FIRST CHANGE

## 4.2 Architecture

### 4.2.1 UE states and state transitions including inter RAT

A UE is either in RRC\_CONNECTED state or in RRC\_INACTIVE state when an RRC connection has been established. If this is not the case, i.e. no RRC connection is established, the UE is in RRC\_IDLE state. The RRC states can further be characterised as follows:

**- RRC\_IDLE**:

- A UE specific DRX may be configured by upper layers;

- At lower layers, the UE may be configured with a DRX for PTM transmission of MBS broadcast;

- UE controlled mobility based on network configuration;

- The UE:

- Monitors Short Messages transmitted with P-RNTI over DCI (see clause 6.5);

- Monitors a Paging channel for CN paging using 5G-S-TMSI, except if the UE is acting as a L2 U2N Remote UE;

- If configured by upper layers for MBS multicast reception, monitors a Paging channel for CN paging using TMGI;

- Performs neighbouring cell measurements and cell (re-)selection;

- Performs measurements on L2 U2N Relay UEs and relay (re-)selection;

- Acquires system information and can send SI request (if configured);

- Performs logging of available measurements together with location and time for logged measurement configured UEs;

- Performs idle/inactive measurements for idle/inactive measurement configured UEs;

- If configured by upper layers for MBS broadcast reception, acquires MCCH change notification and MBS broadcast control information and data.

**- RRC\_INACTIVE**:

- A UE specific DRX may be configured by upper layers or by RRC layer;

- At lower layers, the UE may be configured with a DRX for PTM transmission of MBS broadcast and/or a DRX for PTM transmission of MBS multicast;

- UE controlled mobility based on network configuration;

- The UE stores the UE Inactive AS context;

- A RAN-based notification area is configured by RRC layer;

- Transfer of unicast data and/or signalling to/from UE over radio bearers configured for SDT.

- The UE:

- Monitors Short Messages transmitted with P-RNTI over DCI (see clause 6.5);

- While T319a is running, monitors control channels associated with the shared data channel to determine if data is scheduled for it;

- While SDT procedure is ongoing and T319a is not running, if CG-SDT is selected and if extended CG-SDT periodicity is configured (i.e. *cg-SDT-PeriodicityExt* is configured), monitors a Paging channel for CN paging using 5G-S-TMSI and RAN paging using fullI-RNTI except if the UE is acting as a L2 U2N Remote UE;

- While SDT procedure is not ongoing, monitors a Paging channel for CN paging using 5G-S-TMSI and RAN paging using fullI-RNTI, except if the UE is acting as a L2 U2N Remote UE;

- If configured by upper layers for MBS multicast reception, while SDT procedure is not ongoing, monitors a Paging channel for paging using TMGI;

- Performs neighbouring cell measurements and cell (re-)selection;

- Performs measurements on L2 U2N Relay UEs and relay (re-)selection;

- Performs RAN-based notification area updates periodically and when moving outside the configured RAN-based notification area;

- Acquires system information and, while SDT procedure is not ongoing, can send SI request (if configured);

- While SDT procedure is not ongoing, performs logging of available measurements together with location and time for logged measurement configured UEs;

- While SDT procedure is not ongoing, performs idle/inactive measurements for idle/inactive measurement configured UEs;

- If configured by upper layers for MBS broadcast reception, acquires MCCH change notification and MBS broadcast control information and data;

- If configured for MBS multicast reception in RRC\_INACTIVE, acquires multicast MCCH change notification and MBS multicast control information and data;

- Transmits SRS for Positioning.

**- RRC\_CONNECTED:**

- The UE stores the AS context;

- Transfer of unicast data to/from UE;

- Transfer of MBS multicast data to UE;

- At lower layers, the UE may be configured with a UE specific DRX;

- At lower layers, the UE may be configured with a DRX for PTM transmission of MBS broadcast and/or a DRX for MBS multicast;

- At lower layers, the UE may be configured with a cell specific cell DTX/DRX;

- For UEs supporting CA, use of one or more SCells, aggregated with the SpCell, for increased bandwidth;

- For UEs supporting DC, use of one SCG, aggregated with the MCG, for increased bandwidth;

- Network controlled mobility within NR, to/from E-UTRA, and to UTRA-FDD;

- Network controlled mobility (path switch) between a serving cell and a L2 U2N Relay UE, or vice versa, or between a source L2 U2N Relay UE and a target L2 U2N Relay UE;

- Network controlled MP operation.

