**3GPP TSG-RAN WG2 Meeting #119bisR2-22110xx**

**Electronic October 2022**

**Title:** LS on further further questions on feMIMO RRC parameters

**Response to: -**

**Release:** Rel-17

**Work Item:** NR\_feMIMO-Core

**Source:** to be replaced with 3GPP TSG-RAN WG2

**To:** 3GPP TSG-RAN WG1

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** None

1. **Overall Description:**

**BWP and cell ID in unified TCI state for SRS**

RAN2 discussed the need for BWP ID and cell ID for unified TCI state for SRS.

In *SRS-config*, *SRS-Resource* is configured with the unified TCI states:

 srs-TCIState-r17 CHOICE {

 srs-UL-TCIState-r17 TCI-UL-State-Id-r17,

 srs-DLorJoint-TCIState-r17 TCI-StateId

 } OPTIONAL -- Need R

 ]]

RAN2 is wondering whether there should be serving cell and BWP ID explicitly associated with the present UL TCI state or DL/Joint TCI state of SRS.

For the case that the UL TCI state is present, RAN2 understands there are two alternatives associating the BWP and serving cell with the UL TCI state:

1. Add the separate fields BWP ID and Cell ID in *srs-UL-TCIState-r17*
2. Clarify in the field description of *srs-TCIState-r17* that the present UL-TCI-State is associated with the BWP and serving cell where the *SRS-Config* is configured.

For the case that the Joint TCI state is present, RAN2 understands there are also two alternatives associating the BWP and serving cell with the Joint TCI state:

1. Add the separate fields BWP ID and Cell ID in *srs-DlorJoint-TCIState-r17*
2. Clarify in the field description of *srs-TCIState-r17* that the Joint TCI state is associated with the serving cell where the *SRS-Config* is configured and the current active DL BWP of this serving cell.

**Question 1**

According to above RAN2 understandings, RAN2 would like to ask RAN1 to explain what the association of BWP and cell ID for srs-TCIState is.

**codebookmode for codebookConfig**

RAN2 also discussed the need of codebookMode for *CodebookConfig-r17.*

**Question 2**

RAN2 would like to ask RAN1

1. Is there a need to add the parameter codebookMode which selects mode1 or mode2 in the IE CodebookConfig-r17?
2. If a) is needed, which types of codebook the parameter is needed, for example:
	1. typeI-SinglePanel-Group1-r17
	2. typeI-SinglePanel-Group2-r17
	3. typeII-PortSelection-r17
3. Additionally, if a) is needed, for each type of codebook that needs a parameter codebookMode, please confirm if a separate parameter is needed or if they share the same configuration of codebookMode.

**For configuring pathloss reference signal for unified TCI state**

RAN2 would like to inform RAN1 of how pathloss reference RS is configured for unified TCI state operation. In each BWP-UplinkDedicated UE may be configured with up to 64 pathloss reference RS by field *pathlossReferenceRSToAddModList.* Each joint or UL TCI state may be linked to one pathloss reference RS from this list. There is further MAC CE and DCI operation to indicate UE which pathloss reference RSs to follow.

**Question 3**

RAN2 assumes RAN1 informs RAN2 in case the above described pathloss reference singal configuration for unified TCI state is not what RAN1 has intended.

**2. Actions:**

**To RAN1 group:**

**ACTION:** RAN2 respectfully asks RAN1 to provide responses to above questions.

**3. Date of Next TSG-RAN WG2 Meetings:**

TSG-RAN WG2 Meeting #120 November 2022 Toulouse

TSG-RAN WG2 Meeting #121 February 2023 Athens