**3GPP TSG-RAN WG2 Meeting # *R2-2505224***

**Bengaluru, India, Aug 25th –**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **5399** | **rev** |  | **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 | **X** | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Introduction of UAV mobility enhancements [UAV\_Mobility] |
|  |  |
| ***Source to WG:*** | CATT, NTT DOCOMO, LG Electronics Inc., Kyocera, LGU+, China Telecom, NEC, SK Telecom, Qualcomm Incorporated, Ericsson, Nokia |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | 19 |  | ***Date:*** | 2025-08-15 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** |  |
|  | *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:*** | To introudce CHO enhancement and idle/inactive enhancement for UAV |
|  |  |
| ***Summary of change:*** | To support the following mobility enhancements for UAV:1. Altitude based CHO event
2. Altitude based SSB measurement for idle/inactive UE
3. UAV dedicated frequency for cell reselection
 |
|  |  |
| ***Consequences if not approved:*** | CHO enhancement and idle/inactive enhancement are not supported for UAV. |
|  |  |
| ***Clauses affected:*** | 5.3.5.13.4, 5.5.4.23, 5.5.4.24, 5.5.4.27, 5.5.4.28, 6.3.1, 6.3.2, 6.3.3 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.306 CR 1319 TS 38.304 CR 0439TS 38.300 CR 1004 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

|  |
| --- |
| CHANGE START |

##### 5.3.5.13.4 Conditional reconfiguration evaluation

The UE shall:

1> for each *condReconfigId* within the *VarConditionalReconfig*:

2> if the *RRCReconfiguration* within *condRRCReconfig* includes the *masterCellGroup* including the *reconfigurationWithSync*:

3> if the associated *condExecutionCondPSCell* is configured:

4> consider the cell which has a physical cell identity matching the value indicated in the *ServingCellConfigCommon* included in the *reconfigurationWithSync* within the *masterCellGroup* in the received *condRRCReconfig* to be applicable cell; and

4> consider the cell which has a physical cell identity matching the value indicated in the *ServingCellConfigCommon* included in the *reconfigurationWithSync* within the *secondaryCellGroup* within the *nr-SCG* within the received *condRRCReconfig* to be applicable cell;

3> else:

4> consider the cell which has a physical cell identity matching the value indicated in the *ServingCellConfigCommon* included in the *reconfigurationWithSync* within the *masterCellGroup* in the received *condRRCReconfig* to be applicable cell;

2> else if the *RRCReconfiguration* within *condRRCReconfig* includes the *secondaryCellGroup* including the *reconfigurationWithSync*:

3> if the cell which has a physical cell identity matching the value indicated in the *ServingCellConfigCommon* included in the *reconfigurationWithSync* within the *secondaryCellGroup* within the received *condRRCReconfig* is not the PSCell:

4> if *subsequentCondReconfig* is not included for the *condReconfigId*; or

4> if *subsequentCondReconfig* is not included for the PSCell; or

4> if *subsequentCondReconfig* is included for the *condReconfigId* and there is a *subsequentCondReconfig* for the PSCell with a matching *condReconfigId* value in *condExecutionCondToAddModList*:

5> consider the cell to be applicable cell;

2> if *condExecutionCondSCG* is configured:

3> in the remainder of the procedure, consider each *measId* indicated in the *condExecutionCondSCG* as a *measId* in the *VarMeasConfig* associated with the SCG *measConfig*;

2> if the *condExecutionCondPSCell* is configured:

3> in the remainder of the procedure, consider each *measId* indicated in the *condExecutionCondPSCell* as a *measId* in the *VarMeasConfig* associated with the MCG *measConfig*;

2> if *condExecutionCond* is configured:

3> if it is configured via SRB3 or configured within *nr-SCG* or within *nr-SecondaryCellGroupConfig* (specified in TS 36.331[10]) via SRB1:

4> in the remainder of the procedure, consider each *measId* indicated in the *condExecutionCond* as a *measId* in the *VarMeasConfig* associated with the SCG *measConfig*;

3> else:

4> in the remainder of the procedure, consider each *measId* indicated in the *condExecutionCond* as a *measId* in the *VarMeasConfig* associated with the MCG *measConfig*;

2> for each *measId* included in the *measIdList* within *VarMeasConfig* indicated in the *condExecutionCond,* *condExecutionCondSCG,* or *condExecutionCondPSCell* of the *condReconfigId:*

3> if *condExecutionCond*, *condExecutionCondSCG*, and *subsequentCondReconfig* are included for the *condReconfigId*:

4> ignore the *measId(s)* in the *condExecutionCond* of the *condReconfigId*;

3> if the *condTriggerConfig* is not configured with *nesEvent*:

4> if the *condEventId* is associated with *condEventT1*, and if the entry condition applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cell; or

4> if the *condEventId* is associated with *condEventD1* or *condEventD2*, and if the entry conditions applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cell during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*; or

4> if the *condEventId* is associated with *condEventA3*, *condEventA4*, *condEventA5*, *condEventA3H1*, *condEventA3H2, condEventA5H1*or *condEventA5H2*, and if the entry condition(s) applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cells for all measurements after layer 3 filtering taken during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*:

5> consider the event associated to that *measId* to be fulfilled;

4> if the *measId* for this event associated with the *condReconfigId* has been modified; or

4> if the *condEventId* is associated with *condEventT1*, and if the leaving condition applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cell; or

4>if the *condEventId* is associated with *condEventD1* or *condEventD2*, and if the leaving condition(s) applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cell during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*; or

4> if the *condEventId* is associated with *condEventA3*, *condEventA4*, *condEventA5*, *condEventA3H1*, *condEventA3H2, condEventA5H1*or *condEventA5H2*, and if the leaving condition(s) applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cells for all measurements after layer 3 filtering taken during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*:

5> consider the event associated to that *measId* to be not fulfilled;

3> else:

4> if NES mode indication is received from lower layers, indicating that the NES-specific CHO execution condition of the PCell is enabled; and

4> if the entry condition(s) applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cells for all measurements after layer 3 filtering taken during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*:

5> consider the event associated to that *measId* to be fulfilled;

4> if the *measId* for this event associated with the *condReconfigId* has been modified; or

4> if NES mode indication is received from lower layers, indicating that the NES-specific CHO execution condition of the PCell is disabled; or

4> if the leaving condition(s) applicable for this event associated with the *condReconfigId*, i.e. the event corresponding with the *condEventId(s)* of the corresponding *condTriggerConfig* within *VarConditionalReconfig*, is fulfilled for the applicable cells for all measurements after layer 3 filtering taken during the corresponding *timeToTrigger* defined for this event within the *VarConditionalReconfig*:

5> consider the event associated to that *measId* to be not fulfilled;

2> if *condExecutionCondPSCell* is not configured:

3> if event(s) associated to all *measId*(s) within *condTriggerConfig* for the applicable cell are fulfilled:

4> consider the applicable cell, associated to that *condReconfigId*, as a triggered cell;

4> initiate the conditional reconfiguration execution, as specified in 5.3.5.13.5;

2> else:

3> if event(s) associated to all *measId*(s), as indicated in the *condExecutionCond* and *condExecutionCondPSCell,* within *condTriggerConfig* for a target candidate cell within the stored *condRRCReconfig* are fulfilled:

4> consider the target candidate PCell within the stored *condRRCReconfig*, associated to that *condReconfigId*, as a triggered PCell;

4> consider the target candidate PSCell within the stored *condRRCReconfig*, associated to that *condReconfigId*, as a triggered PSCell;

4> initiate the conditional reconfiguration execution, as specified in 5.3.5.13.5.

2> if one of the events associated to the *measId*s within *condTriggerConfig* for the applicable cell within the stored *condRRCReconfig* is not configured with *nesEvent*, and the other event associated to the *measId*s within *condTriggerConfig* for the applicable cell within the stored *condRRCReconfig* is configured with *nesEvent*, and at least one of them is fulfilled:

3> consider the applicable cell within the stored *condRRCReconfig*, associated to that *condReconfigId*, as a triggered cell;

3> initiate the conditional reconfiguration execution, as specified in 5.3.5.13.5;

NOTE 1: Up to 2 *MeasId* can be configured for each *condReconfigId*, if *condExecutionCondPSCell* is not configured*.* The conditional reconfiguration event of the 2 *MeasId* may have the same or different event conditions, triggering quantity, time to trigger, and triggering threshold.

NOTE 2: Void.

NOTE 3: For CHO with candidate SCG(s), up to 2 *MeasId* can be configured for *condExecutionCond* andup to 2 *MeasId* can be configured for *condExecutionCondPSCell* for each *condReconfigId*.

|  |
| --- |
| NEXT CHANGE |

#### 5.5.4.23 Event A3H1 (Neighbour becomes offset better than SpCell and the Aerial UE altitude becomes higher than a threshold)

The UE shall:

1> consider the entering condition for this event to be satisfied when both condition A3H1-1 and condition A3H1-2, as specified below, are fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A3H1-3 or condition A3H1-4, i.e. at least one of the two, as specified below, is fulfilled;

1> use the SpCell for *Mp*, *Ofp and Ocp*.

NOTE 1: The cell(s) that triggers the event has reference signals indicated in the *measObjectNR* associated to this event which may be different from the NR SpCell *measObjectNR*.

Inequality A3H1-1 (Entering condition 1)

*Mn + Ofn + Ocn – Hys1 > Mp + Ofp + Ocp + Off*

Inequality A3H1-2 (Entering condition 2)

*Ms – Hys2 > Thresh*

Inequality A3H1-3 (Leaving condition 1)

*Mn + Ofn + Ocn + Hys1 < Mp + Ofp + Ocp + Off*

Inequality A3H1-4 (Leaving condition 2)

*Ms + Hys2 < Thresh*

The variables in the formula are defined as follows:

***Mn*** is the measurement result of the neighbouring cell, not taking into account any offsets.

***Ofn*** is the measurement object specific offset of the reference signal of the neighbour cell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell).

***Ocn*** is the cell specific offset of the neighbour cell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell, or *cellIndividualOffset* as defined within *reportConfigNR*), and set to zero if not configured for the neighbour cell.

***Mp*** is the measurement result of the SpCell, not taking into account any offsets.

***Ofp*** is the measurement object specific offset of the SpCell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the SpCell).

***Ocp*** is the cell specific offset of the SpCell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the SpCell), and is set to zero if not configured for the SpCell.

***Hys1*** is the hysteresis parameter for this event (i.e. *a3-Hysteresis* as defined within *reportConfigNR* for this event).

***Off*** is the offset parameter for this event (i.e. *a3-Offset* as defined within *reportConfigNR* for this event).

***Ms*** is the Aerial UE altitude relative to the sea level.

***Hys2*** is the hysteresis parameter for this event (i.e. *h1-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh*** is the threshold parameter for this event (i.e. *h1-Threshold* as defined within *reportConfigNR* for this event).

***Mn, Mp*** are expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Ofn***, ***Ocn***, ***Hys1***, ***Ofp***, ***Ocp***, ***Off*** are expressed in dB.

***Ms, Hys2, Thresh*** are expressed in meters.

NOTE: The definition of Event A3H1 also applies to CondEvent A3H1.

#### 5.5.4.24 Event A3H2 (Neighbour becomes offset better than SpCell and the Aerial UE altitude becomes lower than a threshold)

The UE shall:

1> consider the entering condition for this event to be satisfied when both condition A3H2-1 and condition A3H2-2, as specified below, are fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A3H2-3 or condition A3H2-4, i.e. at least one of the two, as specified below, is fulfilled;

1> use the SpCell for *Mp*, *Ofp and Ocp*.

NOTE: The cell(s) that triggers the event has reference signals indicated in the *measObjectNR* associated to this event which may be different from the NR SpCell *measObjectNR*.

Inequality A3H2-1 (Entering condition 1)

*Mn + Ofn + Ocn – Hys1 > Mp + Ofp + Ocp + Off*

Inequality A3H2-2 (Entering condition 2)

*Ms + Hys2 < Thresh*

Inequality A3H2-3 (Leaving condition 1)

*Mn + Ofn + Ocn + Hys1 < Mp + Ofp + Ocp + Off*

Inequality A3H1-4 (Leaving condition 2)

*Ms – Hys2 > Thresh*

The variables in the formula are defined as follows:

***Mn*** is the measurement result of the neighbouring cell, not taking into account any offsets.

***Ofn*** is the measurement object specific offset of the reference signal of the neighbour cell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell).

