**3GPP TSG-RAN WG2 Meeting #127 *R2-240xxxx***

**Maastricht, Netherlands, 19 – 23 August 2024**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Correction to indication of reserved SN-side NR-DC and aggregated BW resources |
|  |  |
| ***Source to WG:*** | Nokia |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_NewRAT-Core, NR\_eMIMO-Core, NR\_BCS4-Core |  | ***Date:*** | 2024-08-22 |
|  |  |  |  |  |
| ***Category:*** | **A** |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | For inter-node coordination, the usage of the field *CG-Config* > *configRestrictModReq* is restricted to *SN-initiated* requests to modify the SCG configuration.However, in Rel-17, two fields {*reservedResourceConfigNRDC*, *aggregatedBandwidthSN*} added within the *ConfigRestrictModReqSCG* IE are described as being usable by the SN to indicate the actual reserved/ configured NR-DC and aggregated BW resources of the SCG in response to an *MN-initiated* CG configuration, which contradicts the abovementioned restriction on *configRestrictModReq*.To avoid this contradiction, it should be clarified that SN may also indicate *configRestrictModReq* in response to MN-initiated CG configuration in order to indicate the actual reserved/configured NR-DC and aggregated BW resources of the SCG, i.e. SN only includes *configRestrictModReq* in SN-initiated procedures unless the field is used to indicate *reservedResourceConfigNRDC* and/or *aggregatedBandwidthSN* only.Additionally, since *aggregatedBandwidthSN* can also be used to indicate the actual configured/reserved aggregated BW resources of the NR-DC band combination, a correction is needed to the field description of *aggregatedBandwidthSN* to say that the indicated maximum aggregated bandwidth resources at the SN side are applicable if the *supportedAggBW-FR1* was reported for the *selectedBandCombination* (rather than for the *requestedBC-MRDC*). |
|  |  |
| ***Summary of change:*** | 1. Clarify that *configRestrictModReq* is also used to indicate the configured/reserved SCG resources; SN only includes *configRestrictModReq* in SN-initiated procedures unless the field is used to indicate configured/reserved SCG resources (corresponding to *reservedResourceConfigNRDC* and/or *aggregatedBandwidthSN*) only.
2. In the field description for *aggregatedBandwidthSN* clarify that the indicated maximum aggregated bandwidth resources at the SN side are applicable if the *supportedAggBW-FR1* was reported for the *selectedBandCombination*.

**Impact analysis**Impacted functionality: Inter-node NR-DC resource coordinationInter-operability: Change is limited to network nodes so there is no inter-operability issue between UE and network.This CR provides some flexiblity by allowing SN to indicate its actual reserved/configured SCG resources to the MN; however, SN must still always follow any restrictions set by the MN. Hence, there is no issue if only one node supports the CR. |
|  |  |
| ***Consequences if not approved:*** | SN will be unable to indicate the actual reserved/configured NR-DC and aggregate BW resources of the SCG in response to an MN-initiated CG configuration, limiting some flexilibity. |
|  |  |
| ***Clauses affected:*** | 11.2.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev 1: Update field description of *configRestrictModReq* to support SN indicating *reservedResourceConfigNRDC* and *aggregatedBandwidthSN* in response to MN-initiated CG configuration starting in Rel-17 instead of adding new IE to be supported starting in Rel-18. Add correction to field description of *aggregatedBandwidthSN*. |

*First Modified Subclause*

### 11.2.2 Message definitions

#### – *CG-Config*

This message is used to transfer the SCG radio configuration as generated by the SgNB or SeNB. It can also be used by a CU to request a DU to perform certain actions, e.g. to request the DU to perform a new lower layer configuration.

Direction: Secondary gNB or eNB to master gNB or eNB, alternatively CU to DU.

