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**RP-233779**

**Agenda Item: 9.1.1.9 Additional RAN1-led Topics**

# Views on 5G Advanced Rel-19 Sidelink Evolution

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RAN#102, 11-15 Dec 2023, Edinburgh, Scotland

# Rel-19 Sidelink FR2 Beam Management

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## Motivations

- Support of high data rate direct communications in FR2 via SL
  - Commercial / industrial use cases
  - Extended Reality (high-resolution video streams)
  - Autonomous driving, V2X communication
- Improved SL positioning accuracy requires larger bandwidth, which is available in FR2
  - Autonomous driving
  - AGVs in industrial environments

## Potential Objectives

- SL beam management for unicast in FR2 licensed band
  - Start of normative phase based on Rel-18 study outcome
- Further study and specify SL beam management
  - Extension to all cast types

# Rel-19 Sidelink Carrier Aggregation

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## Motivations

- Regional preparations for V2X deployment
  - 5GAA statement: multiple vehicle OEMs (Original Equipment Manufacturers) indicating that Europe is converging towards 5G NR V2X including NR sidelink  
5GAA, “Open statement: Europe Converging towards 5G-V2X Including Direct Communications,” September 26th 2023, Munich, Germany,  
<https://5gaa.org/content/uploads/2023/09/5gaa-open-letter.pdf>
- Rel-18 SL CA is specified in ITS band only
- Motivation for further SL CA extension
  - Need for support of non-contiguous carriers to overcome fragmented spectrum
  - Requirements for increased data throughput and reliability
    - autonomous driving, commercial use cases, XR
  - Increased bandwidth required for improved SL positioning accuracy

## Potential Objectives

- Inter-band and non-contiguous CA in and between FR1 and FR2 licensed/unlicensed bands
- Support for CA with different bandwidths, SCS, etc