3GPP TSG-RAN WG2 Meeting #129-bis Tdoc R2-25xxxxx

Wuhan, China, April 7 – 11, 2025

Agenda: x.x.x

Source: Ericsson

Title: Comments on MIMO Running CR for TS 38.331

Document for: Discussion, Decision

# 1 Introduction

This document collects comments for the following e-mail discussion:

**[Post129][207][MIMO\_Ph5] Running CR for TS 38.331 (Ericsson)**

**Intended outcome: Running CR for submission to the next meeting**

**Deadline: Long**

Companies are invited to provide contact details on the table below.

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# 2 Discussion

The running CR implements the latest stable parameters from the list provided by RAN1 (R1-2501645). For reference, the parameter list is included in the draft discussion folder with green highlight for the parameters implemented and the column “RAN2 ASN.1 name” filled in. The additions compared to the previous version (R2-2408909) are with user “RAN2#129-bis”.

Please do not make changes/comments directly on the running CR - companies are invited to provide suggested changes/comments on the table below. To make it easier to track and reply to the comments, please label each comment i.e. [Issue 1], [Issue 2], and so on.

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| Company | Comments | Rapporteur response |
| OPPO | Some parameters (e.g. startingBitOfFormat2-3 and plOffset) are missing in the running CR. |  |
| CATT [Issue 1] | For the description of prachAssociationDCI-1-0, according to the below RAN1 agreement, one condition is missing, i.e., “ a UE provided with *SSB-MTC-AddtionalPCI*“.  **Agreement**  For a UE provided with *SSB-MTC-AddtionalPCI* and not configured with multi-DCI based mTRP, support to reuse the DCI field ‘PRACH association indicator’ in DCI format 1\_0 to indicate PL RS for PDCCH-order PRACH:   * The bit field index 0 of this field indicates the DL RS that DMRS of PDCCH order DCI is QCLed with is used as PL RS for PRACH; * The bit field index 1 of this field is mapped to the additional PCI associated with the active TCI states and indicates the indicated SSB in this DCI is used as PL RS for PRACH:   + In this case, the PRACH configuration associated with addition PCI is used. * This DCI field is present when the corresponding RRC parameter is configured and multi-DCI based mTRP is not configured. |  |
| CATT [Issue 2] | **Agreement**  For the Rel-19 Type-II codebook refinement for 48, 64, and 128 CSI-RS ports, except for Parameter Combination 8 from Rel-17 FeType-II PS, all legacy Parameter Combinations from Rel-16 eType-II (regular), Rel-18 Type-II Doppler (regular), and Rel-17 FeType-II PS are supported.  According to the above RAN1 agreement, the following value of paramCombination-r19 should be INTEGER (1..7)  typeII-FePortSelection-r19 SEQUENCE {  typeII-FePortSelectionRI-Restriction-r19 BIT STRING (SIZE (4)),  numberOfPMI-SubbandsPerCQI-Subband-r19 INTEGER(1..2),  paramCombination-r19 INTEGER (1..8),  valueOfN-r19 ENUMERATED {n2, n4} OPTIONAL, -- Need R  }, |  |
| CATT [Issue 3] | typeII-DopplerPortSelection-r19 SEQUENCE {  typeII-PortSelectionRI-Restriction-r19 BIT STRING (SIZE (4)),  numberOfPMI-SubbandsPerCQI-Subband-r19 INTEGER(1..2)  }  ***additionalOneSlotOffsetDoppler***  Configures 1-slot offset (per NZP-CSI-RS-Resource Group) relative to the slot offset configured by *aperiodicTriggeringOffset* in *NZP-CSI-RS-ResourceSet*. This field is only configured for codebook *typeII-Doppler-r19* and *typeII-DopplerPortSelection-r19*.  In Rel-19， there is no enhancement of doppler port selection. Thus, the above parameter *typeII-DopplerPortSelection* should be deleted. |  |
