3GPP TSG-RAN WG2 #109-e R2-200xxxx

Electronic meeting, 24 February – 6 March 2020

Agenda Item: 7.1.10

Source: Ericsson

**Title: TPs for RSS**

Document for: Discussion, Decision

# 1 Text Proposal

## 6.3 RRC information elements

### 6.3.1 System information blocks

#### – *SystemInformationBlockPos*

 ----------- unmodified definitions skipped ------------

#### – *SystemInformationBlockType4*

The IE *SystemInformationBlockType4* contains neighbouring cell related information relevant only for intra-frequency cell re-selection. The IE includes cells with specific re-selection parameters as well as blacklisted cells.

*SystemInformationBlockType4* information element

-- ASN1START

SystemInformationBlockType4 ::= SEQUENCE {

 intraFreqNeighCellList IntraFreqNeighCellList OPTIONAL, -- Need OR

 intraFreqBlackCellList IntraFreqBlackCellList OPTIONAL, -- Need OR

 csg-PhysCellIdRange PhysCellIdRange OPTIONAL, -- Cond CSG

 ...,

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 [[ intraFreqNeighHSDN-CellList-r15 IntraFreqNeighHSDN-CellList-r15 OPTIONAL -- Need OR

 ]],

 [[

 rss-ConfigCarrierInfo-r16 RSS-ConfigCarrierInfo-r16 OPTIONAL -- Need OP

 ]]

}

IntraFreqNeighCellList ::= SEQUENCE (SIZE (1..maxCellIntra)) OF IntraFreqNeighCellInfo

IntraFreqNeighHSDN-CellList-r15 ::= SEQUENCE (SIZE (1..maxCellIntra)) OF PhysCellIdRange

IntraFreqNeighCellInfo ::= SEQUENCE {

 physCellId PhysCellId,

 q-OffsetCell Q-OffsetRange,

 ...,

 [[

 rss-MeasPowerBias-r16 ENUMERATED {dB-6, dB-3, dB0, dB3, dB6, dB9, dB12, rssNotUsed} OPTIONAL -- Cond RSS

 ]]

}

IntraFreqBlackCellList ::= SEQUENCE (SIZE (1..maxCellBlack)) OF PhysCellIdRange

-- ASN1STOP

| *SystemInformationBlockType4* field descriptions |
| --- |
| ***csg-PhysCellIdRange***Set of physical cell identities reserved for CSG cells on the frequency on which this field was received. The received *csg-PhysCellIdRange* applies if less than 24 hours has elapsed since it was received and the UE is camped on a cell of the same primary PLMN where this field was received. The 3 hour validity restriction (clause 5.2.1.3) does not apply to this field. The UE shall not apply any stored *csg-PhysCellIdRange* when it is in *any cell selection* state defined in TS 36.304 [4]. |
| ***intraFreqBlackCellList***List of blacklisted intra-frequency neighbouring cells. |
| ***intraFreqNeighbCellList***List of intra-frequency neighbouring cells with specific cell re-selection parameters. |
| ***intraFreqNeighHSDN-CellList***List of intra-frequency neighbouring HSDN cells as specified in TS 36.304 [4]. |
| ***q-OffsetCell***Parameter "Qoffsets,n" in TS 36.304 [4]. |
| ***rss-ConfigCarrierInfo*** RSS-Configurations for intra frequency cell |
| ***rss-MeasPowerBias*** Power bias in dB relative to CRS's q\_offset of cells in the neighbor cell list. Value dB-6 corresponds to -6 dB, value dB-3 corresponds to -3 dB and so on. Value *rssNotUsed* indicates measurement based on RSS is not applicable for the corresponding neighbor cell. |

| Conditional presence | Explanation |
| --- | --- |
| *CSG* | This field is optional, need OP, for non-CSG cells, and mandatory for CSG cells. |
| *RSS* | This field is optional, need ON, if *rss-MeasConfig* is included in *SIB2*. |

#### – *SystemInformationBlockType5*

The IE *SystemInformationBlockType5* contains information relevant only for inter-frequency cell re-selection i.e. information about other E‑UTRA frequencies and inter-frequency neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

*SystemInformationBlockType5* information element

-- ASN1START

SystemInformationBlockType5 ::= SEQUENCE {

 interFreqCarrierFreqList InterFreqCarrierFreqList,

 ...,

 lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType5-v8h0-IEs) OPTIONAL,

 [[ interFreqCarrierFreqList-v1250 InterFreqCarrierFreqList-v1250 OPTIONAL, -- Need OR

 interFreqCarrierFreqListExt-r12 InterFreqCarrierFreqListExt-r12 OPTIONAL -- Need OR

 ]],

 [[ interFreqCarrierFreqListExt-v1280 InterFreqCarrierFreqListExt-v1280 OPTIONAL -- Need OR

 ]],

 [[ interFreqCarrierFreqList-v1310 InterFreqCarrierFreqList-v1310 OPTIONAL, -- Need OR

 interFreqCarrierFreqListExt-v1310 InterFreqCarrierFreqListExt-v1310 OPTIONAL -- Need OR

 ]],

 [[ interFreqCarrierFreqList-v1350 InterFreqCarrierFreqList-v1350 OPTIONAL, -- Need OR

 interFreqCarrierFreqListExt-v1350 InterFreqCarrierFreqListExt-v1350 OPTIONAL -- Need OR

 ]],

 [[ interFreqCarrierFreqListExt-v1360 InterFreqCarrierFreqListExt-v1360 OPTIONAL -- Need OR

 ]],

 [[ scptm-FreqOffset-r14 INTEGER (1..8) OPTIONAL -- Need OP

 ]],

 [[ interFreqCarrierFreqList-v1530 InterFreqCarrierFreqList-v1530 OPTIONAL, -- Need OR

 interFreqCarrierFreqListExt-v1530 InterFreqCarrierFreqListExt-v1530 OPTIONAL, -- Need OR

 measIdleConfigSIB-r15 MeasIdleConfigSIB-r15 OPTIONAL -- Need OR

 ]] ,

 [[ interFreqCarrierFreqList-v16xy InterFreqCarrierFreqList-v16xy OPTIONAL, -- Need OR

 interFreqCarrierFreqListExt-v16xy InterFreqCarrierFreqListExt-v16xy OPTIONAL -- Need OR

