**3GPP TSG RAN WG1 #110bis-e R1-22NNNN**

**e-Meeting, October 10th – 19th, 2022**

**Agenda item:** 8.5

**Source:** Moderator (Ericsson)

**Title:** Summary for preparation phase on maintenance of Rel-17 WI on NR positioning enhancements

**Document for:** Discussion and Decision

## Introduction

This document captures the discussion on the identified maintenance issues on accuracy improvements for DL-AOD positioning solutions based on the preparation phase documented in R1-2210266, and triggered by the following chair decision:

[110bis-e-R17-ePos-04] Email discussion for maintenance on accuracy improvements for DL-AoD positioning solutions for issues 3-1, 3-2, 3-3 in R1-2210266 – Florent (Ericsson)

-          Check points: October 14, October 19

## Issues on NR positioning enhancements

## List of issues

**Table 1 - Accuracy improvements for DL-AoD positioning solutions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Issue#** | **Description of the issue** | **References** | **FL initial assessment**  | **Company inputs and FLs’ responses** |
| 3-1  | Correction on missing descriptions for timestamp of DL PRS-RSRPPFL : align RAN1 specs with RAN2 specifications. | R1-2208601R1-2210211 | H | [ZTE] We are OK to discuss the issue[Nokia] Okay to discuss.[CATT] OK to discuss the issue[QC]: OK to discuss[Ericsson] OK with the FL assessment. |
| 3-2 | Correction to the Rx beam reporting condition for DL-AoDFL: RSRPP should support use of the same rx beam index | R1-2209837 | H | [ZTE] We support this draft CR. However, since this issue was discussed before, to avoid repeating discussion, we prefer to conclude this issue in this meeting.[Nokia] Okay to discuss.[CATT] OK to discuss the issue[QC]: OK to discuss[Ericsson] OK with the FL assessment. |
|  3.3 | Clarification of the limitation of 24 RSRP/RSRPP reports for AODFL: OK to discuss but not sure if the spec is broken without it. | R1-2210212 | H | [ZTE] We don’t think the change is needed. If we change it, all positioning methods such as TDOA, RTT should be clarified in TS 38.214 as well. [Nokia] Okay to discuss.**[**CATT] OK to discuss the issue. [QC]: Not really see the to discuss this[HW] As the proponent of the issue, we support to discuss it.[Ericsson] OK with the FL assessment. |

##  Issue 3-1 Correction on missing descriptions for timestamp of DL PRS-RSRPP

In [1] and [3] DL PRS RSRPP is added to the list of measurement which can include a time stamp, as well as to assistance data reference information, LOS/NLOS reporting, and multiple measurement insteance in a single report.

Please comment below on whether the CRs can be endorsed as is in a merged CR or potential changes needed:

|  |  |
| --- | --- |
| Company | comment |
| Qualcomm | OK to have a merged CR with both changes |

##  Issue 3-2 Correction to the Rx beam reporting condition for DL-AoD

In [2] the CR captures that 2 DL PRS RSRPP measurement can be, if reported, indicating thesame Rx beam index through *DL-PRS-RxBeamIndex*.

Please comment below on whether the CRs can be endorsed as is or potential changes needed:

|  |  |
| --- | --- |
| Company | comment |
| Qualcomm | Generally supportive, but just to make sure, doesn’t it have the RAN2 description also to change?***nr-DL-PRS-RxBeamIndex***This field provides an index of the target device receive beam used for DL-PRS measurements. If the value of the receive beam index for two or more DL PRS measurements is the same, it indicates that the target device receive beam for the two or more DL PRS measurements were made with the same RX beam. The field is mandatory present if at least two DL-PRS RSRP measurements from the same DL-PRS Resource Set have been made with the same RX beam by the target device; otherwise it is not present.Also, so that we are all on the same page, and in relation to the related dsicsusion that we had in August meeting, this doesn’t mean that the UE cannot report RSRPP for resources of 2 different sets right? The specification allows that. The condition above is related to when the UE will report RxBeamIndex, but not when it will report RSRPPs from different sets.  |

##  Issue 3-3 Clarification of the limitation of 24 RSRP/RSRPP reports for AOD

In [4], it is clarified that the number of RSRP/RSRPP measurements limit of 24 only applies to DL AOD.

Please comment below on whether the CR can be endorsed as is or potential changes needed:

|  |  |
| --- | --- |
| Company | comment |
| Qualcomm | Not really needed. 37.355 is clear enough it seems.  |

## Conclusion

## References

1. R1-2208601, Correction on missing of DL PRS-RSRPP, vivo
2. R1-2209837, Correction to the Rx beam reporting condition for DL-AoD, Huawei, HiSilicon
3. R1-2210211, Adding DL PRS-RSRPP to the applicable measurements, Huawei, HiSilicon
4. R1-2210212 Correction to the applied positioning method for RSRP and RSRPP reporting. Huawei, HiSilicon