3GPP TSG-RAN WG2 #130 R2-250XXXX

Valetta, Malta, May 19th – 23rd, 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:

**[Post129bis][214][ MIMO\_Ph5] Running CR for 38.331 (Ericsson)**

**Intended outcome:**

1. **Updated running CR based on new agreements for endorsement**
2. **open issue list**

**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#129-bis. Note that the running CR may be further updated once a new version of L1 parameters is available. The additions compared to the previous version are with user “RAN2#130”.

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 |
| [Issue 1], OPPO | *pathlossOffsetPRACH-DCI-1-0* is configured per BWP. TCI state is also configured per BWP. However, DCI format 1\_0 is used for all serving cells of the same cell group, for PDCCH-ordered RACH.  The field description is now saying that “This field can be configured when at least one TCI state is configured with *pathlossOffset*“. We think that if any TCI state of the same cell group is configured with pathlossOffset, the “1-bit DCI field in DCI format 1\_0 for indicating the pathloss offset for PDCCH-order PRACH transmission“ can be enabled. The suggested change for the field description of *pathlossOffsetPRACH-DCI-1-0* is as follows:  Enables the presence of 1-bit DCI field in DCI format 1\_0 for indicating the pathloss offset for PDCCH-order PRACH transmission. This field can be configured when at least one TCI state of the same cell group is configured with *pathlossOffset*. |  |
| Samsung  Issue-1 | ***reportTransmissionMode***  Indicates the transmission mode for UCI based beam report procedure.  It would be good to also capture the high-level description for easy understanding as RAN1 excel sheet indicated: modeA indicates UCI in a dynamically scheduled uplink grant, modeB indicates UCI in a pre-configured type-1 configured uplink grant. |  |
| Samsung  Issue-2 | csi-ReportUE-IBM-r19 CSI-ReportUE-IBM-r19 OPTIONAL, -- Need R  currentBeamReport-r19 ENUMERATED {enable} OPTIONAL -- Need R  currentBeamReport-r19 can be included in csi-ReportUE-IBM-r19 to group together all UEI report related parameters. |  |
| Samsung  Issue-3 | The agreement is not captured.   * Reuse resourcesForChannelMeasurement in CSI-ReportConfig. Clarify in the field description that for UEI BM, the new beam to be measured is either CSI-RS (nzp-CSI-RS-ResourceSetList) or SSB (csi-SSB-ResourceSetList).   Can add in FD: either NZP-CSI-RS resources or SSB resources can be configured for UEI report. |  |
| Samsung  Issue-4 | ***nrofReportedRS***  The number of reported RS in the UE-initated beam report.  Value n1 corresponds to 1, and so on. |  |
| Samsung  Issue-5 | In RAN1 RRC list, for UEI BR the field name **resourceForSecondChannelOfModeB-r19** has been changed to **configuredPUSCHResourceOfModeB-r19**, suggest to update correspondingly in both ASN.1 and FD since “first/second channel” should be avoided which was used only for discussion purpose. |  |
| Samsung  Issue-6 | In RAN1 RRC list, for UEI BR the field name **firstPUCCHResourceConfig-r19** has been changed to **PUCCHResource-r19**, suggest to update correspondingly in both ASN.1 and FD since “first/second channel” should be avoided which was used only for discussion purpose.  Also suggest to capture the description below which is indicated in RAN1 RRC list to easy understanding of the parameter:  This parameter is used to configure the periodic PUCCH resource for first PUCCH  - to request dynamically scheduled PUSCH to carry UE-initated/event-driven beam report for mode-A  - to notify Type-1 CG PUSCH to carry UE-initated/event-driven beam report for mode-B. |  |