 ]],

}

-- Late non critical extensions

SystemInformationBlockType5-v8h0-IEs ::= SEQUENCE {

 interFreqCarrierFreqList-v8h0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v8h0 OPTIONAL, -- Need OP

 nonCriticalExtension SystemInformationBlockType5-v9e0-IEs OPTIONAL

}

SystemInformationBlockType5-v9e0-IEs ::= SEQUENCE {

 interFreqCarrierFreqList-v9e0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v9e0 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType5-v10j0-IEs OPTIONAL

}

SystemInformationBlockType5-v10j0-IEs ::= SEQUENCE {

 interFreqCarrierFreqList-v10j0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v10j0 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType5-v10l0-IEs OPTIONAL

}

SystemInformationBlockType5-v10l0-IEs ::= SEQUENCE {

 interFreqCarrierFreqList-v10l0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v10l0 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType5-v13a0-IEs OPTIONAL

}

SystemInformationBlockType5-v13a0-IEs ::= SEQUENCE {

 -- Late non critical extensions from REL-10 upto REL-12

 lateNonCriticalExtension OCTET STRING OPTIONAL, -- Need OR

 interFreqCarrierFreqList-v13a0 InterFreqCarrierFreqList-v13a0 OPTIONAL, -- Need OR

 -- Late non critical extensions from REL-13

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

InterFreqCarrierFreqList ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo

InterFreqCarrierFreqList-v1250 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1250

InterFreqCarrierFreqList-v1310 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1310

InterFreqCarrierFreqList-v1350 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1350

InterFreqCarrierFreqList-v13a0 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1360

InterFreqCarrierFreqList-v1530 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1530

InterFreqCarrierFreqList-v16xy ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v16xy

InterFreqCarrierFreqListExt-r12 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-r12

InterFreqCarrierFreqListExt-v1280 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v10j0

InterFreqCarrierFreqListExt-v1310 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1310

InterFreqCarrierFreqListExt-v1350 ::= SEQUENCE (SIZE (1.. maxFreq)) OF InterFreqCarrierFreqInfo-v1350

InterFreqCarrierFreqListExt-v1360 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1360

InterFreqCarrierFreqListExt-v1530 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1530

InterFreqCarrierFreqListExt-v16xy ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v16xy

InterFreqCarrierFreqInfo ::= SEQUENCE {

 dl-CarrierFreq ARFCN-ValueEUTRA,

 q-RxLevMin Q-RxLevMin,

 p-Max P-Max OPTIONAL, -- Need OP

 t-ReselectionEUTRA T-Reselection,

 t-ReselectionEUTRA-SF SpeedStateScaleFactors OPTIONAL, -- Need OP

 threshX-High ReselectionThreshold,

 threshX-Low ReselectionThreshold,

 allowedMeasBandwidth AllowedMeasBandwidth,

 presenceAntennaPort1 PresenceAntennaPort1,

 cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

 neighCellConfig NeighCellConfig,

 q-OffsetFreq Q-OffsetRange DEFAULT dB0,

 interFreqNeighCellList InterFreqNeighCellList OPTIONAL, -- Need OR

 interFreqBlackCellList InterFreqBlackCellList OPTIONAL, -- Need OR

 ...,

 [[ q-QualMin-r9 Q-QualMin-r9 OPTIONAL, -- Need OP

 threshX-Q-r9 SEQUENCE {

 threshX-HighQ-r9 ReselectionThresholdQ-r9,

 threshX-LowQ-r9 ReselectionThresholdQ-r9

 } OPTIONAL -- Cond RSRQ

 ]],

 [[ q-QualMinWB-r11 Q-QualMin-r9 OPTIONAL -- Cond WB-RSRQ

 ]]

}

InterFreqCarrierFreqInfo-v8h0 ::= SEQUENCE {

 multiBandInfoList MultiBandInfoList OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v9e0 ::= SEQUENCE {

 dl-CarrierFreq-v9e0 ARFCN-ValueEUTRA-v9e0 OPTIONAL, -- Cond dl-FreqMax

 multiBandInfoList-v9e0 MultiBandInfoList-v9e0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v10j0 ::= SEQUENCE {

 freqBandInfo-r10 NS-PmaxList-r10 OPTIONAL, -- Need OR

 multiBandInfoList-v10j0 MultiBandInfoList-v10j0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v10l0 ::= SEQUENCE {

 freqBandInfo-v10l0 NS-PmaxList-v10l0 OPTIONAL, -- Need OR

 multiBandInfoList-v10l0 MultiBandInfoList-v10l0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v1250 ::= SEQUENCE {

 reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

 q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9 OPTIONAL -- Cond RSRQ2

}

InterFreqCarrierFreqInfo-r12 ::= SEQUENCE {

 dl-CarrierFreq-r12 ARFCN-ValueEUTRA-r9,

 q-RxLevMin-r12 Q-RxLevMin,

 p-Max-r12 P-Max OPTIONAL, -- Need OP

 t-ReselectionEUTRA-r12 T-Reselection,

 t-ReselectionEUTRA-SF-r12 SpeedStateScaleFactors OPTIONAL, -- Need OP

 threshX-High-r12 ReselectionThreshold,

 threshX-Low-r12 ReselectionThreshold,

 allowedMeasBandwidth-r12 AllowedMeasBandwidth,

 presenceAntennaPort1-r12 PresenceAntennaPort1,

 cellReselectionPriority-r12 CellReselectionPriority OPTIONAL, -- Need OP

 neighCellConfig-r12 NeighCellConfig,

 q-OffsetFreq-r12 Q-OffsetRange DEFAULT dB0,

 interFreqNeighCellList-r12 InterFreqNeighCellList OPTIONAL, -- Need OR

 interFreqBlackCellList-r12 InterFreqBlackCellList OPTIONAL, -- Need OR

 q-QualMin-r12 Q-QualMin-r9 OPTIONAL, -- Need OP

 threshX-Q-r12 SEQUENCE {

 threshX-HighQ-r12 ReselectionThresholdQ-r9,

 threshX-LowQ-r12 ReselectionThresholdQ-r9

 } OPTIONAL, -- Cond RSRQ

 q-QualMinWB-r12 Q-QualMin-r9 OPTIONAL, -- Cond WB-RSRQ

 multiBandInfoList-r12 MultiBandInfoList-r11 OPTIONAL, -- Need OR

 reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

 q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9 OPTIONAL, -- Cond RSRQ2

...