***Ocn*** is the cell specific offset of the neighbour cell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell, or *cellIndividualOffset* as defined within *reportConfigNR*), and set to zero if not configured for the neighbour cell.

***Mp*** is the measurement result of the SpCell, not taking into account any offsets.

***Ofp*** is the measurement object specific offset of the SpCell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the SpCell).

***Ocp*** is the cell specific offset of the SpCell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the SpCell), and is set to zero if not configured for the SpCell.

***Hys1*** is the hysteresis parameter for this event (i.e. *a3-Hysteresis* as defined within *reportConfigNR* for this event).

***Off*** is the offset parameter for this event (i.e. *a3-Offset* as defined within *reportConfigNR* for this event).

***Ms*** is the Aerial UE altitude relative to the sea level.

***Hys2*** is the hysteresis parameter for this event (i.e. *h2-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh*** is the threshold parameter for this event (i.e. *h2-Threshold* as defined within *reportConfigNR* for this event).

***Mn, Mp*** are expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Ofn***, ***Ocn***, ***Hys1***, ***Ofp***, ***Ocp***, ***Off*** are expressed in dB.

***Ms, Hys2, Thresh*** are expressed in meters.

NOTE: The definition of Event A3H2 also applies to CondEvent A3H2.

|  |
| --- |
| NEXT CHANGE |

#### 5.5.4.27 Event A5H1 (SpCell becomes worse than threshold1 and neighbour becomes better than threshold2 and the Aerial UE altitude becomes higher than a threshold3)

The UE shall:

1> consider the entering condition for this event to be satisfied when all of condition A5H1-1 and condition A5H1-2 and condition A5H1-3, as specified below, are fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A5H1-4 or condition A5H1-5 or condition A5H1-6, i.e. at least one of the three, as specified below, is fulfilled;

1> use the SpCell for *Mp*.

NOTE: The parameters of the reference signal(s) of the cell(s) that triggers the event are indicated in the *measObjectNR* associated to the event which may be different from the *measObjectNR* of the NR SpCell.

Inequality A5H1-1 (Entering condition 1)

*Mp + Hys1 < Thresh1*

Inequality A5H1-2 (Entering condition 2)

*Mn + Ofn + Ocn – Hys1 > Thresh2*

Inequality A5H1-3 (Entering condition 3)

*Ms – Hys2 > Thresh3*

Inequality A5H1-4 (Leaving condition 1)

*Mp – Hys1 > Thresh1*

Inequality A5H1-5 (Leaving condition 2)

*Mn + Ofn + Ocn + Hys1 < Thresh2*

Inequality A5H1-6 (Leaving condition 3)

*Ms + Hys2 < Thresh3*

The variables in the formula are defined as follows:

***Mp*** is the measurement result of the NR SpCell, not taking into account any offsets.

***Mn*** is the measurement result of the neighbouring cell, not taking into account any offsets.

***Ofn*** is the measurement object specific offset of the neighbour cell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell).

***Ocn*** is the cell specific offset of the neighbour cell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell, or *cellIndividualOffset* as defined within *reportConfigNR*), and set to zero if not configured for the neighbour cell.

***Hys1*** is the hysteresis parameter for this event (i.e. *a5-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh1*** is the threshold parameter for this event (i.e. *a5-Threshold1* as defined within *reportConfigNR* for this event).

***Thresh2*** is the threshold parameter for this event (i.e. *a5-Threshold2* as defined within *reportConfigNR* for this event).

***Ms*** is the Aerial UE altitude relative to the sea level.

***Hys2*** is the hysteresis parameter for this event (i.e. *h1-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh3*** is the threshold parameter for this event (i.e. *h1-Threshold* as defined within *reportConfigNR* for this event).

***Mn, Mp*** are expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Ofn, Ocn, Hys1*** are expressed in dB.

***Thresh1*** is expressed in the same unit as ***Mp***.

***Thresh2*** is expressed in the same unit as ***Mn***.

***Ms, Hys2, Thresh3*** are expressed in meters.

NOTE: The definition of Event A5H1 also applies to CondEvent A5H1.

#### 5.5.4.28 Event A5H2 (SpCell becomes worse than threshold1 and neighbour becomes better than threshold2 and the Aerial UE altitude becomes lower than a threshold3)

The UE shall:

1> consider the entering condition for this event to be satisfied when all of condition A5H2-1 and condition A5H2-2 and condition A5H2-3, as specified below, are fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A5H2-4 or condition A5H2-5 or condition A5H2-6, i.e. at least one of the three, as specified below, is fulfilled;

1> use the SpCell for *Mp*.

NOTE: The parameters of the reference signal(s) of the cell(s) that triggers the event are indicated in the *measObjectNR* associated to the event which may be different from the *measObjectNR* of the NR SpCell.

Inequality A5H2-1 (Entering condition 1)

*Mp + Hys1 < Thresh1*

Inequality A5H2-2 (Entering condition 2)

*Mn + Ofn + Ocn – Hys1 > Thresh2*

Inequality A5H2-3 (Entering condition 3)

*Ms + Hys2 < Thresh3*

Inequality A5H2-4 (Leaving condition 1)

*Mp – Hys1 > Thresh1*

Inequality A5H2-5 (Leaving condition 2)

*Mn + Ofn + Ocn + Hys1 < Thresh2*

Inequality A5H2-6 (Leaving condition 3)

*Ms – Hys2 > Thresh3*

The variables in the formula are defined as follows:

***Mp*** is the measurement result of the NR SpCell, not taking into account any offsets.

***Mn*** is the measurement result of the neighbouring cell, not taking into account any offsets.

***Ofn*** is the measurement object specific offset of the frequency of the neighbour cell (i.e. *offsetMO* as defined within *measObjectNR* corresponding to the neighbour cell).

***Ocn*** is the cell specific offset of the neighbour cell (i.e. *cellIndividualOffset* as defined within *measObjectNR* corresponding to the frequency of the neighbour cell, or *cellIndividualOffset* as defined within *reportConfigNR*), and set to zero if not configured for the neighbour cell.

***Hys1*** is the hysteresis parameter for this event (i.e. *a5-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh1*** is the threshold parameter for this event (i.e. *a5-Threshold1* as defined within *reportConfigNR* for this event).

***Thresh2*** is the threshold parameter for this event (i.e. *a5-Threshold2* as defined within *reportConfigNR* for this event).

***Ms*** is the Aerial UE altitude relative to the sea level.

***Hys2*** is the hysteresis parameter for this event (i.e. *h2-Hysteresis* as defined within *reportConfigNR* for this event).

***Thresh3*** is the threshold parameter for this event (i.e. *h2-Threshold* as defined within *reportConfigNR* for this event).

***Mn, Mp*** are expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Ofn, Ocn, Hys1*** are expressed in dB.

***Thresh1*** is expressed in the same unit as ***Mp***.

***Thresh2*** is expressed in the same unit as ***Mn***.

***Ms, Hys2, Thresh3*** are expressed in meters.

NOTE: The definition of Event A5H2 also applies to CondEvent A5H2.

|  |
| --- |
| NEXT CHANGE |

### 6.3.1 System information blocks

<Irrelevant Texts Omitted>

#### – *SIB2*

*SIB2* contains cell re-selection information common for intra-frequency, inter-frequency and/or inter-RAT cell re-selection (i.e. applicable for more than one type of cell re-selection but not necessarily all) as well as intra-frequency cell re-selection information other than neighbouring cell related.

*SIB2* information element

-- ASN1START

-- TAG-SIB2-START

SIB2 ::= SEQUENCE {

 cellReselectionInfoCommon SEQUENCE {

 nrofSS-BlocksToAverage INTEGER (2..maxNrofSS-BlocksToAverage) OPTIONAL, -- Need S

 absThreshSS-BlocksConsolidation ThresholdNR OPTIONAL, -- Need S

 rangeToBestCell RangeToBestCell OPTIONAL, -- Need R

 q-Hyst ENUMERATED {

 dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10,

 dB12, dB14, dB16, dB18, dB20, dB22, dB24},

 speedStateReselectionPars SEQUENCE {

 mobilityStateParameters MobilityStateParameters,

 q-HystSF SEQUENCE {

 sf-Medium ENUMERATED {dB-6, dB-4, dB-2, dB0},

 sf-High ENUMERATED {dB-6, dB-4, dB-2, dB0}

 }

 } OPTIONAL, -- Need R

 ...

 },

 cellReselectionServingFreqInfo SEQUENCE {

 s-NonIntraSearchP ReselectionThreshold OPTIONAL, -- Need S

 s-NonIntraSearchQ ReselectionThresholdQ OPTIONAL, -- Need S

 threshServingLowP ReselectionThreshold,

 threshServingLowQ ReselectionThresholdQ OPTIONAL, -- Need R

 cellReselectionPriority CellReselectionPriority,

 cellReselectionSubPriority CellReselectionSubPriority OPTIONAL, -- Need R

 ...

 },

 intraFreqCellReselectionInfo SEQUENCE {

 q-RxLevMin Q-RxLevMin,

 q-RxLevMinSUL Q-RxLevMin OPTIONAL, -- Need R

 q-QualMin Q-QualMin OPTIONAL, -- Need S

 s-IntraSearchP ReselectionThreshold,

 s-IntraSearchQ ReselectionThresholdQ OPTIONAL, -- Need S

 t-ReselectionNR T-Reselection,

 frequencyBandList MultiFrequencyBandListNR-SIB OPTIONAL, -- Need S

 frequencyBandListSUL MultiFrequencyBandListNR-SIB OPTIONAL, -- Need R

 p-Max P-Max OPTIONAL, -- Need S

 smtc SSB-MTC OPTIONAL, -- Need S

 ss-RSSI-Measurement SS-RSSI-Measurement OPTIONAL, -- Need R

 ssb-ToMeasure SSB-ToMeasure OPTIONAL, -- Need S

 deriveSSB-IndexFromCell BOOLEAN,

 ...,

 [[

 t-ReselectionNR-SF SpeedStateScaleFactors OPTIONAL -- Need R

 ]],

 [[

 smtc2-LP-r16 SSB-MTC2-LP-r16 OPTIONAL, -- Need R

 ssb-PositionQCL-Common-r16 SSB-PositionQCL-Relation-r16 OPTIONAL -- Cond SharedSpectrum

 ]],

 [[

 ssb-PositionQCL-Common-r17 SSB-PositionQCL-Relation-r17 OPTIONAL -- Cond SharedSpectrum2

 ]],

 [[

 smtc4list-r17 SSB-MTC4List-r17 OPTIONAL -- Need R

 ]],

 [[

 frequencyBandList-v1760 MultiFrequencyBandListNR-SIB-v1760 OPTIONAL, -- Need R

 frequencyBandListSUL-v1760 MultiFrequencyBandListNR-SIB-v1760 OPTIONAL -- Need R

 ]],

 [[

 frequencyBandListAerial-r18 MultiFrequencyBandListNR-Aerial-SIB-r18 OPTIONAL -- Need S

 ]]

 },

 ...,

 [[

 relaxedMeasurement-r16 SEQUENCE {

 lowMobilityEvaluation-r16 SEQUENCE {

 s-SearchDeltaP-r16 ENUMERATED {

 dB3, dB6, dB9, dB12, dB15,

 spare3, spare2, spare1},

 t-SearchDeltaP-r16 ENUMERATED {

 s5, s10, s20, s30, s60, s120, s180,

 s240, s300, spare7, spare6, spare5,

 spare4, spare3, spare2, spare1}

 } OPTIONAL, -- Need R

 cellEdgeEvaluation-r16 SEQUENCE {

 s-SearchThresholdP-r16 ReselectionThreshold,

 s-SearchThresholdQ-r16 ReselectionThresholdQ OPTIONAL -- Need R

 } OPTIONAL, -- Need R

 combineRelaxedMeasCondition-r16 ENUMERATED {true} OPTIONAL, -- Need R

 highPriorityMeasRelax-r16 ENUMERATED {true} OPTIONAL -- Need R

 } OPTIONAL -- Need R

 ]],

 [[

 cellEquivalentSize-r17 INTEGER(2..16) OPTIONAL, -- Cond HSDN

 relaxedMeasurement-r17 SEQUENCE {

 stationaryMobilityEvaluation-r17 SEQUENCE {

 s-SearchDeltaP-Stationary-r17 ENUMERATED {dB2, dB3, dB6, dB9, dB12, dB15, spare2, spare1},

 t-SearchDeltaP-Stationary-r17 ENUMERATED {s5, s10, s20, s30, s60, s120, s180, s240, s300, spare7, spare6, spare5,

 spare4, spare3, spare2, spare1}

 },

 cellEdgeEvaluationWhileStationary-r17 SEQUENCE {

 s-SearchThresholdP2-r17 ReselectionThreshold,

 s-SearchThresholdQ2-r17 ReselectionThresholdQ OPTIONAL -- Need R

 } OPTIONAL, -- Need R

 combineRelaxedMeasCondition2-r17 ENUMERATED {true} OPTIONAL -- Need R

 } OPTIONAL -- Need R

]],

[[

 uav-Frequency-r19 ENUMERATED {true} OPTIONAL, -- Need R

 uav-FrequencyAltitudeRange-r19 SEQUENCE {

 altitudeMin-r19 Altitude-r18 OPTIONAL, -- Need S

 altitudeMax-r19 Altitude-r18 OPTIONAL, -- Need S

 altitudeHyst-r19 HysteresisAltitude-r18 OPTIONAL -- Need R

 } OPTIONAL, -- Need R

 ssb-ToMeasureAltitudeBasedList-r19 SetupRelease { SSB-ToMeasureAltitudeBasedList-r18 } OPTIONAL -- Need R

