3GPP TSG-RAN WG2 Meeting #131bis R2-250xxxx

Prague, Czech Republic, 13th – 17th October, 2025

**Agenda item: 8.1.1**

**Source: vivo**

**Title: TS38300 Open Issues on AI for Air Interface Feature**

**Document for: Discussion and Decision**

# Introduction

The following email discussion is re-triggered to collect open issues on AI for Air Interface Feature TS38300 Stage 2 CR:

 **[POST131][025][AI PHY] 38.300 (Vivo)**

  Intended outcome: Agree to final CR and merge RAN3 CR

     Deadline:  Sept 19th

Companies are invited to provide feedback on open issue list by: **Sept. 19th 00:00 UTC**.

# Open issues

Companies are invited to describe any identified open issues based on latest TS 38300 CR [1].

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| --- | --- | --- | --- |
| **Issue-num (Company)** | **Identified open issues** | **Suggested change** | **Rapp comment** |
| Issue-x(vivo) | The description of issue xxx | This change xxx | Agree, ,,, |
| Issue – 1 (Lenovo) | [Terminology Alignment] There is a mix use of “NW-side model” and “gNB-side model”. Although the meanings of them are the same, considering LMF is not in the context. | Since in AIML-based positioning it has to be “gNB-side model” to differ from “LMF-side model”, we suggest to use “gNB-side model” when possible. “NW-side model” can be interpreted in a generic way including model deployed in CN. |  |
| Issue – 2 (Lenovo) | [Terminology Alignment]As raised also over email, we have been using "buffer" during our WI discussion. On the other hand, when it comes to spec terminology w.r.t logging, we notice the term "memory" is actually used in MDT/QoE description at least in stage 3 331 and 306.  | We honestly believe “memory” is the most precise term and aligned with the term used for QoE and MDT.It is a common question to also 38.331 and 38.306 CR. |  |
| Issue – 3 (Nokia) | Abbreviation of AI/ML is missing in Clause 3.1 | Clause 3.1 should add the abbreviation: AI/ML Artificial Intelligence/Machine Learning Coverpage should include 3.1 in *clauses affected*  |  |
| Issue – 4 (Nokia) | [Terminology alignment of ‘inference’ vs ‘prediction’] We observed the term ’prediction’ is used in TS 38.331 while in TS 38.300 uses ‘inference’. For example, a) In TS 38.300: ‘inference configuration’In TS 38.331: ‘prediction configuration’b) In TS 38.300: ‘Inference related parameters’In TS 38.331: ‘prediction related parameters’  | The impact is in the whole document and to replace ‘inference configuration’ with ‘prediction configuration’ and ‘inference related parameters’ with ‘prediction related parameters’. |  |
| Issue – 5 (Nokia) | In clause X.Y.2.3 and Figure X.Y.2.3-1 Step 1 and Step 2 are unnecessary. Note that, note that, the indication of UE capability is already well captured in TS 38.300 in clause 14 *The UE capabilities in NR rely on a hierarchical structure where each capability parameter is defined per UE, per duplex mode (FDD/TDD), per frequency range (FR1/FR2), per band, per band combinations, … as the UE may support different functionalities depending on those (see TS 38.306 [11]).* | We suggest to remove Step 1 and Step 2 from Clause X.Y.2.3 and Figure X.Y.2.3-1 That is,~~1. The network inquires about the UE capability information.~~ ~~2. The UE indicates its supported functionalities to the network via~~ *~~UECapabilityInformation~~* ~~message.~~ |  |
| Issue – 6 (Nokia) | [Use of stage 3 parameters]In clause X.Y.2.3, Step 3 contains stage 3 parameter ‘*OtherConfig*’We suggest to remove to have a clear separation between Stage-2 and Stage-3..  | We suggest to remove ‘OtherConfig’ in Step 3 of Clause X.Y.2.33. The network may provide inference configuration with NW-side additional conditions (e.g., associated ID) to UE via CSI report configuration or inference related parameters configuration ~~via~~ *~~OtherConfig~~*. |  |
| Issue – 7 (Nokia) | [Consideration of latest agreements in Step 7 of Clause X.Y.2.3] In accordance to the latest agreement in RAN2#131, UE can report the updates of applicability reporting via UAI. Therefore, the first sentence in the Step 7 should be updated. Moreover, we suggest to remove the Stage-3 parameter.**Impacted content:**7. When the network enables applicability reporting via *OtherConfig*, and applicability of the functionality changes, the UE can report updated functionality applicability status in *UEAssistanceInformation* message. When an activated AI/ML functionality becomes inapplicable, the UE does not autonomously deactivate it, but the UE indicates to the network the change in the applicability. Upon reception of UE indication of the functionality becoming inapplicable, the network should deactivate or release this activated functionality.**RAN2#131 agreements**1. RAN2#131 agreements 3 Include RAN2 feature ‘UE can provide update of applicability reporting via UAI’ as part of RAN1 FGs (e.g., 58-0-1 and/or FG 58-1-2/3/4/5, the details of those feature group depend on RAN1 progress) once implemented.
2. 4 Introduce two conditional mandatory capabilities (with signaling) for AI/ML based BM Option A and Option B, if UE supports FG58-0-1 and/or FG58-1-2/3/4/5 (the details of those feature group depend on RAN1 progress).
3. 5 Include RAN2 feature ‘providing UE preferred configuration for UE-side data collection’ as part of RAN1 FG58-1-7/FG58-3-4 (once implemented).
4. 6 UAI is mandatory for both Option A and B
 | Proposed change: 7: **UE can report changes of applicability of AI/ML functionality via *UEAssistanceInformation* message.** When an activated AI/ML functionality becomes inapplicable, the UE does not autonomously deactivate it, but the UE indicates to the network the change in the applicability. Upon reception of UE indication of the functionality becoming inapplicable, the network should deactivate or release this activated functionality. |  |
| Issue – 8 (Nokia) | [Terminology alignment issue with TS 38.331]The use of the word ‘functionality applicability’ is not consistent with the ‘information related to the applicability configurations subject to the applicability determination procedure’ in TS 38.331.The word ‘functionality applicability’ are captured in the current TS 38.300 as follows:**a) Clause 7.9** - If its AI/ML functionality applicability status changes. **b) Clause X.Y.2.3 Applicability Reporting** <text omitted> 5. The UE reports its functionality applicability in RRCReconfigurationComplete message.**c) Figure X.Y.2.3** Step 4 and Step between Step 6 and Step 7 contain ‘applicability functionality’ | Proposed changes:**a) Clause 7.9** - If its ~~functionality applicability~~ **applicability status of AI/ML functionality** changes. [Huawei] Agree with the intention from Nokia, but UAI can be used also to report initial applicability status (e.g. if option A is not used or if the UE needs more processing time to determine applicability). Hence it would be more appropriate to change this bullet to:- The applicability status of its AI/ML functionalities. ~~If its AI/ML functionality applicability status changes.~~[QC] We agree with Nokia, based on agreement in RAN2#130, irrespective of whether it is option A or option B, the initial applicability status is sent in RRCReconfigurationComplet.Relevant RAN2 agreement:* + RAN2 assumes applicability report for Option B (sets of inference related parameters) can be included in both RRCReconfigurationComplete and UAI (i.e., same as Option A). This can be revisited based on RAN1 conclusions/final signaling design.