}

InterFreqCarrierFreqInfo-v1310 ::= SEQUENCE {

 cellReselectionSubPriority-r13 CellReselectionSubPriority-r13 OPTIONAL, -- Need OP

 redistributionInterFreqInfo-r13 RedistributionInterFreqInfo-r13 OPTIONAL, --Need OP

 cellSelectionInfoCE-r13 CellSelectionInfoCE-r13 OPTIONAL, -- Need OP

 t-ReselectionEUTRA-CE-r13 T-ReselectionEUTRA-CE-r13 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v1350 ::= SEQUENCE {

 cellSelectionInfoCE1-r13 CellSelectionInfoCE1-r13 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v1360 ::= SEQUENCE {

 cellSelectionInfoCE1-v1360 CellSelectionInfoCE1-v1360 OPTIONAL -- Cond QrxlevminCE1

}

InterFreqCarrierFreqInfo-v1530 ::= SEQUENCE {

 hsdn-Indication-r15 BOOLEAN,

 interFreqNeighHSDN-CellList-r15 InterFreqNeighHSDN-CellList-r15 OPTIONAL, -- Need OR

 cellSelectionInfoCE-v1530 CellSelectionInfoCE-v1530 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v16xy ::= SEQUENCE {

 rss-ConfigCarrierInfo-r16 RSS-ConfigCarrierInfo-r16 OPTIONAL -- Need OP

 rss-AssistanceInfoList-r16 SEQUENCE (SIZE (1.. maxCellInter)) OF RSS-AssistanceInfo-r16 OPTIONAL -- Cond RSS-Info

}

RSS-AssistanceInfo-r16 ::= SEQUENCE {

 rss-MeasPowerBias-r16 ENUMERATED {dB-6, dB-3, dB0, dB3, dB6, dB9, dB12, rssNotUsed}

}

InterFreqNeighCellList ::= SEQUENCE (SIZE (1..maxCellInter)) OF InterFreqNeighCellInfo

InterFreqNeighHSDN-CellList-r15 ::= SEQUENCE (SIZE (1..maxCellInter)) OF PhysCellIdRange

InterFreqNeighCellInfo ::= SEQUENCE {

 physCellId PhysCellId,

 q-OffsetCell Q-OffsetRange

}

InterFreqBlackCellList ::= SEQUENCE (SIZE (1..maxCellBlack)) OF PhysCellIdRange

RedistributionInterFreqInfo-r13 ::= SEQUENCE {

 redistributionFactorFreq-r13 RedistributionFactor-r13 OPTIONAL, --Need OP

 redistributionNeighCellList-r13 RedistributionNeighCellList-r13 OPTIONAL --Need OP

}

RedistributionNeighCellList-r13 ::= SEQUENCE (SIZE (1..maxCellInter)) OF RedistributionNeighCell-r13

RedistributionNeighCell-r13 ::= SEQUENCE {

 physCellId-r13 PhysCellId,

 redistributionFactorCell-r13 RedistributionFactor-r13

}

RedistributionFactor-r13 ::= INTEGER(1..10)