]]

}

RangeToBestCell ::= Q-OffsetRange

-- TAG-SIB2-STOP

-- ASN1STOP

| *SIB2* field descriptions |
| --- |
| ***absThreshSS-BlocksConsolidation***Threshold for consolidation of L1 measurements per RS index. If the field is absent, the UE uses the measurement quantity as specified in TS 38.304 [20]. |
| ***cellEdgeEvaluation***Indicates the criteria for a UE to detect that it is not at cell edge, in order to relax measurement requirements for cell reselection (see TS 38.304 [20], clause 5.2.4.9.2). |
| ***cellEdgeEvaluationWhileStationary***Indicates the criteria for a UE to detect that it is not at cell edge while stationary, in order to relax measurement requirements for cell reselection (see TS 38.304 [20], clause 5.2.4.9.4). |
| ***cellEquivalentSize***The number of cell count used for mobility state estimation for this cell as specified in TS 38.304 [20]. |
| ***cellReselectionInfoCommon***Cell re-selection information common for intra-frequency, inter-frequency and/ or inter-RAT cell re-selection. |
| ***cellReselectionServingFreqInfo***Information common for non-intra-frequency cell re-selection i.e. cell re-selection to inter-frequency and inter-RAT cells. |
| ***combineRelaxedMeasCondition***When both *lowMobilityEvaluation* and *cellEdgeEvaluation* criteria are present in SIB2, this parameter configures the UE to fulfil both criteria in order to relax measurement requirements for cell reselection. If the field is absent, the UE is allowed to relax measurement requirements for cell reselection when either or both of the criteria are met. (See TS 38.304 [20], clause 5.2.4.9.0) |
| ***combineRelaxedMeasCondition2***When both *stationaryMobilityEvaluation* and *cellEdgeEvaluationWhileStationary* criteria are present in SIB2, this parameter configures the UE to fulfil both criteria in order to relax measurement requirements for cell reselection. If the field is absent, the UE is allowed to relax measurement requirements for cell reselection when only the stationary criteria is met. (See TS 38.304 [20], clause 5.2.4.9.0) |
| ***deriveSSB-IndexFromCell***This field indicates whether the UE can utilize serving cell timing to derive the index of SS block transmitted by neighbour cell. If this field is set to *true*, the UE assumes SFN and frame boundary alignment across cells on the serving frequency as specified in TS 38.133 [14]. |
| ***frequencyBandList***Indicates the list of frequency bands for which the NR cell reselection parameters apply. The UE behaviour in case the field is absent is described in clause 5.2.2.4.3. |
| ***frequencyBandListAerial***Indicates the list of frequency bands for aerial operation for which the NR cell reselection parameters apply. The UE behaviour in case the field is absent is described in clause 5.2.2.4.3. |
| ***highPriorityMeasRelax***Indicates whether measurements can be relaxed on high priority frequencies. If the field is absent, the UE shall not relax measurements on high priority frequencies beyond "Thigher\_priority\_search" unless both low mobility and not at cell edge criteria are fulfilled (see TS 38.133 [14], clauses 4.2.2.7, 4.2.2.10 and 4.2.2.11). |
| ***intraFreqCellReselectionInfo***Cell re-selection information common for intra-frequency cells. |
| ***lowMobilityEvaluation***Indicates the criteria for a UE to detect low mobility, in order to relax measurement requirements for cell reselection (see TS 38.304 [20], clause 5.2.4.9.1). |
| ***nrofSS-BlocksToAverage***Number of SS blocks to average for cell measurement derivation. If the field is absent the UE uses the measurement quantity as specified in TS 38.304 [20]. |
| ***p-Max***Value in dBm applicable for the intra-frequency neighbouring NR cells. If absent the UE applies the maximum power according to TS 38.101-1 [15] in case of an FR1 cell, TS 38.101-2 [39] in case of an FR2 cell or TS 38.101-5 [75] in case of an NTN cell. In this release of the specification, if *p-Max* is present on a carrier frequency in FR2, the UE shall ignore the field and applies the maximum power according to TS 38.101-2 [39] for FR2-1/2 or according to TS 38.101-5 [75] for FR2-NTN. This field is ignored by IAB-MT and NCR-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [63]. The NCR-MT applies output power and emissions requirements as specified in TS 38.106 [79]. |
| ***q-Hyst***Parameter "*Qhyst*" in TS 38.304 [20], Value in dB. Value *dB1* corresponds to 1 dB, *dB2* corresponds to 2 dB and so on. |
| ***q-HystSF***Parameter "Speed dependent ScalingFactor for Qhyst" in TS 38.304 [20]. The *sf-Medium* and *sf-High* concern the additional hysteresis to be applied, in Medium and High Mobility state respectively, to Qhyst as defined in TS 38.304 [20]. In dB. Value *dB-6* corresponds to -6dB, *dB-4* corresponds to -4dB and so on. |
| ***q-QualMin***Parameter "Qqualmin" in TS 38.304 [20], applicable for intra-frequency neighbour cells. If the field is absent, the UE applies the (default) value of negative infinity for Qqualmin.  |
| ***q-RxLevMin***Parameter "Qrxlevmin" in TS 38.304 [20], applicable for intra-frequency neighbour cells. |
| ***q-RxLevMinSUL***Parameter "Qrxlevmin" in TS 38.304 [20], applicable for intra-frequency neighbour cells. |
| ***rangeToBestCell***Parameter "rangeToBestCell" in TS 38.304 [20]. The network configures only non-negative (in dB) values. |
| ***relaxedMeasurement***Configuration to allow relaxation of RRM measurement requirements for cell reselection (see TS 38.304 [20], clause 5.2.4.9). In NTN, this field is only applicable for GSO neighbour cells. |
| ***s-IntraSearchP***Parameter "SIntraSearchP" in TS 38.304 [20]. |
| ***s-IntraSearchQ***Parameter "SIntraSearchQ" in TS 38.304 [20]. If the field is absent, the UE applies the (default) value of 0 dB for SIntraSearchQ. |
| ***s-NonIntraSearchP***Parameter "SnonIntraSearchP" in TS 38.304 [20]. If this field is absent, the UE applies the (default) value of infinity for SnonIntraSearchP. |
| ***s-NonIntraSearchQ***Parameter "SnonIntraSearchQ" in TS 38.304 [20]. If the field is absent, the UE applies the (default) value of 0 dB for SnonIntraSearchQ. |
| ***s-SearchDeltaP***Parameter "SSearchDeltaP" in TS 38.304 [20]. Value dB3 corresponds to 3 dB, dB6 corresponds to 6 dB and so on. |
| ***s-SearchDeltaP-Stationary***Parameter "SSearchDeltaP-Stationary" in TS 38.304 [20]. Value *dB2* corresponds to 2 dB, *dB3* corresponds to 3 dB and so on. |
| ***s-SearchThresholdP, s-SearchThresholdP2***Parameters "SSearchThresholdP" and "SSearchThresholdP2" in TS 38.304 [20]. The network configures *s-SearchThresholdP* and *s-SearchThresholdP2* to be less than or equal to *s-IntraSearchP* and *s-NonIntraSearchP*. |
| ***s-SearchThresholdQ, s-SearchThresholdQ2***Parameters "SSearchThresholdQ" and "SSearchThresholdQ2" in TS 38.304 [20]. The network configures *s-SearchThresholdQ* and *s-SearchThresholdQ2* to be less than or equal to *s-IntraSearchQ* and *s-NonIntraSearchQ*. |
| ***smtc***Measurement timing configuration for intra-frequency measurement. If this field is absent, the UE assumes that SSB periodicity is 5 ms for the intra-frequency cells. If the field is broadcast by an NTN cell, the *offset* (derived from parameter *periodicityAndOffset*) is based on the assumption that the gNB-UE propagation delay difference between the serving cell and neighbour cells equals to 0 ms, and UE can adjust the actual *offset* based on the actual propagation delay difference. |
| ***smtc2-LP***Measurement timing configuration for intra-frequency neighbour cells with a Long Periodicity (LP) indicated by periodicity in *smtc2-LP*. The timing offset and duration are equal to the offset and duration indicated in *smtc* in *intraFreqCellReselectionInfo*. The periodicity in *smtc2-LP* can only be set to a value strictly larger than the periodicity in *smtc* in *intraFreqCellReselectionInfo* (e.g. if *smtc* indicates sf20 the Long Periodicity can only be set to sf40, sf80 or sf160, if *smtc* indicates sf160, *smtc2-LP* cannot be configured). The *pci-List*, if present, includes the physical cell identities of the intra-frequency neighbour cells with Long Periodicity. If *smtc2-LP* is absent, the UE assumes that there are no intra-frequency neighbour cells with a Long Periodicity. This field is not configured together with *smtc4list*. |
| ***smtc4list***Measurement timing configuration list for NTN deployments. The offset of each SSB-MTC4 in *smtc4list* is based on the assumption that the gNB-UE propagation delay difference between the serving cell and neighbour cells equals to 0 ms, and UE can adjust the actual *offset* based on the actual propagation delay difference. For a UE that supports less SMTCs than what is included in this list, it is up to the UE to select which SMTCs to consider. |
| ***ssb-PositionQCL-Common***Indicates the QCL relation between SS/PBCH blocks for intra-frequency neighbor cells as specified in TS 38.213 [13], clause 4.1. |
| ***ssb-ToMeasure***The set of SS blocks to be measured within the SMTC measurement duration (see TS 38.215 [9]). When the field is absent the UE measures on all SS-blocks. |
| ***ssb-ToMeasureAltitudeBasedList***List of altitude-dependent *ssb-ToMeasure*. The UE behaviour is specified in TS 38.304 [20].For each altitude range, *altitudeMin* indicates the minimum altitude in meters relative to sea level, *altitudeMax* indicates the maximum altitude in meters relative to sea level, and if included, *altitudeHyst* indicates hysteresis in meters for determination of the altitude range. I.e., when *altitudeHyst* is configured for an altitude range, the UE considers itself to have entered the range if *altitudeMin* ≤ UE altitude ≤ *altitudeMax* and after entering the range considers itself to be in the range while (*altitudeMin – altitudeHyst*) ≤ UE altitude ≤ (*altitudeMax + altitudeHyst*).For each *altitudeRange*, if *altitudeMin* is absent, value *minAltitude-r18* is used and if *altitudeMax* is absent, value *maxAltitude-r18* is used. |
| ***stationaryMobilityEvaluation***Indicates the criteria for a UE to detect stationary mobility, in order to relax measurement requirements for cell reselection (see TS 38.304 [20], clause 5.2.4.9.0). |
| ***t-ReselectionNR***Parameter "TreselectionNR" in TS 38.304 [20]. |
| ***t-ReselectionNR-SF***Parameter "Speed dependent ScalingFactor for TreselectionNR" in TS 38.304 [20]. If the field is absent, the UE behaviour is specified in TS 38.304 [20]. |
| ***threshServingLowP***Parameter "ThreshServing, LowP" in TS 38.304 [20]. |
| ***threshServingLowQ***Parameter "ThreshServing, LowQ" in TS 38.304 [20]. |
| ***t-SearchDeltaP***Parameter "TSearchDeltaP" in TS 38.304 [20]. Value in seconds. Value *s5* means 5 seconds, value *s10* means 10 seconds and so on. |
| ***t-SearchDeltaP-Stationary***Parameter "TSearchDeltaP-Stationary" in TS 38.304 [20]. Value in seconds. Value *s5* means 5 seconds, value *s10* means 10 seconds and so on. |
| ***uav-Frequency***This field indicates this is a UAV frequency as specified in TS 38.304 [20] |
| ***uav-FrequencyAltitudeRange***Indicates the altitude range where the configuration of *uav-Frequency* is valid. If absent, the *uav-Frequency* flag (if included), applies for all altitudes.For this altitude range, *altitudeMin* indicates the minimum altitude in meters relative to sea level, *altitudeMax* indicates the maximum altitude in meters relative to sea level, and if included, *altitudeHyst* indicates hysteresis in meters for determination of the altitude range. I.e., when *altitudeHyst* is configured for an altitude range, the UE considers itself to have entered the range if *altitudeMin* ≤ UE altitude ≤ *altitudeMax* and after entering the range considers itself to be in the range while (*altitudeMin* – *altitudeHyst*) ≤ UE altitude ≤ (*altitudeMax* + *altitudeHyst*).For this altitude range, if *altitudeMin* is absent, value *minAltitude-r18* is used and if *altitudeMax* is absent, value *maxAltitude-r18* is used. |