*CG-Config* message

-- ASN1START

-- TAG-CG-CONFIG-START

CG-Config ::= SEQUENCE {

 criticalExtensions CHOICE {

 c1 CHOICE{

 cg-Config CG-Config-IEs,

 spare3 NULL, spare2 NULL, spare1 NULL

 },

 criticalExtensionsFuture SEQUENCE {}

 }

}

CG-Config-IEs ::= SEQUENCE {

 scg-CellGroupConfig OCTET STRING (CONTAINING RRCReconfiguration) OPTIONAL,

 scg-RB-Config OCTET STRING (CONTAINING RadioBearerConfig) OPTIONAL,

 configRestrictModReq ConfigRestrictModReqSCG OPTIONAL,

 drx-InfoSCG DRX-Info OPTIONAL,

 candidateCellInfoListSN OCTET STRING (CONTAINING MeasResultList2NR) OPTIONAL,

 measConfigSN MeasConfigSN OPTIONAL,

 selectedBandCombination BandCombinationInfoSN OPTIONAL,

 fr-InfoListSCG FR-InfoList OPTIONAL,

 candidateServingFreqListNR CandidateServingFreqListNR OPTIONAL,

 nonCriticalExtension CG-Config-v1540-IEs OPTIONAL

}

CG-Config-v1540-IEs ::= SEQUENCE {

 pSCellFrequency ARFCN-ValueNR OPTIONAL,

 reportCGI-RequestNR SEQUENCE {

 requestedCellInfo SEQUENCE {

 ssbFrequency ARFCN-ValueNR,

 cellForWhichToReportCGI PhysCellId

 } OPTIONAL

 } OPTIONAL,

 ph-InfoSCG PH-TypeListSCG OPTIONAL,

 nonCriticalExtension CG-Config-v1560-IEs OPTIONAL

}

CG-Config-v1560-IEs ::= SEQUENCE {

 pSCellFrequencyEUTRA ARFCN-ValueEUTRA OPTIONAL,

 scg-CellGroupConfigEUTRA OCTET STRING OPTIONAL,

 candidateCellInfoListSN-EUTRA OCTET STRING OPTIONAL,

 candidateServingFreqListEUTRA CandidateServingFreqListEUTRA OPTIONAL,

 needForGaps ENUMERATED {true} OPTIONAL,

 drx-ConfigSCG DRX-Config OPTIONAL,

 reportCGI-RequestEUTRA SEQUENCE {

 requestedCellInfoEUTRA SEQUENCE {

 eutraFrequency ARFCN-ValueEUTRA,

 cellForWhichToReportCGI-EUTRA EUTRA-PhysCellId

 } OPTIONAL

 } OPTIONAL,

 nonCriticalExtension CG-Config-v1590-IEs OPTIONAL

}

CG-Config-v1590-IEs ::= SEQUENCE {

 scellFrequenciesSN-NR SEQUENCE (SIZE (1.. maxNrofServingCells-1)) OF ARFCN-ValueNR OPTIONAL,

 scellFrequenciesSN-EUTRA SEQUENCE (SIZE (1.. maxNrofServingCells-1)) OF ARFCN-ValueEUTRA OPTIONAL,

 nonCriticalExtension CG-Config-v1610-IEs OPTIONAL

}

CG-Config-v1610-IEs ::= SEQUENCE {

 drx-InfoSCG2 DRX-Info2 OPTIONAL,

 nonCriticalExtension CG-Config-v1620-IEs OPTIONAL

}

CG-Config-v1620-IEs ::= SEQUENCE {

 ueAssistanceInformationSCG-r16 OCTET STRING (CONTAINING UEAssistanceInformation) OPTIONAL,

