3GPP TSG-RAN WG2 #131 R2-250XXXX

Bengalore, India, August 25 – 29, 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:

* [Post130][218][MIMO\_Ph5] Running CR for 38.331 (Ericsson)

Intended outcome: Updated and reviewed the CR for endorsement, update the open issue list if needed, can also discuss open issues to form proposals to the next meeting

Deadline: Long

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

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# Discussion

The running CR implements the latest agreements from RAN2#130, L1 parameters in R1-2503243 and editorial updates. The additions compared to the previous version are with user “RAN2#131”.

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 |
| CATT | [Issue 1]***singleDCI-MultiTRP-2TA***suggest to capture the RAN2 agreement in the field description as follows,Enables the single-DCI based multi-TRP with two TAs.[Issue 2]***eventTypeUE-IBR***according to the latest RAN1 parameter list, for the threshold associated with event-2 and event-7, the candidate values are limited to 0, 1, …, 30, 31 dB; for the threshold associated with event-1, the candidate values are limited to 14, …,113.Suggest to capture above information in the field description, as it is not reflected in clause 5.2.1.5.4 of TS 38.214[Issue 3]***eventInstanceCount***suggest to update the field description as follows,This parameter is used to inform the mininum number of Event-1, Event-2 or Event-7 instances for one same new beam within a configured time window *eventDetectionTimeWindow* that the UE can initiate UEIBM report. |  |
| Ofinno[Issue 1] | Since there are two types of UCI in UE-initiated beam reporting (e.g., one UCI carried in the first PUCCH transmission, and the second UCI is the actual CSI report), it is better to clarify it in the definition of the higher layer parameter *reportTransmissionMode* to avoid the ambiguity.***reportTransmissionMode***Indicates the transmission mode for UE-initiated beam reporting. Value *modeA* indicates to transmit UE-initiated beam report in a dynamically scheduled uplink grant and value *modeB* indicates to transmit UE-initiated beam report in a pre-configured type-1 configured uplink grant. |  |
| Ofinno[Issue 2] | The *pathlossOffset* field descriptionof the ***TCI-UL-State***has a typo.***pathlossOffset***Indicates the pathloss offset applied to the UL only TCI or joint TCI state. Value dB-12 corresponds to -12 dB, dB-8 corresponds to -8 dB and so on. |  |
| Ofinno[Issue 3] | Typos below for *CSI-ReportUE-IBR* field descriptions:***currentBeamReport***If configured, the UE includes measurements of the current beam in the UE-initiated beam report.***pucch-Resource***Indicates the periodic PUCCH resource for the UE initiated report indicator for both mode-A and mode-B UE-initiated beam reporting:- to request dynamically scheduled PUSCH to carry UE-initiated/event-driven beam report for mode-A;- to notify Type-1 CG PUSCH to carry UE-initiated/event-driven beam report for mode-B.***nrofReportedRS***The number of reported RS in the UE-initiated beam report. Value *n1* corresponds to 1, value *n2* corresponds to 2 and so on. |  |
| Ofinno[Issue 4] | In the last meeting, it was agreed to release PUCCH resources for Mode-A/B UEI CSI reporting when TAT expires, but this agreement has not been reflected in the TS 38.331 running CR.RAN2#130* When the TAT of the pTAG expires, UE releases PUCCH resource for mode-A/B UEI report and clears type-1 CG for mode-B UEI report. FFS for the case when the TAT expires on the sTAG.