|  |  |
| --- | --- |
| Conditional Presence | Explanation |
| *HSDN* | The field is optionally present, Need R, if *speedStateReselectionPars* is present; otherwise the field is not present. |
| *SharedSpectrum* | This field is mandatory present if this intra-frequency operates with shared spectrum channel access in FR1. Otherwise, it is absent, Need R. |
| *SharedSpectrum2* | This field is optionally present if this intra-frequency operates with shared spectrum channel access in FR2-2, Need R. Otherwise, it is absent, Need R. |

|  |
| --- |
| NEXT CHANGE |

#### – *SIB4*

*SIB4* contains information relevant for inter-frequency cell re-selection (i.e. information about other NR frequencies and inter-frequency neighbouring cells relevant for cell re-selection), which can also be used for NR idle/inactive measurements. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

*SIB4* information element

-- ASN1START

-- TAG-SIB4-START

SIB4 ::= SEQUENCE {

 interFreqCarrierFreqList InterFreqCarrierFreqList,

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 ...,

 [[

 interFreqCarrierFreqList-v1610 InterFreqCarrierFreqList-v1610 OPTIONAL -- Need R

 ]],

 [[

 interFreqCarrierFreqList-v1700 InterFreqCarrierFreqList-v1700 OPTIONAL -- Need R

 ]],

 [[

 interFreqCarrierFreqList-v1720 InterFreqCarrierFreqList-v1720 OPTIONAL -- Need R

 ]],

 [[

 interFreqCarrierFreqList-v1730 InterFreqCarrierFreqList-v1730 OPTIONAL -- Need R

 ]],

 [[

 interFreqCarrierFreqList-v1760 InterFreqCarrierFreqList-v1760 OPTIONAL -- Need R

 ]],

 [[

 interFreqCarrierFreqList-v1800 InterFreqCarrierFreqList-v1800 OPTIONAL -- Need R

]],

[[

interFreqCarrierFreqList-v19XY InterFreqCarrierFreqList-v19xy OPTIONAL -- Need R

]]

}

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

InterFreqCarrierFreqList-v1610 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1610

InterFreqCarrierFreqList-v1700 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1700

InterFreqCarrierFreqList-v1720 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1720

InterFreqCarrierFreqList-v1730 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1730

InterFreqCarrierFreqList-v1760 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1760

InterFreqCarrierFreqList-v1800 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1800

InterFreqCarrierFreqList-v19xy ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v19xy

InterFreqCarrierFreqInfo ::= SEQUENCE {

 dl-CarrierFreq ARFCN-ValueNR,

 frequencyBandList MultiFrequencyBandListNR-SIB OPTIONAL, -- Cond Mandatory

 frequencyBandListSUL MultiFrequencyBandListNR-SIB OPTIONAL, -- Need R

 nrofSS-BlocksToAverage INTEGER (2..maxNrofSS-BlocksToAverage) OPTIONAL, -- Need S

 absThreshSS-BlocksConsolidation ThresholdNR OPTIONAL, -- Need S

 smtc SSB-MTC OPTIONAL, -- Need S

 ssbSubcarrierSpacing SubcarrierSpacing,

 ssb-ToMeasure SSB-ToMeasure OPTIONAL, -- Need S

 deriveSSB-IndexFromCell BOOLEAN,

 ss-RSSI-Measurement SS-RSSI-Measurement OPTIONAL, -- Need R

 q-RxLevMin Q-RxLevMin,

 q-RxLevMinSUL Q-RxLevMin OPTIONAL, -- Need R

 q-QualMin Q-QualMin OPTIONAL, -- Need S

 p-Max P-Max OPTIONAL, -- Need S

 t-ReselectionNR T-Reselection,

 t-ReselectionNR-SF SpeedStateScaleFactors OPTIONAL, -- Need S

 threshX-HighP ReselectionThreshold,

 threshX-LowP ReselectionThreshold,

 threshX-Q SEQUENCE {

 threshX-HighQ ReselectionThresholdQ,

 threshX-LowQ ReselectionThresholdQ

 } OPTIONAL, -- Cond RSRQ

 cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need R

 cellReselectionSubPriority CellReselectionSubPriority OPTIONAL, -- Need R

 q-OffsetFreq Q-OffsetRange DEFAULT dB0,

 interFreqNeighCellList InterFreqNeighCellList OPTIONAL, -- Need R

 interFreqExcludedCellList InterFreqExcludedCellList OPTIONAL, -- Need R

 ...

}

InterFreqCarrierFreqInfo-v1610 ::= SEQUENCE {

 interFreqNeighCellList-v1610 InterFreqNeighCellList-v1610 OPTIONAL, -- Need R

 smtc2-LP-r16 SSB-MTC2-LP-r16 OPTIONAL, -- Need R

 interFreqAllowedCellList-r16 InterFreqAllowedCellList-r16 OPTIONAL, -- Cond SharedSpectrum2

 ssb-PositionQCL-Common-r16 SSB-PositionQCL-Relation-r16 OPTIONAL, -- Cond SharedSpectrum

 interFreqCAG-CellList-r16 SEQUENCE (SIZE (1..maxPLMN)) OF InterFreqCAG-CellListPerPLMN-r16 OPTIONAL -- Need R

}

InterFreqCarrierFreqInfo-v1700 ::= SEQUENCE {

 interFreqNeighHSDN-CellList-r17 InterFreqNeighHSDN-CellList-r17 OPTIONAL, -- Need R

 highSpeedMeasInterFreq-r17 ENUMERATED {true} OPTIONAL, -- Need R

 redCapAccessAllowed-r17 ENUMERATED {true} OPTIONAL, -- Need R

 ssb-PositionQCL-Common-r17 SSB-PositionQCL-Relation-r17 OPTIONAL, -- Cond SharedSpectrum

 interFreqNeighCellList-v1710 InterFreqNeighCellList-v1710 OPTIONAL -- Cond SharedSpectrum2

}

InterFreqCarrierFreqInfo-v1720 ::= SEQUENCE {

 smtc4list-r17 SSB-MTC4List-r17 OPTIONAL -- Need R

}

InterFreqCarrierFreqInfo-v1730 ::= SEQUENCE {

 channelAccessMode2-r17 ENUMERATED {enabled} OPTIONAL -- Need R

}

InterFreqCarrierFreqInfo-v1760 ::= SEQUENCE {

 frequencyBandList-v1760 MultiFrequencyBandListNR-SIB-v1760 OPTIONAL, -- Need R

 frequencyBandListSUL-v1760 MultiFrequencyBandListNR-SIB-v1760 OPTIONAL -- Need R

}

InterFreqCarrierFreqInfo-v1800 ::= SEQUENCE {

 dl-CarrierFreq-r18 ARFCN-ValueNR OPTIONAL, -- Cond LessThan5MHz

 frequencyBandList-r18 MultiFrequencyBandListNR-SIB OPTIONAL, -- Cond LessThan5MHz

 frequencyBandListAerial-r18 MultiFrequencyBandListNR-Aerial-SIB-r18 OPTIONAL, -- Need S

 mobileIAB-CellList-r18 PCI-Range OPTIONAL, -- Need R

 mobileIAB-Freq-r18 ENUMERATED {true} OPTIONAL, -- Need R

 eRedCapAccessAllowed-r18 ENUMERATED {true} OPTIONAL, -- Need R

 tn-AreaIdList-r18 SEQUENCE (SIZE (1..maxTN-AreaInfo-r18)) OF TN-AreaId-r18 OPTIONAL, -- Need R

 accessAllowed2RxXR-r18 ENUMERATED {true} OPTIONAL -- Need R

}

InterFreqCarrierFreqInfo-v19xy ::= SEQUENCE {

uav-Frequency-r19 ENUMERATED {true} OPTIONAL, -- Need R

 uav-FrequencyAltitudeRange-r19 SEQUENCE {

 altitudeMin-r19 Altitude-r18 OPTIONAL, -- Need S

 altitudeMax-r19 Altitude-r18 OPTIONAL, -- Need S

 altitudeHyst-r19 HysteresisAltitude-r18 OPTIONAL -- Need R

 } OPTIONAL, -- Need R

 ssb-ToMeasureAltitudeBasedList-r19 SetupRelease { SSB-ToMeasureAltitudeBasedList-r18 } OPTIONAL -- Need R

}

InterFreqNeighHSDN-CellList-r17 ::= SEQUENCE (SIZE (1..maxCellInter)) OF PCI-Range

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

InterFreqNeighCellList-v1610 ::= SEQUENCE (SIZE (1..maxCellInter)) OF InterFreqNeighCellInfo-v1610

InterFreqNeighCellList-v1710 ::= SEQUENCE (SIZE (1..maxCellInter)) OF InterFreqNeighCellInfo-v1710

InterFreqNeighCellInfo ::= SEQUENCE {

 physCellId PhysCellId,

 q-OffsetCell Q-OffsetRange,

 q-RxLevMinOffsetCell INTEGER (1..8) OPTIONAL, -- Need R

 q-RxLevMinOffsetCellSUL INTEGER (1..8) OPTIONAL, -- Need R

 q-QualMinOffsetCell INTEGER (1..8) OPTIONAL, -- Need R

 ...

}

InterFreqNeighCellInfo-v1610 ::= SEQUENCE {

 ssb-PositionQCL-r16 SSB-PositionQCL-Relation-r16 OPTIONAL -- Cond SharedSpectrum2

}

InterFreqNeighCellInfo-v1710 ::= SEQUENCE {

 ssb-PositionQCL-r17 SSB-PositionQCL-Relation-r17 OPTIONAL -- Cond SharedSpectrum2

}

InterFreqExcludedCellList ::= SEQUENCE (SIZE (1..maxCellExcluded)) OF PCI-Range

InterFreqAllowedCellList-r16 ::= SEQUENCE (SIZE (1..maxCellAllowed)) OF PCI-Range

