**3GPP TSG-RAN WG3 Meeting#108-e R3-204361**

**1 – 12 June 2020**

**Agenda item:** 19.2.1.3

**Source:** Qualcomm Incorporated

**Title:** (TP to BL CR#0495 / 38.473 on NR Positioning) Addition of UL SRS Activation and Deactivation Procedures

**Document for:** Discussion and Agreement

1. Introduction

This TP provides new NRPPa procedures to support this request from RAN2.

**Proposal 1:** **A new Class 1 F1AP procedure to support UL-SRS Activation and a new Class 2 F1AP procedure to support UL-SRS Deactivation should be added to F1AP to extend the Positioning Information Transfer function.**

2. Appendix / Text Proposal

**START OF CHANGES**

# 8 F1AP procedures

## 8.1 List of F1AP Elementary procedures

[Editor’s Notes: procedures and associated functions require further checking]

In the following tables, all EPs are divided into Class 1 and Class 2 EPs (see subclause 3.1 for explanation of the different classes):

Table 1: Class 1 procedures

|  |  |  |  |
| --- | --- | --- | --- |
| Elementary Procedure | Initiating Message | Successful Outcome | Unsuccessful Outcome |
| Response message | Response message |
| Reset | RESET | RESET ACKNOWLEDGE |  |
| F1 Setup | F1 SETUP REQUEST | F1 SETUP RESPONSE | F1 SETUP FAILURE |
| gNB-DU Configuration Update | GNB-DU CONFIGURATION UPDATE | GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE | GNB-DU CONFIGURATION UPDATE FAILURE |
| gNB-CU Configuration Update | GNB-CU CONFIGURATION UPDATE | GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE | GNB-CU CONFIGURATION UPDATE FAILURE |
| UE Context Setup | UE CONTEXT SETUP REQUEST | UE CONTEXT SETUP RESPONSE | UE CONTEXT SETUP FAILURE |
| UE Context Release (gNB-CU initiated) | UE CONTEXT RELEASE COMMAND | UE CONTEXT RELEASE COMPLETE |  |
| UE Context Modification (gNB-CU initiated) | UE CONTEXT MODIFICATION REQUEST | UE CONTEXT MODIFICATION RESPONSE | UE CONTEXT MODIFICATION FAILURE |
| UE Context Modification Required (gNB-DU initiated) | UE CONTEXT MODIFICATION REQUIRED | UE CONTEXT MODIFICATION CONFIRM | UE CONTEXT MODIFICATION REFUSE |
| Write-Replace Warning  | WRITE-REPLACE WARNING REQUEST | WRITE-REPLACE WARNING RESPONSE |  |
| PWS Cancel | PWS CANCEL REQUEST | PWS CANCEL RESPONSE |  |
| gNB-DU Resource Coordination | GNB-DU RESOURCE COORDINATION REQUEST | GNB-DU RESOURCE COORDINATION RESPONSE |  |
| F1 Removal | F1 REMOVAL REQUEST | F1 REMOVAL RESPONSE | F1 REMOVAL FAILURE |
| Positioning Measurement | POSITIONING MEASUREMENT REQUEST | POSITIONING MEASUREMENT RESPONSE | POSITIONING MEASUREMENT FAILURE |
| Positioning Information Exchange | POSITIONING INFORMATION REQUEST | POSITIONING INFORMATION RESPONSE | POSITIONING INFORMATION FAILURE |
| TRP Information Exchange | TRP INFORMATION REQUEST | TRP INFORMATION RESPONSE | TRP INFORMATION FAILURE |
| Positioning Activation | POSITIONING ACTIVATION REQUEST | POSITIONING ACTIVATION RESPONSE | POSITIONING ACTIVATION FAILURE |