-- ASN1STOP

| *SystemInformationBlockType5* field descriptions |
| --- |
| ***cellSelectionInfoCE***Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE, applicable for inter-frequency neighbour cells. If absent, coverage enhancement S criteria is not applicable. |
| ***cellSelectionInfoCE1***Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE supporting CE Mode B. E-UTRAN includes this IE only in an entry of *InterFreqCarrierFreqList-v1350* or *InterFreqCarrierFreqListExt-v1350* if *cellSelectionInfoCE* is present in the corresponding entry of *InterFreqCarrierFreqList-v1310* or *InterFreqCarrierFreqListExt-v1310* is present. |
| ***freqBandInfo***A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs and TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs, for the frequency band represented by *dl-CarrierFreq* for which cell reselection parameters are common. If E-UTRAN includes *freqBandInfo-v10l0* it includes the same number of entries, and listed in the same order, as in *freqBandInfo-r10*. |
| ***hsdn-Indication***Indicates whether there are deployed HSDN cells or not on the the DL carrier frequency indicated by *dl-CarrierFreq-r12*.  |
| ***interFreqBlackCellList***List of blacklisted inter-frequency neighbouring cells. |
| ***interFreqCarrierFreqList***List of neighbouring inter-frequencies. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the E-ARFCN used to indicate this. If E-UTRAN includes *interFreqCarrierFreqList-v8h0*, *interFreqCarrierFreqList-v9e0*, *InterFreqCarrierFreqList-v1250, InterFreqCarrierFreqList-v1310, InterFreqCarrierFreqList-v1350,* *InterFreqCarrierFreqList-v13a0* and/or *InterFreqCarrierFreqList-v1530*, it includes the same number of entries, and listed in the same order, as in *interFreqCarrierFreqList* (i.e. without suffix). See Annex D for more descriptions. |
| ***interFreqCarrierFreqListExt***List of additional neighbouring inter-frequencies, i.e. extending the size of the inter-frequency carrier list using the general principles specified in 5.1.2. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the E-ARFCN used to indicate this. EUTRAN may include *interFreqCarrierFreqListExt* even if *interFreqCarrierFreqList* (i.e without suffix) does not include *maxFreq* entries. If E-UTRAN includes *InterFreqCarrierFreqListExt-v1310, InterFreqCarrierFreqListExt-v1350,* *InterFreqCarrierFreqListExt-v1360* and/or *InterFreqCarrierFreqListExt-v1530,* it includes the same number of entries, and listed in the same order, as in *interFreqCarrierFreqListExt-r12.* |
| ***interFreqNeighCellList***List of inter-frequency neighbouring cells with specific cell re-selection parameters. |
| ***interFreqNeighHSDN-CellList***List of inter-frequency neighbouring HSDN cells as specified in TS 36.304 [4]. |
| ***multiBandInfoList***Indicates the list of frequency bands in addition to the band represented by dl-CarrierFreq for which cell reselection parameters are common. E-UTRAN indicates at most *maxMultiBands* frequency bands (i.e. the total number of entries across both *multiBandInfoList* and *multiBandInfoList-v9e0* is below this limit). |
| ***multiBandInfoList-v10j0***A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs and TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs, for the frequency bands in *multiBandInfoList* (i.e. without suffix) and *multiBandInfoList-v9e0*. If E-UTRAN includes *multiBandInfoList-v10j0*, it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList-v10j0.* |
| ***p-Max***Value applicable for the neighbouring E-UTRA cells on this carrier frequency. If absent the UE applies the maximum power according to its capability as specified in TS 36.101 [42], clause 6.2.2. |
| ***q-OffsetCell***Parameter "Qoffsets,n" in TS 36.304 [4]. |
| ***q-OffsetFreq***Parameter "Qoffsetfrequency" in TS 36.304 [4]. |
| ***q-QualMin***Parameter "Qqualmin" in TS 36.304 [4]. If the field is not present, the UE applies the (default) value of negative infinity for Qqualmin. NOTE 1. |
| ***q-QualMinRSRQ-OnAllSymbols***If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, perform RSRQ measurement on all OFDM symbols in accordance with TS 36.214 [48]. NOTE 1. |
| ***q-QualMinWB***If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, use a wider bandwidth in accordance with TS 36.133 [16]. NOTE 1. |
| ***redistributionFactorFreq***Parameter *redistributionFactorFreq* in TS 36.304 [4]. |
| ***redistributionFactorCell***Parameter *redistributionFactorCell* in TS 36.304 [4]. |
| ***reducedMeasPerformance***Value *TRUE* indicates that the neighbouring inter-frequency is configured for reduced measurement performance, see TS 36.133 [16]. If the field is not included, the neighbouring inter-frequency is configured for normal measurement performance, see TS 36.133 [16].  |
| ***rss-AssistanceInfoList***This field configures the list of RSS assistance info which is used for the *physCellId* in I*nterFreqNeighCellList*. If E-UTRAN includes *rss-AssistanceInfoList*, it includes the same number of entries, and listed in the same order, as in *InterFreqNeighCellList.* |
| ***rssConfigCarrierInfo***RSS-Configurations for inter frequency cells |
| ***rss-MeasPowerBias*** Power bias in dB relative to CRS's q\_offset of cells in the neighbor cell list. Value dB-6 corresponds to -6 dB, value dB-3 corresponds to -3 dB and so on. Value *rssNotUsed* indicates measurement based on RSS is not applicable for the corresponding neighbor cell. |
| ***scptm-FreqOffset***Parameter QoffsetSCPTM in TS 36.304 [4]. Actual value QoffsetSCPTM = field value \* 2 [dB]. If the field is not present, the UE uses infinite dBs for the SC-PTM frequency offset with cell ranking as specified in TS 36.304 [4]. |
| ***threshX-High***Parameter "ThreshX, HighP" in TS 36.304 [4]. |
| ***threshX-HighQ***Parameter "ThreshX, HighQ" in TS 36.304 [4]. |
| ***threshX-Low***Parameter "ThreshX, LowP" in TS 36.304 [4]. |
| ***threshX-LowQ***Parameter "ThreshX, LowQ" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA***Parameter "TreselectionEUTRA" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA-SF***Parameter "Speed dependent ScalingFactor for TreselectionEUTRA" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

NOTE 1: The value the UE applies for parameter "Qqualmin" in TS 36.304 [4] depends on the *q-QualMin* fields signalled by E-UTRAN and supported by the UE. In case multiple candidate options are available, the UE shall select the highest priority candidate option according to the priority order indicated by the following table (top row is highest priority).

|  |  |  |
| --- | --- | --- |
| q-QualMinRSRQ-OnAllSymbols | q-QualMinWB | Value of parameter "Qqualmin" in TS 36.304 [4] |
| Included | Included | *q-QualMinRSRQ-OnAllSymbols* – (*q-QualMin* – *q-QualMinWB*) |
| Included | Not included | *q-QualMinRSRQ-OnAllSymbols* |
| Not included | Included | *q-QualMinWB* |
| Not included | Not included | *q-QualMin* |

| Conditional presence | Explanation |
| --- | --- |
| *dl-FreqMax* | The field is mandatory present if, for the corresponding entry in *InterFreqCarrierFreqList* (i.e. without suffix), *dl-CarrierFreq* (i.e. without suffix) is set to *maxEARFCN*. Otherwise the field is not present. |
| *QrxlevminCE1* | The field is optionally present, Need OR, if *q-RxLevMinCE1-r13* is set below -140 dBm. Otherwise the field is not present. |
| *RSRQ* | The field is mandatory present if *threshServingLowQ* is present in *systemInformationBlockType3*; otherwise it is not present. |
| *RSRQ2* | The field is mandatory present for all EUTRA carriers listed in SIB5 if *q-QualMinRSRQ-OnAllSymbols* is present in SIB3; otherwise it is not present and the UE shall delete any existing value for this field. |
| *WB-RSRQ* | The field is optionally present, need OP if the measurement bandwidth indicated by *allowedMeasBandwidth* is 50 resource blocks or larger; otherwise it is not present. |
| *RSS-Info* | This field is optionally present, need ON, if *InterFreqNeighCellList* is configured and if *rss-MeasConfig* is included in *SIB2*. |

### 6.3.2 Radio resource control information elements

#### – *AntennaInfo*

----------- unmodified definitions skipped ------------

#### *RadioResourceConfigCommon*

The IE *RadioResourceConfigCommonSIB* and IE *RadioResourceConfigCommon* are used to specify common radio resource configurations in the system information and in the mobility control information, respectively, e.g., the random access parameters and the static physical layer parameters.