- The UE:

- Monitors Short Messages transmitted with P-RNTI over DCI (see clause 6.5), if configured;

- Monitors control channels associated with the shared data channel to determine if data is scheduled for it;

- Provides channel quality and feedback information;

- Performs neighbouring cell and/or L2 U2N relay measurements and measurement reporting;

- Acquires system information;

- Performs immediate MDT measurement together with available location reporting;

- If configured by upper layers for MBS broadcast reception, acquires MCCH change notification and MBS broadcast control information and data;

- Performs logging of measurements for network data collection, if configured;

Figure 4.2.1-1 illustrates an overview of UE RRC state machine and state transitions in NR. A UE has only one RRC state in NR at one time.



Figure 4.2.1-1: UE state machine and state transitions in NR

Figure 4.2.1-2 illustrates an overview of UE state machine and state transitions in NR as well as the mobility procedures supported between NR/5GC, E-UTRA/EPC and E-UTRA/5GC.



Figure 4.2.1-2: UE state machine and state transitions between NR/5GC, E-UTRA/EPC and E-UTRA/5GC

Figure 4.2.1-3 illustrates the mobility procedure supported between NR/5GC and UTRA-FDD.



Figure 4.2.1-3: Mobility procedure supported between NR/5GC and UTRA-FDD

NEXT CHANGE

## 5.3 Connection control

<Text Omitted>

### 5.3.5 RRC reconfiguration

<Text Omitted>

#### 5.3.5.5 Cell Group configuration

<Text Omitted>

##### 5.3.5.5.7 SpCell Configuration

The UE shall:

1> if the UE is acting as L2 U2N Remote UE and is not configured with MP:

2> if the *SpCellConfig* contains the *rlf-TimersAndConstants* which is set to *setup*:

3> use value for timers T311 as received in *rlf-TimersAndConstants*;

2> else if *rlf-TimersAndConstants* is not configured for this cell group or *SpCellConfig* contains the *rlf-TimersAndConstants* which is set to *release*:

3> use value for timers T311, as included in *ue-TimersAndConstants* received in *SIB1*;

1> else

2> if the *SpCellConfig* contains the *rlf-TimersAndConstants*:

3> configure the RLF timers and constants for this cell group as specified in 5.3.5.5.6;

2> else if *rlf-TimersAndConstants* is not configured for this cell group:

3> if any DAPS bearer is configured:

4> use values for timers T301, T310, T311 and constants N310, N311 for the target cell group, as included in *ue-TimersAndConstants* received in *SIB1*;

3> else

4> use values for timers T301, T310, T311 and constants N310, N311, as included in *ue-TimersAndConstants* received in *SIB1*;

2> if the *SpCellConfig* contains *spCellConfigDedicated*:

3> configure the SpCell in accordance with the *spCellConfigDedicated*;

3> consider the bandwidth part indicated in *firstActiveUplinkBWP-Id*, if included in the *spCellConfigDedicated,* to be the active uplink bandwidth part;

3> if the *firstActiveDownlinkBWP-Id* is included in the *spCellConfigDedicated*:

4> if the *SpCellConfig* is included in an *RRCReconfiguration* message contained in an NR or E-UTRA RRC message indicating that the SCG is deactivated:

5> consider the bandwidth part indicated in *firstActiveDownlinkBWP-Id* to be the bandwidth part for Radio Link Monitoring, Beam Failure Detection and measurements;

4> else:

5> consider the bandwith part indicated in *firstActiveDownlinkBWP-Id* to be the active downlink bandwidth part;

3> if *csi-LoggedMeasurementConfigToAddModList* is included in *csi-MeasConfig*, in the *spCellConfigDedicated*:

4> perform logging of measurements for network data collection as specified in 5.5c;

3> if any of the reference signal(s) that are used for radio link monitoring are reconfigured by the received *spCellConfigDedicated*:

4> stop timer T310 for the corresponding SpCell, if running;

4> stop timer T312 for the corresponding SpCell, if running;

4> reset the counters N310 and N311.