Table 2: Class 2 procedures

|  |  |
| --- | --- |
| Elementary Procedure | Message |
| Error Indication | ERROR INDICATION |
| UE Context Release Request (gNB-DU initiated) | UE CONTEXT RELEASE REQUEST |
| Initial UL RRC Message Transfer | INITIAL UL RRC MESSAGE TRANSFER |
| DL RRC Message Transfer | DL RRC MESSAGE TRANSFER |
| UL RRC Message Transfer | UL RRC MESSAGE TRANSFER |
| UE Inactivity Notification  | UE INACTIVITY NOTIFICATION |
| System Information Delivery | SYSTEM INFORMATION DELIVERY COMMAND |
| Paging | PAGING |
| Notify | NOTIFY |
| PWS Restart Indication | PWS RESTART INDICATION |
| PWS Failure Indication | PWS FAILURE INDICATION |
| gNB-DU Status Indication | GNB-DU STATUS INDICATION |
| RRC Delivery Report | RRC DELIVERY REPORT |
| Network Access Rate Reduction | NETWORK ACCESS RATE REDUCTION |
| Trace Start | TRACE START |
| Deactivate Trace | DEACTIVATE TRACE |
| DU-CU Radio Information Transfer | DU-CU RADIO INFORMATION TRANSFER |
| CU-DU Radio Information Transfer | CU-DU RADIO INFORMATION TRANSFER |
| Positioning Assistance Information Control | POSITIONING ASSISTANCE INFORMATION CONTROL |
| Positioning Assistance Information Feedback | POSITIONING ASSISTANCE INFORMATION FEEDBACK |
| Positioning Measurement Report | POSITIONING MEASUREMENT REPORT |
| Positioning Measurement Abort | POSITIONING MEASUREMENT ABORT |
| Positioning Measurement Failure Indication | POSITIONING MEASUREMENT FAILURE INDICATION |
| Positioning Measurement Update | POSITIONING MEASUREMENT UPDATE |
| Positioning Deactivation | POSITIONING DEACTIVATION |

**>>>> NEXT CHANGE <<<<**

]

**NEXT CHANGE**

### 8.x.A Positioning Activation

#### 8.x.A.1 General

The Positioning Activation procedure is initiated by the gNB-CU to request the gNB-DU to activate semi-persistent or trigger aperiodic UL SRS transmission by the UE.

#### 8.x.A.2 Successful Operation



Figure 8.x.A.2-1: Positioning Activation procedure, successful operation

The gNB-CU initiates the procedure by sending a POSITIONING ACTIVATION REQUEST message to the gNB-DU.

The message includes an indication of the UL SRS resource set to be activated. For semi-persistent UL SRS, the message also indicates the spatial relation for the semi-persistent UL SRS resource to be activated.

Following successful activation of UL SRS transmission in the UE, the gNB-DU shall respond with a POSITIONING ACTIVATION RESPONSE message.

#### 8.x.A.3 Unsuccessful Operation



Figure 8.X.A.3-1: Positioning Activation procedure, unsuccessful operation

If the gNB-DU is unable to activate UL SRS transmission in the UE, it shall respond with a POSITIONING ACTIVATION FAILURE message.

#### 8.x.A.4 Abnormal Conditions

Void.

### 8.x.B Positioning Deactivation

#### 8.x.B.1 General

The Positioning Deactivation procedure is initiated by the gNB-CU to indicate to the gNB-DU node that UL SRS transmission should be deactivated in the UE.

#### 8.x.B.2 Successful Operation



Figure 8.x.B.2-1: Positioning Deactivation procedure, successful operation

The gNB-CU initiates the procedure by sending a POSITIONING DEACTIVATION message to the gNB-DU. This message shall include an indication of the UL SRS resource set to be deactivated.

#### 8.x.B.3 Unsuccessful Operation

Not Applicable.

#### 8.x.B.4 Abnormal Conditions

Void.

**NEXT CHANGE**

#### 9.2.x.A POSITIONING ACTIVATION REQUEST

This message is sent by the gNB-CU to cause the gNB-DU to activate/trigger UL SRS transmission by the UE.

Direction: gNB-CU → gNB-DU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M  |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID  | M |  | 9.3.1.5 |  | YES | reject |
| CHOICE *SRS type* |  |  |  |  |  |  |
| **>Semi-persistent** |  | *0..1* |  |  | YES | ignore |
| >>SRS Resource Set ID | M (FFS) |  | 9.3.1.y1 |  | YES | reject |
| >>SRS Spatial Relation | O |  | 9.3.1.y2 |  | YES | ignore |
| **>Aperiodic** |  | *0..1* |  |  | YES | ignore |
| >>SRS Resource Trigger | M |  | 9.3.1.y3 |  | YES | reject |
| Activation Time | O |  | 9.3.1.y4 |  | YES | ignore |

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

#### 9.2.x.B POSITIONING ACTIVATION RESPONSE

This message is sent by the gNB-DU to confirm successful UL SRS activation in the UE.