| Samsung  Issue-7 | n1-n2-r19 ENUMERATED {eight-three, six-four, sixteen-two, eight-four, sixteen-four, eight-eight},  typeII-codebookSubsetRestriction-r19 TypeII-X1-X2-CBSR-r19 OPTIONAL -- Need R  n1-n2 and typeII-CBSR are missing for codebook etypeII-r19 according to RAN1 RRC list.   |  |  | | --- | --- | | CSI-ReportConfig (eTypeII-r19, typeII-Doppler-r19) | n1-n2-typeII-r19 | | CSI-ReportConfig (eTypeII-r19, typeII-Doppler-r19) | typeII-CBSR-r19 | | CSI-ReportConfig (eTypeII-r19, typeII-Doppler-r19) | valueOfX1-typeII-CBSR-r19 | | CSI-ReportConfig (eTypeII-r19, typeII-Doppler-r19) | valueOfX2-typeII-CBSR-r19 | |  |
| Samsung  Issue-8 | cri-TypeI-SinglePanel-ri-Restriction-r19  cri-TypeI-SinglePanelN1-N2-CBSR-r19  cri-TypeII-ri-Restriction-r19  cri-TypeII-N1-N2-CBSR-r19  these are RI restriction and CBSR **per resource** according to RAN1 RRC list, and there are total Ks (up to 8) resources  need 4 lists respectively including elements of these 4. |  |
| Samsung  Issue-9 | ***tag2***  This field is used to indicate the second TAG information for the serving cell. This field can only be configured in a serving cell if the serving cell is configured with more than one value for the *coresetPoolIndex* or if the serving cell is configured with asymmetric DL sTRP/UL mTRP.  It is not clear how to determine “asymmetric DL sTRP/UL mTRP” is configure, as pathloss offset cannot be used as the indicator. According to latest RAN1 agreement, Rel-19 2TA for asymmetric DL sTRP/UL mTRP can be configured when pathlossOffset-r19 is and can also be configured when pathlossOffset-r19 is not configured.  I think Rel-19 2TA is for the case sDCI mTRP, i.e., for the case coresetPoolIndex is not configured or only configured with one value, no need to mention asymmetric DL sTRP/UL mTRP.  Then I wonder if the sentence  “This field can only be configured in a serving cell if the serving cell is configured with more than one value for the *coresetPoolIndex* or if the serving cell is configured with asymmetric DL sTRP/UL mTRP.”  Can be directly removed without causing ambiguity of Rel-18 2TA for mDCI mTRP and Rel-19 2TA for sDCI mTRP.  If the removal cause ambiguity, we may need further discussion on how to specify the configuration of tag2 to support Rel-19 2TA for sDCI mTRP. Maybe an editor’s note can be captured and no change on the legacy FD for now. |  |
| Samsung  Issue-10 | ***n-TimingAdvanceOffset2***  The *N\_TA-Offset2* to be applied for PDCCH order CFRA towards the active *additionalPCI* as specified in TS 38.133 [14] clause 7.1.1 and for all uplink transmissions on this serving cell associated to *tag2* as specified in TS 38.213 [13] clause 4.2. This field is always present if *SSB-MTC-AdditionalPCI* is configured. It is absent otherwise. If absent, the *N\_TA-Offset* is applied for all uplink transmissions on this serving cell associated to *tag2*. This field is not configured for asymmetric DL sTRP/UL mTRP.  It is not clear how to determine “asymmetric DL sTRP/UL mTRP” is configured as pathloss offset cannot be used as the indicator.According to latest RAN1 agreement, Rel-19 2TA for asymmetric DL sTRP/UL mTRP can be configured when pathlossOffset-r19 is and can also be configured when pathlossOffset-r19 is not configured.  We have agreed when pathloss offset is configured, this field is not configured. But it is not clear for Rel-19 2TA for sDCI mTRP whether this field should be configured or not when pathloss offset is not configured, which may need more discussion or ask RAN1.  Suggest to add an editor’s note for now regarding whether/how to configure ***n-TimingAdvanceOffset2*** to support Rel-19 2TA for sDCI mTRP. |  |