TS 38.321 defines the MAC behavior to notify RRC to release PUCCH when TAT expires.Section 5.3.12 in TS 38.331 defines the RRC behavior upon receiving PUCCH release request from MAC. For example, the RRC shall release PUCCH-CSI-Resources configured for periodic and semi-persistent CSI reports. Since the PUCCH resources configured for Mode-A/B UEI-CSI reporting is different from the PUCCH resources configured by *PUCCH-CSI-Resource*, the UE behavior to release PUCCH resource for mode-A/B UEI report should be further captured based on the RAN2#130 agreement. Please find the suggested revision below:**TS 38.331**5.3.12 UE actions upon PUCCH/SRS release requestUpon receiving a PUCCH release request from lower layers, for all bandwidth parts of an indicated serving cell the UE shall:1> release PUCCH-CSI-Resources configured in *CSI-ReportConfig*;1> release *pucch-Resource* configured in *CSI-ReportUE-IBR;*1> release *SchedulingRequestResourceConfig* instances configured in *PUCCH-Config*. |  |
| Nokia[Issue 1] | Various field name errors:Missing -r19 suffix:eventTypeUE-IBRadditionalOneSlotOffsetadditionalSlotOffsetTypo in -r19 suffix:subbandSize-19nrofSubbandsPO-19Wrong ASN.1 name formatting:pucchCell-r19 🡪 pucch-Cell-r19typeII-codebookSubsetRestriction-r19 🡪 typeII-CodebookSubsetRestriction-r19cri-TypeII-ri-Restriction-r19 🡪 cri-TypeII-RI-Restriction-r19 |  |
| Nokia[Issue 2] | Editorial errors in field descriptions:

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| ***typeII-CodebookSubsetRestriction***Codebook subset restriction for *codebook typeII-Doppler-r19* where… |

The word ‘*codebook*’ should be TAL style (no italics).

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| ***tpc-OfSRS-ClosedLoopIndexInDCI-1-1***Enables the presence of 2-bit TPC command for separate SRS close loop adjustment state(s) in DCI format 1\_1 (see TS 38.212 [17], clause 7.3.1). |

‘close loop’ should be ‘closed loop’.

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| ***startingBitOfFormat2-3, startingBitOfFormat2-3-v19xy***…The network does not configured both *startingBitOfFormat2-3* and *startingBitOfFormat2-3-v19xy*. |

Should be ‘network does not configure both…’ (or ‘network does not configure X and Y simultaneously’) |  |
| Nokia[Issue 3] | Incomplete field descriptions:

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| ***typeII-CodebookSubsetRestriction***Codebook subset restriction for *codebook typeII-Doppler-r19* where… |

This field also applies for *eTypeII-r19* codebooks.

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| ***delayOffsetCompensation***Indicates whether the UE should perform delay offset compensation based on the latest linked CJTC report when codebook type is set to typeII-CJT. |

According to 38.214 clause 5.2.1.4.2 (see R1-2504997) this field is relevant based on the latest linked CJTC-Dd report only, so the field description should say ‘based on the latest linked CJTC**-Dd** report’. Also, it could probably reference the relevant sub-clause by adding ‘, as specified in TS 38.214 [19] clause 5.2.1.4.2.’ to the end of the FD.

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| ***kdopp***The number of configured resource groups and number of NZP CSI-RS resources in each group. For *numberOfResourceGroups*, value *n4* corresponds to 4 resource groups, value *n8* corresponds to 8 resource groups and value *n12* corresponds to 12 resource groups. For *numberOfResourcesPerGroup*, value *n2* corresponds to 2 NZP CSI-RS resources per group, value *n3* corresponds to 3 NZP CSI-RS resources per group and value *n4* corresponds to 4 NZP CSI-RS resources per group. |

As this field is only relevant for *typeII-Doppler-r19* codebooks, the FD should state that ‘This field is only configured for codebook *typeII-Doppler-r19*’. |  |
| Nokia[Issue 4] | *CSI-ReportSubConfig-r19* and *portSubsetIndicator-r19**portSubsetIndicator* is associated with a *CSI-ReportSubConfig*, so *CSI-ReportSubConfig-r19* should also point to a *CSI-ReportSubConfigID* as shown below to associate *portSubsetIndicator-v19xy* to a *CSI-ReportSubConfig*.