 nonCriticalExtension CG-Config-v1630-IEs OPTIONAL

}

CG-Config-v1630-IEs ::= SEQUENCE {

 selectedToffset-r16 T-Offset-r16 OPTIONAL,

 nonCriticalExtension CG-Config-v1640-IEs OPTIONAL

}

CG-Config-v1640-IEs ::= SEQUENCE {

 servCellInfoListSCG-NR-r16 ServCellInfoListSCG-NR-r16 OPTIONAL,

 servCellInfoListSCG-EUTRA-r16 ServCellInfoListSCG-EUTRA-r16 OPTIONAL,

 nonCriticalExtension CG-Config-v1700-IEs OPTIONAL

}

CG-Config-v1700-IEs ::= SEQUENCE {

 candidateCellInfoListCPC-r17 CandidateCellInfoListCPC-r17 OPTIONAL,

 twoPHRModeSCG-r17 ENUMERATED {enabled} OPTIONAL,

 nonCriticalExtension CG-Config-v1730-IEs OPTIONAL

}

CG-Config-v1730-IEs ::= SEQUENCE {

 fr1-Carriers-SCG-r17 INTEGER (1..32) OPTIONAL,

 fr2-Carriers-SCG-r17 INTEGER (1..32) OPTIONAL,

 nonCriticalExtension CG-Config-v1800-IEs OPTIONAL

}

CG-Config-v1800-IEs ::= SEQUENCE {

 candidateServingFreqRangeListNR-r18 CandidateServingFreqRangeListNR-r18 OPTIONAL,

 candidateServingFreqListNR-r16 CandidateServingFreqListNR-r16 OPTIONAL,

 idc-TDM-AssistanceConfig-r18 ENUMERATED {enabled} OPTIONAL,

 candidateCellInfoListSubsequentCPC-r18 CandidateCellInfoListCPC-r17 OPTIONAL,

 scpac-ReferenceConfigurationSCG-r18 ReferenceConfiguration-r18 OPTIONAL,

 subsequentCPAC-Information-r18 CandidateCellInfoListCPC-r17 OPTIONAL,

 successPSCell-Config-r18 SuccessPSCell-Config-r18 OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

ServCellInfoListSCG-NR-r16 ::= SEQUENCE (SIZE (1.. maxNrofServingCells)) OF ServCellInfoXCG-NR-r16

ServCellInfoXCG-NR-r16 ::= SEQUENCE {

 dl-FreqInfo-NR-r16 FrequencyConfig-NR-r16 OPTIONAL,

 ul-FreqInfo-NR-r16 FrequencyConfig-NR-r16 OPTIONAL, -- Cond FDD

 ...

}

FrequencyConfig-NR-r16 ::= SEQUENCE {

 freqBandIndicatorNR-r16 FreqBandIndicatorNR,

 carrierCenterFreq-NR-r16 ARFCN-ValueNR,

 carrierBandwidth-NR-r16 INTEGER (1..maxNrofPhysicalResourceBlocks),

 subcarrierSpacing-NR-r16 SubcarrierSpacing

}

ServCellInfoListSCG-EUTRA-r16 ::= SEQUENCE (SIZE (1.. maxNrofServingCellsEUTRA)) OF ServCellInfoXCG-EUTRA-r16

ServCellInfoXCG-EUTRA-r16 ::= SEQUENCE {

 dl-CarrierFreq-EUTRA-r16 ARFCN-ValueEUTRA OPTIONAL,

 ul-CarrierFreq-EUTRA-r16 ARFCN-ValueEUTRA OPTIONAL, -- Cond FDD

 transmissionBandwidth-EUTRA-r16 TransmissionBandwidth-EUTRA-r16 OPTIONAL,

 ...

}

TransmissionBandwidth-EUTRA-r16 ::= ENUMERATED {rb6, rb15, rb25, rb50, rb75, rb100}

PH-TypeListSCG ::= SEQUENCE (SIZE (1..maxNrofServingCells)) OF PH-InfoSCG

PH-InfoSCG ::= SEQUENCE {

 servCellIndex ServCellIndex,

 ph-Uplink PH-UplinkCarrierSCG,

 ph-SupplementaryUplink PH-UplinkCarrierSCG OPTIONAL,

 ...,

 [[

 twoSRS-PUSCH-Repetition-r17 ENUMERATED{enabled} OPTIONAL

 ]],

 [[

 twoSRS-MultipanelScheme-r18 ENUMERATED{enabled} OPTIONAL

 ]]

}

PH-UplinkCarrierSCG ::= SEQUENCE{

 ph-Type1or3 ENUMERATED {type1, type3},

 ...

}

MeasConfigSN ::= SEQUENCE {

 measuredFrequenciesSN SEQUENCE (SIZE (1..maxMeasFreqsSN)) OF NR-FreqInfo OPTIONAL,

 ...