*RadioResourceConfigCommon* information element

-- ASN1START

RadioResourceConfigCommonSIB ::= SEQUENCE {

 rach-ConfigCommon RACH-ConfigCommon,

 bcch-Config BCCH-Config,

 pcch-Config PCCH-Config,

 prach-Config PRACH-ConfigSIB,

 pdsch-ConfigCommon PDSCH-ConfigCommon,

 pusch-ConfigCommon PUSCH-ConfigCommon,

 pucch-ConfigCommon PUCCH-ConfigCommon,

 soundingRS-UL-ConfigCommon SoundingRS-UL-ConfigCommon,

 uplinkPowerControlCommon UplinkPowerControlCommon,

 ul-CyclicPrefixLength UL-CyclicPrefixLength,

 ...,

 [[ uplinkPowerControlCommon-v1020 UplinkPowerControlCommon-v1020 OPTIONAL -- Need OR

 ]],

 [[ rach-ConfigCommon-v1250 RACH-ConfigCommon-v1250 OPTIONAL -- Need OR

 ]],

 [[ pusch-ConfigCommon-v1270 PUSCH-ConfigCommon-v1270 OPTIONAL -- Need OR

 ]],

 [[ bcch-Config-v1310 BCCH-Config-v1310 OPTIONAL, -- Need OR

 pcch-Config-v1310 PCCH-Config-v1310 OPTIONAL, -- Need OR

 freqHoppingParameters-r13 FreqHoppingParameters-r13 OPTIONAL, -- Need OR

 pdsch-ConfigCommon-v1310 PDSCH-ConfigCommon-v1310 OPTIONAL, -- Need OR

 pusch-ConfigCommon-v1310 PUSCH-ConfigCommon-v1310 OPTIONAL, -- Need OR

 prach-ConfigCommon-v1310 PRACH-ConfigSIB-v1310 OPTIONAL, -- Need OR

 pucch-ConfigCommon-v1310 PUCCH-ConfigCommon-v1310 OPTIONAL -- Need OR

 ]],

 [[ highSpeedConfig-r14 HighSpeedConfig-r14 OPTIONAL, -- Need OR

 prach-Config-v1430 PRACH-Config-v1430 OPTIONAL, -- Need OR

 pucch-ConfigCommon-v1430 PUCCH-ConfigCommon-v1430 OPTIONAL -- Need OR

 ]],

 [[ prach-Config-v1530 PRACH-ConfigSIB-v1530 OPTIONAL, -- Cond EDT

 ce-RSS-Config-r15 RSS-Config-r15 OPTIONAL, -- Need OR

 wus-Config-r15 WUS-Config-r15 OPTIONAL, -- Need OR

 highSpeedConfig-v1530 HighSpeedConfig-v1530 OPTIONAL -- Need OR

 ]],

 [[ uplinkPowerControlCommon-v1540 UplinkPowerControlCommon-v1530 OPTIONAL -- Need OR

 ]],

 [[ wus-Config-v1560 WUS-Config-v1560 OPTIONAL -- Need OR

 ]],

 [[

 rss-MeasConfig-r16 ENUMERATED {enabled} OPTIONAL, -- Need OR

 rss-MeasNonNCL-r16 ENUMERATED {enabled} OPTIONAL -- Need OR

 ]]

}

RadioResourceConfigCommon ::= SEQUENCE {

 rach-ConfigCommon RACH-ConfigCommon OPTIONAL, -- Need ON

 prach-Config PRACH-Config,

 pdsch-ConfigCommon PDSCH-ConfigCommon OPTIONAL, -- Need ON

 pusch-ConfigCommon PUSCH-ConfigCommon,

 phich-Config PHICH-Config OPTIONAL, -- Need ON

 pucch-ConfigCommon PUCCH-ConfigCommon OPTIONAL, -- Need ON

 soundingRS-UL-ConfigCommon SoundingRS-UL-ConfigCommon OPTIONAL, -- Need ON

 uplinkPowerControlCommon UplinkPowerControlCommon OPTIONAL, -- Need ON

 antennaInfoCommon AntennaInfoCommon OPTIONAL, -- Need ON

 p-Max P-Max OPTIONAL, -- Need OP

 tdd-Config TDD-Config OPTIONAL, -- Cond TDD

 ul-CyclicPrefixLength UL-CyclicPrefixLength,

 ...,

 [[ uplinkPowerControlCommon-v1020 UplinkPowerControlCommon-v1020 OPTIONAL -- Need ON

 ]],

 [[ tdd-Config-v1130 TDD-Config-v1130 OPTIONAL -- Cond TDD3

 ]],

 [[ pusch-ConfigCommon-v1270 PUSCH-ConfigCommon-v1270 OPTIONAL -- Need OR

 ]],

 [[

 prach-Config-v1310 PRACH-Config-v1310 OPTIONAL, -- Need ON

 freqHoppingParameters-r13 FreqHoppingParameters-r13 OPTIONAL, -- Need ON

 pdsch-ConfigCommon-v1310 PDSCH-ConfigCommon-v1310 OPTIONAL, -- Need ON

 pucch-ConfigCommon-v1310 PUCCH-ConfigCommon-v1310 OPTIONAL, -- Need ON

 pusch-ConfigCommon-v1310 PUSCH-ConfigCommon-v1310 OPTIONAL, -- Need ON

 uplinkPowerControlCommon-v1310 UplinkPowerControlCommon-v1310 OPTIONAL -- Need ON

 ]],

 [[ highSpeedConfig-r14 HighSpeedConfig-r14 OPTIONAL, -- Need OR

 prach-Config-v1430 PRACH-Config-v1430 OPTIONAL, -- Need OR

 pucch-ConfigCommon-v1430 PUCCH-ConfigCommon-v1430 OPTIONAL, -- Need OR

 tdd-Config-v1430 TDD-Config-v1430 OPTIONAL -- Cond TDD3

 ]],

 [[

 tdd-Config-v1450 TDD-Config-v1450 OPTIONAL -- Cond TDD3

 ]],

 [[ uplinkPowerControlCommon-v1530 UplinkPowerControlCommon-v1530 OPTIONAL, -- Need ON

 highSpeedConfig-v1530 HighSpeedConfig-v1530 OPTIONAL -- Need OR

 ]]

}

RadioResourceConfigCommonPSCell-r12 ::= SEQUENCE {

 basicFields-r12 RadioResourceConfigCommonSCell-r10,

 pucch-ConfigCommon-r12 PUCCH-ConfigCommon,

 rach-ConfigCommon-r12 RACH-ConfigCommon,

 uplinkPowerControlCommonPSCell-r12 UplinkPowerControlCommonPSCell-r12,

 ...,

 [[ uplinkPowerControlCommonPSCell-v1310

 UplinkPowerControlCommon-v1310 OPTIONAL -- Need ON

 ]],

 [[ uplinkPowerControlCommonPSCell-v1530

 UplinkPowerControlCommon-v1530 OPTIONAL -- Need ON

 ]]