1> if the *SpCellConfig* contains the *lowMobilityEvaluationConnected*:

2> the UE may perform the evaluation of the low mobility criterion for this cell group as specified in 5.7.13.1;

1> if the *SpCellConfig* contains the *goodServingCellEvaluationRLM*:

2> the UE may perform the evaluation of the good serving cell quality criterion for this SpCell as specified in 5.7.13.2;

1> if the *SpCellConfig* contains the *goodServingCellEvaluationBFD*:

2> the UE may perform the evaluation of the good serving cell quality criterion for this serving cell as specified in 5.7.13.2;

NEXT CHANGE

##### 5.3.5.5.9 SCell Addition/Modification

The UE shall:

1> for each *sCellIndex* value included in the *sCellToAddModList* that is not part of the current UE configuration (SCell addition):

2> add the SCell, corresponding to the *sCellIndex*, in accordance with the *sCellConfigCommon* and *sCellConfigDedicated*;

2> if the *sCellState* is included:

3> configure lower layers to consider the SCell to be in activated state;

2> else:

3> configure lower layers to consider the SCell to be in deactivated state;

2> for each *measId* included in the *measIdList* within *VarMeasConfig*:

3> if SCells are not applicable for the associated measurement; and

3> if the concerned SCell is included in *cellsTriggeredList* defined within the *VarMeasReportList* for this *measId*:

4> remove the concerned SCell from *cellsTriggeredList* defined within the *VarMeasReportList* for this *measId*;

2> if the *SCellConfig* contains the *goodServingCellEvaluationBFD*:

3> the UE may perform the evaluation of the good serving cell quality criterion for this serving cell as specified in 5.7.13.2;

2> if *csi-LoggedMeasurementConfigToAddModList* is included in *csi-MeasConfig*, in *sCellConfigDedicated*:

3> perform logging of measurements for network data collection as specified in 5.5c.

1> for each *sCellIndex* value included in the *sCellToAddModList* that is part of the current UE configuration (SCell modification):

2> modify the SCell configuration in accordance with the *sCellConfigDedicated*;

2> if the *sCellToAddModList* was received in an *RRCReconfiguration* message including *reconfigurationWithSync,* or received in an *RRCResume* message, or received in an *RRCReconfiguration* message including *reconfigurationWithSync* embedded in an *RRCResume* message or embedded in an *RRCReconfiguration* message or embedded in an E-UTRA *RRCConnectionReconfiguration* message or embedded in an E-UTRA *RRCConnectionResume* message, or received in an *RRCReconfiguration* message embedded in an *RRCReconfiguration* message or embedded in an E-UTRA *RRCConnectionReconfiguration* message activating deactivated SCG:

3> if the *sCellState* is included:

4> configure lower layers to consider the SCell to be in activated state;

3> else:

4> configure lower layers to consider the SCell to be in deactivated state.

2> if the *SCellConfig* contains the *goodServingCellEvaluationBFD*:

3> the UE may perform the evaluation of the good serving cell quality criterion for this serving cell as specified in 5.7.13.2

2> if *csi-LoggedMeasurementConfigToAddModList* is included in *csi-MeasConfig,* in *sCellConfigDedicated*:

3> perform logging of measurements for network data collection as specified in 5.5c.

NEXT CHANGE

## 5.5 Measurements

<Text Omitted>

### 5.5.4 Measurement report triggering

<Text Omitted>

#### 5.5.4.2 Event A1 (Serving becomes better than threshold)

The UE shall:

1> consider the entering condition for this event to be satisfied when condition A1-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A1-2, as specified below, is fulfilled;

1> for this measurement, consider the NR serving cell corresponding to the associated *measObjectNR* associated with this event.