}

NR-FreqInfo ::= SEQUENCE {

 measuredFrequency ARFCN-ValueNR OPTIONAL,

 ...

}

ConfigRestrictModReqSCG ::= SEQUENCE {

 requestedBC-MRDC BandCombinationInfoSN OPTIONAL,

 requestedP-MaxFR1 P-Max OPTIONAL,

 ...,

 [[

 requestedPDCCH-BlindDetectionSCG INTEGER (1..15) OPTIONAL,

 requestedP-MaxEUTRA P-Max OPTIONAL

 ]],

 [[

 requestedP-MaxFR2-r16 P-Max OPTIONAL,

 requestedMaxInterFreqMeasIdSCG-r16 INTEGER(1..maxMeasIdentitiesMN) OPTIONAL,

 requestedMaxIntraFreqMeasIdSCG-r16 INTEGER(1..maxMeasIdentitiesMN) OPTIONAL,

 requestedToffset-r16 T-Offset-r16 OPTIONAL

 ]],

 [[

 reservedResourceConfigNRDC-r17 ResourceConfigNRDC-r17 OPTIONAL

 ]],

 [[

 aggregatedBandwidthSN-r17 AggregatedBandwidthSN-r17 OPTIONAL

 ]],

 [[

 requestedMaxLTM-CandidateIdSCG-r18 INTEGER(0..maxNrofLTM-Configs-r18) OPTIONAL

 ]]

}

BandCombinationIndex ::= INTEGER (1..maxBandComb)

BandCombinationInfoSN ::= SEQUENCE {

 bandCombinationIndex BandCombinationIndex,

 requestedFeatureSets FeatureSetEntryIndex

}

FR-InfoList ::= SEQUENCE (SIZE (1..maxNrofServingCells-1)) OF FR-Info

FR-Info ::= SEQUENCE {

 servCellIndex ServCellIndex,

 fr-Type ENUMERATED {fr1, fr2}

}

CandidateServingFreqListNR ::= SEQUENCE (SIZE (1.. maxFreqIDC-MRDC)) OF ARFCN-ValueNR

CandidateServingFreqListEUTRA ::= SEQUENCE (SIZE (1.. maxFreqIDC-MRDC)) OF ARFCN-ValueEUTRA

T-Offset-r16 ::= ENUMERATED {ms0dot5, ms0dot75, ms1, ms1dot5, ms2, ms2dot5, ms3, spare1}

CandidateCellInfoListCPC-r17 ::= SEQUENCE (SIZE (1..maxFreq)) OF CandidateCellInfo-r17

CandidateCellInfo-r17 ::= SEQUENCE {

 ssbFrequency-r17 ARFCN-ValueNR,

 candidateList-r17 SEQUENCE (SIZE (1..maxNrofCondCells-r16)) OF CandidateCell-r17

}

CandidateCell-r17 ::= SEQUENCE {

 physCellId-r17 PhysCellId,

 condExecutionCondSCG-r17 OCTET STRING (CONTAINING CondReconfigExecCondSCG-r17) OPTIONAL

