**3GPP TSG RAN #106 RP-243265**

**Madrid, Spain, December 10th – 13th, 2024**

**Title: Moderator Summary for 3T3R SRS Antennas Switching in Rel-19**

**Source: RAN1 Chair (Samsung)**

# Introduction

Rel-19 MIMO work item objectives were updated in RAN#105. In particular the following update was made for 3T3R (RP-242394):

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| 1. Specify non-coherent UL codebook to facilitate 3-antenna-port codebook-based transmissions, enhancement(s) to enable 3T6R SRS antenna switching, as well as UE capability signaling for 3T3R antenna switching and 3-antenna-port non-codebook-based transmissions, without enhancement on UL full power transmission and without enhancement on SRS resource   Note: UL full power transmission mode 1 and 2 are not supported.  Note: Other than UE capability signaling, no other enhancement is specified for 3T3R SRS antenna switching. |

In RAN1, there is debate whether or not the above WID objective precludes specification change on SRS configuration details and SRS resource/set definition for ‘3T3R’ antenna switching. In RAN#106, the following tdocs were submitted on this issue:

* RP-242488 On the Scope of Rel-19 NR MIMO Phase 5 InterDigital, Inc.
* RP-242618 Discussion on 3T3R SRS antenna switching capability in Rel-19 MIMO vivo
* RP-243173 on Rel-19 MIMO 3T3R Apple

# Discussions

Moderator proposes to select one of the following 3 alternatives in RAN#106.

* Alt 1: RAN clarifies that for ‘3T3R’ antenna switching, SRS configuration details including SRS resource/set definition for ‘3T3R’ antenna switching can be discussed and supported as part of Rel-19 MIMO in RAN1
  + Update WID accordingly
* Alt 2: Other than UE capability signaling, no other enhancement is specified for 3T3R SRS antenna switching (i.e. SRS configuration details including SRS resource/set definition for ‘3T3R’ antenna switching is not supported) as part of Rel-19 MIMO in RAN1
* Alt 3: 3T3R SRS antenna switching is not supported as part of Rel-19 MIMO
  + Update WID accordingly

Note that the RAN1 workload required for each of the three alternatives is marginal.

Companies are invited to provide their views using the table below.

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| **Company** |  | **Comments** |
| vivo | Alt1 or alt 3 | In our view alt2 is not reasonable. We should not intentionally introduce a broken feature in the spec. Either we introduce a complete UE feature or we remove the UE feature. |
| Apple | Alt 1 or Alt 3 | We are fine with either Alt 1 or Alt 3.  Alt 2 should be avoided. Without specifying the 3T3R features in the specification, e.g., TS38.214, we fail to see the justification to specify the corresponding UE capability. |

# Conclusions

TBD