3GPP TSG-RAN WG2 Meeting #131***R2-25xxxxx***

Bengaluru, India, August 25-29, 2025

**Agenda item:** 8.1.1

**Source:** Qualcomm Incorporated (Rapporteur)

**Title:** Summary of [POST130][025][AI PHY] 37.355 CR (Qualcomm)

**Document for:**  Discussion

# 1. Introduction

This document summarizes the LPP Running CR email discussion.

* [POST130][025][AI PHY] 37.355 CR (Qualcomm)

Intended outcome: agree to CR and open issues list and inputs

Deadline: long

Companies are invited to provide their comments on the running CR "R2-250xxxxx\_(Running CR 37355-i40)\_v02" located in the 'docs' sub-folder for this email discussion in the Table in Section 4 below.

Companies are invited to provide comments by **1st August 2025.**

NOTE: A parallel discussion is undertaken for the LPP open issues list in 'R2-25xxxxx\_([POST130][025][AI PHY] LPP Open issues Discussion)' which is in the same email discussion folder as this document.

# 2. Contact Information

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| Name | Contact: Name (E-mail) |
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# 3. Summary of updates in \_v02 of LPP Running CR

## 3.1 RAN2 Agreements

The RAN2 agreements from RAN2#130 are implemented in 'R2-250xxxxx\_(Running CR 37355-i40)\_v02' per the open issues list in 'R2-25xxxxx\_([POST130][025][AI PHY] LPP Open issues Discussion)':

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| Issue | | RAN2 Agreement | Status | Action |
| LPP#1 | Applicability of *dl-PRS-ResourcePrioritySubset* | The field dl-PRS-ResourcePrioritySubset in IE NR-DL-PRS-Info should be ignored for NR AI/ML positioning. Remove corresponding 'Editor's Note' from the running CR. | Closed | Updated in \_v02 of running CR |
| LPP#5 | Applicability of NR-On-Demand-DL-PRS-Configurations-Selected-IndexList | The IE NR-On-Demand-DL-PRS-Configurations-Selected-IndexList is also applicable to NR AI/ML positioning Case 1. The corresponding Editor's Notes in clause 6.4.3, 6.5.10.1, and 6.5.11.1 can be removed. | Closed | Updated in \_v02 of running CR |
| LPP#6 | Applicability of *NR-PRU-DL-Info* | [LPP-6] The IE NR-PRU-DL-Info is also applicable to NR AI/ML positioning Case 1. The corresponding Editor's Notes in clause 6.4.3 can be removed. FFS if more PRUs are needed to be included for training purposes | Closed.  The FFS is captured as new issue #6a. | Updated in \_v02 of running CR |
| LPP#7 | Applicability of *NR-SelectedDL-PRS-IndexList* | NR-SelectedDL-PRS-IndexList is applicable to AI/ML positioning Case 1. | Closed | Updated in \_v02 of running CR |
| LPP#13 | Location server error causes | Reuse the existing NR-DL-TDOA-LocationServerErrorCauses structure for AI/ML positioning Case 1, and do not introduce additional error causes in NR-DL-AI-ML-LocationServerErrorCauses. | Closed | No additional LPP impacts. |
| LPP#14 | Target device error causes | Introduce ‘DL AIML positioning not available’ as new target device error cause for AI/ML positioning case 1, to indicate UE cannot perform positioning method (e.g. model not available and performance monitoring outcome not available). | Closed | Updated in \_v02 of running CR. |
| LPP#15 | Applicability of Positioning Integrity to AI/ML positioning | (LPP-15) positioning Integrity is supported for AI/ML positioning Case 1 | Closed | No additional LPP impacts. |
| LPP#16 | Signalling of Monitoring Outcome | No new LPP message is introduced for performance monitoring purposes | Closed | No additional LPP impacts. |
| LPP#17 | Signalling of "ground-truth label" information | (LPP-17): A target UE can obtain the "ground-truth label" information via existing MO-LR procedures. No additional RAN2 specification impacts are foreseen | Closed | No additional LPP impacts. |

## 3.2 RAN1 Agreements

At RAN1#121, additional agreements for Case 1 were made (see [R1-2504893](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_121/Docs/R1-2504893.zip), "Session notes for 9.1 (AI/ML for NR Air Interface)", Ad-Hoc Chair (CMCC)):

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| Working Assumption  For AI/ML based positioning Case 1, regarding info #7 in the assistance information from legacy UE-based DL-TDOA, it can be provided as in legacy UE-based DL-TDOA or implicitly.  Agreement  Above Working Assumption is confirmed. |

Since the current version of the running CR includes all assistance data from UE-based DL-TDOA (but still FFS (i.e., with Editor's Note)), the above agreement has no additional impacts to the LPP running CR.

For the "implicit" provisioning of info#7 in the agreement above, RAN1 made the following additional agreement:

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| Agreement  For AI/ML based positioning Case 1, regarding Info #7 in the assistance information from legacy UE-based DL-TDOA,   * If implicitly provided, the implicit indication of Info #7 is via associated ID.   + For given TRP(s), same associated ID implies that geographical coordinates of the TRP(s) can be understood as consistent by the UE.   + The associated ID is not expected to provide the real value of Info #7 (i.e., geographical coordinates of the TRP(s) are not disclosed).   + an associated ID is configured per-cell (e.g., NCGI-r15)     - UE does not expect to receive different values of associated ID for TRPs belonging to the same NCGI-r15   + Associated ID can be realized by an identifier of N bits (e.g., 8 bits) |

An ASN.1 skeleton for the above agreement (which can be further completed when additional RAN1 input is received) is proposed in IE *NR-TRP-ImplicitLocationInfo*, which is included in IE *NR-PositionCalculationAssistance*. A corresponding bit is added in *NR-DL-AIML-RequestAssistanceData-r19* (*nr-PositionCalculationAssistanceReq-r19*) and *NR-DL-AIML-ProvideCapabilities-r19* (*nr-PosCalcAssistanceSupport-r19*).

# 4. Comments Collection on Running LPP CR

Please provide your comments on "R2-250xxxxx\_(Running CR 37355-i40)\_v02" located in the 'docs' sub-folder in the Table below.

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| Company | Clause/IE | Comments | Proposed Change (if any) | Rapporteur Comments |
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