture that this is "the number of SSBs mapped to each PRACH occasion for the Random Access procedure initiated by the PDCCH order for an LTM candidate cell". The motivation is that "Currently in the random access procedure initialization, the UE initializes *ssb-perRACH-OccasionAndCB-PreamblesPerSSB* for 4-step RA type. However, for the Random Access procedure initiated by the PDCCH order for an LTM candidate cell, *ssb-PerRACH-Occasion* in *EarlyUL-SyncConfig* should be used instead of *ssb-perRACH-OccasionAndCB-PreamblesPerSSB*."

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| Company | Change needed? | Comments |
| Huawei, HiSilicon | No | 5.1.1 also applies to reconfiguration with sync and there is a field that has this name in *rach-ConfigDedicated*, also not listed in 38.321, so the proposed text may be confusing.The change to add "for early UE synchronization" should make it clear that the field to use is in EarlyUL\_SyncConfig. |
| Ericsson | No | Agree with Huawei |
| MediaTek | No strong view |  |
| Samsung | No | Agree with Huawei |
| ZTE | No | Agree with HW. |
| LGE | No |  |
| Google | Yes | *rach-ConfigDedicate”* is explicitly described in many places for random access in 38.321. However, *EarlyUL\_SyncConfig* is not described in 38.321 at all, which is different from the *rach-ConfigDedicated.* To avoid the problem indicated in our CR, we should at least describe *EarlyUL\_SyncConfig* as proposed in our comment to the rapporteur’s CR. |

2) to change "preamble initial transmission" to " a Random Access Preamble for the first time for the LTM candidate cell" and "the same Random Access Preamble as the last Random Access Preamble transmission". The motivation is that in 38.212, there is no such description matching with current text in 38.321.

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| Company | Change needed? | Comments |
| Huawei, HiSilicon | No | 38.212 describes a field called "PRACH association indicator" as "This field indicates initial transmission or retransmission of PRACH", which seems more aligned with the existing than with the proposed description. |
| Ericsson | No | Agree with Huawei |
| MediaTek | No |  |
| Samsung | No |  |
| ZTE | No |  |
| LGE | No |  |
| Google | Yes | We think the existing wording is not clear. |

R2-2408817 proposes, in the reception of the LTM cell switch command MAC CE:

1) to add a condition that "Timing Advance Command value (hexa-decimal) is set as FFF" for the UE to apply the TA autonomously acquired by the UE

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| Company | Change needed? | Comments |
| Huawei, HiSilicon | No | When the UE is configured with UE-based Timing Advance measurement and has acquired the TA, the proposal requires the UE to perform RA if the network sends a value that is not FFF for the TA command. RAN2 already discussed a proposal to allow the network to trigger RA in this case and that proposal was not agreed, so the TP contradicts with the previous RAN2 agreement. |
| Ericsson | Yes | In RAN2 we made the following agreement:* Procedure assumptions: At LTM cell switch: UE uses TA from the network if it is provided (target TA or TA=0 or TA=same as src). If not provided and the UE is configured for UE based TA, then UE based TA is used. If the UE does not have/cannot derive the TA for target, the cell switch uses RACH. (FFS if more details need to be considered).

Our proposal capture the case on when the TA value in the MAC CE is set to FFF and the UE, even configured with UE-based TA, is not able to estimate any TA. |
| MediaTek | No | It seems not needed because this is an “else if”. So the condition of the above condition is already excluded. |
| Samsung | No |  |
| ZTE | No |  |
| LGE | No | The current condition is sufficient to use UE-measured TA. |
| Google | No |  |

3 Conclusion

4 References

1. R2-2408297 MAC corrections for LTM, Samsung Electronics Co., Ltd
2. R2-2408755 Clarification to 38.321 on LTM Cell Switch UP Aspect, ZTE Corporation
3. R2-2408784 Clarification on random access procedure initialization for early UL synchronization, Google
4. R2-2408817 MAC corrections for feMob, Ericsson
5. R2-2409138 Miscellaneous corrections for LTM, Huawei, HiSilicon