| CATT [Issue 4] | Regarding to the description of *additionalOneSlotOffset*, based on the following RAN1 agreement, this field is also only configured for codebook typeII-FePortSelection-r19. Thus, typeII-FePortSelection-r19 should be added in the end of description, i.e., “This field is only configured for codebook *typeI-SinglePanel-r19*, *typeI-MultiPanel-r19,* e*typeII-r19* and *typeII-FePortSelection-r19*”.  **Agreement**  For the Rel-19 Type-I and Type-II codebook refinement for 48, 64, and 128 CSI-RS ports, regarding NZP CSI-RS resource aggregation to attain 32 < P (or PCSI-RS) ≤ 128, for AP-CSI-RS where the K NZP CSI-RS resources are located in two consecutive slots,  • Except for codebook refinement based on Rel-18 Type-II Doppler, introduce per-resource higher-layer (RRC) configuration to indicate (via 1-bit per resource) whether 1-slot offset relative to the legacy resource-set-level slot offset configuration should be assumed or not  • For codebook refinement based on Rel-18 Type-II Doppler, introduce per-resource higher-layer (RRC) configuration to indicate (via 1-bit per resource) whether 1-slot offset relative to the resource group slot offset should be assumed or not |  |
| CATT [Issue 5] | SRS-ResourceSet ::= SEQUENCE {  ...omit...  [[  associatedCSI-RS-Set-r19 NZP-CSI-RS-ResourceSetId OPTIONAL, -- Need R  srs-TwoSeparatePowerControlAdjustmentStates-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  srs-PortGrouping-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  tpcOfSRS-ClosedLoopIndexInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  srsClosedLoopIndexIndicatorInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL -- Need R  fourPortSRS-3Tx-r19 ENUMERATED {enabled} OPTIONAL -- Need R  ]]  }  The highlight two parameters are not per *SRS-ResourceSet* configuration. Suggest to configure these two parameters in *SRS-Config*. |  |
| CATT [Issue 6] | There are no description of *tpcOfSRS-ClosedLoopIndexInDCI-1-1-r19* and *srsClosedLoopIndexIndicatorInDCI-1-1-r19*. Suggest to add the descriptions. |  |
| CATT [Issue 7] | CSI-ReportCJTC-r19 ::= SEQUENCE {  valueOfAD-r19 ENUMERATED {dot5, one},  valueOfMD-r19 ENUMERATED {n32, n64, n128, n256},  valueOfAFO-r19 ENUMERATED {zeroDot1, zeroDot2},  valueOfMFO-r19 ENUMERATED {n16, n32, n256 },  valueOfMPhi-r19 ENUMERATED {n16, n32},  linkedCJTCReport CSI-ReportConfigID, OPTIONAL -- Need R  subbandSize ENUMERATED {n1, n2, n4, n8, n16, wideband},  }  The above 6 highlight parameters shoule be optional, since which parameter is configured depends on the configuration of *reportQuantityCJTC-r19*. |  |
| ZTE[Issue 1] | The field description of the “pathlossOffsetPRACH-DCI-1-0-r19” has not been added yet |  |
| ZTE[Issue 2] | The paramCombination-r19/ paramCombination-Doppler-r19 should also be added to the field descriptipon of the “ paramCombination, paramCombination-CJT-r18, paramCombination-CJT-L-r18, paramCombination-CJT-PS-r18, paramCombination-CJT-PS-alpha, paramCombinationDoppler-r18, paramCombinationDoppler-PS-r18” and add the referred chapters in the 38.214 |  |
| ZTE[Issue 3] | csi-CRI-ValueOfM: In the field description, the restriction for the type 1 was not included “1,2,…,min(4,Ks) for Type-I, where Ks={2,3,4,…,8} is the number of CSI-RS resources”, we think it’s useful as a restriction for the network configuration. |  |
| ZTE[Issue 4] | srs-PortGrouping: If configured, it indicates that SRS port grouping is enabled.  The below restriction is missed, Applicable only for reportQuantity = ‘cri-RI-CQI’ and when SRS for AS is xT6R or xT8R |  |