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| CSI-ReportSubConfig-r18 ::= SEQUENCE { reportSubConfigId-r18 CSI-ReportSubConfigId-r18, reportSubConfigParams-r18 CHOICE { a1-parameters SEQUENCE { codebookSubConfig-r18 CodebookConfig OPTIONAL, -- Need R portSubsetIndicator-r18 CHOICE { p2 BIT STRING (SIZE (2)), p4 BIT STRING (SIZE (4)), p8 BIT STRING (SIZE (8)), p12 BIT STRING (SIZE (12)), p16 BIT STRING (SIZE (16)), p24 BIT STRING (SIZE (24)), p32 BIT STRING (SIZE (32)) } OPTIONAL, -- Need R non-PMI-PortIndication-r18 SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerConfig)) OF PortIndexFor8Ranks OPTIONAL -- Need R }, a2-parameters SEQUENCE { nzp-CSI-RS-ResourceList-r18 SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceIndex-r18 } } OPTIONAL, -- Need R powerOffset-r18 INTEGER(0..23) OPTIONAL -- Need R}CSI-ReportSubConfig-r19 ::= SEQUENCE { reportSubConfigId-r19 CSI-ReportSubConfigId-r18, reportSubConfigParams-v19xy SEQUENCE { a1-Parameters-v19xy SEQUENCE { portSubsetIndicator-v19xy CHOICE { p48 BIT STRING (SIZE (48)), p64 BIT STRING (SIZE (64)), p128 BIT STRING (SIZE (128)) } OPTIONAL -- Need R } } } |

Then, the FD for *portSubsetIndicator* should say ‘The network does not configure *portSubsetIndicator* and *portSubsetIndicator-v19xy* simultaneously for the same *CSI-ReportSubConfigId*’.

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| ***portSubsetIndicator, portSubsetIndicator-v19xy***Indicates the (sub)set of CSI-RS antenna ports used for CSI calculation of the sub-configuration. In the bit string, each bit corresponds to an antenna port. When a bit is set to 1, the corresponding port is enabled for CSI calculation corresponding to the sub-configuration. When the bit is set to zero, the corresponding port is not enabled for CSI calculation corresponding to the sub-configuration. The size of the bit string equals P bits, where P=2/4/8/12/16/24/32/48/64/128 represents the number of ports of the NZP CSI-RS resource(s) in the resource set for channel measurement associated with the *CSI-ReportConfig*. The network does not configure *portSubsetIndicator* and *portSubsetIndicator-v19xy* simultaneously for the same *CSI-ReportSubConfigId*. |

Lastly, it should be clarified that, for the same *CSI-ReportSubConfigId*, *CSI-ReportSubConfig-r19* cannot be configured when *CSI-ReportSubConfig-r18* is configured with *a2-parameters*. The field description for *csi-ReportSubConfigToAddModList* already states ‘No simultaneous configuration of *portSubsetIndicator* and a list of *nzp-CSI-RS-resources* in a same CSI report sub-configuration’. Perhaps it is sufficient to add ‘nor in different CSI report sub-configurations with the same *CSI-ReportSubConfigId*’.

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| ***csi-ReportSubConfigToAddModList***List of CSI-ReportSubConfiguration(s) in a CSI report configuration to add or modify. No simultaneous configuration of *portSubsetIndicator* and a list of *nzp-CSI-RS-resources* in a same CSI report sub-configuration nor in different CSI report sub-configurations with the same *CSI-ReportSubConfigId*. The number of elements in a list is at least 2. CSI-ReportSubConfig-r19 can only be configured  |

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| Nokia[Issue 5] | *reportQuantity-r19* / *reportQuantityCJTC-r19*Field name is inconsistent in ASN.1 and field description and needs to be aligned.