Direction: gNB-DU → gNB-CU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M  |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID  | M |  | 9.3.1.5 |  | YES | reject |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

#### 9.2.x.C POSITIONING ACTIVATION FAILURE

This message is sent by the gNB-DU to indicate that activation of UL SRS transmission in the UE was unsuccessful.

Direction: gNB-DU → gNB-CU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M  |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID  | M |  | 9.3.1.5 |  | YES | reject |
| Cause | M |  | 9.3.1.2 |  | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

#### 9.2.x.D POSITIONING DEACTIVATION

This message is sent by the gNB-CU to cause the NG RAN node to deactivate UL SRS transmission by the UE.

Direction: gNB-CU → gNB-DU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M  |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID  | M |  | 9.3.1.5 |  | YES | reject |
| SRS Resource Set ID | M |  | 9.3.1.y1 |  | YES | Ignore |

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

**NEXT CHANGE**

### 9.3.1.y1 SRS Resource Set ID

This information element indicates a resource set in the UE for UL SRS transmission.

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| Positioning SRS Resource Set ID | M |  | INTEGER (0..15) | According to TS 38.331 [x] |

### 9.3.1.y2 SRS Spatial Relation

This information element indicates a spatial relation for transmission if UL SRS by a UE.

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| **Spatial Relation for Resource IDi** |  | *1..<maxnoSpatialRelations>* |  | According to TS 38.321 [y] |
| CHOICE *Reference Signal* | M |  |  |  |
| >*NZP CSI-RS* |  |  |  |  |
| >>NZP CSI-RS Resource ID | M |  | INTEGER (0..191) |  |
| >*SSB* |  |  |  |  |
| >>PCI | M |  | INTEGER (0..1007) |  |
| >>SSB Index | M |  | INTEGER (0..63) |  |
| >*SRS* |  |  |  |  |
| >>SRS Resource ID | M |  | INTEGER (0..63) |  |
| >*Positioning SRS* |  |  |  |  |
| >>SRS Pos Resource ID | M |  | INTEGER (0..63) |  |
| >*DL-PRS* |  |  |  |  |
| >>DL-PRS ID | M |  | INTEGER (0..255) |  |
| >>DL-PRS Resource Set ID | M |  | INTEGER (0..7) |  |
| >>DL PRS Resource ID | O |  | INTEGER (0..63) |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoSpatialRelations | Maximum no. of Spatial Relations that can be configured. Value is 64.  |

### 9.3.1.y3 SRS Resource Trigger

This information element indicates a DCI code point according to a SRS resource set configuration.

[Editor’s Note: further details on the IEs are FFS / pending RAN2]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| **Aperiodic SRS Resource Trigger List** |  | *1..<maxnoSRS-TriggerStates>* |  | According to TS 38.331 [x] |
| >Aperiodic SRS Resource Trigger |  |  | INTEGER (1..3) |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoSRS-TriggerStates | Maximum no. of SRS trigger states. Value is 3.  |

### 9.3.1.y4 Activation Time

This information element indicates the start time when the SRS activation is requested.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| SFN initialization time | M |  | BIT STRING (64) |  |

### 9.4.3 Elementary Procedure Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Elementary Procedure definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

F1AP-PDU-Descriptions {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-PDU-Descriptions (0)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- IE parameter types from other modules.