}

RadioResourceConfigCommonPSCell-v12f0 ::= SEQUENCE {

 basicFields-v12f0 RadioResourceConfigCommonSCell-v10l0

}

RadioResourceConfigCommonPSCell-v1440 ::= SEQUENCE {

 basicFields-v1440 RadioResourceConfigCommonSCell-v1440

}

RadioResourceConfigCommonSCell-r10 ::= SEQUENCE {

 -- DL configuration as well as configuration applicable for DL and UL

 nonUL-Configuration-r10 SEQUENCE {

 -- 1: Cell characteristics

 dl-Bandwidth-r10 ENUMERATED {n6, n15, n25, n50, n75, n100},

 -- 2: Physical configuration, general

 antennaInfoCommon-r10 AntennaInfoCommon,

 mbsfn-SubframeConfigList-r10 MBSFN-SubframeConfigList OPTIONAL, -- Need OR

 -- 3: Physical configuration, control

 phich-Config-r10 PHICH-Config,

 -- 4: Physical configuration, physical channels

 pdsch-ConfigCommon-r10 PDSCH-ConfigCommon,

 tdd-Config-r10 TDD-Config OPTIONAL -- Cond TDDSCell

 },

 -- UL configuration

 ul-Configuration-r10 SEQUENCE {

 ul-FreqInfo-r10 SEQUENCE {

 ul-CarrierFreq-r10 ARFCN-ValueEUTRA OPTIONAL, -- Need OP

 ul-Bandwidth-r10 ENUMERATED {n6, n15,

 n25, n50, n75, n100} OPTIONAL, -- Need OP

 additionalSpectrumEmissionSCell-r10 AdditionalSpectrumEmission

 },

 p-Max-r10 P-Max OPTIONAL, -- Need OP

 uplinkPowerControlCommonSCell-r10 UplinkPowerControlCommonSCell-r10,

 -- A special version of IE UplinkPowerControlCommon may be introduced

 -- 3: Physical configuration, control

 soundingRS-UL-ConfigCommon-r10 SoundingRS-UL-ConfigCommon,

 ul-CyclicPrefixLength-r10 UL-CyclicPrefixLength,

 -- 4: Physical configuration, physical channels

 prach-ConfigSCell-r10 PRACH-ConfigSCell-r10 OPTIONAL, -- Cond TDD-OR-NoR11

 pusch-ConfigCommon-r10 PUSCH-ConfigCommon

 } OPTIONAL, -- Need OR

 ...,

 [[ ul-CarrierFreq-v1090 ARFCN-ValueEUTRA-v9e0 OPTIONAL -- Need OP

 ]],

 [[ rach-ConfigCommonSCell-r11 RACH-ConfigCommonSCell-r11 OPTIONAL, -- Cond ULSCell

 prach-ConfigSCell-r11 PRACH-Config OPTIONAL, -- Cond UL

 tdd-Config-v1130 TDD-Config-v1130 OPTIONAL, -- Cond TDD2

 uplinkPowerControlCommonSCell-v1130

 UplinkPowerControlCommonSCell-v1130 OPTIONAL -- Cond UL

 ]],

 [[ pusch-ConfigCommon-v1270 PUSCH-ConfigCommon-v1270 OPTIONAL -- Need OR

 ]],

 [[ pucch-ConfigCommon-r13 PUCCH-ConfigCommon OPTIONAL, -- Cond UL

 uplinkPowerControlCommonSCell-v1310

 UplinkPowerControlCommonSCell-v1310 OPTIONAL -- Cond UL

 ]],

 [[ highSpeedConfigSCell-r14 HighSpeedConfigSCell-r14 OPTIONAL, -- Need OR

 prach-Config-v1430 PRACH-Config-v1430 OPTIONAL, -- Cond UL

 ul-Configuration-r14 SEQUENCE {

 ul-FreqInfo-r14 SEQUENCE {

 ul-CarrierFreq-r14 ARFCN-ValueEUTRA-r9 OPTIONAL, -- Need OP

 ul-Bandwidth-r14 ENUMERATED {n6, n15,

 n25, n50, n75, n100} OPTIONAL, -- Need OP

 additionalSpectrumEmissionSCell-r14 AdditionalSpectrumEmission

 },

 p-Max-r14 P-Max OPTIONAL, -- Need OP

 soundingRS-UL-ConfigCommon-r14 SoundingRS-UL-ConfigCommon,

 ul-CyclicPrefixLength-r14 UL-CyclicPrefixLength,

 prach-ConfigSCell-r14 PRACH-ConfigSCell-r10 OPTIONAL, -- Cond TDD-OR-NoR11

 uplinkPowerControlCommonPUSCH-LessCell-v1430

 UplinkPowerControlCommonPUSCH-LessCell-v1430 OPTIONAL -- Need OR

} OPTIONAL, -- Cond ULSRS

 harq-ReferenceConfig-r14 ENUMERATED {sa2,sa4,sa5} OPTIONAL, -- Need OR

 soundingRS-FlexibleTiming-r14 ENUMERATED {true} OPTIONAL -- Need OR

 ]],

 [[ mbsfn-SubframeConfigList-v1430 MBSFN-SubframeConfigList-v1430 OPTIONAL -- Need ON

 ]],

 [[ uplinkPowerControlCommonSCell-v1530 UplinkPowerControlCommon-v1530 OPTIONAL -- Need ON

 ]]