}

AggregatedBandwidthSN-r17 ::= SEQUENCE {

 aggBW-FDD-DL-r17 SupportedAggBandwidth-r17 OPTIONAL,

 aggBW-FDD-UL-r17 SupportedAggBandwidth-r17 OPTIONAL,

 aggBW-TDD-DL-r17 SupportedAggBandwidth-r17 OPTIONAL,

 aggBW-TDD-UL-r17 SupportedAggBandwidth-r17 OPTIONAL,

 aggBW-TotalDL-r17 SupportedAggBandwidth-r17 OPTIONAL,

 aggBW-TotalUL-r17 SupportedAggBandwidth-r17 OPTIONAL

}

-- TAG-CG-CONFIG-STOP

-- ASN1STOP

|  |
| --- |
| *CG-Config* field descriptions |
| ***aggregatedBandwidthSN***Used to indicate or request the maximum aggregated bandwidth at the SN side if the *supportedAggBW-FR1* was reported for the *selectedBandCombination* or *requestedBC-MRDC*, respectively. This field is only used in NR-DC.- *aggBW-FDD-DL/UL-r17* indicates the aggregated bandwidth across FDD DL/UL CCs in SCG;- *aggBW-TDD-DL/UL-r17* indicates the aggregated bandwidth across TDD DL/UL CCs in SCG;- *aggBW-TotalDL/UL-r17* indicates the aggregated bandwidth across all DL/UL CCs in SCG. |
| ***candidateCellInfoListCPC***Contains information regarding candidate target cells for Conditional PSCell Change (CPC) or inter-SN subsequent CPAC that the source secondary gNB suggests the target secondary gNB to consider configuring for CPC or subsequent CPAC, and/or that the source secondary gNB prepares for intra-SN subsequent CPAC in MN format. This field is only used in SN initiated CPC and SN initiated subsequent CPAC. |
| ***candidateCellInfoListSN***Contains information regarding cells that the source secondary node suggests the target secondary gNB to consider configuring. |
| ***candidateCellInfoListSN-EUTRA***Includes the *MeasResultList3EUTRA* as specified in TS 36.331 [10]. Contains information regarding cells that the source secondary node suggests the target secondary eNB to consider configuring. This field is only used in NE-DC. |
| ***candidateCellInfoListSubsequentCPC***Contains information regarding candidate target cells for subsequent CPAC that candidate secondary gNB (or the serving secondary gNB in case of intra-SN subsequent CPAC in MN format) suggests the master gNB to consider configuring for subsequent CPAC. This field is only used in MN initiated and SN initiated subsequent CPAC. This field is only included in a *CG-Config* message which is contained within a *CG-CandidateList* message. |
| ***candidateServingFreqListNR, candidateServingFreqListEUTRA***Indicates frequencies of candidate serving cells for In-Device Co-existence Indication (see TS 36.331 [10]). |
| ***candidateServingFreqListNR-r16***indicates the candidate frequencies configured by SN for IDC. This field is only used in NR-DC. |
| ***candidateServingFreqRangeListNR***indicates the candidate frequency ranges configured by SN for IDC. This field is only used in NR-DC. |
| ***configRestrictModReq***Used by SN to request changes to SCG configuration restrictions previously set by MN to ensure UE capabilities are respected and to indicate the configured/reserved SCG resources. E.g. can be used to request configuring an NR band combination whose use MN has previously forbidden. SN only includes this field in SN-initiated procedures unless this field is used to indicate configured/reserved SCG resources (corresponding to *reservedResourceConfigNRDC* and/or *aggregatedBandwidthSN*) only. |
| ***drx-ConfigSCG***This field contains the complete DRX configuration of the SCG. This field is only used in NR-DC. |
| ***drx-InfoSCG***This field contains the DRX long and short cycle configuration of the SCG. This field is used in (NG)EN-DC and NE-DC. |
| ***drx-InfoSCG2***This field contains the drx-onDurationTimer configuration of the SCG. This field is only used in (NG)EN-DC. |
| ***fr-InfoListSCG***Contains information of FR information of serving cells that include PScell and SCells configured in SCG. |
| ***fr1-Carriers-SCG, fr2-Carriers-SCG***Indicates the number of FR1 or FR2 serving cells configured in SCG. |
| ***idc-TDM-AssistanceConfig***Indicates if the IDC TDM reporting is enabled for the UE by SN. This field is only used in NR-DC. |
| ***measuredFrequenciesSN***Used by SN to indicate a list of frequencies measured by the UE. |
| ***needForGaps***In NE-DC, indicates whether the SN requests gNB to configure measurements gaps. |
| ***ph-InfoSCG***Power headroom information in SCG that is needed in the reception of PHR MAC CE of MCG |
| ***ph-SupplementaryUplink***Power headroom information for supplementary uplink. In the case of (NG)EN-DC and NR-DC, this field is only present when two UL carriers are configured for a serving cell and one UL carrier reports type1 PH while the other reports type 3 PH. |
| ***ph-Type1or3***Type of power headroom for a certain serving cell in SCG (PSCell and activated SCells). Value *type1* refers to type 1 power headroom, value *type3* refers to type 3 power headroom. (See TS 38.321 [3]). |
| ***ph-Uplink***Power headroom information for uplink. |
| ***pSCellFrequency, pSCellFrequencyEUTRA***Indicates the frequency of PSCell in NR (i.e., *pSCellFrequency*) or E-UTRA (i.e., *pSCellFrequencyEUTRA*). In this version of the specification, *pSCellFrequency* is not used in NE-DC whereas *pSCellFrequencyEUTRA* is only used in NE-DC. *pSCellFrequency* indicates the *absoluteFrequencySSB*. |