InterFreqCAG-CellListPerPLMN-r16 ::= SEQUENCE {

 plmn-IdentityIndex-r16 INTEGER (1..maxPLMN),

 cag-CellList-r16 SEQUENCE (SIZE (1..maxCAG-Cell-r16)) OF PCI-Range

}

-- TAG-SIB4-STOP

-- ASN1STOP

| *SIB4* field descriptions |
| --- |
| ***absThreshSS-BlocksConsolidation***Threshold for consolidation of L1 measurements per RS index. If the field is absent, the UE uses the measurement quantity as specified in TS 38.304 [20]. |
| ***accessAllowed2RxXR***Indicates if the cells on the frequency support 2Rx XR UEs. If present, 2Rx XR UEs shall consider only these NR frequencies in cell reselection evaluation. |
| ***channelAccessMode2***If present, this field indicates that the neighbor cells on the inter-frequency apply channel access mode procedures for operation with shared spectrum channel access in accordance with TS 37.213 [48], clause 4.4 for FR2-2. If absent, the neighbor cells on the inter-frequency do not apply any channel access procedure. |
| ***deriveSSB-IndexFromCell***This field indicates whether the UE may use the timing of any detected cell on that frequency to derive the SSB index of all neighbour cells on that frequency. If this field is set to *true*, the UE assumes SFN and frame boundary alignment across cells on the neighbor frequency as specified in TS 38.133 [14]. |
| ***dl-CarrierFreq***This field indicates center frequency of the SS block of the neighbour cells, where the frequency corresponds to a GSCN value as specified in TS 38.101-1 [15] or TS 38.101-5 [75].For a neighbouring carrier frequency when *dl-CarrierFreq-r18* is included, the network sets the corresponding value of *dl-CarrierFreq* (without suffix) to 250, and the UE applies *dl-CarrierFreq-r18* instead of *dl-CarrierFreq* (without suffix). In such case, if the UE does not support the GSCN value corresponding to the *dl-CarrierFreq-r18*, it ignores the corresponding neighbour cell. |
| ***eRedCapAccessAllowed***Indicates whether eRedCap UEs are allowed to access cells on the frequency. |
| ***frequencyBandList***Indicates the list of frequency bands for which the NR cell reselection parameters apply. For a neighbouring carrier frequency when *frequencyBandList-r18* is included, the network sets the corresponding value of *freqBandIndicatorNR* in *frequencyBandList* (without suffix) to 200, and the UE applies *frequencyBandList-r18* instead of *frequencyBandList* (without suffix). |
| ***frequencyBandListAerial***Indicates the list of frequency bands for aerial operation for which the NR cell reselection parameters apply. The UE behaviour in case the field is absent is described in clause 5.2.2.4.5. |
| ***highSpeedMeasInterFreq***If the field is set to *true* and UE supports high speed inter-frequency IDLE/INACTIVE measurements, the UE shall apply the enhanced inter-frequency RRM requirements on the inter-frequency carrier to support high speed up to 500 km/h in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.133 [14]. |
| ***interFreqAllowedCellList***List of allow-listed inter-frequency neighbouring cells, see TS 38.304 [20], clause 5.2.4. |
| ***interFreqCAG-CellList***List of inter-frequency neighbouring CAG cells (as defined in TS 38.304 [20] per PLMN. |
| ***interFreqCarrierFreqList***List of neighbouring carrier frequencies and frequency specific cell re-selection information. If *interFreqCarrierFreqList-v1610, interFreqCarrierFreqList-v1700, interFreqCarrierFreqList-v1720*, *interFreqCarrierFreqList-v1730,* *interFreqCarrierFreqList-v1760* or *interFreqCarrierFreqInfo-v1800* are present, they shall contain the same number of entries, listed in the same order as in *interFreqCarrierFreqList* (without suffix). |
| ***interFreqExcludedCellList***List of exclude-listed inter-frequency neighbouring cells. |
| ***interFreqNeighCellList***List of inter-frequency neighbouring cells with specific cell re-selection parameters. If *interFreqNeighCellList-v1610* is present, it shall contain the same number of entries, listed in the same order as in *interFreqNeighCellList* (without suffix). |
| ***interFreqNeighHSDN-CellList***List of inter-frequency neighbouring HSDN cells as specified in TS 38.304 [20]. |
| ***mobileIAB-CellList***Contains a PCI range on which mobile IAB cells may be deployed. |
| ***mobileIAB-Freq***If present, it indicates that a mobile IAB node may be deployed on the inter-frequency carrier. |
| ***nrofSS-BlocksToAverage***Number of SS blocks to average for cell measurement derivation. If the field is absent, the UE uses the measurement quantity as specified in TS 38.304 [20]. |
| ***plmn-IdentityIndex***Index of the PLMN across the *plmn-IdentityInfoList* and *npn-IdentityInfoList* fields included in SIB1. |
| ***p-Max***Value in dBm applicable for the neighbouring NR cells on this carrier frequency. If absent the UE applies the maximum power according to TS 38.101-1 [15] in case of an FR1 cell, TS 38.101-2 [39] in case of an FR2 cell or TS 38.101-5 [75] in case of an NTN cell. In this release of the specification, if *p-Max* is present on a carrier frequency in FR2, the UE shall ignore the field and applies the maximum power according to TS 38.101-2 [39] for FR2-1/2 or according to TS 38.101-5 [75] for FR2-NTN. This field is ignored by IAB-MT and NCR-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [63]. The NCR-MT applies output power and emissions requirements as specified in TS 38.106 [79]. |
| ***q-OffsetCell***Parameter "Qoffsets,n" in TS 38.304 [20]. |
| ***q-OffsetFreq***Parameter "Qoffsetfrequency" in TS 38.304 [20]. |
| ***q-QualMin***Parameter "Qqualmin" in TS 38.304 [20]. If the field is absent, the UE applies the (default) value of negative infinity for Qqualmin. |
| ***q-QualMinOffsetCell***Parameter "Qqualminoffsetcell" in TS 38.304 [20]. Actual value Qqualminoffsetcell = field value [dB]. |
| ***q-RxLevMin***Parameter "Qrxlevmin" in TS 38.304 [20]. |
| ***q-RxLevMinOffsetCell***Parameter "Qrxlevminoffsetcell" in TS 38.304 [20]. Actual value Qrxlevminoffsetcell = field value \* 2 [dB]. |
| ***q-RxLevMinOffsetCellSUL***Parameter "QrxlevminoffsetcellSUL" in TS 38.304 [20]. Actual value QrxlevminoffsetcellSUL = field value \* 2 [dB]. |
| ***q-RxLevMinSUL***Parameter "Qrxlevmin" in TS 38.304 [20]. |
| ***redCapAccessAllowed***Indicates whether RedCap UEs are allowed to access cells on the frequency. |
| ***smtc***Measurement timing configuration for inter-frequency measurement. If this field is absent, the UE assumes that SSB periodicity is 5 ms in this frequency. If the field is broadcast by an NTN cell, the o*ffset* (derived from parameter *periodicityAndOffset*) is based on the assumption that the gNB-UE propagation delay difference between the serving cell and neighbour cells equals to 0 ms, and UE can adjust the actual o*ffset* based on the actual propagation delay difference. |
| ***smtc2-LP***Measurement timing configuration for inter-frequency neighbour cells with a Long Periodicity (LP) indicated by periodicity in *smtc2-LP*. The timing offset and duration are equal to the offset and duration indicated in *smtc* in *InterFreqCarrierFreqInfo*. The periodicity in *smtc2-LP* can only be set to a value strictly larger than the periodicity in *smtc* in *InterFreqCarrierFreqInfo* (e.g. if *smtc* indicates sf20 the Long Periodicity can only be set to sf40, sf80 or sf160, if *smtc* indicates sf160, *smtc2-LP* cannot be configured). The *pci-List*, if present, includes the physical cell identities of the inter-frequency neighbour cells with Long Periodicity. If *smtc2-LP* is absent, the UE assumes that there are no inter-frequency neighbour cells with a Long Periodicity. This field is not configured together with *smtc4list*. |
| ***smtc4list***Measurement timing configuration list for NTN deployments. The offset of each SSB-MTC4 in *smtc4list* is based on the assumption that the gNB-UE propagation delay difference between the serving cell and neighbour cells equals to 0 ms, and UE can adjust the actual *offset* based on the actual propagation delay difference. For a UE that supports less SMTCs than what is included in this list, it is up to the UE to select which SMTCs to consider. |
| ***ssb-PositionQCL***Indicates the QCL relation between SS/PBCH blocks for a specific neighbor cell as specified in TS 38.213 [13], clause 4.1. If provided, the cell specific value overwrites the common value signalled by *ssb-PositionQCL-Common* in *SIB4* for the indicated cell. |
| ***ssb-PositionQCL-Common***Indicates the QCL relation between SS/PBCH blocks for inter-frequency neighbor cells as specified in TS 38.213 [13], clause 4.1. |
| ***ssb-ToMeasure***The set of SS blocks to be measured within the SMTC measurement duration (see TS 38.215 [9]). When the field is absent the UE measures on all SS-blocks. |
| ***ssb-ToMeasureAltitudeBasedList***List of altitude-dependent *ssb-ToMeasure*. The UE behaviour is specified in TS 38.304 [20].For each altitude range, *altitudeMin* indicates the minimum altitude in meters relative to sea level, *altitudeMax* indicates the maximum altitude in meters relative to sea level, and if included, *altitudeHyst* indicates hysteresis in meters for determination of the altitude range. I.e., when *altitudeHyst* is configured for an altitude range, the UE considers itself to have entered the range if *altitudeMin* ≤ UE altitude ≤ *altitudeMax* and after entering the range considers itself to be in the range while (*altitudeMin – altitudeHyst*) ≤ UE altitude ≤ (*altitudeMax + altitudeHyst*).For each *altitudeRange*, if *altitudeMin* is absent, value *minAltitude-r18* is used and if *altitudeMax* is absent, value *maxAltitude-r18* is used. |
| ***ssbSubcarrierSpacing***Subcarrier spacing of SSB.Only the following values are applicable depending on the used frequency:FR1: 15 or 30 kHzFR2-1/FR2-NTN: 120 or 240 kHzFR2-2: 120, 480, or 960 kHz |
| ***threshX-HighP***Parameter "ThreshX, HighP" in TS 38.304 [20]. |
| ***threshX-HighQ***Parameter "ThreshX, HighQ" in TS 38.304 [20]. |
| ***threshX-LowP***Parameter "ThreshX, LowP" in TS 38.304 [20]. |
| ***threshX-LowQ***Parameter "ThreshX, LowQ" in TS 38.304 [20]. |
| ***tn-AreaIdList***List of TN area identifiers. The associated coverage information is provided in *SIB25*. |
| ***t-ReselectionNR***Parameter "TreselectionNR" in TS 38.304 [20]. |
| ***t-ReselectionNR-SF***Parameter "Speed dependent ScalingFactor for TreselectionNR" in TS 38.304 [20]. If the field is absent, the UE behaviour is specified in TS 38.304 [20]. |
| ***uav-Frequency***This field indicates this is a UAV frequency as specified in TS 38.304 [20] |
| ***uav-FrequencyAltitudeRange***Indicates the altitude range where the configuration of *uav-Frequency* is valid. If absent, the *uav-Frequency* flag (if included), applies for all altitudes.For this altitude range, *altitudeMin* indicates the minimum altitude in meters relative to sea level, *altitudeMax* indicates the maximum altitude in meters relative to sea level, and if included, *altitudeHyst* indicates hysteresis in meters for determination of the altitude range. I.e., when *altitudeHyst* is configured for an altitude range, the UE considers itself to have entered the range if *altitudeMin* ≤ UE altitude ≤ *altitudeMax* and after entering the range considers itself to be in the range while (*altitudeMin* – *altitudeHyst*) ≤ UE altitude ≤ (*altitudeMax* + *altitudeHyst*).For this altitude range, if *altitudeMin* is absent, value *minAltitude-r18* is used and if *altitudeMax* is absent, value *maxAltitude-r18* is used. |

|  |  |
| --- | --- |
| Conditional Presence | Explanation |
| *LessThan5MHz* | The field is mandatory present if the *carrierBandwidth* in SIB1 indicates UL or DL transmission bandwidth other than 15 PRB and the corresponding neighbour cell(s) support(s) 12 PRB, 15 PRB or 20 PRB transmission bandwidth configuration as defined in TS 38.101-1 [15], TS 38.211 [16] and TS 38.213 [13]. Otherwise, the field is optional, Need R. |
| *Mandatory* | The field is mandatory present in SIB4. |
| *RSRQ* | The field is mandatory present if *threshServingLowQ* is present in *SIB2*; otherwise it is absent. |
| *SharedSpectrum* | This field is mandatory present if this inter-frequency operates with shared spectrum channel access. Otherwise, it is absent, Need R. |
| *SharedSpectrum2* | The field is optional present, Need R, if this inter-frequency or neighbor cell operates with shared spectrum channel access. Otherwise, it is absent, Need R. |

|  |
| --- |
| NEXT CHANGE |

### 6.3.2 Radio resource control information elements

<Irrelevant Texts Omitted>

#### – *ReportConfigNR*

The IE *ReportConfigNR* specifies criteria for triggering of an NR measurement reporting event or of a CHO, CPA or CPC event or of an L2 U2N relay measurement reporting event. For events labelled AN with N equal to 1, 2 and so on, measurement reporting events and CHO, CPA or CPC events are based on cell measurement results, which can either be derived based on SS/PBCH block or CSI-RS.