}

RadioResourceConfigCommonSCell-v10l0 ::= SEQUENCE {

 -- UL configuration

 ul-Configuration-v10l0 SEQUENCE {

 additionalSpectrumEmissionSCell-v10l0 AdditionalSpectrumEmission-v10l0

 }

}

RadioResourceConfigCommonSCell-v1440 ::= SEQUENCE {

 ul-Configuration-v1440 SEQUENCE {

 ul-FreqInfo-v1440 SEQUENCE {

 additionalSpectrumEmissionSCell-v1440 AdditionalSpectrumEmission-v10l0

 }

 }

}

BCCH-Config ::= SEQUENCE {

 modificationPeriodCoeff ENUMERATED {n2, n4, n8, n16}

}

BCCH-Config-v1310 ::= SEQUENCE {

 modificationPeriodCoeff-v1310 ENUMERATED {n64}

}

FreqHoppingParameters-r13 ::= SEQUENCE {

 dummy ENUMERATED {nb2, nb4} OPTIONAL,

 dummy2 CHOICE {

 interval-FDD-r13 ENUMERATED {int1, int2, int4, int8},

 interval-TDD-r13 ENUMERATED {int1, int5, int10, int20}

 } OPTIONAL,

 dummy3 CHOICE {

 interval-FDD-r13 ENUMERATED {int2, int4, int8, int16},

 interval-TDD-r13 ENUMERATED { int5, int10, int20, int40}

 } OPTIONAL,

 interval-ULHoppingConfigCommonModeA-r13 CHOICE {

 interval-FDD-r13 ENUMERATED {int1, int2, int4, int8},

 interval-TDD-r13 ENUMERATED {int1, int5, int10, int20}

 } OPTIONAL, -- Cond MP-A

 interval-ULHoppingConfigCommonModeB-r13 CHOICE {

 interval-FDD-r13 ENUMERATED {int2, int4, int8, int16},

 interval-TDD-r13 ENUMERATED { int5, int10, int20, int40}

 } OPTIONAL, -- Cond MP-B

 dummy4 INTEGER (1..maxAvailNarrowBands-r13) OPTIONAL

}

PCCH-Config ::= SEQUENCE {

 defaultPagingCycle ENUMERATED {

 rf32, rf64, rf128, rf256},

 nB ENUMERATED {

 fourT, twoT, oneT, halfT, quarterT, oneEighthT,

 oneSixteenthT, oneThirtySecondT}

}

PCCH-Config-v1310 ::= SEQUENCE {

 paging-narrowBands-r13 INTEGER (1..maxAvailNarrowBands-r13),

 mpdcch-NumRepetition-Paging-r13 ENUMERATED {r1, r2, r4, r8, r16, r32, r64, r128, r256},

 nB-v1310 ENUMERATED {one64thT, one128thT, one256thT}

 OPTIONAL -- Need OR

}

UL-CyclicPrefixLength ::= ENUMERATED {len1, len2}

HighSpeedConfig-r14 ::= SEQUENCE {

 highSpeedEnhancedMeasFlag-r14 ENUMERATED {true} OPTIONAL, -- Need OR

 highSpeedEnhancedDemodulationFlag-r14 ENUMERATED {true} OPTIONAL -- Need OR

}

HighSpeedConfig-v1530 ::= SEQUENCE {

 highSpeedMeasGapCE-ModeA-r15 ENUMERATED {true}

}

HighSpeedConfigSCell-r14 ::= SEQUENCE {

 highSpeedEnhancedDemodulationFlag-r14 ENUMERATED {true} OPTIONAL -- Need OR

}

-- ASN1STOP

| *RadioResourceConfigCommon* field descriptions |
| --- |
| ***additionalSpectrumEmissionSCell***The UE requirements related to *additionalSpectrumEmissionSCell* are defined in TS 36.101 [42]. E-UTRAN configures the same value in *additionalSpectrumEmissionSCell* for all SCell(s) of the same band with UL configured. The *additionalSpectrumEmissionSCell* is applicable for all serving cells (including PCell) of the same band with UL configured. |
| ***defaultPagingCycle***Default paging cycle, used to derive 'T' in TS 36.304 [4]. Value rf32 corresponds to 32 radio frames, rf64 corresponds to 64 radio frames and so on. |
| ***dummy***This field is not used in the specification. If received it shall be ignored by the UE. |
| ***harq-ReferenceConfig***Indicates UL/ DL configuration used as the DL HARQ reference configuration for this serving cell. Value sa2 corresponds to Configuration2, sa4 to Configuration4 etc, as specified in TS 36.211 [21], table 4.2-2. E-UTRAN configures the same value for all serving cells residing on same frequency band. |
| ***highSpeedEnhancedMeasFlag***If the field is present, the UE shall apply the high speed measurement enhancements as specified in TS 36.133 [16]. |
| ***highSpeedEnhancedDemodulationFlag***If the field is present, the UE shall apply the advanced receiver in SFN scenario as specified in TS 36.101 [6]. |
| ***highSpeedMeasGapCE-ModeA***If the field is present, the UE in CE mode A shall apply the measurement gap sharing table associated with high-velocity scenario for measurements, as specified in TS 36.133 [16]. |
| ***interval-DLHoppingConfigCommonModeX***Number of consecutive absolute subframes over which MPDCCH or PDSCH for CE mode X stays at the same narrowband before hopping to another narrowband. For interval-FDD, int1 corresponds to 1 subframe, int2 corresponds to 2 subframes, and so on. For interval-TDD, int1 corresponds to 1 subframe, int5 corresponds to 5 subframes, and so on. |
| ***interval-ULHoppingConfigCommonModeX***Number of consecutive absolute subframes over which PUCCH or PUSCH for CE mode X stays at the same narrowband before hopping to another narrowband. For interval-FDD, int1 corresponds to 1 subframe, int2 corresponds to 2 subframes, and so on. For interval-TDD, int1 corresponds to 1 subframe, int5 corresponds to 5 subframes, and so on. |
| ***modificationPeriodCoeff***Actual modification period, expressed in number of radio frames= *modificationPeriodCoeff* \* *defaultPagingCycle*. n2 corresponds to value 2, n4 corresponds to value 4, n8 corresponds to value 8, n16 corresponds to value 16, and n64 corresponds to value 64. |
| ***mpdcch-NumRepetition-Paging***Maximum number of repetitions for MPDCCH common search space (CSS) for paging, see TS 36.211 [21]. |
| ***mpdcch-pdsch-HoppingOffset***Parameter: cid:image020.png@01D1F4C1.16D3F4B0, see TS 36.211 [21], clause 6.4.1. |
| ***mpdcch-pdsch-HoppingNB***The number of narrowbands for MPDCCH/PDSCH frequency hopping. Value nb2 corresponds to 2 narrowbands and value nb4 corresponds to 4 narrowbands. |
| ***nB***Parameter: nB is used as one of parameters to derive the Paging Frame and Paging Occasion according to TS 36.304 [4]. Value in multiples of 'T' as defined in TS 36.304 [4]. A value of fourT corresponds to 4 \* T, a value of twoT corresponds to 2 \* T and so on. In case *nB-v1310* is signalled, the UE shall ignore *nB* (i.e. without suffix). EUTRAN configures *nB-v1310* only in the BR version of SI message. |
| ***paging-narrowBands***Number of narrowbands used for paging, see TS 36.304 [4], TS 36.212 [22] and TS 36.213 [23]. |
| ***p-Max***Pmax to be used in the target cell. If absent, for the band used in the target cell, the UE applies the maximum power according to its capability as specified in 36.101 [42], clause 6.2.2. In case the UE is configured with uplink intra-band contiguous CA and the UE indicates *ue-CA-PowerClass-N* in that band combination, then the *p-Max* in *RadioResourceConfigCommonSCell* for that SCell, if present, also applies for that band combination whenever that SCell is activated. |
| ***prach-ConfigSCell***Indicates a PRACH configuration for an SCell. The field is not applicable for an LAA SCell in this release. |
| ***rach-ConfigCommonSCell***Indicates a RACH configuration for an SCell. The field is not applicable for an LAA SCell in this release. |
| ***rss-MeasConfig***Indicates whether RSS-based measurement is enabled or disabled. |
| ***rss-MeasNonNCL***Indicates whether RSS of neighbour cells that are not provided in the Neighbour Cell List (*interFreqNeighCellList, intraFreqNeighCellList, CRS-AssistanceInfoList*) can be used for measurements. |
| ***soundingRS-FlexibleTiming***Indicates the SRS flexible timing (if configured) for aperiodic SRS triggered by DL grant. If the SRS transmission is collided with ACK/NACK, postpone once to the next configured SRS transmission opportunity. |
| ***ul-Bandwidth***Parameter: transmission bandwidth configuration, NRB, in uplink, see TS 36.101 [42], table 5.6-1. Value n6 corresponds to 6 resource blocks, n15 to 15 resource blocks and so on. If for FDD this parameter is absent, the uplink bandwidth is equal to the downlink bandwidth. For TDD this parameter is absent and it is equal to the downlink bandwidth. |
| ***ul-CarrierFreq***For FDD: If absent, the (default) value determined from the default TX-RX frequency separation defined in TS 36.101 [42], table 5.7.3-1, applies.For TDD: This parameter is absent and it is equal to the downlink frequency. |
| ***ul-CyclicPrefixLength***Parameter: Uplink cyclic prefix length see TS 36.211 [21], clause 5.2.1, where len1 corresponds to normal cyclic prefix and len2 corresponds to extended cyclic prefix. |