| ***reportCGI-RequestNR, reportCGI-RequestEUTRA***Used by SN to indicate to MN about configuring *reportCGI* procedure. The request may optionally contain information about the cell for which SN intends to configure *reportCGI* procedure. In this version of the specification, the *reportCGI-RequestNR* is used in (NG)EN-DC and NR-DC whereas *reportCGI-RequestEUTRA* is used only for NE-DC. |
| ***requestedBC-MRDC***Used to request configuring a band combination and corresponding feature sets which are forbidden to use by MN (i.e. outside of the *allowedBC-ListMRDC*) to allow re-negotiation of the UE capabilities for SCG configuration. |
| ***requestedMaxInterFreqMeasIdSCG***Used to request the maximum number of allowed measurement identities to configure for inter-frequency measurement. This field is only used in NR-DC. |
| ***requestedMaxIntraFreqMeasIdSCG***Used to request the maximum number of allowed measurement identities to configure for intra-frequency measurement on each serving frequency. |
| ***requestedMaxLTM-CandidateIdSCG***Used to request the maximum number of allowed LTM candidate configurations to configure. This field is only used in NR-DC. |
| ***requestedPDCCH-BlindDetectionSCG***Requested value of the reference number of cells for PDCCH blind detection allowed to be configured for the SCG. |
| ***requestedP-MaxEUTRA***Requested value for the maximum power for the serving cells the UE can use in E-UTRA SCG. This field is only used in NE-DC. |
| ***requestedP-MaxFR1***Requested value for the maximum power for the serving cells on frequency range 1 (FR1) in this secondary cell group (see TS 38.104 [12]) the UE can use in NR SCG. |
| ***requestedP-MaxFR2***Requested value for the maximum power for the serving cells on frequency range 2 (FR2) in this secondary cell group the UE can use in NR SCG. This field is only used in NR-DC. |
| ***requestedToffset***Requests the new value for the time offset restriction used by the SN for scheduling SCG transmissions (i.e. $T\_{proc,SCG,}^{max} $see TS 38.213 [13]). This field is used in NR-DC only when the fields *nrdc-PC-mode-FR1-r16* or *nrdc-PC-mode-FR2-r16* are set to dynamic. Value ms0dot5 corresponds to 0.5 ms, value ms0dot75 corresponds to 0.75 ms, value ms1 corresponds to 1ms and so on. |
| ***reservedResourceConfigNRDC***Used to request or indicate the maximum number of resources reserved for the SCG. This field is only used in NR-DC. |
| ***scellFrequenciesSN-EUTRA, scellFrequenciesSN-NR***Indicates the frequency of all SCells with SSB configured in SCG. The field *scellFrequenciesSN-EUTRA* is used in NE-DC; the field *scellFrequenciesSN-NR* is used in (NG)EN-DC and NR-DC. In (NG)EN-DC, the field is optionally provided to the MN. *scellFrequenciesSN-NR* indicates *absoluteFrequencySSB*. |
| ***scg-CellGroupConfig***Contains the *RRCReconfiguration* message (containing only *secondaryCellGroup* and/or *measConfig* and/or *otherConfig* and/or *appLayerMeasConfig* and/or *conditionalReconfiguration*, *ltm-Config*, and/or *bap-Config* and/or *iab-IP-AddressConfigurationList*):- to be sent to the UE, used upon SCG establishment or modification (only when the SCG is not released by the SN), as generated (entirely) by the (target) SgNB. In this case, the SN sets the *RRCReconfiguration* message in accordance with clause 6 e.g. regarding the "Need" or "Cond" statements. or- including the current SCG configuration of the UE, when provided in response to a query from MN, or in SN triggered SN change in order to enable delta signaling by the target SN, or in SN triggered modification procedure in order to coordinate CHO or MN-initiated CPC with SCG reconfigurations (see TS 38.423 [35]). In this case, the SN sets the *RRCReconfiguration* message in accordance with clause 11.2.3.The field is absent if neither SCG (re)configuration nor SCG configuration query nor SN triggered modification procedure in order to coordinate CHO or MN-initiated CPC with SCG reconfigurations (see TS 38.423 [35]) nor SN triggered SN change is performed, e.g. at inter-node capability/configuration coordination which does not result in SCG (re)configuration towards the UE. The field is also absent upon an SCG release triggered by the SN. This field is not applicable in NE-DC. |
| ***scg-CellGroupConfigEUTRA***Includes the E-UTRA *RRCConnectionReconfiguration* message as specified in TS 36.331 [10]. In this version of the specification, the E-UTRA RRC message can only include the field *scg-Configuration*:- to be sent to the UE, used to (re-)configure the SCG configuration upon SCG establishment or modification (only when the SCG is not released by the SN), as generated (entirely) by the (target) SeNB. In this case, the SN sets the *scg-Configuration* within the EUTRA *RRCConnectionReconfiguration* message in accordance with clause 6 in TS 36.331 [10] e.g. regarding the "Need" or "Cond" statements.or- including the current SCG configuration of the UE, when provided in response to a query from MN, or in SN triggered SN change in order to enable delta signalling by the target SN.The field is absent if neither SCG (re)configuration nor SCG configuration query nor SN triggered SN change is performed, e.g. at inter-node capability/configuration coordination which does not result in SCG (re)configuration towards the UE. The field is also absent upon an SCG release triggered by the SN. This field is only used in NE-DC. |