| Samsung  Issue-11 | ***prachAssociationDCI-1-0***  Configuration of 1-bit DCI field “PRACH association indicator” in DCI format 1\_0, which is 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 38.214 [19], clause x.y).  This field **can** be present when SSB-MTC-AdditionalPCI is configured and the UE is not configured with multi-DCI based multi-TRP. Suggest to rephrase the FD similar to the FD of *pathlossOffsetPRACH-DCI-1-0* |  |
| Samsung  Issue-12 | paramCombination-r19 INTEGER (1..7),  paramCombination-r19 value is 1..8 according to RAN1 RRC list   |  |  |  | | --- | --- | --- | | CSI-ReportConfig (eTypeII-r19, typeII-FePortSelection-r19) | paramCombination-r19 | 1,2,…,8 |   The RAN1 agreement below  **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.  Indicates the exceptional case that for FeType-II PS Parameter Combination 8 is not used, but value 8 is still needed for eType-II |  |
| Samsung  Issue-13 | ***pathlossOffset***  Indicates the pathloss offset applied to the UL only TCI or joint TCI state. Value dB-12 corresponds to -2 dB, dB-8 corresponds to -8 dB and so on.  Typo |  |
| Samsung  Issue-14 | ***srsClosedLoopIndexIndicatorInDCI-1-1***  Enables the presence of 1-bit SRS closed loop index indicator in DCI format 1\_1 (see TS 38.214 [19], clause x.y). This field is only present if *srs-TwoSeparatePowerControlAdjustmentStates* is configured.  Should be “**can** be present”? |  |
| Samsung  Issue-15 | subbandSizeCJTC-19  The field name in FD is wrong. |  |
| Samsung  Issue-16 | |  | | --- | | ***valueOfMD***  Uniform-range quantization for the range of delay offset as specified in TS 38.214 [19], clause x.y. | | ***valueOfMFO***  Uniform-range quantization for the range of frequency offset as specified in TS 38.214 [19], clause x.y. | | ***valueOfMPhi***  Uniform-range quantization for the range of phase offset as specified in TS 38.214 [19], clause x.y. |   Suggest to update the FD respectively for each field for easy understanding, e.g. “Indicate the value of MD/MFO/Mphi for uniform quantization for the range of delay/frequency/phase offset, as specified in …” |  |
| Samsung  Issue-17 | additionalOneSlotOffsetDoppler ENUMERATED{enabled} OPTIONAL -- Need R  According to RAN1 list “For Rel-19 Type-II based on Rel-18 Type-II Doppler: 1-slot offset (per NZP-CSI-RS-Resource Group) relative to the slot offset configured by aperiodicTriggeringOffset in NZP-CSI-RS-ResourceSet ”, I understand **this enbaling should be per resource group.**  So we need a list of enabling, one per group, NW can configure enabing only for a subset of the all groups. |  |
