**3GPP TSG RAN WG1 #106e R1-210xxxx**

**e-Meeting, August 16th – 27th, 2021**

**Source: Moderator (ZTE Corporation)**

**Title: Email discussion [106-e-NR-Pos-03] on expected RSTD and RSTD uncertainty per TRP pair**

**Agenda item: 7.2.8**

**Document for:** **Discussion and Decision**

# Introduction

In this contribution, we provide summary of email discussion [105-e-NR-Pos-03] per Chairman’s guidance as following,

[106-e-NR-Pos-03] Email discussion/approval on expected RSTD and RSTD uncertainty per TRP pair (Aspect #3) until August 20 – Guozeng (ZTE)

# Remaining Opens

In this section, we summarize one TP / draft CR [1] that was agreed to further discuss on how to capture it in specification according feature lead summary for AI 7.2.8 in preparation phase.

## Aspect #3: Expected RSTD and RSTD Uncertainty

In [1], it is stated that according to the field descriptions in TS 37.355, *nr-DL-PRS-ExpectedRSTD* indicates the RSTD value that the target device is expected to measure between one TRP and the assistance data reference TRP. Therefore, the proposed correction aims to clarify that *nr-DL-PRS-ExpectedRSTD* and *nr-ExpectedRSTD-Uncertainty* are defined per pair of TRPs rather than per pair of DL PRS resource sets.

During the preparation phase, it was also argued by proponent that the current texts in specification may be interpreted that the *nr-DL-PRS-ExpectedRSTD* is provided for a pair of DL PRS resource sets from the same TRP (e.g. in case that one TRP is associated with multiple ARPs). To avoid confusion, the specification should explicitly say that *nr-DL-PRS-ExpectedRSTD* and *nr-DL-PRS-ExpectedRSTD-Uncertainty* are provided per pair of TRPs.

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| ---- Unchanged texts omitted ----  5.1.6.5 PRS reception procedure  <Unchanged parts are omitted>  For the case when measurement gap is configured, the UE DL PRS processing capability is defined in [TS 37.355]. For the purpose of DL PRS processing capability, the duration *K* msec of DL PRS symbols within *P* msec window corresponding to the maximum PRS periodicity in a positioning frequency layer, is calculated by  *-* Type 1 duration calculation with UE symbol level buffering capability  *-* Type 2 duration calculation with UE slot level buffering capability  *- S* is the set of slots based on the numerology of the DL PRS of a serving cell within the *P* msec window in the positioning frequency layer that contains potential DL PRS resources considering the actual *nr-DL-PRS-ExpectedRSTD*, *nr-DL-PRS-ExpectedRSTD-Uncertainty* provided for each pair of the associated *dl-PRS-ID* of the DL PRS and the reference provided by *nr-DL-PRS-ReferenceInfo*.  *-* For Type 1, is the smallest interval in msec within slot corresponding to an integer number of OFDM symbols based on the numerology of the DL PRS of a serving cell that covers the union of the potential PRS symbols and determines the PRS symbol occupancy within slot , where the interval considers the actual *nr-DL-PRS-ExpectedRSTD*, *nr-DL-PRS-ExpectedRSTD-Uncertainty* provided for each pair of the associated *dl-PRS-ID* of the DL PRS and the reference provided by *nr-DL-PRS-ReferenceInfo*.  *-* For Type 2, is the numerology of the DL PRS, and is the cardinality of the set .  ---- Unchanged texts omitted ---- |

## First round of comments

Companies are encouraged to provide their view on the TP in the table below

|  |  |
| --- | --- |
| Company | Comment |
| OPPO | Do not think the proposed change is needed.  The expectedRSTD is provided per TRP and the expectedRSTD is applied to all the PRS reosurce set and also resources of that TRP. The 38.214 specification sentence invlvoled in this TP actually does not specify how the expected RSTD is configured, instead it only states that the expectedRSTD applied to one PRS resource set is considered in the interval calculation. Therefore, that sentence in 38.214 does not cause misunderstanding on the configuration of expectedRSTD and no change is needed. |

# Conclusions

After the comments from involved companies, it was agreed to support:

XXX

# References

1. R1-2106540 Interpretation of expected RSTD and expected RSTD uncertainty ZTE