Event A1: Serving becomes better than absolute threshold;

Event A2: Serving becomes worse than absolute threshold;

Event A3: Neighbour becomes amount of offset better than PCell/PSCell;

Event A4: Neighbour becomes better than absolute threshold;

Event A5: PCell/PSCell becomes worse than absolute threshold1 AND Neighbour/SCell becomes better than another absolute threshold2;

Event A6: Neighbour becomes amount of offset better than SCell;

Event D1: Distance between UE and a reference location *referenceLocation1* becomes larger than configured threshold *distanceThreshFromReference1* and distance between UE and a reference location *referenceLocation2* becomes shorter than configured threshold *distanceThreshFromReference2*;

Event D2: Distance between UE and the serving cell moving reference location determined based on *movingReferenceLocation* and its corresponding satellite ephemeris and epoch time broadcast in *SIB19* becomes larger than configured threshold *distanceThreshFromReference1* and distance between UE and a moving reference location determined based on *referenceLocation* and its corresponding satellite ephemeris and epoch time for the neighbor cell provided in the associated *MeasObjectNR* becomes shorter than configured threshold *distanceThreshFromReference2*;

CondEvent A3: Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell;

CondEvent A4: Conditional reconfiguration candidate becomes better than absolute threshold where *condEventA4* can also be used for current PSCell (i.e., in case it is configured as candidate PSCell for CondEvent A4 evaluation) for CHO with candidate SCG(s) case;

CondEvent A5: PCell/PSCell becomes worse than absolute threshold1 AND Conditional reconfiguration candidate becomes better than another absolute threshold2;

CondEvent D1: Distance between UE and a reference location *referenceLocation1* becomes larger than configured threshold *distanceThreshFromReference1* and distance between UE and a reference location *referenceLocation2* of conditional reconfiguration candidate becomes shorter than configured threshold *distanceThreshFromReference2*;

CondEvent D2: Distance between UE and the serving cell moving reference location determined based on *movingReferenceLocation* and its corresponding satellite ephemeris and epoch time broadcast in *SIB19* becomes larger than configured threshold *distanceThreshFromReference1* and distance between UE and a moving reference location determined based on *referenceLocation* and its corresponding satellite ephemeris and epoch time for the conditional reconfiguration candidate provided in the associated *MeasObjectNR* becomes shorter than configured threshold *distanceThreshFromReference2*;

CondEvent T1: Time measured at UE becomes more than configured threshold *t1-Threshold* but is less than *t1-Threshold + duration*;

CondEvent A3H1: Conditional reconfiguration candidate becomes offset better than SpCell and the Aerial UE altitude becomes higher than a threshold;

CondEvent A3H2: Conditional reconfiguration candidate becomes offset better than SpCell and the Aerial UE altitude becomes lower than a threshold;

CondEvent A5H1: SpCell becomes worse than threshold1 and conditional reconfiguration candidate becomes better than threshold2 and the Aerial UE altitude becomes higher than a threshold3;

CondEvent A5H2: SpCell becomes worse than threshold1 and conditional reconfiguration candidate becomes better than threshold2 and the Aerial UE altitude becomes lower than a threshold3.

Event X1: Serving L2 U2N Relay UE becomes worse than absolute threshold1 AND NR Cell becomes better than another absolute threshold2;

Event X2: Serving L2 U2N Relay UE becomes worse than absolute threshold;

For event I1, measurement reporting event is based on CLI measurement results, which can either be derived based on SRS-RSRP or CLI-RSSI.

Event I1: Interference becomes higher than absolute threshold;

The reporting events concerning Aerial UE altitude are labelled H*N* with *N* equal to 1 and 2. Additionally, the reporting events concerning Aerial UE altitude and the neighboring cell measurements simultaneously are labelled A*M*H*N* with *M* equal to 3, 4, 5 and *N* equal to 1, 2.

Event H1: Aerial UE altitude becomes higher than a threshold;

Event H2: Aerial UE altitude becomes lower than a threshold;

Event A3H1: Neighbour becomes offset better than SpCell and the Aerial UE altitude becomes higher than a threshold;

Event A3H2: Neighbour becomes offset better than SpCell and the Aerial UE altitude becomes lower than a threshold;

Event A4H1: Neighbour becomes better than threshold1 and the Aerial UE altitude becomes higher than a threshold2;

Event A4H2: Neighbour becomes better than threshold1 and the Aerial UE altitude becomes lower than a threshold2;

Event A5H1: SpCell becomes worse than threshold1 and neighbour becomes better than threshold2 and the Aerial UE altitude becomes higher than a threshold3;

Event A5H2: SpCell becomes worse than threshold1 and neighbour becomes better than threshold2 and the Aerial UE altitude becomes lower than a threshold3.

*ReportConfigNR* information element

-- ASN1START

-- TAG-REPORTCONFIGNR-START

ReportConfigNR ::= SEQUENCE {

 reportType CHOICE {

 periodical PeriodicalReportConfig,

 eventTriggered EventTriggerConfig,

 ...,

 reportCGI ReportCGI,

 reportSFTD ReportSFTD-NR,

 condTriggerConfig-r16 CondTriggerConfig-r16,

 cli-Periodical-r16 CLI-PeriodicalReportConfig-r16,

 cli-EventTriggered-r16 CLI-EventTriggerConfig-r16,

 rxTxPeriodical-r17 RxTxPeriodical-r17,

 reportOnScellActivation-r18 ReportOnScellActivation-r18

 }

}

ReportCGI ::= SEQUENCE {

 cellForWhichToReportCGI PhysCellId,

 ...,

 [[

 useAutonomousGaps-r16 ENUMERATED {setup} OPTIONAL -- Need R

 ]]

}

ReportSFTD-NR ::= SEQUENCE {

 reportSFTD-Meas BOOLEAN,

 reportRSRP BOOLEAN,

 ...,

 [[

 reportSFTD-NeighMeas ENUMERATED {true} OPTIONAL, -- Need R

 drx-SFTD-NeighMeas ENUMERATED {true} OPTIONAL, -- Need R

 cellsForWhichToReportSFTD SEQUENCE (SIZE (1..maxCellSFTD)) OF PhysCellId OPTIONAL -- Need R

 ]]

}

CondTriggerConfig-r16 ::= SEQUENCE {

 condEventId CHOICE {

 condEventA3 SEQUENCE {

 a3-Offset MeasTriggerQuantityOffset,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger

 },

 condEventA5 SEQUENCE {

 a5-Threshold1 MeasTriggerQuantity,

 a5-Threshold2 MeasTriggerQuantity,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger

 },

 ...,

 condEventA4-r17 SEQUENCE {

 a4-Threshold-r17 MeasTriggerQuantity,

 hysteresis-r17 Hysteresis,

 timeToTrigger-r17 TimeToTrigger

 },

 condEventD1-r17 SEQUENCE {

 distanceThreshFromReference1-r17 INTEGER(0.. 65525),

 distanceThreshFromReference2-r17 INTEGER(0.. 65525),

 referenceLocation1-r17 ReferenceLocation-r17,

 referenceLocation2-r17 ReferenceLocation-r17,

 hysteresisLocation-r17 HysteresisLocation-r17,

 timeToTrigger-r17 TimeToTrigger

 },

 condEventT1-r17 SEQUENCE {

 t1-Threshold-r17 INTEGER (0..549755813887),

 duration-r17 INTEGER (1..6000)

 },

 condEventD2-r18 SEQUENCE {

 distanceThreshFromReference1-r18 INTEGER(0.. 65535),

 distanceThreshFromReference2-r18 INTEGER(0.. 65535),

 hysteresisLocation-r18 HysteresisLocation-r17,

 timeToTrigger-r18 TimeToTrigger

 },

 condEventA3H1-r19 SEQUENCE {

 a3-Offset-r19 MeasTriggerQuantityOffset,

 hysteresis-r19 Hysteresis,

 timeToTrigger-r19 TimeToTrigger,

 h1-Threshold-r19 Altitude-r18,

 h1-Hysteresis-r19 HysteresisAltitude-r18

 },

 condEventA3H2-r19 SEQUENCE {

 a3-Offset-r19 MeasTriggerQuantityOffset,

 hysteresis-r19 Hysteresis,

 timeToTrigger-r19 TimeToTrigger,

 h2-Threshold-r19 Altitude-r18,

 h2-Hysteresis-r19 HysteresisAltitude-r18

 },

 condEventA5H1-r19 SEQUENCE {

 a5-Threshold1-r19 MeasTriggerQuantity,

 a5-Threshold2-r19 MeasTriggerQuantity,

 hysteresis-r19 Hysteresis,

 timeToTrigger-r19 TimeToTrigger,

 h1-Threshold-r19 Altitude-r18,

 h1-Hysteresis-r19 HysteresisAltitude-r18

 },

 condEventA5H2-r19 SEQUENCE {

 a5-Threshold1-r19 MeasTriggerQuantity,

 a5-Threshold2-r19 MeasTriggerQuantity,

 hysteresis-r19 Hysteresis,

 timeToTrigger-r19 TimeToTrigger,

 h2-Threshold-r19 Altitude-r18,

 h2-Hysteresis-r19 HysteresisAltitude-r18

 }

 },

 rsType-r16 NR-RS-Type,

 ...,

 [[

 nesEvent-r18 ENUMERATED {true} OPTIONAL -- Need R

 ]]

}

EventTriggerConfig ::= SEQUENCE {

 eventId CHOICE {

 eventA1 SEQUENCE {

 a1-Threshold MeasTriggerQuantity,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger

 },

 eventA2 SEQUENCE {

 a2-Threshold MeasTriggerQuantity,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger

 },

 eventA3 SEQUENCE {

 a3-Offset MeasTriggerQuantityOffset,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger,

 useAllowedCellList BOOLEAN

 },

 eventA4 SEQUENCE {

 a4-Threshold MeasTriggerQuantity,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger,

 useAllowedCellList BOOLEAN

 },

 eventA5 SEQUENCE {

 a5-Threshold1 MeasTriggerQuantity,

 a5-Threshold2 MeasTriggerQuantity,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger,

 useAllowedCellList BOOLEAN

 },

 eventA6 SEQUENCE {

 a6-Offset MeasTriggerQuantityOffset,

 reportOnLeave BOOLEAN,

 hysteresis Hysteresis,

 timeToTrigger TimeToTrigger,

 useAllowedCellList BOOLEAN

 },

 ...,

 [[

 eventX1-r17 SEQUENCE {

 x1-Threshold1-Relay-r17 SL-MeasTriggerQuantity-r16,

 x1-Threshold2-r17 MeasTriggerQuantity,

 reportOnLeave-r17 BOOLEAN,

 hysteresis-r17 Hysteresis,

 timeToTrigger-r17 TimeToTrigger,

 useAllowedCellList-r17 BOOLEAN

 },

 eventX2-r17 SEQUENCE {

 x2-Threshold-Relay-r17 SL-MeasTriggerQuantity-r16,

 reportOnLeave-r17 BOOLEAN,

 hysteresis-r17 Hysteresis,

 timeToTrigger-r17 TimeToTrigger

 },

 eventD1-r17 SEQUENCE {

 distanceThreshFromReference1-r17 INTEGER(1.. 65525),

 distanceThreshFromReference2-r17 INTEGER(1.. 65525),

 referenceLocation1-r17 ReferenceLocation-r17,

 referenceLocation2-r17 ReferenceLocation-r17,

 reportOnLeave-r17 BOOLEAN,

 hysteresisLocation-r17 HysteresisLocation-r17,

 timeToTrigger-r17 TimeToTrigger

 }

 ]],

 [[

 eventH1-r18 SEQUENCE {

 h1-Threshold-r18 Altitude-r18,

 h1-Hysteresis-r18 HysteresisAltitude-r18,

 reportOnLeave-r18 BOOLEAN,

 timeToTrigger-r18 TimeToTrigger,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventH2-r18 SEQUENCE {

 h2-Threshold-r18 Altitude-r18,

 h2-Hysteresis-r18 HysteresisAltitude-r18,

 reportOnLeave-r18 BOOLEAN,

 timeToTrigger-r18 TimeToTrigger,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA3H1-r18 SEQUENCE {

 a3-Offset-r18 MeasTriggerQuantityOffset,

 reportOnLeave-r18 BOOLEAN,

 a3-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h1-Threshold-r18 Altitude-r18,

 h1-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA3H2-r18 SEQUENCE {

 a3-Offset-r18 MeasTriggerQuantityOffset,

 reportOnLeave-r18 BOOLEAN,

 a3-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h2-Threshold-r18 Altitude-r18,

 h2-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA4H1-r18 SEQUENCE {

 a4-Threshold-r18 MeasTriggerQuantity,

 reportOnLeave-r18 BOOLEAN,

 a4-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h1-Threshold-r18 Altitude-r18,

 h1-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA4H2-r18 SEQUENCE {

 a4-Threshold-r18 MeasTriggerQuantity,

 reportOnLeave-r18 BOOLEAN,

 a4-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h2-Threshold-r18 Altitude-r18,

 h2-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA5H1-r18 SEQUENCE {

 a5-Threshold1-r18 MeasTriggerQuantity,

 a5-Threshold2-r18 MeasTriggerQuantity,

 reportOnLeave-r18 BOOLEAN,

 a5-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h1-Threshold-r18 Altitude-r18,

 h1-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventA5H2-r18 SEQUENCE {

 a5-Threshold1-r18 MeasTriggerQuantity,

 a5-Threshold2-r18 MeasTriggerQuantity,

 reportOnLeave-r18 BOOLEAN,

 a5-Hysteresis-r18 Hysteresis,

 timeToTrigger-r18 TimeToTrigger,

 useAllowedCellList-r18 BOOLEAN,

 h2-Threshold-r18 Altitude-r18,

 h2-Hysteresis-r18 HysteresisAltitude-r18,

 includeAltitudeUE-r18 BOOLEAN,

 simulMultiTriggerSingleMeasReport-r18 BOOLEAN

 },

 eventD2-r18 SEQUENCE {

 distanceThreshFromReference1-r18 INTEGER(1.. 65535),

 distanceThreshFromReference2-r18 INTEGER(1.. 65535),

 reportOnLeave-r18 BOOLEAN,

 hysteresisLocation-r18 HysteresisLocation-r17,

 timeToTrigger-r18 TimeToTrigger

 }

 ]]