| Nokia  Issue-1 | TypeI-X1-X2-CBSR-r19 ::= CHOICE {  one-one-r19 CHOICE {twentyfour BIT STRING (SIZE (384)), thirtytwo BIT STRING (SIZE (192)), sixtyfour BIT STRING (SIZE (1024))},  two-one-r19 CHOICE {twentyfour BIT STRING (SIZE (192)), thirtytwo BIT STRING (SIZE (256)), sixtyfour BIT STRING (SIZE (512))},  two-two-r19 CHOICE {twentyfour BIT STRING (SIZE (96)), thirtytwo BIT STRING (SIZE (128)), sixtyfour BIT STRING (SIZE (256))},  four-one-r19 CHOICE {twentyfour BIT STRING (SIZE (96)), thirtytwo BIT STRING (SIZE (128)), sixtyfour BIT STRING (SIZE (256))},  four-two-r19 CHOICE {twentyfour BIT STRING (SIZE (48)), thirtytwo BIT STRING (SIZE (64)), sixtyfour BIT STRING (SIZE (128))},  four-four-r19 CHOICE {twentyfour BIT STRING (SIZE (24)), thirtytwo BIT STRING (SIZE (32)), sixtyfour BIT STRING (SIZE (64))}  }  The highlighted bit string should have a size of 512 bits.  [(N1,N2)= (16,2) or (8,4), (O1,O2) = (4,4), and (X1,X2) = (1,1), CBSR size = (N1O1N2O2)/(X1X2)] |  |
| Nokia  Issue-2 | TypeI-X1-X2-SoftScalingRank-r19 ::= CHOICE {  two-one-r19 CHOICE {twentyfour BIT STRING (SIZE (576)), thirtytwo BIT STRING (SIZE (768)), sixtyfour BIT STRING (SIZE (1536))},  two-two-r19 CHOICE {twentyfour BIT STRING (SIZE (288)), thirtytwo BIT STRING (SIZE (384)), sixtyfour BIT STRING (SIZE (768))},  four-one-r19 CHOICE {twentyfour BIT STRING (SIZE (288)), thirtytwo BIT STRING (SIZE (384)), sixtyfour BIT STRING (SIZE (768))},  four-two-r19 CHOICE {twentyfour BIT STRING (SIZE (144)), thirtytwo BIT STRING (SIZE (192)), sixtyfour BIT STRING (SIZE (384))},  four-four-r19 CHOICE {twentyfour BIT STRING (SIZE (72)), thirtytwo BIT STRING (SIZE (96)), sixtyfour BIT STRING (SIZE (192))},  eight-one-r19 CHOICE {twentyfour BIT STRING (SIZE (144)), thirtytwo BIT STRING (SIZE (384)), sixtyfour BIT STRING (SIZE (384))}  }  The highlighted bit string should have a size of 192 bits.  [(N1,N2)= (16,2) or (8,4), (O1,O2) = (4,4), and (X1,X2) = (8,1), power scaling factor size = 3\*(N1O1N2O2)/(X1X2)] |  |
| Nokia  Issue-3 | TypeII-X1-X2-CBSR-r19 ::= CHOICE {  one-one-r19 CHOICE {twentyfour BIT STRING (SIZE (24)), thirtytwo BIT STRING (SIZE (32)), sixtyfour BIT STRING (SIZE (64))},  two-one-r19 CHOICE {twentyfour BIT STRING (SIZE (12)), thirtytwo BIT STRING (SIZE (16)), sixtyfour BIT STRING (SIZE (32))},  two-two-r19 CHOICE {twentyfour BIT STRING (SIZE (6)), thirtytwo BIT STRING (SIZE (8)), sixtyfour BIT STRING (SIZE (16))},  four-one-r19 CHOICE {twentyfour BIT STRING (SIZE (6)), thirtytwo BIT STRING (SIZE (8)), sixtyfour BIT STRING (SIZE (16))},  four-two-r19 CHOICE {twentyfour BIT STRING (SIZE (4)), sixtyfour BIT STRING (SIZE (8))}  }  The highlighted value should be ‘thirtytwo’.  According to the description of *valueOfX1-typeII-CBSR-r19* and *valueOfX2-typeII-CBSR-r19* in the RAN1 parameter list, (X1,X2) = (4,2) only applies for (N1,N2) = (16,2), (8,4), (16,4), or (8,8), i.e. N1xN2 = 32 or 64.  Besides, for TypeII codebook, N1xN2 = 32 and (X1,X2) = (4,2) corresponds to the CBSR with bit string size 4. |  |
| Vivo Issue1 | In IE *CSI-ReportUE-IBM-r19*, the RRC signaling design is not clear enough. According to RAN1 agreement, three events have been agreed, and Event-2 and Event-7 have some dedicated parameters respectively, such as Q for Event-7, time window related configuration for Event-2, and threshold value. In addition, either UE-initiated beam reporting or legacy reporting (e.g., periodic, semi-persistent, aperiodic) can be configured for a CSI report configuration. However, the above contents are not reflected in the running CR. Therefore, we prefer to introduce a parameter, i.e., *event-triggeredReport* in *reportConfigType.* And event-1, event-2, event-7 are listed as choices. Event-dedicated parameters can be listed below. It is similar to the event-triggered report configuration for LTM. As for the parameter of *csi-ReportUE-IBM-r19*,common parameters for UE-initiated beam reporting can be included in it, such as reportTransmissionMode-r19, enabledCurrentBeamReport-r19, nrofReportedRS-UEIBR-r19, resourceForSecondChannelOfModeB-r19, and so on. With this, the whole signalling design of CSI reporting will be clearer. |  |