**b) Clause X.Y.2.3 Applicability Reporting** <text omitted> 5. The UE reports its ~~functionality applicability~~  **applicability status of AI/ML functionality** in *RRCReconfigurationComplete* message.**c) Figure X.Y.2.3** Step 4 and Step between Step 6 and Step 7 contain ‘applicability functionality’ |  |
| Issue – 9 (ZTE) | [Term alignment]It is observed that the term ‘supported AI/ML functionality’ has defined in subclause as below:**Supported AI/ML functionality:** AI/ML functionality which can be indicated by using UE capability information.However, this term is never used in the main text | Suggestion#1: Add a bracket to include AI/ML on definition from subclause 3.2**Supported (AI/ML) functionality:** AI/ML functionality which can be indicated by using UE capability information.Suggestion#2: modify the step 2 for fig.x.y.2.3-1 as below:2. The UE indicates its supported AI/ML functionalities to the network via *UECapabilityInformation* message. |  |
| Issue -10 (ZTE) | [Feature Description Reallocation]It is observed that the description regarding the following UE side data collection is captured in the X.Y.2.2 which is under the subclause X.Y.2 (AI/ML beam management)**X.Y.2.2 Data Collection for Offline Model Training**/omit for short/For UE-side data collection for UE-side model training, the network can configure whether UE is allowed to initiate a request for data collection configuration (e.g., UE’s preference to start or to stop data collection, preferred configuration from a list of candidate configurations provided by network). The network can also provide UE with data collection configuration or release the data collection configuration at any point in time, with or without UE request.however, the UE side data collection is also supported to the CSI prediction which is in Subclause X.Y.3[Apple] We support this proposal.  | Suggest to upgrade the level of subclause of data collection for offline model training so that the subclause for data collection is the same level as X.Y.2, X.Y.3..Upgrading the level of subclause for data collection also benefits the forward compatibility, that means, this subclause can be extended for the NW side data collection and/or UE side data collection of the future use case (i.e. AI/ML mobility) |  |
| Issue 11 (Huawei) | The only way for the network to provide NW-side additional conditions to the UE is via associated ID. Hence “e.g.” in section “X.Y.2.3 Applicability Reporting” should be changed to “i.e.” | 3. The network may provide inference configuration with NW-side additional conditions (i.e., associated ID) to UE via CSI report configuration or inference related parameters configuration via OtherConfig. |  |
| Issue 12 (Huawei) | Editorial to improve readability (section 7.9) | 5. The UE reports applicability of the provided inference configurations or sets of intference-related parameters in RRCReconfigurationComplete message. |  |
| Issue 13 (Huawei) | Editorial corrections (section 7.9) | 6. When the inference configuration consists of periodic CSI report configuration, upon reporting the applicable functionalities, the UE autonomously activates the applicable AI/ML functionalities. When the inference configuration consists of semi-persistent CSI and/or aperiodic CSI report configuration, upon reporting the applicable AI/ML functionalities, applicable AI/ML functionality can be activated by MAC CE/DCI and aperiodic CSI reporting can be activated by DCI. |  |
| Issue 14 (Qualcomm) | As the two indications full buffer and threshold are disassociated, the following should be updatedIf its AS buffer to log data for NW-side data collection becomes full, or reaches a threshold configured by the network; | Update to:* If its AS buffer to log data for NW-side data collection becomes full;
* If logged data in AS buffer reaches a threshold configured by the network;
 |  |
| Issue 15 (Qualcomm) | Below two should be merged based on RAN2 agreement:- If it prefers to start, or stop UE-side data collection for UE-side model;- Its preference for UE-side data collection configuration(s) from a list of candidate configurations provided by the NW for the training of UE-side model(s);[Apple] We prefer the current formulation (i.e. separate start/stop indication and preferred configuration). According to latest RAN2 agreement, it is still possible that only start indication is provided or only preferred configuration are provided (i.e. case a and case b):3 On stop/start indication1. The UE can send start indication (without a preferred list) to indicate preference to start data collection
2. The UE can send preferred list implying that it would like to start data collection on those configuration
3. The UE can send stop indication for all or a given actual CSI report config ID.
4. Rapporteur will determine best way of signaling. This doesn’t preclude merging 1 and 2.