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| reportQuantity-r19 CHOICE { cjtc-Dd-r19 NULL, cjtc-F-r19 NULL, cjtc-P-r19 NULL, cjtc-Dd-F-r19 NULL} OPTIONAL, -- Need R |

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| ***reportQuantity***The CSI related quantities to report. see TS 38.214 [19], clause 5.2.1. If the field *reportQuantity-r16,* *reportQuantity-r17, reportQuantity-r18* or *reportQuantityCJTC-r19* is present, UE shall ignore *reportQuantity* (without suffix). Network does not configure *reportQuantity-r17*, *reportQuantity-r18* or *reportQuantityCJTC-r19* together with *reportQuantity-r16.* |

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| Nokia[Issue 6] | *srs-TwoSeparatePowerControlAdjustmentStates-r19*The field description states that this parameter is configured for the SRS resource set, but it is configured directly within SRS-Config (i.e. outside of the *SRS-ResourceSet* config), which applies to the whole UL BWP. Probably we can just delete “for this SRS resource set” from the field description

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| *srs-TwoSeparatePowerControlAdjustmentStates*Indicates that two separate SRS power control adjustment states are configured for this SRS resource set (see TS 38.213 [13], clause 7.3.1). |

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| SRS-Config ::= SEQUENCE { srs-ResourceSetToReleaseList SEQUENCE (SIZE(1..maxNrofSRS-ResourceSets)) OF SRS-ResourceSetId OPTIONAL, -- Need N srs-ResourceSetToAddModList SEQUENCE (SIZE(1..maxNrofSRS-ResourceSets)) OF SRS-ResourceSet OPTIONAL, -- Need N srs-ResourceToReleaseList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-ResourceId OPTIONAL, -- Need N srs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-Resource OPTIONAL, -- Need N <other fields omitted> [[ srs-TwoSeparatePowerControlAdjustmentStates-r19 ENUMERATED {enabled} OPTIONAL, -- Need R tpc-OfSRS-ClosedLoopIndexInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL, -- Need R srs-ClosedLoopIndexIndicatorInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL -- Need R  ]]} |

