

3GPP TSG RAN Rel-19 workshop

Taipei, June 15 – 16, 2023

Agenda Item: 5

RWS-230353



Further enhancement on positioning in Rel-19

China Unicom

Motivation on positioning enhancement in Rel-19

❑ **Motivation 1:** Rel-16/17 supports mmWave positioning with single-TRP by RTT and AOA/AoD or multiple-TRP using TDOA methods, it's hard to achieve 0.1m level positioning accuracy.

- Issue 1: How to reduce beam sweeping overhead?
- Issue 2: How to coordinate multi-UE beam alignment across multiple BSs?

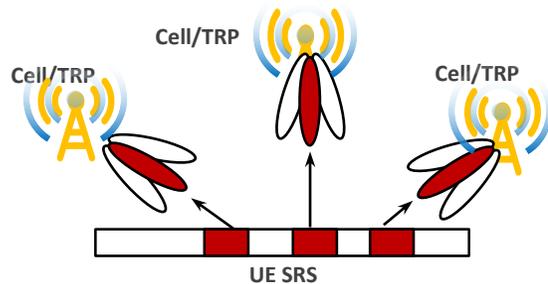


Fig.1 Rel-16: multiple-TRP using TDOA methods

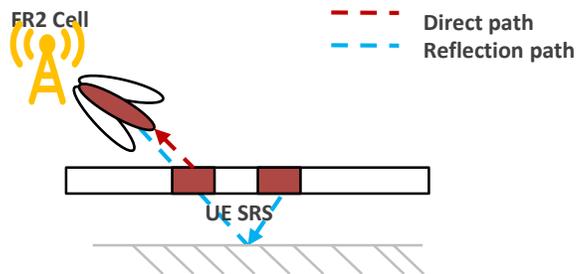


Fig.2 Rel-19: Support FR2-specific positioning enhancement

❑ **Motivation 2:** CPP solution is not supported for sidelink positioning, and SL PRS bandwidths of up to 100 MHz is supported only in FR1 in Rel-18.

- Issue: How to improve the accuracy for SL UE positioning, e.g. dm-level accuracy?

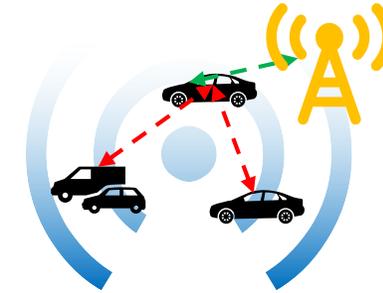


Fig.3 SL positioning enhancement

❑ **Motivation 3:** For carrier phase positioning, only single RSCP measurement report per carrier is supported in Rel-18

- Issue: How to improve the accuracy and reduce the overhead?



Fig.4 CPP enhancement in Rel-19

Scope and Objective

- Support FR2-specific positioning enhancement
 - Support single-BS RTT positioning assisted by reflection path(s), e.g. support multiple SRS configured with the same DL PRS as the spatial relation.
- Support SL positioning enhancement
 - Support CPP solution for sidelink positioning;
 - Support SL positioning in FR2 spectrum;
 - Other potential enhancement, e.g. bandwidth aggregation for SL positioning
- Support CPP enhancement
 - Support multiple RSCP measurement report per carrier;
 - Support CPP for multiple carriers/PFLs if not supported in Rel-18.

Thanks