| ***scg-RB-Config***Contains the IE *RadioBearerConfig*:- to be sent to the UE, used to (re-)configure the SCG RB configuration upon SCG establishment or modification, as generated (entirely) by the (target) SgNB or SeNB. In this case, the SN sets the *RadioBearerConfig* in accordance with clause 6, e.g. regarding the "Need" or "Cond" statements. or- including the current SCG RB configuration of the UE, when provided in response to a query from MN or in SN triggered SN change or in SN triggered SN release or bearer type change between SN terminated bearer to MN terminated bearer in order to enable delta signaling by the MN or target SN. In this case, the SN sets the *RadioBearerConfig* in accordance with clause 11.2.3.The field is absent if neither SCG (re)configuration nor SCG configuration query nor SN triggered SN change nor SN triggered SN release is performed, e.g. at inter-node capability/configuration coordination which does not result in SCG RB (re)configuration. |
| ***scpac-ReferenceConfigurationSCG***Includes the reference configuration associated with the SCG for the candidate supporting subsequent CPAC. |
| ***selectedBandCombination***Indicates the band combination selected by SN in (NG)EN-DC, NE-DC, and NR-DC. The SN should inform the MN with this field whenever the band combination and/or feature set it selected for the SCG changes (i.e. even if the new selection concerns a band combination and/or feature set that is allowed by the *allowedBC-ListMRDC*) |
| ***selectedToffset***Indicates the value used by the SN for scheduling SCG transmissions (i.e. $T\_{proc,SCG}^{max}, $see TS 38.213 [13]). This field is used in NR-DC only when the fields *nrdc-PC-mode-FR1-r16* or *nrdc-PC-mode-FR2-r16* are set to dynamic. The SN can only indicate a value that is less than or equal to *maxToffset* received from MN. This field is used in NR-DC only when MN has included the field *maxToffset* in *CG-ConfigInfo*. Value *ms0dot5* corresponds to 0.5 ms, value *ms0dot75* corresponds to 0.75 ms, value *ms1* corresponds to 1ms and so on. |
| ***servCellInfoListSCG-EUTRA***Indicates the carrier frequency and the transmission bandwidth of the serving cell(s) in the SCG in intra-band NE-DC. The field is needed when MN and SN operate serving cells in the same band for either contiguous or non-contiguous intra-band band combination or LTE NR inter-band band combinations where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [34]) in NE-DC. |
| ***servCellInfoListSCG-NR***Indicates the frequency band indicator, carrier center frequency, UE specific channel bandwidth and SCS of the serving cell(s) in the SCG in intra-band (NG)EN-DC. The field is needed when MN and SN operate serving cells in the same band for either contiguous or non-contiguous intra-band band combination or LTE NR inter-band band combinations where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [34]) in (NG)EN-DC. |
| ***subsequentCPAC-Information***Contains information about handling of stored subsequent CPAC configurations for the UE that the target secondary gNB suggests the master gNB to consider configuring for normal PSCell addition or change. It includes information about updates of execution conditions for the subsequent CPAC configurations that are to be kept at the PSCell addition/change. |
| ***successPSCell-Config***Include the successful PSCell change or addition report configuration in case of SN initiated PSCell change or CPC. The *thresholdPercentageT304-SCG* is not configured in this message. |
| ***twoPHRModeSCG***Indicates if the power headroom for SCG shall be reported as two PHRs (each PHR associated with a SRS resource set) is enabled or not. |
| ***twoSRS-MultipanelScheme***Indicates whether the indicated serving cell is configured with multiple panel simultaneous uplink transmission schemes of multipanelSchemeSDM or multipanelSchemeSFN corresponding to two SRS resource sets configured in either *srs-ResourceSetToAddModList* or *srs-ResourceSetToAddModListDCI-0-2* with usage 'codebook' or 'noncodebook'. |
| ***twoSRS-PUSCH-Repetition***Indicates whether the indicated serving cell is configured for PUSCH repetition corresponding to two SRS resource sets configured in either *srs-ResourceSetToAddModList* or *srs-ResourceSetToAddModListDCI-0-2* with usage 'codebook' or 'noncodebook'. |
| ***transmissionBandwidth-EUTRA***Indicates the transmission bandwidth on an E-UTRA carrier frequency as defined by the parameter Transmission Bandwidth Configuration "NRB" TS 36.104 [33]. The values rb6, rb15, rb25, rb50, rb75, rb100 indicate 6, 15, 25, 50, 75 and 100 resource blocks respectively. |
| ***ueAssistanceInformationSCG***Includes for each UE assistance feature associated with the SCG, the information last reported by the UE in the NR *UEAssistanceInformation* message for the SCG, if any. |

