**3GPP TSG RAN WG1 #107-e R1-21xxxxx**

**e-Meeting, November 11th – 19th, 2021**

**Source: Moderator (ZTE Corporation)**

**Title: Summary of email discussion for [107-e-NR-Pos-03]**

**Agenda item: 7.2.8**

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

# Introduction

After preparation phase of Rel-16 NR positioning maintenance, the Draft CR proposed in [1] was agreed to be further discussed in next phase. Therefore, this document is to trigger the following RAN1 e-mail discussion assigned by RAN1 Chair [2]:

* [107-e-NR-Pos-03] Email discussion/approval on QCL information for a DL PRS resource (Aspect #3) until November 17 – Guozeng (ZTE)

# Draft CR on QCL information for a DL PRS resource

In [1], it is mentioned that according to current descriptions in TS 38.214, QCL information for a DL PRS resource can be an SSB from a serving cell or non-serving cell. However, it’s not clear the SSB is transmitted from which serving cell or non-serving cell. There could be some cases that the SSB is not from the same TRP or the same frequency band as the DL PRS resource, which breaks the basis that the QCL information can facilitate the reception the DL PRS resource. The proposed correction clarifies that an SSB as the QCL information for a DL PRS resource should be from a same serving cell or same non-serving cell as the DL PRS resource.

Specification has ambiguity on which SSB should be used as QCL information for a DL PRS resource.

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| ---- Unchanged texts omitted ----  5.1.6.5 PRS reception procedure  <Unchanged parts are omitted>  A DL PRS resource is defined by:  *- nr-DL-PRS-ResourceID* determines the DL PRS resource configuration identity. All DL PRS resource IDs are locally defined within a DL PRS resource set.  *- dl-PRS-SequenceID* is used to initialize cinit value used in pseudo random generator as described in Clause 7.4.1.7.2 of [4, TS 38.211] for generation of DL PRS sequence for a given DL PRS resource.  *- dl-PRS-CombSizeN-AndReOffset* defines the starting RE offset of the first symbol within a DL PRS resource in frequency. The relative RE offsets of the remaining symbols within a DL PRS resource are defined based on the initial offset and the rule described in Clause 7.4.1.7.3 of [4, TS 38.211].  *- dl-PRS-ResourceSlotOffset* determines the starting slot of the DL PRS resource with respect to corresponding DL PRS resource set slot offset.  *- dl-PRS-ResourceSymbolOffset* determines the starting symbol of a slot configured with the DL PRS resource.  *- dl-PRS-QCL-Info* defines any quasi co-location information of the DL PRS resource with other reference signals. The DL PRS may be configured with QCL 'typeD' with a DL PRS associated with the same *dl-PRS-ID*, or with *rs-Type* set to 'typeC', 'typeD', or 'typeC-plus-typeD' with a SS/PBCH Block from a same serving or same non-serving cell as the DL PRS resource.  ---- Unchanged texts omitted ---- |

## Fist round

Companies are invited to provide their views on the following table:

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| Company Name | Yes/No | Comments |
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## Conclusion of first round

[TBD]

## Second round

[TBD]

## Conclusion of second round

[TBD]

Conclusions

In this document, we have provided overview of the Draft CR proposed in [1]. The following conclusion was made during the email discussion,

[TBD]

References

1. R1-2110968, Draft CR on QCL information for a DL PRS resource ZTE
2. Chair's Notes RAN1#107-e v03, RAN1 Chair