It will be unnecessarily complex if we capture all these agreements in stage 2 speciation, esp. 38.331 has captured the details. To make the stage 2 spec clean and more readable, we think current general text is sufficient.  | Update to:* If it prefers to start and its preference for UE-side data collection configuration(s) (if any) from the list of candidate data collection configuration (if configured), or stop UE-side data collection for UE-side model and the data collection configuration(s);
 |  |
| Issue 16 (Qualcomm) | I am wondering if we include more information for the below:X.Y.2.1 IntroductionAI/ML-based beam management utilizes intra-cell downlink beam prediction of the serving cell to reduce measurement/RS overhead and to improve the accuracy of beam selection. Two types of beam prediction are supported:- Spatial-domain downlink transmission beam prediction for one set of beams based on measurement results of another set of beams; and- Temporal-domain downlink transmission beam prediction for one set of beams based on historic measurement results of another set of beams (these two sets may be different).For AI/ML-based beam management, both NW-side model and UE-side model are supported.[Apple] We agree with the intention of this proposal. However, the following suggested change is not entirely correct: where the set of beam for prediction are CSI-RS beams and another set of beams for measurement can be SSB or CSI-RS beams; andThis text means set B can be SSB or CSI-RS but set A can only be CSI-RS. However, according to UE feature list, set A can also be SSB:6b. Support of SSB as RS type for Set A6c. Support of CSI-RS as RS type for Set AThus, we suggest:where the set of beam for prediction can be SSB or CSI-RS beams and another set of beams for measurement can be SSB or CSI-RS beams; and | Update to:X.Y.2.1 IntroductionAI/ML-based beam management utilizes intra-cell downlink beam prediction of the serving cell to reduce measurement/RS overhead and to improve the accuracy of beam selection. Two types of beam prediction are supported:- Spatial-domain downlink transmission beam prediction for one set of beams based on measurement results of another set of beams, where the set of beam for prediction are CSI-RS beams and another set of beams for measurement can be SSB or CSI-RS beams; and- Temporal-domain downlink transmission beam prediction for one set of beams based on historic measurement results of another set of beams (these two sets may be the same).[RK] as another set of beams is used. I believe “these two set may be the same is better”For AI/ML-based beam management, both NW-side model and UE-side model are supported. |  |

Summary:

# Conclusion

In this contribution, we have the following proposals/open issue list:

# Reference

1. R2-2506498 Introduction of AI for Air interface feature in 38300, vivo, RAN2#131, Bangalore, India, August 2025.