**3GPP TSG RAN WG1 #108-e R1-22xxxxx**

**e-Meeting, Feb 21st – Mar 3rd, 2022**

**Title:** Draft Reply LS on the PL-RS configuration of PUCCH SCell to be activated

**Response to:** R1-2200896/R4-2202602

**Release:** Rel-17

**Work Item:** NR\_RRM\_enh2-Core

**Source:** Apple, [RAN1]

**To:** RAN4, RAN2

**Cc:**

**Contact Person:**

**Name:** Yushu Zhang

**E-mail Address:** yushu\_zhang@apple.com

# **1. Overall Description**

RAN1 would like to thank RAN4 for the LS on the PL-RS configuration of PUCCH SCell to be activated. RAN1 would like to provide the answer to the following question.

RAN4 has made following working assumption and would like to kindly ask RAN1 to confirm/clarify:

**Working assumption:**

* RAN4 to agree that PL-RS assumptions defined in TS38.213 section 7.2.1 can be applied for the PUCCH of target being-activated SCell during the activation procedure. In FR2 if UE is not provided *pathlossReferenceRSs* but provided *PUCCH-SpatialRelationInfo* before receiving the PUCCH SCell activation command, as UE may not obtain MIB during activation procedure, UE shall use the associated DL-RS in *PUCCH-SpatialRelationInfo* as PL-RS.

[Question to RAN1]: Is the above working assumption in line with RAN1’s understanding?

* + If the answer to above question is NO, how could UE determine the PL-RS for PUCCH of target being-activated SCell during the activation procedure for the following scenarios respectively:
		- if the UE is not provided *pathlossReferenceRSs* and is provided *PUCCH-SpatialRelationInfo* before receiving the PUCCH SCell activation command
		- If the UE is not provided *pathlossReferenceRSs*, and is not provided *PUCCH-SpatialRelationInfo* before receiving the PUCCH SCell activation command
		- If the UE is provided *pathlossReferenceRSs* and *PUCCH-SpatialRelationInfo* before receiving the PUCCH SCell activation command
		- If the UE is provided *pathlossReferenceRSs* and is not provided *PUCCH-SpatialRelationInfo* before receiving the PUCCH SCell activation command
		- If any case is missing in above combinations for PL-RS determination for PUCCH of target being-activated SCell during the activation procedure, please RAN1 indicates and explains the UE behavior of PL-RS determination for the missing case(s).

Answer to RAN4: RAN1 has not identified any issue to use associated DL-RS in *PUCCH-SpatialRelationInfo* as PL-RS as the working assumption agreed in RAN4.

In addition, RAN1 would like to kindly ask RAN2 to clarify/confirm whether it is possible that a UE is not provided *pathlossReferenceRSs* but provided *PUCCH-SpatialRelationInfo* from RRC signaling perspective.

Question to RAN2: is it possible that a UE is not provided *pathlossReferenceRSs* but provided *PUCCH-SpatialRelationInfo* from RRC signaling perspective?

# **3. Actions:**

**To: RAN4**

RAN1 respectfully asks RAN4 to take the above information into account for future work.

**To: RAN2**

RAN1 respectfully asks RAN2 to clarify the corresponding question above if needed.

# **4. Date of Next RAN1 Meetings:**

TSG RAN WG1 Meeting #109-e May. 16 – 27, 2021 Online

TSG RAN WG1 Meeting #110 Aug. 22 – 26, 2021 Toulouse, France