3GPP TSG-RAN WG2 Meeting #130***R2-250xxxx***

St Julian’s, Malta, May 19 - 23, 2025

**Agenda item:** 8.1.1

**Source:** Qualcomm Incorporated (Rapporteur)

**Title:** Summary of [POST129bis][015][AI PHY] 37.355 Running CR

**Document for:**  Discussion

# 1. Introduction

This document summarizes the following email discussion.

* [POST129bis][015][AI PHY] 37.355 Running CR (Qualcomm)

 Intended outcome:

1. Update CR based on agreements from RAN2#129bis
2. List of remaining open issues

 Deadline: Long

The following documents are in the sub-folder 'docs' for this email discussion:

[1] R2-250xxxx\_(Running CR 37355-i40)\_v01.docx

[2] R2-250xxxx\_(LPP Open Issues List)\_v00.docx

# 2. Contact Information

|  |  |
| --- | --- |
| Company | Contact: Name (E-mail) |
| Nokia | Mani Thyagarajan (mani.thyagarajan@nokia.com) |
| Lenovo | Congchi Zhang (zhangcc16@lenovo.com), Tapisha Soni (tsoni@lenovo.com) |
| LG | Jonggil Nam (jonggil.nam@lge.com)  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# 3. Comments Collection on Running LPP CR [1]

Please provide your comments on "R2-250xxxx\_(Running CR 37355-i40)\_v01.docx" located in the 'docs' sub-folder in the Table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Company | Clause/IE | Comments | Proposed Change (if any) | Rapporteur Comments |
| Nokia | General comment on naming of the new positioning method:  | Should we distinguish DL vs UL AI-ML-Positioning? Why do we need a hyphen between AI and ML? Why do we need to include “Positioning” in the name of the method? Should we abbreviate the method name as NR DL-AIML-POS? | If agreed, example change would look like this: nr-DL-AIML-POS-RequestCapabilities-r19 | I think we can remove the "Positioning"/"POS" completely in the naming. Suggest using the naming from Lenovo below, but without hyphen between AI and ML.I also changed the name in *LocationSource-r13* to 'dl-aiml-r19' to be consistent with tdoa/aod names.Updated in running CR accordingly. |
| Nokia | dl-PRS-ResourcePrioritySubset field in NR-DL-PRS-Info IE | In the NOTE, change “NR AI/ML positioning” to “NR DL-AIML-POS positioning” |  | Changed to "NR DL AI/ML positioning" as above (i.e., without POS). |
| Nokia | Editor’s Note in NR-DL-PRS-ProcessingCapability IE and NR-DL-PRS-QCL-ProcessingCapability IE | Editorial change | Editor's Note: It is FFS whether the NR-DL-PRS-ProcessingCapability is needed also for AI/ML positioning  | Updated in running CR accordingly. |
| Nokia | NR-PRU-DL-Info IE | For carrier phase positioning, the PRU reporting “CP measurements with associated measurements” is still valid and hence this information must be retained in the IE description. For AIML positioning we can add additional sentences describing AIML positioning specific nature of PRU reporting. If you want to keep the changes made because the opening sentence is supposed to be a generic statement then a separate sentence must be added to say “For carrier phase positioning, the carrier phase measurements is provided along with the associated measurements”. |  | Restored the original specification text and added the change as a new, separate sentence.  |
| Nokia | 6.5.13 | I don’t recollect seeing a definition of direct positioning in the 38.305 running CR. Anyway, instead of limiting this section only to Case 1, we should make it case agnostic for any AIML positioning cases even though in Rel-19 we will be supporting only case 1 i.e., AIML direct positioning. However, note that Case 2b in the future and Case 3b from RAN3 with model in LMF will also be considered AIML direct positioning because the model output is directly a position estimate instead of intermediate information used to estimate the position. |  | I removed the "direct" at all occurrences. For LPP we have just a request for *locationEstimate* anyhow. If needed, we may introduce this terminology in Stage 2.  |
| Nokia | 6.5.13.1: NR-AI-ML-PositioningProvideAssistanceData IE description | UE-based AI/ML direct positioning limits it to Case 1. Should keep the text generic for future addition of other positioning cases e.g., Case 2a/2b but a note or another separate sentence can be added to say that in this release only UE-based AIML direct positioning is supported. |  | The "direct" has been removed, per above comment. The "In this Release…" language should not be needed, since we can always update in the future. We had similar examples in the past with e.g., TBS, WiFi and BT, where initially only one mode was supported (UE-based or standalone or UE-assisted). |
| Nokia | 6.5.13.2: NR-AI-ML-PositioningRequestAssistanceData | In the future this IE can be used by UE to request assistance data for UE-assisted AIML positioning too. |  | See above comment. How to support UE-assisted mode would be a separate discussion in the future. |
| Nokia | 6.5.13.7: NR-AI-ML-PositioningRequestCapabilities IE description | Details of positioning capabilities depends on RAN1 UE capabilities/features list. Should add an FFS for this. |  | Added an Editor's Note. |
| Lenovo | Naming in 6.5.13.x  | Agree with the comment from Nokia, since this new method is only for case 1, better to clarify it’s DL-AI-ML method. Also, the naming of the IEs can omit “Positioning” to be consistent with the naming in legacy positioning methods:* NR-AI-ML-PositioningProvideAssistanceData
* NR-AI-ML-PositioningRequestAssistanceData
* NR-AI-ML-PositioningProvideLocationInformation
* *NR-AI-ML-PositioningRequestLocationInformation*
* *NR-AI-ML-PositioningProvideCapabilities*
* *NR-AI-ML-PositioningRequestCapabilities*
* *NR-AI-ML-Positioning-Error*
 | * NR-DL-AI-ML-ProvideAssistanceData
* NR-DL-AI-ML-RequestAssistanceData
* NR-DL-AI-ML-ProvideLocationInformation
* NR-DL-AI-ML-RequestLocationInformation
* NR-DL-AI-ML-ProvideCapabilities
* NR-DL-AI-ML-RequestCapabilities
* NR-DL-AI-ML-Error
 | Updated accordingly, but without the hyphen between AI and ML (as commented above). |
| LG | Naming of AI/ML Positioning Case 1 | We are okay with the suggested name, i.e., NR-AI-ML-PositioningXXX. In 37.355, for Cases 2a/2b and 3a/3b, the final position estimation remains within the network (LMF or gNB), and the UE behaves similarly to traditional positioning methods by providing intermediate measurements. But, we believe the naming should emphasize that the positioning is UE-based and/or direct for clear understanding.We propose naming it NR-UE-AIML-Direct-XXX or NR-UE-AIML-Positioning-XXX. | For example, * NR-UE-AIML-Direct-ProvideAssistanceData

or* NR-UE-AIML-Positioning-ProvideAssistanceData
 | Updated according to Nokia/Lenovo comments above. The "Positioning" in the naming should be redundant, since everything in LPP is about positioning (e.g., we also don't use this phrase in any of the other methods). The "Direct AI/ML" and "AI/ML assisted" terminology could probably be captured in Stage 2. However, for Case 1, and assuming all assistance data from DL-TDOA are available, I believe this would not be distinguishable since the UE reports a location estimate in any case (i.e., no matter whether the UE internally has a "direct" or "assisted" model). |

# 4. Comments Collection on Open Issues List [2]

Please provide your comments on "LPP Open Issues" in "R2-250xxxx\_([POST129bis][015][AI PHY] LPP Open issues Discussion\_v00.docx".

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |