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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| --- | --- | --- |
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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 inimum 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*;
2. 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 RpowerOffset-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 Nsrs-ResourceSetToAddModList SEQUENCE (SIZE(1..maxNrofSRS-ResourceSets)) OF SRS-ResourceSet OPTIONAL, -- Need Nsrs-ResourceToReleaseList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-ResourceId OPTIONAL, -- Need Nsrs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-Resource OPTIONAL, -- Need N<other fields omitted>[[srs-TwoSeparatePowerControlAdjustmentStates-r19 ENUMERATED {enabled} OPTIONAL, -- Need Rtpc-OfSRS-ClosedLoopIndexInDCI-1-1-r19 ENUMERATED {enabled} OPTIONAL, -- Need Rsrs-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. |  |
| OPPOIssue-1 | ***eventDetectionTimeWindow***Indicates the time window length for triggering event determination. Value *ms4* corresponds to 4 milliseconds, value *ms5* corresponds to 5 milliseconds and so on.The RRC specification is now having both L1 triggering event and L3 triggering event. To avoid the ambiguity in the field description, we can add the RAN1 specification as the reference for the “triggering event degermation”, e.g. by adding reference text as “(see TS 38.214 [19], clause 5.2)”. |  |
| HuaweiIssue-1 | In BWP-DownlinkDedicated, there is***pathlossOffsetPRACH-DCI-1-0***Enables the presence of a 1-bit DCI field in DCI format 1\_0 for indicating the pathloss offset for PDCCH-ordered PRACH transmissions. This field can only be configured when at least one TCI state of the same cell group is configured with pathlossOffset (see TS 38.212 [17], clause 7.3.1).while 38.212 v19.0.0 has in 7.3.1.2.1- Pathloss offset indicator – 0 or 1 bit- 1 bit if the UE is configured with higher layer parameter *plOffsetInPrach\_InDCI* and at least one configured TCI state for the serving cell is configured with *plOffset*.- If there is only one indicated joint/UL TCI state, the bit field index 0 of this field indicates that no pathloss offset is applied for the PRACH transmission, and the bit field index 1 of this field indicates that the pathloss offset configured in the indicated joint/UL TCI state is applied for the PRACH transmission.- If there are two indicated joint/UL TCI states, the bit field index 0 of this field indicates that the pathloss offset configured in the first indicated joint/UL TCI state is applied for the PRACH transmission, and the bit field index 1 of this field indicates that the pathloss offset configured in the second indicated joint/UL TCI state is applied for the PRACH transmission.- 0 bit otherwise.Rephrasing in 38.331 what is in RAN1 specifications creates a risk that, in some scenario, the meaning can be different and some implementations could follow one specification while other implementations could follow the other.To avoid this, so we suggest replacing the highlighted sentence with See TS 38.212 [17] clause 7.3.1.2.1.Then, we should confirm with RAN1 what the correct condition is: same serving cell or same cell group, and capture it only in 38.331 or only in 38.214 but not both. |  |