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

IMPORTS

 Criticality,

 ProcedureCode

FROM F1AP-CommonDataTypes

 Reset,

 ResetAcknowledge,

 F1SetupRequest,

 F1SetupResponse,

 F1SetupFailure,

 GNBDUConfigurationUpdate,

 GNBDUConfigurationUpdateAcknowledge,

 GNBDUConfigurationUpdateFailure,

 GNBCUConfigurationUpdate,

 GNBCUConfigurationUpdateAcknowledge,

 GNBCUConfigurationUpdateFailure,

 UEContextSetupRequest,

 UEContextSetupResponse,

 UEContextSetupFailure,

 UEContextReleaseCommand,

 UEContextReleaseComplete,

 UEContextModificationRequest,

 UEContextModificationResponse,

 UEContextModificationFailure,

 UEContextModificationRequired,

 UEContextModificationConfirm,

 ErrorIndication,

 UEContextReleaseRequest,

 DLRRCMessageTransfer,

 ULRRCMessageTransfer,

 GNBDUResourceCoordinationRequest,

 GNBDUResourceCoordinationResponse,

 PrivateMessage,

 UEInactivityNotification,

 InitialULRRCMessageTransfer,

 SystemInformationDeliveryCommand,

 Paging,

 Notify,

 WriteReplaceWarningRequest,

 WriteReplaceWarningResponse,

 PWSCancelRequest,

 PWSCancelResponse,

 PWSRestartIndication,

 PWSFailureIndication,

 GNBDUStatusIndication,

 RRCDeliveryReport,

 UEContextModificationRefuse,

 F1RemovalRequest,

 F1RemovalResponse,

 F1RemovalFailure,

 NetworkAccessRateReduction,

 TraceStart,

 DeactivateTrace,

 DUCURadioInformationTransfer,

 CUDURadioInformationTransfer,

 PositioningMeasurementRequest,

 PositioningMeasurementResponse,

 PositioningMeasurementFailure,

 PositioningAssistanceInformationControl,

 PositioningAssistanceInformationFeedback,

 PositioningMeasurementReport,

 PositioningMeasurementAbort,

 PositioningMeasurementFailureIndication,

 PositioningMeasurementUpdate,

 TRPInformationRequest,

 TRPInformationResponse,

 TRPInformationFailure,

 PositioningInformationRequest,

 PositioningInformationResponse,

 PositioningInformationFailure,

 Positioning Activation,

 PositioningDeactivation

FROM F1AP-PDU-Contents

 id-Reset,

 id-F1Setup,

 id-gNBDUConfigurationUpdate,

 id-gNBCUConfigurationUpdate,

 id-UEContextSetup,

 id-UEContextRelease,

 id-UEContextModification,

 id-UEContextModificationRequired,

 id-ErrorIndication,

 id-UEContextReleaseRequest,

 id-DLRRCMessageTransfer,

 id-ULRRCMessageTransfer,

 id-GNBDUResourceCoordination,

 id-privateMessage,

 id-UEInactivityNotification,

 id-InitialULRRCMessageTransfer,

 id-SystemInformationDeliveryCommand,

 id-Paging,

 id-Notify,

 id-WriteReplaceWarning,

 id-PWSCancel,

 id-PWSRestartIndication,

 id-PWSFailureIndication,

 id-GNBDUStatusIndication,

 id-RRCDeliveryReport,

 id-F1Removal,

 id-NetworkAccessRateReduction,

 id-TraceStart,

 id-DeactivateTrace,

 id-DUCURadioInformationTransfer,

 id-CUDURadioInformationTransfer,

 id-PositioningMeasurementExchange,

 id-PositioningAssistanceInformationControl,

 id-PositioningAssistanceInformationFeedback,

 id-PositioningMeasurementReport,

 id-PositioningMeasurementAbort,

 id-PositioningMeasurementFailureIndication,

 id-PositioningMeasurementUpdate,

 id-TRPInformationExchange,

 id-PositioningInformationExchange,

 id-Positioning Activation,

 id-PositioningDeactivation

**\*\*\* skip unchanged asn \*\*\***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Interface Elementary Procedure List

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

F1AP-ELEMENTARY-PROCEDURES F1AP-ELEMENTARY-PROCEDURE ::= {

 F1AP-ELEMENTARY-PROCEDURES-CLASS-1 |

 F1AP-ELEMENTARY-PROCEDURES-CLASS-2,

 ...

