**3GPP TSG-RAN4 Meeting #101-bis-eR4-22xxxxx**

Electronic Meeting, January 17-25, 2022

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

**Response to:**

**Release:** Rel-17

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

**Source:** RAN WG4

**To:** RAN WG1

**Cc:**

**Contact Person:**

**Name: Jie Cui**

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**Attachments:**

**1. Overall Description:**

RAN4 has been discussing the PL-RS configuration used for PUCCH transmission on target being-activated SCell during the activation procedure. RAN4 understand PL-RS assumption of PUCCH transmission for the active DL BWP of the carrier of the primary cell is specified RAN1 TS38.213 section 7.2.1; however, RAN4 is not sure whether or not such assumption could be applied for target being-activated PUCCH SCell during activation procedure, and what the UE behavior is to determine the PL-RS for PUCCH of target being activation SCell.

Thus, 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).

**2. Actions:**

**To: RAN1 and RAN2**

**ACTION:** RAN4 respectfully asks RAN1 to confirm RAN4 working assumption and answer the corresponding questions if needed.

**3. Date of Next RAN4 Meetings:**

TSG-RAN4 Meeting #102-e 21 February – 3 March 2022

TSG-RAN4 Meeting #103-e 16 May – 27 May 2022