| ZTE[Issue 5] | For the bwp ID, it depends on whether the new beams configuration also include the BWP ID (as the legacy CSI-Report Config, the corresponding bwp-id was indicated in the CSI-ResourceConfig)    For the servCellIndex, now the cross carrier scheduling scheme is still not so clear, thus, we can add some Editor’s note to these 2 elements.  resourceForSecondChannelOfModeB-r19 SEQUENCE {  configuredGrantConfigIndex-r19 ConfiguredGrantConfigIndex-r16,  bwp-Id-r19 BWP-Id,  servCellIndex-r19 ServCellIndex  } |  |
| ZTE[Issue 6] | ***additionalOneSlotOffset***  Configures 1-slot offset (per NZP-CSI-RS Resource) relative to the slot offset configured by *aperiodicTriggeringOffset* in *NZP-CSI-RS-ResourceSet*. This field is only configured for codebook *typeI-SinglePanel-r19*, *typeI-MultiPanel-r19* and e*typeII-r19*.  We think the this field can also be configured for codebook typeII-FePortSelection-r19 |  |
| Sharp[Issue 1] | Considering ***csi-ReportUE-IBM***  is included in the IE ***CSI-ReportConfig***, the existing description may need update. – *CSI-ReportConfig* The IE *CSI-ReportConfig* is used to configure a periodic or semi-persistent report sent on PUCCH on the cell in which the *CSI-ReportConfig* is included, or to configure a semi-persistent or aperiodic report sent on PUSCH triggered by DCI received on the cell in which the *CSI-ReportConfig* is included (in this case, the cell on which the report is sent is determined by the received DCI). See TS 38.214 [19], clause 5.2.1. |  |
| Sharp[Issue 2] | Regarding to the choice of periodicityAndOffset, the value range has not been defined yet from my understanding, maybe a note could be added for future updating.  firstPUCCHResourceConfig-r19 SEQUENCE {  periodicityAndOffset CHOICE {  sym2 NULL,  sym6or7 NULL,  sl1 NULL, -- Recurs in every slot  sl2 INTEGER (0..1),  sl4 INTEGER (0..3),  sl5 INTEGER (0..4),  sl8 INTEGER (0..7),  sl10 INTEGER (0..9),  sl16 INTEGER (0..15),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  }, |  |
| CMCC[Issue 1] | **Agreement RAN2#128**  Absolute value of PL offset is indicated in the new MAC CE. For the offset value, the value range is [-12, 60] dB and the step size is 4dB.  The parameter plOffset is not included in this running CR, though it is included in the agreements of RAN2#128. |  |
| CMCC[Issue 2] | The paramCombination-r19/ paramCombination-Doppler-r19 should be added in the paramCombination field descriptipon. |  |
| CMCC[Issue 3] | SRS-ResourceSet ::= SEQUENCE {  ...omit...  [[  associatedCSI-RS-Set-r19 NZP-CSI-RS-ResourceSetId OPTIONAL, -- Need R  srs-TwoSeparatePowerControlAdjustmentStates-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  srs-PortGrouping-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  tpcOfSRS-ClosedLoopIndexInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL, -- Need R  srsClosedLoopIndexIndicatorInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL -- Need R  fourPortSRS-3Tx-r19 ENUMERATED {enabled} OPTIONAL -- Need R  ]]  }  We think these three parameters should be configured per SRS-Config. |  |
| CMCC[Issue 4] | For the new beam, there is also a BWP-ID of the DL CSI-RS indicated in the CSI-ResourceConfig. For this bwp-Id for Second Channel of ModeB, we think that it should be expressed as UL-bwp-Id-r19.  resourceForSecondChannelOfModeB-r19 SEQUENCE {  configuredGrantConfigIndex-r19 ConfiguredGrantConfigIndex-r16,  UL-bwp-Id-r19 BWP-Id,  servCellIndex-r19 ServCellIndex  } |  |