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| SamsungIssue-1(updated) | ***singleDCI-MultiTRP-2TA***Some basic description should be added: enables 2TAs for single-DCI multi-TRP. |  |
| SamsungIssue-2 | Missing FD for the followingcri-TypeI-SinglePanelRI-Restrictioncri-TypeI-SinglePanelN1-N2-CBSRcri-TypeII-ri-Restriction-r19cri-TypeII-N1-N2-CBSR-r19typeII-FePortSelectionRI-Restriction-r19 |  |
| SamsungIssue-3 (updated) | mr-SelectedResources-r19 SEQUENCE { firstSelectedResource-r19 INTEGER (1..8), secondSelectedResource-r19 INTEGER (1..8) OPTIONAL -- Need R } OPTIONAL -- Need R***mr-SelectedResources***This field is used in clause 5.2.1.4.2 in TS 38.214 [19]. I think some basic description is needed instead of mentioning RAN1 spec only: Indicates the selected CSI-RS resources for CRI reporting. This field is used in clause 5.2.1.4.2 in TS 38.214 [19].Maybe we also need to mention that secondSelectedResource is not configured if codebookType is set to 'typeII-r16'.  |  |
| SamsungIssue-4 | ***resourcesForChannelCJTC***Configures reference signals for channel measurement corresponding to the second resource set, the third resource set and the fourth resource set as specified in clause 5.1.2.4.1 in TS 38.214 [19].Should be clause 5.2.1.4.1 |  |
| SamsungIssue-5 | This parameter in CSI-ReportConfig is not listed in RAN1 RRC list. Did we agreed to add this? reportQuantity-r19 CHOICE { cjtc-Dd-r19 NULL, cjtc-F-r19 NULL, cjtc-P-r19 NULL, cjtc-Dd-F-r19 NULL } |  |
| SamsungIssue-6 | pusch-ResourceOfModeB-r19should be optional since only need for modeB |  |
| SamsungIssue-7 | pucch-Resource-r19should not be optional since needed for both mode-A and B |  |
| SamsungIssue-8 | ***csi-CRI-ValueOfM***This field is used in clause 5.1.2.4.2 in TS 38.214 [19].Should clarify it is configured up to 4 if *codebookType* is set to 'typeI-SinglePanel' and up to 2 if set to typeII-r16', as specified in clause 5.2.1.4.2 TS 38.214. (typo: not 5.1.2.4.2 but 5.2.1.4.2) |  |
| SamsungIssue-10 | codebookConfig-r19 should be included in the following FD.***codebookConfig***Codebook configuration for Type-1 or Type-2 including codebook subset restriction. Network can only configure one of *codebookConfig*, *codebookConfig-r16* or *codebookConfig-r17* or *codebookConfig-r18* in a *CSI-ReportConfig*. The network includes *codebookConfig-v1730* only if *codebookConfig-r17* is configured. |  |
| SamsungIssue-11 | Description should be added for the following parameter according to RAN1 RRC list, e.g., Indicates the minimum number of event instances for at least one same new beam within a configured time window to trigger a UEIBM report.***eventInstanceCount***This field is only configured if *eventDetectionTimeWindow* is configured. |  |
| SamsungIssue-12 | ***tci-ServCellIndex***Indicates the serving cell on which the TCI state is used to determine the current beam RS.The description is not correct. According to RAN1 RRC list, should be Indicates the serving cell on which the indicated TCI state used to determine the current beam RS is applied.The reason is the indicated TCI state can be configured by RRC under one serving cell but applied for another serving cell. |  |
| SamsungIssue-13 | Editor’s note: FFS on how to define additionalOneSlotOffset as a list.This editor note is for additionalOneSlotOffset-Dopp, not for additionalOneSlotOffset***additionalOneSlotOffsetDoppler***Configures 1-slot offset (per NZP-CSI-RS-Resource Group) relative to the slot offset configured by *aperiodicTriggeringOffset* in *NZP-CSI-RS-ResourceSet* (see TS 38.214 [19], clause 5.2.2.3.1).. This field is only configured for codebook *typeII-Doppler-r19*.1. Seems not mentioned in clause 5.2.2.3.1, 2. This is per resource group, which is same length of kdoppThe number of configured resource groups, should not be one bit. |  |
| SamsungIssue-14 | ***additionalSlotOffset***Slot offset relative to the resource-set level slot offset as specified in clause 5.2.1.5 of TS 38.214 [19]. The value 0 corresponds to 0 slots, value 1 corresponds to 1 slot and so on.Seems not mentioend in clause 5.2.1.5 |  |
| SamsungIssue-15 | ***The following parameter in RAN1 RRC list is not implemented.***

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| CSI-CJTC  | CSI-ReportConfig |   | referenceAntennaPort |

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| SamsungIssue-16 | ***csi-ReportUE-IBR***Configures parameters used for the UE initiated beam reporting. This field is only configured when *eventTypeUE-IBR* is configured.Do we need a conditional presence tag instead of the sentence? |  |
| SamsungIssue-17 | ***prachAssociationDCI-1-0***Enables the presence of 1-bit DCI field "PRACH association indicator" in DCI format 1\_0, which can be present in DCI format 1\_0 when this RRC parameter and *SSB-MTC-AdditionalPCI* are configured and the UE is not configured with multi-DCI based multi-TRP (see TS 38.212 [17], clause 7.3.1).This part is already mentioned in RAN1 spec, so seems no need to repeat. Instead, it should be mentioned that this field can be configured if singleDCI-MultiTRP-2TA is configured and is absent otherwise. Or a conditional presence tag can be used.Because singleDCI-MultiTRP-2TA is used for sDCI mTRP 2TA for both intra-cell and inter-cell cases, and prachAssociationDCI-1-0 is needed only for inter-cell sDCI mTRP 2TA. |  |