| Vivo Issue2 | The IEs, *cri-TypeI-SinglePanel-ri-Restriction-r19, cri-TypeI-SinglePanelN1-N2-CBSR-r19, cri-TypeII-ri-Restriction-r19, and cri-TypeII-N1-N2-CBSR-r19*, in current RRC CR seem to be resource-common (in CodebookConfig in CSI-ReportConfig), which is not aligned with the following agreement made in RAN1 #118.  Suggest to change it as resource specific, e.g. define a list in the CodebookConfig.  **【118】Agreement**  For the Rel-19 CRI-based CSI refinement for up to 128 CSI-RS ports, regarding CBSR and RI restriction, support resource-specific specific CBSR   * FFS (by RAN1#118): Whether RI restriction is resource-common or resource-specific   **【118】Agreement**  For the Rel-19 CRI-based CSI refinement for up to 128 CSI-RS ports, support resource-specific RI restriction |  |
| Vivo issue3 | The component *linkedCJTCReport-r19* of IE *CSI-ReportCJTC-r19* in current running CR should be child IE of *CSI-ReportConfig* as it works when UE performs PMI calculation for the Rel-18 eType-II CJT CSI report, but not when UE calculates CJTC report.  That is, when UE receives a CSI-ReportConfig for CJT CSI calculation, if linkedCJTCReport-r19 exists at the CSI-ReportConfig, UE shall do CSI-RS pre-compensation using the UE-reported delay offset in the linked CJTC report.  The corrsponding RAN1 conclusion is below:  **【118】Agreement**  For the Rel-19 aperiodic standalone CJT calibration (CJTC) reporting, to facilitate UE-specific delay offset pre-compensation on PDSCH by the NW, support configuring a UE (via RRC signaling) to perform PMI calculation for the Rel-18 eType-II CJT CSI report assuming pre-compensation using the UE-reported delay offset (when ReportQuantity is ‘cjtc-Dd’) |  |
| ZTE-Issue 1 | reportTransmissionMode-r19 ENUMERATED {modeA, modeB},  resourceForSecondChannelOfModeB-r19 SEQUENCE {  configuredGrantConfigIndex-r19 ConfiguredGrantConfigIndex-r16 OPTIONAL, -- Need R  ul-BWP-Id-r19 BWP-Id,  servCellIndex-r19 ServCellIndex  }  These 2 parameters can be merged together with a choice structure. |  |
| ZTE-Issue 2 | A field description can be added to eventType-r19 by refering to RAN1 spec  eventType-r19 ENUMERATED {event1, event2, event7}, |  |
| Huawei - issue 1 | In BWP-DownlinkDedicated, description of prachAssociationDCI-1-0, there is "and the UE is not configured with multi-DCI based multi-TRP": So far, such a stage-2-like wording was never used in RRC field descriptions |  |
| Huawei - issue 2 | In CodebookConfig, in TypeI-X1-X2-CBSR-r19 and in TypeI-X1-X2-SoftScalingRank-r19, there is no explanation on the CHOICE between twentyfour, thirtytwo and sixtyfour (which should be twentyFour, thirtyTwo and sixtyFour).  These values are the product of n1 and n2 (and twice the number of ports). If the coding is left like this, this information should be captured.  However, this means that when CBSR or scaling is signalled, the produce of n1 and n2 is re-encoded. We suggest defining a SEQUENCE with 3 CHOICE values, for the 3 possible number of ports, that include the value of n1-n2, and optionally a CBSR and scaling in which, for an (X1, X2) combination, there is a BIT STRING of the right size for the number of ports. |  |