Inequality A1-1 (Entering condition)

*Ms – Hys > Thresh*

Inequality A1-2 (Leaving condition)

*Ms + Hys < Thresh*

The variables in the formula are defined as follows:

***Ms*** is the measurement result of the serving cell, not taking into account any offsets.

***Hys*** is the hysteresis parameter for this event (i.e. *hysteresis* as defined within *reportConfigNR* for this event).The parameter takes the value 0 if the conditions for this event are evaluated for *eventTriggeredConfig* in a CSI logged measurement configuration in *csi-LoggedMeasurementConfigToAddModList.*

***Thresh*** is the threshold parameter for this event (i.e. *a1-Threshold* as defined within *reportConfigNR* for this event, or *threshold* as defined within *eventTriggedConfig* in a CSI logged measurement configuration in *csi-LoggedMeasurementConfigToAddModList*).

Editor´s Note: FFS whether to include the event triggering conditions in 5.5.4.2 and 5.5.4.3, or in the field description of *eventTriggeredConfig* in *CSI-LoggedMeasurementConfig* (see the related question in the email discussion).

***Ms*** is expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Hys*** is expressed in dB.

***Thresh*** is expressed in the same unit as ***Ms***.

#### 5.5.4.3 Event A2 (Serving becomes worse than threshold)

The UE shall:

1> consider the entering condition for this event to be satisfied when condition A2-1, as specified below, is fulfilled;

1> consider the leaving condition for this event to be satisfied when condition A2-2, as specified below, is fulfilled;

1> for this measurement, consider the serving cell indicated by the *measObjectNR* associated to this event.

NOTE: If the SCell indicated by the *measObjectNR* associated to this event is not detectable, then the UE should consider for the value of *Ms* the lowest value of the value range of the measurement quantity as the SCell measurement.

Inequality A2-1 (Entering condition)

*Ms + Hys < Thresh*

Inequality A2-2 (Leaving condition)

*Ms – Hys > Thresh*

The variables in the formula are defined as follows:

***Ms*** is the measurement result of the serving cell, not taking into account any offsets.

***Hys*** is the hysteresis parameter for this event (i.e. *hysteresis* as defined within *reportConfigNR* for this event). The parameter takes the value 0 if the conditions for this event are evaluated for *eventTriggeredConfig* in a CSI logged measurement configuration in *csi-LoggedMeasurementConfigToAddModList*.

Editor´s Note: FFS whether to configure and use the hysteresis for the logging event (see the related question in the email discussion).

***Thresh*** is the threshold parameter for this event (i.e. *a2-Threshold* as defined within *reportConfigNR* for this event, or *threshold* as defined within *eventTriggedConfig* in a CSI logged measurement configuration in *csi-LoggedMeasurementConfigToAddModList*).

Editor´s Note: FFS whether to include the event triggering conditions in 5.5.4.2 and 5.5.4.3, or in the field description of *eventTriggeredConfig* in *CSI-LoggedMeasurementConfig* (see the related question in the email discussion).

***Ms*** is expressed in dBm in case of RSRP, or in dB in case of RSRQ and RS-SINR.

***Hys*** is expressed in dB.

***Thresh*** is expressed in the same unit as ***Ms***.

NEXT CHANGE

## 5.5c Logged Measurements for Network Data Collection

### 5.5c.1 Logged Measurement Configuration

#### 5.5c.1.1 General

The purpose of this procedure is to configure the UE to perform logging of measurement results while in RRC\_CONNECTED. The procedure applies to logged measurements for network data collection capable UEs that are in RRC\_CONNECTED.

NOTE: NG-RAN may retrieve stored logged measurement information by means of the UE information procedure.

#### 5.5c.1.2 Initiation

NG-RAN initiates the logged measurement configuration procedure to UE in RRC\_CONNECTED for a serving cell by sending *csi-LoggedMeasurementConfigToAddModList* in the *csi-MeasConfig* of a serving cell.