 },

 rsType NR-RS-Type,

 reportInterval ReportInterval,

 reportAmount ENUMERATED {r1, r2, r4, r8, r16, r32, r64, infinity},

 reportQuantityCell MeasReportQuantity,

 maxReportCells INTEGER (1..maxCellReport),

 reportQuantityRS-Indexes MeasReportQuantity OPTIONAL, -- Need R

 maxNrofRS-IndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL, -- Need R

 includeBeamMeasurements BOOLEAN,

 reportAddNeighMeas ENUMERATED {setup} OPTIONAL, -- Need R

 ...,

 [[

 measRSSI-ReportConfig-r16 MeasRSSI-ReportConfig-r16 OPTIONAL, -- Need R

 useT312-r16 BOOLEAN OPTIONAL, -- Need M

 includeCommonLocationInfo-r16 ENUMERATED {true} OPTIONAL, -- Need R

 includeBT-Meas-r16 SetupRelease {BT-NameList-r16} OPTIONAL, -- Need M

 includeWLAN-Meas-r16 SetupRelease {WLAN-NameList-r16} OPTIONAL, -- Need M

 includeSensor-Meas-r16 SetupRelease {Sensor-NameList-r16} OPTIONAL -- Need M

 ]],

 [[

 coarseLocationRequest-r17 ENUMERATED {true} OPTIONAL, -- Need R

 reportQuantityRelay-r17 SL-MeasReportQuantity-r16 OPTIONAL -- Need R

 ]],

 [[

 numberOfTriggeringCells-r18 INTEGER (2..maxCellReport) OPTIONAL, -- Need R

 cellIndividualOffsetList-r18 SEQUENCE (SIZE (1..maxNrofCellMeas)) OF CellIndividualOffsetList-r18 OPTIONAL, -- Need R

 eventX1-SD-Threshold1-r18 SL-MeasTriggerQuantity-r16 OPTIONAL, -- Need S

 eventX2-SD-Threshold-r18 SL-MeasTriggerQuantity-r16 OPTIONAL, -- Need S

 reportOnBestCellChange-r18 ENUMERATED {n1, n2} OPTIONAL, -- Need R

 enteringLeavingReport-r18 ENUMERATED {true} OPTIONAL -- Need R

 ]]

}

PeriodicalReportConfig ::= SEQUENCE {

 rsType NR-RS-Type,

 reportInterval ReportInterval,

 reportAmount ENUMERATED {r1, r2, r4, r8, r16, r32, r64, infinity},

 reportQuantityCell MeasReportQuantity,

 maxReportCells INTEGER (1..maxCellReport),

 reportQuantityRS-Indexes MeasReportQuantity OPTIONAL, -- Need R

 maxNrofRS-IndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL, -- Need R

 includeBeamMeasurements BOOLEAN,

 useAllowedCellList BOOLEAN,

 ...,

 [[

 measRSSI-ReportConfig-r16 MeasRSSI-ReportConfig-r16 OPTIONAL, -- Need R

 includeCommonLocationInfo-r16 ENUMERATED {true} OPTIONAL, -- Need R

 includeBT-Meas-r16 SetupRelease {BT-NameList-r16} OPTIONAL, -- Need M

 includeWLAN-Meas-r16 SetupRelease {WLAN-NameList-r16} OPTIONAL, -- Need M

 includeSensor-Meas-r16 SetupRelease {Sensor-NameList-r16} OPTIONAL, -- Need M

 ul-DelayValueConfig-r16 SetupRelease { UL-DelayValueConfig-r16 } OPTIONAL, -- Need M

 reportAddNeighMeas-r16 ENUMERATED {setup} OPTIONAL -- Need R

 ]],

 [[

 ul-ExcessDelayConfig-r17 SetupRelease { UL-ExcessDelayConfig-r17 } OPTIONAL, -- Need M

 coarseLocationRequest-r17 ENUMERATED {true} OPTIONAL, -- Need R

 reportQuantityRelay-r17 SL-MeasReportQuantity-r16 OPTIONAL -- Need R

 ]]

}

NR-RS-Type ::= ENUMERATED {ssb, csi-rs}

MeasTriggerQuantity ::= CHOICE {

 rsrp RSRP-Range,

 rsrq RSRQ-Range,

 sinr SINR-Range

}

MeasTriggerQuantityOffset ::= CHOICE {

 rsrp INTEGER (-30..30),

 rsrq INTEGER (-30..30),

 sinr INTEGER (-30..30)

}

MeasReportQuantity ::= SEQUENCE {

 rsrp BOOLEAN,

 rsrq BOOLEAN,

 sinr BOOLEAN

}

MeasRSSI-ReportConfig-r16 ::= SEQUENCE {

 channelOccupancyThreshold-r16 RSSI-Range-r16 OPTIONAL -- Need R

}

CLI-EventTriggerConfig-r16 ::= SEQUENCE {

 eventId-r16 CHOICE {

 eventI1-r16 SEQUENCE {

 i1-Threshold-r16 MeasTriggerQuantityCLI-r16,

 reportOnLeave-r16 BOOLEAN,

 hysteresis-r16 Hysteresis,

 timeToTrigger-r16 TimeToTrigger

 },

 ...

 },

 reportInterval-r16 ReportInterval,

 reportAmount-r16 ENUMERATED {r1, r2, r4, r8, r16, r32, r64, infinity},

 maxReportCLI-r16 INTEGER (1..maxCLI-Report-r16),

 ...

}

CLI-PeriodicalReportConfig-r16 ::= SEQUENCE {

 reportInterval-r16 ReportInterval,

 reportAmount-r16 ENUMERATED {r1, r2, r4, r8, r16, r32, r64, infinity},

 reportQuantityCLI-r16 MeasReportQuantityCLI-r16,

 maxReportCLI-r16 INTEGER (1..maxCLI-Report-r16),

 ...

}

RxTxPeriodical-r17 ::= SEQUENCE {

 rxTxReportInterval-r17 RxTxReportInterval-r17 OPTIONAL, -- Need R

 reportAmount-r17 ENUMERATED {r1, infinity, spare6, spare5, spare4, spare3, spare2, spare1},

 ...

}

RxTxReportInterval-r17 ::= ENUMERATED {ms80,ms120,ms160,ms240,ms320,ms480,ms640,ms1024,ms1280,ms2048,ms2560,ms5120,spare4,spare3,spare2,spare1}

MeasTriggerQuantityCLI-r16 ::= CHOICE {

 srs-RSRP-r16 SRS-RSRP-Range-r16,

 cli-RSSI-r16 CLI-RSSI-Range-r16

}

MeasReportQuantityCLI-r16 ::= ENUMERATED {srs-rsrp, cli-rssi}

ReportOnScellActivation-r18 ::= SEQUENCE {

 rsType-r18 NR-RS-Type,

 reportQuantityRS-Indexes-r18 MeasReportQuantity,

 maxNrofRS-IndexesToReport-r18 INTEGER (1..maxNrofIndexesToReport),

 includeBeamMeasurements-r18 BOOLEAN

}

CellIndividualOffsetList-r18 ::= SEQUENCE {

 physCellId-r18 PhysCellId,

 cellIndividualOffset-r18 Q-OffsetRangeList,

 ssbFrequency-r18 ARFCN-ValueNR OPTIONAL -- Need R

}

-- TAG-REPORTCONFIGNR-STOP

-- ASN1STOP

|  |
| --- |
| *CondTriggerConfig* field descriptions |
| ***a3-Offset***Offset value(s) to be used in NR conditional reconfiguration triggering condition for cond event a3. The actual value is field value \* 0.5 dB. |
| ***a4-Threshold***Threshold value associated to the selected trigger quantity (e.g. RSRP, RSRQ, SINR) per RS Type (e.g. SS/PBCH block, CSI-RS) to be used in NR conditional reconfiguration triggering condition for cond event a4. |
| ***a5-Threshold1/ a5-Threshold2***Threshold value associated to the selected trigger quantity (e.g. RSRP, RSRQ, SINR) per RS Type (e.g. SS/PBCH block, CSI-RS) to be used in NR conditional reconfiguration triggering condition for cond event a5. In the same *condeventA5*, the network configures the same quantity for the *MeasTriggerQuantity* of the *a5-Threshold1* and for the *MeasTriggerQuantity* of the *a5-Threshold2*. |
| ***condEventId***Choice of NR conditional reconfiguration event triggered criteria. |
| ***distanceThreshFromReference1, distanceThreshFromReference2***Distance from a fixed reference location configured with *referenceLocation1* or *referenceLocation2* for *condEventD1*. Distance from a moving reference location determined by the UE based on the serving cell *movingReferenceLocation* broadcast in *SIB19* or *referenceLocation* and the corresponding epoch time and satellite ephemeris configured within the *MeasObjectNR* associated to the event for *condEventD2*. Each step represents 50m. |
| ***duration***This field is used for defining the leaving condition T1-2 for conditional HO event *condEventT1*. Each step represents 100ms. |
| ***nesEvent***Indicates the event is a NES-specific CHO event and the event is only considered to be satisfied if indication from lower layers is received indicating the applicability of NES-specific CHO event and the related entry condition(s) is fulfilled. This field can only be configured for *condEventA3*, *condEventA4* or *condEventA5*. This field cannot be configured for CPAC. |
| ***referenceLocation1, referenceLocation2***The r*eferenceLocation1* is associated to serving cell and *referenceLocation2* is associated to candidate target cell. |
| ***t1-Threshold***The field counts the number of UTC seconds in 10 ms units since 00:00:00 on Gregorian calendar date 1 January, 1900 (midnight between Sunday, December 31, 1899 and Monday, January 1, 1900). |
| ***timeToTrigger***Time during which specific criteria for the event needs to be met in order to execute the conditional reconfiguration evaluation. |

|  |
| --- |
| *ReportConfigNR* field descriptions |
| ***reportType***Type of the configured measurement report. In MR-DC, network does not configure report of type *reportCGI* using SRB3. The *condTriggerConfig is* used for CHO, CPA or CPC configuration. |

|  |
| --- |
| *ReportCGI* field descriptions |
| ***useAutonomousGaps***Indicates whether or not the UE is allowed to use autonomous gaps in acquiring system information from the NR neighbour cell. When the field is included, the UE applies the corresponding value for T321. |