| Huawei - issue 3 | For TypeI-X1-X2-CBSR-r19, (X1, X2) = (1, 1) and 16 ports, the BIT STRING should be 512 bits, not 192. |  |
| Huawei - issue 4 | In CSI-AperiodicTriggerStateList  ***mrSelectedResources***  Indicates the MR selected CSI-RS resources. For codebook type I, both *firstSelectedResource* and *secondSelectedResource* are configured. For codebook type II, only *firstSelectedResource* is configured.  Indicates the MR selected CSI-RS resources looks like a pure rephrasing of the parameter name, and totally unclear. This is 1 or 2 resources to be selected for aperiodic reporting. However, it is unclear what this number 1 to 8 is, what it refers to. This needs to be clearified.  For codebook type II, only *firstSelectedResource* is configured : The 38.214 CR says it applies only to typeI-SinglePannel or typeII-r16, here only Type II is mentioned. Perhaps we should just capture that they can only be configured for certain codebook types as specified in 38.214 clause 5.2.1.4.2. (and not repeat the details). |  |
| Huawei - issue 5 | In CSI-AperiodicTriggerStateList  ***resourcesForChannelCJTC***  Configures reference signals for channel measurement corresponding to the second resource set, the third resource set and the fourth resource set for *CSI-ReportCJTC*  This is a type name, is the intention to say that this fiels is configured when csi-ReportCJTC is configured in the indicated CSI-ReportConfig?  If so, that is how it should be written, but to indicate the case where there are 2 to 4 resources, the draft 38.214 CR (clause 5.1.2.4.1) refers to report quantities rather than this field, so perhaps the description should be aligned with this? (the best would be to refer to 38.214 and not duplicate it) |  |
| Huawei - issue 6 | In CSI-ReportConfig  reportQuantityCJTC -r19: don't see the use of the CJTC suffix, in previous release, there was never any suffix added to reportQuantity.  subbandSizeCJTC: this is in a CJTC structure already, don't need to repeat the suffix  numberofSubbandsPO -19: should be numberOfSubbandsPO (already like that in the 38.214 CR) and the range is incorrect, the range of items of the list should be from 1 to subbandSize, not 1 to 275, and the number of items should also be from 1 to subbandSize. |  |
| Huawei - issue 7 | In CSI-ReportConfig  numberOfSubbandsPO -19: the range is incorrect, the range of items of the list should be from 1 to subbandSize, not 1 to 275, and the number of items should also be from 1 to subbandSize. |  |
| Huawei - issue 8 | In CSI-ReportConfig  ***csi-CRI-ValueOfM***  Number of CRIs. For codebook type *typeI-SinglePanel*, the network does not configure a value larger than the number of NZP CSI-RS resources per resource set. For codebook type *typeII-r16*, the network only configures value 1 or 2.  From 5.1.2.4.2 of the 38.214 CR, this seems to be the number of CRIs and of CSIs. Perhaps we should just say "This field is used in clause 5.1.2.4.2 in TS 38.214".  The second sentence is redundant with 5.1.2.4.2 in the 38.214 CR, no need to repeat (and not fully accurately). |  |
| Huawei - issue 9 | In CSI-ReportConfig, the descriptions in the "CSI-ReportCJTC field descriptions" are not aligned with the descriptions in the draft 38.214 CR, and the names are used and described there.  Suggest removing these descriptions except for "Specified in clause x.y in TS 38.214" and the descriptions on the enumerated values. |  |

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