#### 5.5c.1.3 Reception of *CSI-LoggedMeasurementConfig* by the UE

Upon receiving *csi-LoggedMeasurementConfigToAddModList* in the *csi-MeasConfig* of a serving cell, the UE shall:

1> for each CSI logged measurement configuration included in *csi-LoggedMeasurementConfigToAddModList*:

2> if the *csi-LoggedMeasurementConfigId* associated to the CSI logged measurement configuration included in *csi-LoggedMeasurementConfigToAddModList* and the cell identity of the serving cell for which the measurements shall be logged, i.e. the serving cell associated with the serving cell configuration in which *csi-LoggedMeasurementConfigToAddModList* is received, are included in an entry in *csi-LogMeasInfoList* in *VarCSI-LogMeasReport*;

3> modify the CSI logged measurement configuration according to the configuration received in *csi-LoggedMeasurementConfigToAddModList*;

2> else:

3> include an entry in *csi-LogMeasInfoList* in *VarCSI-LogMeasReport*:

4> set *cellId* to FFS;

4> set *refCSI-LoggedMeasurementConfigId* to the *csi-LoggedMeasurementConfigId* associated to the CSI logged measurement configuration included in *csi-LoggedMeasurementConfigToAddModList*;

Editor's Note: Adding further information and restructuring *CSI-LogMeasReport* based on the latest agreements in RAN2#130 (e.g. adding CGI or PCI-ARFCN, etc.) will be treated in the email discussion for the RRC running CR. The procedural text in this section will be revised afterwards to match the revised ASN.1 from the RRC running CR.

1> perform measurements logging as specified in 5.5c.3.2.

### 5.5c.2 Release of Logged Measurement Configuration

#### 5.5c.2.1 General

The purpose of this procedure is to release the logged measurement configuration for network data collection.

#### 5.5c.2.2 Initiation

The UE shall initiate the procedure upon receiving *csi-LoggedMeasurementConfigToReleaseList*.

The UE shall:

1> for each CSI logged measurement configuration ID included in *csi-LoggedMeasurementConfigToReleaseList* associated with a serving cell:

2> if the current UE configuration for the associated serving cell includes a CSI logged measurement configuration with the associated CSI logged measurement configuration ID included in *csi-LoggedMeasurementConfigToReleaseList*:

3> release the CSI logged measurement configuration.

### 5.5c.3 Measurements logging

#### 5.5c.3.1 General

This procedure specifies the logging of available measurements by a UE in RRC\_CONNECTED that has a logged measurement configuration for network data collection.

#### 5.5c.3.2 Initiation

The UE shall:

1> for each CSI logged measurement configurationassociated with a *refCSI-LoggedMeasurementConfigId* in *csi-LogMeasInfoList* in *VarCSI-LogMeasReport,* perform the logging of measurements for the serving cell associated with *cellId*, in accordance with the following:

2> if the *eventTriggeredConfig* is not included for the corresponding CSI logged measurement configuration within *csi-LoggedMeasurementConfigToAddModList*:

3> perform the logging at regular time intervals, as defined by the periodicity of the resources indicated by *csi-LoggedResourceConfig* in the corresponding CSI logged measurement configuration within *csi-LoggedMeasurementConfigToAddModList*;

2> else:

3> if the event entering condition associated with the configuration in *eventTriggeredConfig* is fulfilled for the corresponding cell for all measurements taken during *timeToTrigger* defined for this event:

4> start performing the logging at regular time intervals as defined by the periodicity of the resources indicated by *csi-LoggedResourceConfig* included for the corresponding CSI logged measurement configuration within *csi-LoggedMeasurementConfigToAddModList*;

3> if the event leaving condition associated with the configuration in *eventTriggeredConfig* is fulfilled for the corresponding cell for all measurements taken during *timeToTrigger* defined for this event:

4> stop performing the logging for the corresponding CSI logged measurement configuration within *csi-LoggedMeasurementConfigToAddModList*;

Editor's Note: If it is agreed to include the event triggering conditions in 5.5.4.2 and 5.5.4.3 (see related question in the email discussion), the above clause can be clarified by adding that the event entering/leaving conditions are evaluated according to 5.5.4.2 and 5.5.4.3.

Editor's Note: Whether the logging periodicity is the periodicity of the measured resources or a configurable periodicity will be addressed in the separate email discussion for the RRC running CR.

2> when performing the logging:

3> for each CSI logged measurement configuration associated to *refCSI-LoggedMeasurementConfigId* in *csi-LogMeasInfoList* in *VarCSI-LogMeasReport*:

4> set the *csi-RS-MeasResultList* and *csi-SSB-MeasResultList* to include the quantities the UE is logging measurements for, upon receiving the quantities from the lower layers;

2> when the memory reserved for the logged measurement information for data collection becomes full, stop logging.

NEXT CHANGE

## 6.3 RRC information elements

<Text Omitted>

### 6.3.2 Radio resource control information elements

<Text Omitted>

#### – *CSI-LoggedMeasurementConfig*

The IE *CSI-LoggedMeasurementConfig* is used to configure a CSI logged measurement configuration. It defines a group of one or more CSI resources for which the UE logs the associated L1 radio measurements.

*CSI-LoggedMeasurementConfig* information element

-- ASN1START

-- TAG-CSI-LOGGEDMEASUREMENTCONFIG-START

CSI-LoggedMeasurementConfig-r19 ::= SEQUENCE {

csi-LoggedMeasurementConfigId-r19 CSI-LoggedMeasurementConfigId-r19,

csi-LoggedResourceConfig-r19 CSI-ResourceConfigId,

eventTriggeredConfig-r19 EventTriggerConfig-r19 OPTIONAL, -- Need R

...

}

EventTriggeredConfig-r19 ::= SEQUENCE {

threshold-r19 CHOICE {

aboveThreshold-r19 MeasTriggerQuantity,

belowThreshold-r19 MeasTriggerQuantity

}

timeToTrigger TimeToTrigger,

...

}

-- TAG-CSI-LOGGEDMEASUREMENTCONFIG-STOP

-- ASN1STOP

Editor's Note: FFS whether the periodicity of the logging is configurable.

Editor's Note: FFS whether to capture the configuration for event-triggered data logging within the *CSI-LoggedMeasurementConfig* or via other mechanisms.

|  |
| --- |
| *CSI-LoggedMeasurementConfig* field descriptions |
| ***csi-LoggedMeasurementConfigId***  This field indicates the instance of *CSI-LoggedMeasurementConfig*. |
| ***csi-LoggedResourceConfig***  Resources in which the UE performs channel measurement whose associated measurement results are logged by the UE. The *csi-LoggedResourceConfig* indicated here contains only NZP-CSI-RS resources and/or SSB resources. |
| ***eventTriggeredConfig***  This field is used to configure the UE with event-triggered measurement logging. If this field is included and *threshold* is set to *aboveThreshold*, the UE starts performing logging of measurements when the measurement result of the associated serving cell is above the *threshold* (entering condition) and stops logging when the measurement result of the associated serving cell is below the *threshold* (leaving condition). If this field is included and *threshold* is set to *belowThreshold*, the UE starts performing logging of measurements when the measurement result of the associated serving cell is below the *threshold* (entering condition) and stops logging when the measurement result of the associated serving cell is above the *threshold* (leaving condition). If this field is not included, the UE starts the measurement logging according to *csi-LoggedResourceConfig* upon reception.  Editor´s Note: If it is agreed to include the event triggering conditions in 5.5.4.2 and 5.5.4.3 (see the related question in the email discussion), the above field description can be modified as follows  “This field is used to configure the UE with event-triggered measurement logging. If this field is included and *threshold* is set to *aboveThreshold*, the UE starts performing logging of measurements when the entering condition as specified in 5.5.4.2 is met and stops logging when the corresponding leaving condition as specified in 5.5.4.2 is met. If this field is included and *threshold* is set to *belowThreshold*, the UE starts performing logging of measurements when the entering condition as specified in 5.5.4.3 is met and stops logging when the corresponding leaving condition as specified in 5.5.4.3 is met. If this field is not included, the UE starts the measurement logging according to *csi-LoggedResourceConfig* upon reception.” |

#### – *CSI-LoggedMeasurementConfigId*

The IE *CSI-LoggedMeasurementConfigId* is used to identify a *CSI-LoggedMeasurementConfig*.

*CSI-LoggedMeasurementConfigId* information element

-- ASN1START

-- TAG-CSI-LOGGEDMEASUREMENTCONFIGID-START

CSI-LoggedMeasurementConfigId-r19 ::= INTEGER (0..maxNrofLoggedMeasurementConfigurations-1-r19)

-- TAG-CSI-LOGGEDMEASUREMENTCONFIGID-STOP

-- ASN1STOP

<Text Omitted>

#### – *CSI-MeasConfig*

The IE *CSI-MeasConfig* is used to configure CSI-RS (reference signals) belonging to the serving cell in which *CSI-MeasConfig* is included, channel state information reports to be transmitted on PUCCH on the serving cell in which *CSI-MeasConfig* is included and channel state information reports on PUSCH triggered by DCI received on the serving cell in which *CSI-MeasConfig* is included. See also TS 38.214 [19], clause 5.2.

*CSI-MeasConfig* information element

-- ASN1START

-- TAG-CSI-MEASCONFIG-START

CSI-MeasConfig ::= SEQUENCE {

nzp-CSI-RS-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-Resource OPTIONAL, -- Need N

nzp-CSI-RS-ResourceToReleaseList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-Resources)) OF NZP-CSI-RS-ResourceId OPTIONAL, -- Need N

nzp-CSI-RS-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSet

OPTIONAL, -- Need N

nzp-CSI-RS-ResourceSetToReleaseList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSets)) OF NZP-CSI-RS-ResourceSetId

OPTIONAL, -- Need N

csi-IM-ResourceToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-Resource OPTIONAL, -- Need N

csi-IM-ResourceToReleaseList SEQUENCE (SIZE (1..maxNrofCSI-IM-Resources)) OF CSI-IM-ResourceId OPTIONAL, -- Need N

csi-IM-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSet OPTIONAL, -- Need N

csi-IM-ResourceSetToReleaseList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSets)) OF CSI-IM-ResourceSetId OPTIONAL, -- Need N

csi-SSB-ResourceSetToAddModList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourceSets)) OF CSI-SSB-ResourceSet OPTIONAL, -- Need N

csi-SSB-ResourceSetToReleaseList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourceSets)) OF CSI-SSB-ResourceSetId OPTIONAL, -- Need N

csi-ResourceConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfig

OPTIONAL, -- Need N

csi-ResourceConfigToReleaseList SEQUENCE (SIZE (1..maxNrofCSI-ResourceConfigurations)) OF CSI-ResourceConfigId

OPTIONAL, -- Need N

csi-ReportConfigToAddModList SEQUENCE (SIZE (1..maxNrofCSI-ReportConfigurations)) OF CSI-ReportConfig OPTIONAL, -- Need N

csi-ReportConfigToReleaseList SEQUENCE (SIZE (1..maxNrofCSI-ReportConfigurations)) OF CSI-ReportConfigId

OPTIONAL, -- Need N

reportTriggerSize INTEGER (0..6) OPTIONAL, -- Need M

aperiodicTriggerStateList SetupRelease { CSI-AperiodicTriggerStateList } OPTIONAL, -- Need M

semiPersistentOnPUSCH-TriggerStateList SetupRelease { CSI-SemiPersistentOnPUSCH-TriggerStateList } OPTIONAL, -- Need M

...,

[[

reportTriggerSizeDCI-0-2-r16 INTEGER (0..6) OPTIONAL -- Need R

]],

[[

sCellActivationRS-ConfigToAddModList-r17 SEQUENCE (SIZE (1..maxNrofSCellActRS-r17)) OF SCellActivationRS-Config-r17 OPTIONAL, -- Need N

sCellActivationRS-ConfigToReleaseList-r17 SEQUENCE (SIZE (1..maxNrofSCellActRS-r17)) OF SCellActivationRS-ConfigId-r17 OPTIONAL -- Need N

]],

[[

ltm-CSI-ReportConfigToAddModList-r18 SEQUENCE (SIZE (1..maxNrofLTM-CSI-ReportConfigurations-r18)) OF LTM-CSI-ReportConfig-r18

OPTIONAL, -- Need N

ltm-CSI-ReportConfigToReleaseList-r18 SEQUENCE (SIZE (1..maxNrofLTM-CSI-ReportConfigurations-r18)) OF LTM-CSI-ReportConfigId-r18

OPTIONAL -- Need N

]],

[[

csi-LoggedMeasurementConfigToAddModList-r19 SEQUENCE (SIZE (1..maxNrofLoggedMeasurementConfigurations-r19)) OF CSI-LoggedMeasurementConfig-r19

OPTIONAL, -- Need N

csi-LoggedMeasurementConfigToReleaseList-r19 SEQUENCE (SIZE (1..maxNrofLoggedMeasurementConfigurations-r19)) OF CSI-LoggedMeasurementConfigId-r19 OPTIONAL -- Need N

]]

}

-- TAG-CSI-MEASCONFIG-STOP

-- ASN1STOP

Editor's Note: FFS if the *csi-LoggedMeasurementConfigToAddModList* can be included within the *CSI-MeasConfig*.

|  |
| --- |
| *CSI-MeasConfig* field descriptions |
| ***aperiodicTriggerStateList***  Contains trigger states for dynamically selecting one or more aperiodic and semi-persistent reporting configurations and/or triggering one or more aperiodic CSI-RS resource sets for channel and/or interference measurement (see TS 38.214 [19], clause 5.2.1). |
| ***csi-IM-ResourceSetToAddModList***  Pool of *CSI-IM-ResourceSet* which can be referred to from *CSI-ResourceConfig* or from MAC CEs. |
| ***csi-IM-ResourceToAddModList***  Pool of *CSI-IM-Resource* which can be referred to from *CSI-IM-ResourceSet*. |
| ***csi-LoggedMeasurementConfigToAddModList***  Configured CSI logged measurement configuration for network data collection. |
| ***csi-ReportConfigToAddModList***  Configured CSI report settings as specified in TS 38.214 [19] clause 5.2.1.1. |
| ***csi-ResourceConfigToAddModList***  Configured CSI resource settings as specified in TS 38.214 [19] clause 5.2.1.2. |
| ***csi-SSB-ResourceSetToAddModList***  Pool of CSI-SSB-ResourceSet which can be referred to from *CSI-ResourceConfig*. |
| ***ltm-CSI-ReportConfigToAddModList***  Configured CSI report settings for LTM as specified in TS 38.214 [19]. |
| ***nzp-CSI-RS-ResourceSetToAddModList***  Pool of *NZP-CSI-RS-ResourceSet* which can be referred to from *CSI-ResourceConfig* or from MAC CEs. |
| ***nzp-CSI-RS-ResourceToAddModList***  Pool of *NZP-CSI-RS-Resource* which can be referred to from *NZP-CSI-RS-ResourceSet*. |
| ***reportTriggerSize, reportTriggerSizeDCI-0-2***  Size of CSI request field in DCI (bits) (see TS 38.214 [19], clause 5.2.1.5.1). The field *reportTriggerSize* applies to DCI format 0\_1 and the field *reportTriggerSizeDCI-0-2* applies to DCI format 0\_2 (see TS 38.214 [19], clause 5.2.1.5.1). |
| ***scellActivationRS-ConfigToAddModList***  Configured RS for fast SCell activation as specified in TS 38.214 [19] clause 5.2.1.5.3. |

<Text Omitted>