3GPP TSG RAN WG4 Meeting #111 R4-241xxxx

Fukuoka, Japan, 20 May 2024 – 24 May 2024

**Title: Reply LS on LTM L1 intra and inter-frequency measurements**

**Response to:** [**R2-2404014**](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_125bis/Docs/R2-2404014.zip)

**Release: Rel-18**

**Work Item: NR\_Mob\_enh2-Core**

**Source: RAN4**

**To:** **RAN2**

**Cc: RAN1**

**Contact person: Venkatarao Gonuguntla**

 **Venkatarao.gonuguntla@ericsson.com**

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** NA

# 1 Overall description

RAN4 would like to thank RAN2 for LS ([**R2-2404014**](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_125bis/Docs/R2-2404014.zip)). In this meeting, RAN4 discussed the following Questions from the LS:

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| 45-1 | Intra-frequency L1 measurement and reports for L1-L2 Triggered Mobility (LTM) procedure |
| 45-1a | Inter-frequency L1 measurement and reports for L1-L2 Triggered Mobility (LTM) procedure |

**Question 1:** Are the above intra-frequency and inter-frequency L1 measurement and reporting features (45-1 and 45-1a) prerequisites to support intra-frequency and inter-frequency LTM, respectively?**Question 2:** The above features, 45-1 and 45-1a, from RAN1 and related RAN4 features (39-1, 39-2, 39-3-1, 39-3-2, 39-3-3, 39-3-4, 39-3-5, 39-3-6) are defined per BC for both intra-frequency and inter-frequency measurements. RAN2 would like check with RAN1/4 for which BC (e.g. BC of current serving cells, BC including current serving cells and cell to be measured or something else) these capabilities are to be considered for L1 intra-frequency and inter-frequency LTM measurements? |

From RAN4’s perspective, the following consensus was reached:

**Reply to the Question 1:**

For whether intra-frequency and inter-frequency L1 measurements and reporting are prerequisites to support intra-frequency and inter-frequency LTM, RAN4 analysed RAN4 requirements and achieved following agreements

* For FR1, RAN4 Rel-18 related LTM requirements are applicable to the case without L1 measurement and reporting of LTM candidate cells.
* For FR2, RAN4 Rel-18 related LTM requirements are not applicable if L1 measurements for LTM candidate cells are not supported by the UE, or not configured by the network.

**Reply to the Question 2:**

RAN4 discussed the following options. Option 1 is supported by majority companies in RAN4, but RAN4 cannot reach consensus on option 1. Meanwhile, RAN4 discussed the compromised option in Option 3, and the feasibility and details are up to RAN2.

* Option 1: The BC granularity is BC of serving cells.
* Option 2: The BC granularity is BC including serving cells and candidate cells to be measured.
* Option 3: The UE capability is based on option 1 and introduce additional UE capability to accommodate option 2.

From RAN4 perspective, the UE capabilities can be implemented into the specification based on RAN2 conclusion.

# 2 Actions

**To RAN1 and RAN2:**

**ACTION:** RAN4 respectfully asks for RAN2 / RAN1 to consider the above in their speciation work.

# 3 Dates of next TSG RAN WG 4 meetings

TSG RAN WG4 Meeting #112 19 - 23 August 2024  Maastricht, Netherlands

TSG RAN WG4 Meeting #112bis 14 – 18 October 2024  TBC, China