|  |
| --- |
| *EventTriggerConfig* field descriptions |
| ***a3-Offset/a6-Offset***Offset value(s) to be used in NR measurement report triggering condition for event a3/a6. The actual value is field value \* 0.5 dB. |
| ***aN-ThresholdM***Threshold value associated to the selected trigger quantity (e.g. RSRP, RSRQ, SINR) per RS Type (e.g. SS/PBCH block, CSI-RS) to be used in NR measurement report triggering condition for event number aN. If multiple thresholds are defined for event number aN, the thresholds are differentiated by M. In the same *eventA5*, *eventA5H1, eventA5H2,* the network configures the same quantity for the *MeasTriggerQuantity* of the *a5-Threshold1* and for the *MeasTriggerQuantity* of the *a5-Threshold2*. |
| ***channelOccupancyThreshold***RSSI threshold which is used for channel occupancy evaluation. |
| ***coarseLocationRequest***This field is used to request UE to report coarse location information. |
| ***distanceThreshFromReference1, distanceThreshFromReference2***Distance from a fixed reference location configured with *referenceLocation1* or *referenceLocation2* for *eventD1*. Distance from a moving reference location determined by the UE based on the serving cell *movingReferenceLocation* broadcast in *SIB19* or *referenceLocation* and the corresponding epoch time and satellite ephemeris configured within the *MeasObjectNR* associated to the event for *eventD2*. Each step represents 50m. |
| ***eventId***Choice of NR event triggered reporting criteria. |
| ***eventXN-SD-Threshold***Indicates the SD-RSRP threshold value for the serving L2 U2N Relay UE in event *XN* (*N* equals 1 or 2). If this field is not included, the UE considers the SD-RSRP threshold value equals to the one indicated by *x1-Threshold1-Relay*/ *x2-Threshold-Relay*. |
| ***includeAltitudeUE***This field is used to request UE to report altitude information. |
| ***maxNrofRS-IndexesToReport***Max number of RS indexes to include in the measurement report for A1-A6 events. |
| ***maxReportCells***Max number of non-serving cells to include in the measurement report. |
| ***numberOfTriggeringCells***Indicates the number of cells detected that are required to fulfill an event for a measurement report to be triggered. This field is applicable only for the events concerning neighbor cells, i.e. *eventA3*, *eventA4, eventA5, eventA3H1, eventA3H2, eventA4H1, eventA4H2, eventA5H1, eventA5H2*. |
| ***referenceLocation1, referenceLocation2***The *referenceLocation1* is associated to serving cell and *referenceLocation2* is associated to neighbour cell. |
| ***reportAddNeighMeas***Indicates that the UE shall include the best neighbour cells per serving frequency. |
| ***reportAmount***Number of measurement reports applicable for *eventTriggered* as well as for *periodical* report types. |
| ***reportOnBestCellChange***Indicates whether the UE shall only send measurement report if the measured best cell (when configured to *n1*) or two best cells (when configured to *n2*) have changed. In this release of the specification, this field is applicable only for the events concerning neighbor cells. This field can only be configured when the value of the field *reportAmount* is set to any other value than *r1*. |
| ***reportOnLeave***Indicates whether or not the UE shall initiate the measurement reporting procedure when the leaving condition is met for a cell in *cellsTriggeredList* or for a L2 U2N Relay UE in *relaysTriggeredList*, as specified in 5.5.4.1.Indicates whether or not the UE shall initiate the measurement reporting procedure when the leaving condition is met if configured in *eventD1*, *eventD2*, *eventH1*, *eventH2* as specified in 5.5.4.1. |
| ***reportQuantityCell***The cell measurement quantities to be included in the measurement report. |
| ***reportQuantityRS-Indexes***Indicates which measurement information per RS index the UE shall include in the measurement report. |
| ***simulMultiTriggerSingleMeasReport***Indicates when multiple events with the same *eventID* satisfy the measurement report triggering condition(s), whether to consider only the event with the smallest value between the altitude of the UE and the configured altitude threshold. |
| ***timeToTrigger***Time during which specific criteria for the event needs to be met in order to trigger a measurement report. |
| ***useAllowedCellList***Indicates whether only the cells included in the allow-list of the associated measObject are applicable as specified in 5.5.4.1. |
| ***useT312***If value *TRUE* is configured, the UE shall use the timer T312 with the value *t312* as specified in the corresponding *measObjectNR*. If value FALSE is configured, the timer T312 is considered as disabled. Network configures value *TRUE* only if *reportType* is set to *eventTriggered*. |
| ***xN-ThresholdM***Threshold value associated to the selected trigger quantity (e.g. RSRP, RSRQ, SINR) per RS Type (e.g. SS/PBCH block, CSI-RS) to be used in NR measurement report triggering condition for event xN. If multiple thresholds are defined for event number xN, the thresholds are differentiated by M. *x1-Threshold1* and *x2-Threshold* indicates the threshold value for the serving L2 U2N Relay UE, *x1-Threshold2* indicates the threshold value for the NR Cells. |

|  |
| --- |
| *CLI-EventTriggerConfig* field descriptions |
| ***i1-Threshold***Threshold value associated to the selected trigger quantity (e.g. SRS-RSRP, CLI-RSSI) to be used in CLI measurement report triggering condition for event i1. |
| ***eventId***Choice of CLI event triggered reporting criteria. |
| ***maxReportCLI***Max number of CLI measurement resource to include in the measurement report. |
| ***reportAmount****Number* of measurement reports. |
| ***reportOnLeave***Indicates whether or not the UE shall initiate the measurement reporting procedure when the leaving condition is met for a CLI measurement resource in *srsTriggeredList* or *rssiTriggeredList*, as specified in 5.5.4.1. |
| ***timeToTrigger***Time during which specific criteria for the event needs to be met in order to trigger a measurement report. |

|  |
| --- |
| *CLI-PeriodicalReportConfig* field descriptions |
| ***maxReportCLI***Max number of CLI measurement resource to include in the measurement report. |
| ***reportAmount****Number* of measurement reports. |
| ***reportQuantityCLI***The CLI measurement quantities to be included in the measurement report. |

|  |
| --- |
| *PeriodicalReportConfig* field descriptions |
| ***coarseLocationRequest***This field is used to request UE to report coarse location information. |
| ***maxNrofRS-IndexesToReport***Max number of RS indexes to include in the measurement report. |
| ***maxReportCells***Max number of non-serving cells to include in the measurement report. |
| ***reportAddNeighMeas***Indicates that the UE shall include the best neighbour cells per serving frequency. |
| ***reportAmount****Number* of measurement reports applicable for *eventTriggered* as well as for *periodical* report types |
| ***reportQuantityCell***The cell measurement quantities to be included in the measurement report. |
| ***reportQuantityRS-Indexes***Indicates which measurement information per RS index the UE shall include in the measurement report. |
| ***ul-DelayValueConfig***Indicates that the UE shall perform the actual UL PDCP Packet Average Delay measurement per DRB as specified in TS 38.314 [53] and the UE shall ignore the fields *reportQuantityCell* and *maxReportCells*. The applicable values for the corresponding *reportInterval* are (one of the) {ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1,min6, min12, min30}. The *reportInterval* indicates the periodicity for performing and reporting of UL PDCP Packet Average Delay per DRB measurement as specified in TS 38.314 [53]. |
| ***ul-ExcessDelayConfig***Indicates that the UE shall perform the actual UL PDCP Excess Packet Delay per DRB measurement as specified in TS 38.314 [53] and the UE shall ignore the fields *reportQuantityCell* and *maxReportCells*. The applicable values for the corresponding *reportInterval* are (one of the) {ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1,min6, min12, min30}. The *reportInterval* indicates the periodicity for performing and reporting of UL PDCP Excess Packet Delay per DRB measurement as specified in TS 38.314 [53]. |
| ***useAllowedCellList***Indicates whether only the cells included in the allow-list of the associated measObject are applicable as specified in 5.5.4.1. |

|  |
| --- |
| *ReportSFTD-NR* field descriptions |
| ***cellForWhichToReportSFTD***Indicates the target NR neighbour cells for SFTD measurement between PCell and NR neighbour cells. |
| ***drx-SFTD-NeighMeas***Indicates that the UE shall use available idle periods (i.e. DRX off periods) for the SFTD measurement in NR standalone. The network only includes *drx-SFTD-NeighMeas* field when *reprtSFTD-NeighMeas* is set to true. |
| ***reportSFTD-Meas***Indicates whether UE is required to perform SFTD measurement between PCell and NR PSCell in NR-DC. |
| ***reportSFTD-NeighMeas***Indicates whether UE is required to perform SFTD measurement between PCell and NR neighbour cells in NR standalone. The network does not include this field if *reportSFTD-Meas* is set to *true*. |
| ***reportRSRP***Indicates whether UE is required to include RSRP result of NR PSCell or NR neighbour cells in SFTD measurement result, derived based on SSB. If it is set to true, the network should ensure that *ssb-ConfigMobility* is included in the measurement object for NR PSCell or NR neighbour cells. |

|  |
| --- |
| *RxTxPeriodical field descriptions* |
| ***reportAmount***This field indicates the number of UE Rx-Tx time difference measurement reports. If configured to *r1,* the network does not configure *rxTxReportInterval* and only one measurement is reported. If configured to *infinity*, UE periodically reports measurements according to the periodicity configured by *rxTxReportInterval*. |
| ***rxTxReportInterval***This field indicates the measurement reporting periodicity of UE Rx-Tx time difference. |

|  |
| --- |
| otherfield descriptions |
| ***MeasTriggerQuantity***SINR is applicable only for CONNECTED mode events. |

|  |
| --- |
| *ReportOnScellActivation* field descriptions |
| ***rsType***Indicates which RS is used to provide the measurement result. Only value *ssb* can be set in this release. |
| ***reportQuantityRS-Indexes***Indicates which measurement information per RS index is used to sort the reported measurement results and is included in the measurement report. |
| ***maxNrofRS-IndexesToReport***Max number of RS indexes to include in the measurement report. |
| ***includeBeamMeasurements***Indicates whether to include the measurement result per RS index in the measurement report. |

|  |
| --- |
| *CellIndividualOffsetList* field descriptions |
| ***cellIndividualOffset***Cell individual offsets applicable to a specific measurement event. If this field is present, the UE, for the same cell, shall ignore the cell individual offset configured within the *MeasObjectNR* of the *measID* associated with this *ReportConfigNR*. |
| ***physCellId***Physical cell identity of a cell in the cell list. |
| ***ssbFrequency***Indicates the NR frequency of SS for which *cellIndividualOffset* is applicable. If the field is not configured, the NR frequency of SS indicated by *ssbFrequency* indicated within the *MeasObjectNR* of the *measID* associated with this *ReportConfigNR* applies. |

|  |
| --- |
| NEXT CHANGE |

### 6.3.3 UE capability information elements

<Irrelevant Texts Omitted>

#### – *AerialParameters*

The IE *AerialParameters* is used to convey the capabilities supported by the UE for aerial operation.

*AerialParameters* information element

-- ASN1START

-- TAG-AERIALPARAMETERS-START

AerialParameters-r18 ::= SEQUENCE {

 -- Support of Aerial UE features

 aerialUE-Capability-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of altitude measurement and event H1/H2-triggered reporting

 altitudeMeas-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of altitude based measurement configuration of SSB-ToMeasure

 altitudeBasedSSB-ToMeasure-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of events A3H1, A3H2, A4H1, A4H2, A5H1, A5H2

 eventAxHy-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of flight path reporting

 flightPathReporting-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of flight path availability indication via UAI

 flightPathAvailabilityIndicationUAI-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of numberOfTriggeringCells for eventA3, eventA4, and eventA5, and additionally, if the UE supports eventAxHy-r18,

 -- support of numberOfTriggeringCells for eventA3H1, eventA3H2, eventA4H1, eventA4H2, eventA5H1, and eventA5H2

 multipleCellsMeasExtension-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of handling aerial-specific Ns value(s) and Pmax list broadcasted by the cell

 nr-NS-PmaxListAerial-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of reporting only the measurement report corresponding to the event with the smallest value between the

 -- altitude of the UAV and the altitude threshold for which the altitude-related entering condition e.g. A3H1-2 is satisfied, when

 -- multiple events of the same type (Hx or AxHy) for the same MO (for AxHy) are triggered simultaneously.

 simulMultiTriggerSingleMeasReport-r18 ENUMERATED {supported} OPTIONAL,

 -- Support of A2X service(s) using PC5 Sidelink and dedicated resource pool for A2X service(s)

 sl-A2X-Service-r18 ENUMERATED {brid, daa, bridAndDAA} OPTIONAL,

...,

[[

 -- Support of condEvents A3H1, A3H2, A5H1, A5H2

 condEventAxHy-r19 ENUMERATED {supported} OPTIONAL

]]

}

-- TAG-AERIALPARAMETERS-STOP

-- ASN1STOP

|  |
| --- |
| CHANGE END |