| Huawei Issue-2 | In BWP-DownlinkDedicated, there is***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).In TS 38.212 clause 7.3.1.2.1, there is:- PRACH association indicator – 0 or 1 bit- 1bit if the UE is provided with *tag2-Id*, and the UE is not provided *coresetPoolIndex* or is provided *coresetPoolIndex* with value 0 for the first CORESETs, and is provided *coresetPoolIndex* with value 1 for the second CORESETs. This field is reserved if the cell indicated by Cell indicator field is a candidate cell.- This field indicates the PCI associated with the PRACH transmission if the UE is provided *SSB-MTC-AddtionalPCI*. The bit field index 0 of this field is mapped to the PCI of the serving cell, and the bit field index 1 of this field is mapped to the additional PCI associated with active TCI states.- This field indicates the PL-RS for the PRACH transmission if the UE is not provided *SSB-MTC-AddtionalPCI*. The bit field index 0 of this field is mapped to the DL RS that the DM-RS of the PDCCH order is quasi-collocated with, and the bit field index 1 of this field is mapped to the SS/PBCH indicated by the SS/PBCH index field in this DCI format. - 1bit if the UE is provided with *tag2-Id* and *SSB-MTC-AddtionalPCI*, and the UE is not configured with *coresetPoolIndex* or the value of *coresetPoolIndex* is the same for all CORESETs if *coresetPoolIndex* is provided, and the UE is provided with *PrachAssociationIndicator\_InDCI\_format\_1\_0*. This field is reserved if the cell indicated by Cell indicator field is a candidate cell.- This field indicates the PL-RS for the PRACH transmission. The bit field index 0 of this field is mapped to the DL RS that the DM-RS of the PDCCH order is quasi-collocated with, and the bit field index 1 of this field is mapped to the SS/PBCH indicated by the SS/PBCH index field in this DCI format.- 0 bit otherwise. The condition in TS 38.212 looks far more complex that what is captured in TS 38.331, and there are cases where the PRACH association indicator is present while the “enabler parameter” is not set. For the same reasons like mentioned above (risk of discrepancies resulting in interoperability issues), we suggest replacing the whole field description with “ See TS 38.212 [17] clause 7.3.1.2.1.”. |  |
| Huawei Issue-3 | singleDCI-MultiTRP-2TA in BWP-DownlinkDedicated: where does this come from? Cannot find it in R1-2503244. |  |
| Huawei Issue-4 | **typeI-CodebookSubsetRestriction****typeI-SoftScalingRank****typeII-codebookSubsetRestriction**For each field, it should be captured that twentyFour is used when n1xn2 is 24, thirtyTwo is when n1xn2 is 32 and sixtyFour when n1xn2 is 64.Alternatively, n1-n2, CBSR and SoftScalingRank could be defined in combined manner for typeI-SinglePaneI (removing 6 bits):CHOICE { fourtyEightPorts SEQUENCE {n1-n2 ENUMERATED {eight-three, six-four},x1-x2-CBSR CHOICE { one-one BIT STRING (SIZE(384)), two-one BIT STRING (SIZE(192)), two-two BIT STRING (SIZE(96)), four-one BIT STRING (SIZE(96)), four-two BIT STRING (SIZE(48)), four-four BIT STRING (SIZE(24))} OPTIONAL, -- Need Rx1-x2-SoftScalingRank CHOICE { two-one BIT STRING (SIZE(576)), two-two BIT STRING (SIZE(288)), four-one BIT STRING (SIZE(288)), four-two BIT STRING (SIZE(144)), four-four BIT STRING (SIZE(72)), eight-one BIT STRING (SIZE(144))} OPTIONAL -- Need R }, sixtyFourPorts SEQUENCE {n1-n2 ENUMERATED { sixteen-too, eight-four },x1-x2-CBSR CHOICE { one-one BIT STRING (SIZE(512)), two-one BIT STRING (SIZE(256)), two-two BIT STRING (SIZE(128)), four-one BIT STRING (SIZE(128)), four-two BIT STRING (SIZE(64)), four-four BIT STRING (SIZE(32))} OPTIONAL, -- Need Rx1-x2-SoftScalingRank CHOICE { two-one BIT STRING (SIZE(768)), two-two BIT STRING (SIZE(384)), four-one BIT STRING (SIZE(384)), four-two BIT STRING (SIZE(192)), four-four BIT STRING (SIZE(96)), eight-one BIT STRING (SIZE(192))} OPTIONAL -- Need R }, oneHundredTwentyEightPorts SEQUENCE {n1-n2 ENUMERATED { sixteen-four, eight-eight },x1-x2-CBSR CHOICE { one-one BIT STRING (SIZE(1024)), two-one BIT STRING (SIZE(512)), two-two BIT STRING (SIZE(256)), four-one BIT STRING (SIZE(256)), four-two BIT STRING (SIZE(128)), four-four BIT STRING (SIZE(64))} OPTIONAL, -- Need Rx1-x2-SoftScalingRank CHOICE { two-one BIT STRING (SIZE(1536)), two-two BIT STRING (SIZE(768)), four-one BIT STRING (SIZE(768)), four-two BIT STRING (SIZE(384)), four-four BIT STRING (SIZE(192)), eight-one BIT STRING (SIZE(384))} OPTIONAL -- Need R }} |  |
| Huawei Issue-5 | cri-TypeI-SinglePanelRI-Restriction-r19 SEQUENCE (SIZE (1..4)) OF BIT STRING (SIZE (8)) OPTIONAL, -- Need Rcri-TypeI-SinglePanelN1-N2-CBSR-r19 CRI-TypeI-SinglePanelN1-N2-CBSR-List-r19 OPTIONAL -- Needalsocri-TypeII-ri-Restriction-r19 SEQUENCE (SIZE (1..4)) OF BIT STRING (SIZE (4)) OPTIONAL, -- Need Rcri-TypeII-N1-N2-CBSR-r19 CRI-TypeII-N1-N2-CBSR-List-r19 OPTIONAL -- Need RAccording to R1-2503243, this is:- resource-specific RI restriction (8-bit bitmap per resource, where the 8-bit bitmap is similar to (or the same as) typeI-SinglePanel-ri-restriction)- resource-specific CBSR: reuse Rel-15 Type-I SP CBSR design for each of the KS resourcesThe association with resource may need to be made explicit. There is one existing field, ***n1-n2-codebookSubsetRestrictionList***, for which it is captured that:the number of elements in *cbsr-list* in *n1-n2-codebookSubSetRestrictionList* is up to the number of elements of *nzp-CSI-RS-Resources* in *NZP-CSI-RS-ResourceSet(s)* indicated by *nzp-CSI-RS-ResourceSetList* in the *CSI-ResourceConfig* indicated by *resourcesForChannelMeasurement* in the *CSI-ReportConfig* in which the *CodebookConfig* is included. An element in the list corresponds to the element at the same position in *nzp-CSI-RS-Resources*The green highlighted part says the max number of elements, and the yellow highlighted part the association. If the same is applicable to cri-TypeI-SinglePanelRI-Restriction-r19, that needs to be captured. |  |
| Huawei Issue-6 | typeI-MultiPanel-r19 SEQUENCE { ri-Restriction-r19 BIT STRING (SIZE (4)), ng-n1-n2-r19 CHOICE { two-four-three-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (192)), two-six-two-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (192)), two-twelve-one-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (48)), two-eight-two-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (256)), two-sixteen-one-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (64)), four-four-two-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (128)), two-four-four-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (256)), four-eight-one-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (32)), four-four-four-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (256)), four-sixteen-one-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (64)), four-eight-two-TypeI-MultiPanel-Restriction-r19 BIT STRING (SIZE (256)) }There are 11 values of (ng, n1, n2) in R1-2503243 but only 7 of those in 38.214 v19.0.0 clause 5.2.2.2.2a, not sure what is right.Above, the missing values are highlighted. Besides, according to 38.214, there are N1N2O1O2 bits, and O1=O2=4 for the seven values in 38.214, are the value of O1 and O2 different for the 4 values not currently listed in 38.214? |  |
| Huawei Issue-7 | type2 CHOICE { etypeII-r19 SEQUENCE { typeII-RI-Restriction-r19 BIT STRING (SIZE (4)), numberOfPMI-SubbandsPerCQI-Subband-r19 INTEGER(1..2), paramCombination-r19 INTEGER (1..8), n1-n2-r19 ENUMERATED {eight-three, six-four, sixteen-two, eight-four, sixteen-four, eight-eight},Missing coma. |  |
| Huawei Issue-8 | typeII-Doppler-r19 SEQUENCE { typeII-RI-Restriction-r19 BIT STRING (SIZE (4)), numberOfPMI-SubbandsPerCQI-Subband-r19 INTEGER(1..2), paramCombination-Doppler-r19 INTEGER (1..9), td-dd-config-r19 TD-DD-Config-r18, predictionDelay-r19 ENUMERATED {m0,n0,n1,n2}, 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 }For typeII-Doppler-r19, R1-2503243 has:- description: typeII Doppler codebook configuration (same as the legacy IE typeII-Doppler-r18)- value range: paramCombination-Doppler, td-dd-config, predictionDelay- comment: n1-n2-codebookSubsetRestriction, numberOfPMI-SubbandsPerCQI-subband, typeII-RI-restriction are removed, since they are already taken into account above.So value range is not described, and it is assumed that it is the same like for typeII-Doppler-r18, which is:typeII-Doppler-r18 SEQUENCE { n1-n2-codebookSubsetRestriction-r18 N1-N2-CBSR-r18, paramCombination-Doppler-r18 INTEGER (1..9), td-dd-config-r18 TD-DD-Config-r18, numberOfPMI-SubbandsPerCQI-Subband-r18 INTEGER(1..2), predictionDelay-r18 ENUMERATED {m0,n0,n1,n2 }, typeII-RI-Restriction-r18 BIT STRING (SIZE (4))So there should not be the n1-n2-19 and typeII-CodebookSubsetRestriction-r19 fields, with the second field introducing X1 and X2 from nowhere, it should be a single field like Rel-18. |  |
| Huawei Issue-9 | In CSI-ReportConfig:codebookConfig-r19 CodebookConfig-r19 OPTIONAL, -- Need RportMappingMethod-r19 ENUMERATED {method1, method2} OPTIONAL, -- Need RFrom 38.214, *portMappingMethod-r19* seems only applicable for codebooks configured via *codeboolConfig-r19*. There could be a presence condition (optional Need R if *codebookConfig-r19* is configured). Or it could be moved inside *CodebookConfig-r19*? |  |
| Huawei Issue-10 | In NZP-CSI-RS-ResourceSet, to avoid the risk of misalignment of descriptions between RRC and 38.214, suggest changing as follows:***additionalOneSlotOffsetDoppler***See TS 38.214 [19], clause 5.2.2.3.1).. This field is only configured for codebook typeII-Doppler-r19. |  |
| Huawei Issue-11 | In NZP-CSI-RS-Resources, same thing for additionalOneSlotOffset and additionalSlotOffset |  |
| Huawei Issue-12 | ***csi-CRI-ValueOfM***This field is used in clause 5.1.2.4.2 in TS 38.214 [19].Actually, the name in 38.214 is just ValueOfM and it is not used in 5.1.2.4.2, it is used in 5.2.1.4.2, but also in 5.2.2.5, 5.2.3, 5.2.4 and 5.4. |  |
| Huawei Issue-13 | ***valueOfAFO***This field is used in clause 5.2.1.4 in TS 38.214 [19]. Value *zeroDot1* corresponds to 0.1 ppm ahd value *zeroDot2* corresponds to 0.2 ppm.Typo |  |
| Huawei Issue-14 | ***subbandSize***This field is used in clause 5.2.1.4 in TS 38.214 [19].In the same IE, there is already:***subbandSize***Indicates one out of two possible BWP-dependent values for the subband size as indicated in TS 38.214 [19], table 5.2.1.4-2 . If csi-ReportingBand is absent, the UE shall ignore this field.The new field has the same name like the existing field in the same IE, and is used in the same clause. Perhaps some clarification is needed, or name change. |  |
| Huawei Issue-15 | ***nrOfSubbandsPO***This field is used in clause 5.2.1.4 in TS 38.214 [19].The field name in 5.2.1.4.2 is numberOfSubbandsPO, it should be aligned one way or another. |  |
| Huawei Issue-16 | ***nrofReportedRS***The number (N) of measured RS resources to be reported per report setting in a non-group-based report. N <= N\_max, where N\_max is either 2 or 4 depending on UE capability.(see TS 38.214 [19], clause 5.2.1.4) When the field is absent the UE applies the value 1.***NrofReportedRS***The number of reported RS in the UE-initated beam report. Value n1 corresponds to 1, value n2 corresponds to 2 and so on.Do we actually need a new field with the same name? |  |
| Huawei Issue-17 | ***tci-ServCellIndex***Indicates the serving cell on which the TCI state is used to determine the current beam RS.38.214 says « the indicated TCI state » and has a statement, that absent means the same as the *carrier* field. It could be good to align, or to just refer to 38.214. |  |
| Huawei Issue-18 | currentBeamReport-r19 ENUMERATED {enable} OPTIONAL, -- Need R conditionFulfillmentIndicator-r19 ENUMERATED {enable} OPTIONAL, -- Need RMinor comment: in a majority of place, {enabled} is used, suggest aligning. |  |
| Huawei Issue-19 | eventInstanceCount-r19 INTEGER (2..16) OPTIONAL, -- Need ReventDetectionTimeWindow-r19 ENUMERATED {ms4, ms5, ms8, ms10, ms16, ms20, ms40, ms80, ms160, ms320, ms640, ms1280} OPTIONAL, -- Need R Suggest grouping the two fields with a single OPTIONAL flag. |  |
| Huawei Issue-20 | pusch-ResourceOfModeB-r19 SEQUENCE { configuredGrantConfigIndex-r19 ConfiguredGrantConfigIndex-r16 OPTIONAL, -- Need R ul-BWP-Id-r19 BWP-Id, servCellIndex-r19 ServCellIndex} OPTIONAL, -- Need RSince this is specific to modeB, it could be put under the modeB CHOICE. Also, shouldn’t this be mandatory in this case, including configuredGrantConfigIndex? |  |
| Huawei Issue-21 | ***pucch-Resource***Indicates the periodic PUCCH resource for the UE initiated report indicator for both mode-A and mode-B UE-initated beam reporting:- 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-initiated/event-driven beam report for mode-B.Typo. Should it be mandatory? (PUCCH is always used, whether in mode A or in mode B). |  |
| Huawei Issue-22 | In eventTypeUE-IBR, perhaps all the fields should be mandatory. |  |
| Huawei Issue-23 | mr-SelectedResources-r19 SEQUENCE { firstSelectedResource-r19 INTEGER (1..8), secondSelectedResource-r19 INTEGER (1..8) OPTIONAL -- Need R} OPTIONAL -- Need RAccording to 38.214, there seems to be a single parameter, a second optional one is not mentioned. Besides, it isn’t so clear that the range is 1 to 8. |  |
| Huawei Issue-24 | CSI-ReportSubConfig-r19 ::= SEQUENCE {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 }} }This should be called CSI-ReportSubConfig-v19xx (because it is a non-critical extension), and it would be good to add extension markers to it, so we don’t risk having a new list in Rel-20.About:csi-ReportSubConfigToAddModList-r19 SEQUENCE (SIZE (1..maxNrofCSI-ReportSubconfigPerCSI-ReportConfig-r18)) OF CSI-ReportSubConfig-r19This should be called csi-ReportSubConfigExtToAddModList-r19, and it should be specified that, whenever it is present, it has the same number of elements like the ToAddModList-r18 and each and the two elements in the same position in both lists are considered as a single element (use wording from guidelines). |  |
| Huawei Issue-25 | SRS-TPC-CommandConfig ::= SEQUENCE {startingBitOfFormat2-3 INTEGER (1..31) OPTIONAL, -- Need RfieldTypeFormat2-3 INTEGER (0..1) OPTIONAL, -- Need R...,[[startingBitOfFormat2-3SUL INTEGER (1..31) OPTIONAL -- Need R]],[[startingBitOfFormat2-3-v19xy INTEGER (1..45) OPTIONAL -- Need R]]}A –v19xy field should only have new values, the range should be 31 to 45. |  |
| Huawei Issue-26 | ***startingBitOfFormat2-3, startingBitOfFormat2-3-v19xy***The starting bit position of a block within the group DCI with SRS request fields (optional) and TPC commands. The value 1 of the field corresponds to the first/left most bit of format2-3. The value 2 of the field corresponds to the second bit format2-3, and so on (see TS 38.212 [17], clause 7.3.1 and TS 38.213 [13], clause 11.4). The network does not configure~~d~~ both startingBitOfFormat2-3 and startingBitOfFormat2-3-v19xy.Typo (remove d). |  |
| ZTE Issue 1 | We use the different names from the RAN1 table, so will we send the updated names to the RAN1, and then RAN1 update the spec to align with us? E.g.*RAN1: PrachAssociationIndicator\_InDCI\_format\_1\_0->RAN2* |  |
| ZTEIssue 2 | On *pathlossOffsetPRACH-DCI-1-0/ prachAssociationDCI-1-0, we share the similar view with Huawei’s view (huawei’s issue 1 and issue 2), we think we can keep the first sentence to give a very high level description for each element, then refer to the detail RAN1 spec chapter. E.g.****prachAssociationDCI-1-0***Enables the presence of 1-bit DCI field "PRACH association indicator" in DCI format 1\_0(see TS 38.212 [17], clause 7.3.1). |  |