|  |
| --- |
| *BandCombinationInfoSN* field descriptions |
| ***bandCombinationIndex***In case of NR-DC, this field indicates the position of a band combination in the *supportedBandCombinationList*. In case of NE-DC, this field indicates the position of a band combination in the *supportedBandCombinationList* and/or *supportedBandCombinationListNEDC-Only*. In case of (NG)EN-DC, this field indicates the position of a band combination in the *supportedBandCombinationList* and/or *supportedBandCombinationList-UplinkTxSwitch*. Band combination entries in *supportedBandCombinationList* are referred by an index which corresponds to the position of a band combination in the *supportedBandCombinationList*. Band combination entries in *supportedBandCombinationListNEDC-Only* are referred by an index which corresponds to the position of a band combination in the *supportedBandCombinationListNEDC-Only* increased by the number of entries in *supportedBandCombinationList*. Band combination entries in *supportedBandCombinationList-UplinkTxSwitch* are referred by an index which corresponds to the position of a band combination in the *supportedBandCombinationList-UplinkTxSwitch* increased by the number of entries in *supportedBandCombinationList*. |
| ***requestedFeatureSets***The position in the *FeatureSetCombination* which identifies one *FeatureSetUplink*/*Downlink* for each band entry in the associated band combination |

|  |  |
| --- | --- |
| Conditional Presence | Explanation |
| *FDD* | This field is mandatory present if dl-FreqInfo-NR is included and concerns an FDD carrier; otherwise the field is absent. |

*End of Changes*