**3GPP TSG RAN WG1 #110 R1-220xxxx**

**Toulouse, France, August 22nd – 26th, 2022**

**Title:** Reply LS on the CSI periodic reporting for Dormant SCell state

**Response to:** R1-2205729 (R2-2206372)

**Release:** Release 15

**Work Item:** LTE\_euCA-Core

**Source:** RAN1

**To:** RAN2

**Cc:**

**Contact Person:**

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**Attachments:**

1. **Overall Description:**

RAN2 discussed the following misalignment between RAN1 and RAN2 specifications:

In current TS 36.213, clause 7.2.2 describes the parameters for periodic CSI reporting using PUCCH. In detail, RAN1 specification describes that the separate configuration of single CSI subframe set and multiple CSI subframe sets regarding *cqi-pmi-ConfigIndexDormant*/ *cqi-pmi-ConfigIndex2Dormant* and *ri-ConfigIndexDormant*/ *ri-ConfigIndex2Dormant* is allowed. However, RRC only allows to configure *cqi-pmi-ConfigIndexDormant* and *ri-ConfigIndexDormant* i.e. no RRC signaling has been specified in TS 36.331 to configure *cqi-pmi-ConfigIndex2Dormant* and *ri-ConfigIndex2Dormant*.

This functional misalignment between the RAN1 and RAN2 specifications creates confusion with respect to implementation, so it needs to be clearly clarified whether the separate configuration of single CSI subframe set and multiple CSI subframe sets is supported or not.

In order to solve this misalignment, RAN2 discussed the solution in which the missing parameters are introduced in RRC signaling and a new UE capability is introduced to indicate support of different configuration for multiple CSI subframe sets. However, this solution requires late changes to frozen Rel-15/Rel-16 ASN.1 and RAN2 prefer to avoid such late changes unless they are essential. In order to make final decision on this feature, RAN2 would like to ask RAN1 the following questions:

**Question 1:**

Are there significant impacts to performance of CA operation if separate configuration of single CSI subframe set and multiple CSI subframe sets cannot be supported in Rel-15 or Rel-16?

**Answer for Question 1:**

This feature is helpful for the network to acquire CSI for dormant SCell. However, considering the current stage, making ASN.1 impact for Rel-15/16 needs to be avoided. Therefore, RAN1 can remove the misaligned parameters *cqi-pmi-ConfigIndex2Dormant* and *ri-ConfigIndex2Dormant* in TS 36.213 for Rel-15/16. However, RAN1 prefer to introduce the missing parameters in Rel-17.

If this feature is essential from RAN1 perspective:

**Question 2-1:**

From which release should it be supported?

**Answer for Question 2-1:**

Possible release is Rel-17

**Question 2-2:**

With regards to the UE capability for indicating support of this feature: should it be defined per UE or per band? Is FDD/TDD differentiation required?

**Answer for Question 2-2:**

New FG for this feature seems needed. For the details, more discussion is needed.

If this feature is not essential from RAN1 perspective:

**Question 3:**

Is it possible to change the RAN1 specification to revert the support of this feature? Or should RAN2 assume that same configuration of “subframe set 1” is always applied to “subframe set 2” without explicit configuration?

**Answer for Question 3:**

RAN1 will remove ‘*cqi-pmi-ConfigIndex2Dormant*’ and ‘*ri-ConfigIndex2Dormant*’ in TS 36.213 for Rel-15/16 and RAN1 kindly requests RAN2 to introduce the RRC parameters ‘*cqi-pmi-ConfigIndex2Dormant*’ and ‘*ri-ConfigIndex2Dormant*’ in Rel-17.

**2. Actions:**

**To RAN2:**

RAN1 respectfully informs RAN2 to answer the above questions and requests to introduce the RRC parameters ‘*cqi-pmi-ConfigIndex2Dormant*’ and ‘*ri-ConfigIndex2Dormant*’ in Rel-17.

**3. Date of Next TSG-RAN WG1 Meetings:**

TSG RAN WG1 Meeting #110bis-e October 10th – 19th, 2022 E-meeting

TSG RAN WG1 Meeting #111 November 14th – 18th, 2022 TBD