| ZTEIssue 3 | On the UEIBM report config, if we put it under the CSI-ReportConfig, it means the network has to include the mandatory field when configure the UEIBM. E.g. for the following field, the NW has to indicate something, it will cause unnecessary signaling, even with the “ aperiodic ” it costs at least 10 additional bits. We are open on this issue, we just want to clarify that besides the specification complexity, it would also cause unnecessary bits from the signaling aspect.reportConfigType CHOICE { periodic SEQUENCE { reportSlotConfig CSI-ReportPeriodicityAndOffset, pucch-CSI-ResourceList SEQUENCE (SIZE (1..maxNrofBWPs)) OF PUCCH-CSI-Resource }, semiPersistentOnPUCCH SEQUENCE { reportSlotConfig CSI-ReportPeriodicityAndOffset, pucch-CSI-ResourceList SEQUENCE (SIZE (1..maxNrofBWPs)) OF PUCCH-CSI-Resource }, semiPersistentOnPUSCH SEQUENCE { reportSlotConfig ENUMERATED {sl5, sl10, sl20, sl40, sl80, sl160, sl320}, reportSlotOffsetList SEQUENCE (SIZE (1.. maxNrofUL-Allocations)) OF INTEGER(0..32), p0alpha P0-PUSCH-AlphaSetId }, aperiodic SEQUENCE { reportSlotOffsetList SEQUENCE (SIZE (1..maxNrofUL-Allocations)) OF INTEGER(0..32) } }, |  |
| ZTEIssue 4 | tci-ServCellIndex-r19 ServCellIndex,This parameter is mandatory present, for the case that the servCellIndex is the same as the current serving cell, this can be absent, thus it can be set to an optional filedSimilarly, for the below parameter, we also want to confirm whether these parameters should be mandatory or optional. pusch-ResourceOfModeB-r19 ul-BWP-Id-r19 BWP-Id,servCellIndex-r19 ServCellIndexpucch-Resource-r19 ul-BWP-Id-r19 BWP-Id,  |  |
| ASUSTeKIssue-1 |  pusch-ResourceOfModeB-r19 SEQUENCE { configuredGrantConfigIndex-r19 ConfiguredGrantConfigIndex-r16 OPTIONAL, -- Need R ul-BWP-Id-r19 BWP-Id, servCellIndex-r19 ServCellIndex } OPTIONAL, -- Need RRAN1 provides three parameters (configuredGrantConfigIndex, ul-BWP-Id, and servCellIndex) to indicate the index of the Configured Grant configurations. However, from RAN2 point of view, a single parameter *ConfiguredGrantConfigIndexMAC*  should be sufficient as it can indicate the index of the CG configurations within the MAC entity:

|  |
| --- |
| ***configuredGrantConfigIndex***Indicates the index of the Configured Grant configurations within the BWP. |
| ***configuredGrantConfigIndexMAC***Indicates the index of the Configured Grant configurations within the MAC entity. |

Suggest to use ConfiguredGrantConfigIndexMAC to indicate Type-1 CG PUSCH resource for the second step of PUSCH transmission in mode-B UE-initiated beam reporting |  |
| ASUSTeKIssue 2 | According to the RAN1 agreements and parameter list shown below, RAN1 has included the parameter *numOfSymbols-ModeB-r19* in the higher layer parameters list to configure the time offset, in number of symbols, for determining the first available transmission occasion of PUSCH in Mode-B following a PUCCH transmission:**(from parameter list, RAN1#120b):**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR\_MIMO\_Ph5 | UEIBM | 　 | 　 | CSI-ReportConfig | 　 | numOfSymbols-ModeB-r19 | New | 　 | This parameter is used to configure time offset in number of symbols for determining available transmission occasion of second PUSCH in Mode-B from the first PUCCH |

As *numOfSymbols-ModeB-r19* is also specified in RAN1 38.214 running CR, the corresponding parameter should be added in *CSI-ReportConfig*. |  |
| ASUSTeKIssue 3 | RAN2 has confirmed that the CG type-1 PUSCH carrying the beam report of Mode-B does not carry MAC PDU (i.e. UL-SCH) , meaning that HARQ operation should not be used for transmitting the beam report. Therefore, configuring *nrofHARQ-Processes* for the CGis unnecessary, but since nrofHARQ-Processes is mandatory, we suggest to clarify in the field description so that the UE should ignore nrofHARQ-Processes if it is configured within ConfiguredGrantConfig for UE-initiated beam reporting Mode B:ConfiguredGrantConfig ::= SEQUENCE { … nrofHARQ-Processes INTEGER(1..16), |  |