| **Conditional presence** | **Explanation** |
| --- | --- |
| *EDT* | The field is optionally present, Need OR, if *edt-Parameters* is present; otherwise the field is not present and the UE shall delete any existing value for this field. |
| *MP-A* | The field is mandatory present for CE mode A. Otherwise the field is optional, Need OR. |
| *MP-B* | The field is mandatory present for CE mode B. Otherwise the field is optional, Need OR. |
| *TDD* | The field is optional for TDD, Need ON; it is not present for FDD and the UE shall delete any existing value for this field. |
| *TDD2* | If *tdd-Config-r10* is present, the field is optional, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |
| *TDD3* | If *tdd-Config* is present, the field is optional, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |
| *TDD-OR-NoR11* | If *prach-ConfigSCell-r11* is absent, the field is optional for TDD, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |
| *TDDSCell* | This field is mandatory present for TDD; it is not present for FDD and LAA SCell, and the UE shall delete any existing value for this field. |
| *UL* | If the SCell is part of the STAG or concerns the PSCell or PUCCH SCell and if *ul-Configuration* is included, the field is optional, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |
| *ULSCell* | For the PSCell (IE is included in *RadioResourceConfigCommonPSCell*) the field is absent. Otherwise, if the SCell is part of the STAG and if *ul-Configuration* is included, the field is optional, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |
| *ULSRS* | If *ul-Configuration-r10* is absent, the field is optional, Need OR. Otherwise the field is not present and the UE shall delete any existing value for this field. |

### 6.3.4 Mobility control information elements

----------- unmodified definitions skipped ------------

#### – *ReselectionThresholdQ*

The IE *ReselectionThresholdQ* is used to indicate a quality level threshold for cell reselection. Actual value of threshold = field value [dB].

*ReselectionThresholdQ* information element

-- ASN1START

ReselectionThresholdQ-r9 ::= INTEGER (0..31)

-- ASN1STOP

#### – *RSS-ConfigCarrierInfo*

The IE *RSS-ConfigCarrier* contains RSS-Configurations for a carrier.

*RSS-ConfigCellList* information element

-- ASN1START

RSS-ConfigCarrierInfo-r16::= SEQUENCE

{

 measCollocation-r16 BOOLEAN

 narrowbandIndex-r16 BIT STRING (SIZE (1.. maxAvailNarrowBands-r13-1))

 OPTIONAL -- Cond NonCollocated

 timeOffsetGranularity-r16 ENUMERATED {g1, g2, g4, g8,

 g16, g32, g64, g128} OPTIONAL -- Cond NonCollocated

}

-- ASN1STOP

| *RSS-ConfigCellList* field descriptions |
| --- |
| ***measCollocation***This field indicates RSS collocation (time and frequency domain) in all cells. Value true indicates collocated and value false indicates nonCollocated |
| ***narrowbandIndex***Bitmap containing narrowbands used for RSS. Narrowbands including central 6 PRBs are excluded from the bitmap.  |
| ***timeOffsetGranularity***Parameter RSS Time Offset granularity (GRSS), where the values of GRSS depend on the RSS periodicity PRSS as follows: Value *g1* corresponds to 1 frame, value *g2* corresponds to 2 frames, and so on.GRSS = {1, 2, 4, 8, 16} frames for PRSS = 160 msGRSS = {1, 2, 4, 8, 16, 32} frames for PRSS = 320 msGRSS = {2, 4, 8, 16, 32, 64} frames for PRSS = 640 msGRSS = {4, 8, 16, 32, 64, 128} frames for PRSS = 1280 ms |

| Conditional presence | Explanation |
| --- | --- |
| *NonCollocated* | The field is optionally present, Need OR, if *measCollocation* is set to *nonCollocated*; otherwise it is not present. |

#### – *SCellIndex*

The IE *SCellIndex* concerns a short identity, used to identify an SCell.

*SCellIndex* information element

-- ASN1START

SCellIndex-r10 ::= INTEGER (1..7)

SCellIndex-r13 ::= INTEGER (1..31)

-- ASN1STOP