



Agenda Item : 4.1

Source : InterDigital

Title : Views on NR MIMO for Rel-18

Document for : Discussion and Decision

UL enhancement

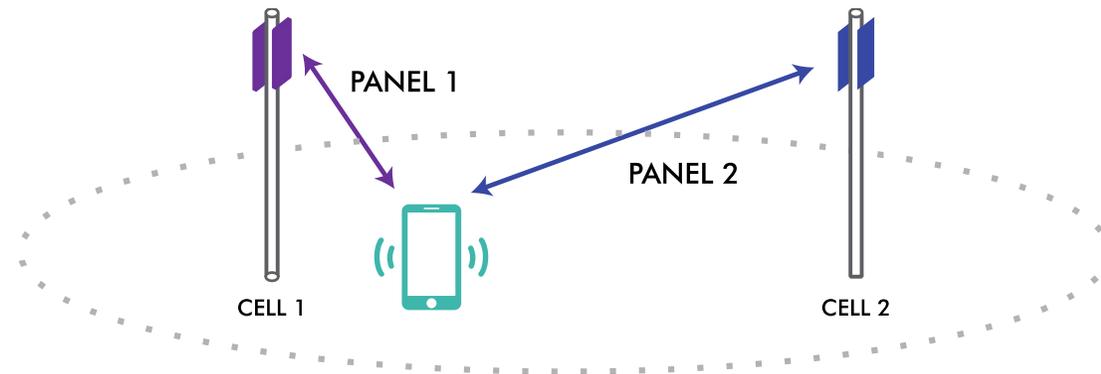


Justification:

- NR-Advanced is expected to support new device types requiring further demanding uplink data rates (e.g., AR/XR applications and devices).

Objective:

- Uplink enhancements for uplink heavy scenarios and application:
 - High order modulation, increased number of layers, codewords
 - High resolution precoding, including frequency-selective precoding and codebook design
 - DMRS enhancements for high layer MIMO
 - increasing the number of ports and interference aspects
 - Simultaneous multi-panel transmission in FR2
 - Power control and timing adjustments



Efficient Beam Management



Justification:

- Power consumption in FR2 has been an issue but no study to reduce power consumption for FR2 beam management so far
- Unified TCI framework in Rel-17 covers single TRP scenario only

Objective:

- Power efficient beam management
 - Relaxation of CSI measurement/reporting,
 - reduction of PDCCH monitoring relating to TCI state/narrow-beam changes
- Extension of unified TCI framework for other use case (e.g., M-TRP, HST, inter-cell)

M-TRP enhancements



Justification:

- M-TRP operation in Rel-17 achieved support for synchronous network scenario. Support of M-TRP operation in asynchronous network can enable more practical deployment.
- M-TRP CSI enhancement for URLLC use case has not been included in Rel-17 CSI enhancement for URLLC

Objective:

- Support asynchronous network mTRP operation
- Study M-TRP CSI enhancement for URLLC