}

F1AP-ELEMENTARY-PROCEDURES-CLASS-1 F1AP-ELEMENTARY-PROCEDURE ::= {

 reset |

 f1Setup |

 gNBDUConfigurationUpdate |

 gNBCUConfigurationUpdate |

 uEContextSetup |

 uEContextRelease |

 uEContextModification |

 uEContextModificationRequired |

 writeReplaceWarning |

 pWSCancel |

 gNBDUResourceCoordination |

 f1Removal ,

 ...,

 positioningMeasurementExchange |

 tRPInformationExchange |

 positioningInformationExchange |

 positioningActivation

}

F1AP-ELEMENTARY-PROCEDURES-CLASS-2 F1AP-ELEMENTARY-PROCEDURE ::= {

 errorIndication |

 uEContextReleaseRequest |

 dLRRCMessageTransfer |

 uLRRCMessageTransfer |

 uEInactivityNotification |

 privateMessage |

 initialULRRCMessageTransfer |

 systemInformationDelivery |

 paging |

 notify |

 pWSRestartIndication |

 pWSFailureIndication |

 gNBDUStatusIndication |

 rRCDeliveryReport |

 networkAccessRateReduction |

 traceStart |

 deactivateTrace |

 dUCURadioInformationTransfer |

 cUDURadioInformationTransfer ,

 ...,

 positioningAssistanceInformationControl |

 positioningAssistanceInformationFeedback |

 positioningMeasurementReport |

 positioningMeasurementAbort |

 positioningMeasurementFailureIndication |

 positioningMeasurementUpdate |

 positioningDeactivation

}

**\*\*\* skip unchanged asn \*\*\***

cUDURadioInformationTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE CUDURadioInformationTransfer

 PROCEDURE CODE id-CUDURadioInformationTransfer

 CRITICALITY ignore

}

positioningAssistanceInformationControl F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningAssistanceInformationControl

 PROCEDURE CODE id-PositioningAssistanceInformationControl

 CRITICALITY ignore

}

positioningAssistanceInformationFeedback F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningAssistanceInformationFeedback

 PROCEDURE CODE id-PositioningAssistanceInformationFeedback

 CRITICALITY ignore

}

positioningMeasurementExchange F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningMeasurementRequest

 SUCCESSFUL OUTCOME PositioningMeasurementResponse

 UNSUCCESSFUL OUTCOME PositioningMeasurementFailure

 PROCEDURE CODE id-PositioningMeasurementExchange

 CRITICALITY reject

}

positioningMeasurementReport F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningMeasurementReport

 PROCEDURE CODE id-PositioningMeasurementReport

 CRITICALITY ignore

}

positioningMeasurementAbort F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningMeasurementAbort

 PROCEDURE CODE id-PositioningMeasurementAbort

 CRITICALITY ignore

}

positioningMeasurementFailureIndication F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningMeasurementFailureIndication

 PROCEDURE CODE id-PositioningMeasurementFailureIndication

 CRITICALITY ignore

}

positioningMeasurementUpdate F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningMeasurementUpdate

 PROCEDURE CODE id-PositioningMeasurementUpdate

 CRITICALITY ignore

}

tRPInformationExchange F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE TRPInformationRequest

 SUCCESSFUL OUTCOME TRPInformationResponse

 UNSUCCESSFUL OUTCOME TRPInformationFailure

 PROCEDURE CODE id-TRPInformationExchange

 CRITICALITY reject

}

positioningInformationExchange F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningInformationRequest

 SUCCESSFUL OUTCOME PositioningInformationResponse

 UNSUCCESSFUL OUTCOME PositioningInformationFailure

 PROCEDURE CODE id-PositioningInformationExchange

 CRITICALITY reject

}

positioningActivation F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningActivationRequest

 SUCCESSFUL OUTCOME PositioningActivationResponse

 UNSUCCESSFUL OUTCOME PositioningActivationFailure

 PROCEDURE CODE id-PositioningActivation

 CRITICALITY reject

}

positioningDeactivation F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE PositioningDeactivation

 PROCEDURE CODE id-PositioningDeactivation

 CRITICALITY ignore

}

END

-- ASN1STOP

### 9.4.4 PDU Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- PDU definitions for F1AP.

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

F1AP-PDU-Contents {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- IE parameter types from other modules.

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

IMPORTS

 Candidate-SpCell-Item,

 Cause,

 Cells-Failed-to-be-Activated-List-Item,

 Cells-Status-Item,

 Cells-to-be-Activated-List-Item,

 Cells-to-be-Deactivated-List-Item,

 CellULConfigured,

 CriticalityDiagnostics,

 C-RNTI,

 CUtoDURRCInformation,

 DRB-Activity-Item,

 DRBID,

 DRBs-FailedToBeModified-Item,

 DRBs-FailedToBeSetup-Item,

 DRBs-FailedToBeSetupMod-Item,

 DRB-Notify-Item,

 DRBs-ModifiedConf-Item,

 DRBs-Modified-Item,

 DRBs-Required-ToBeModified-Item,

 DRBs-Required-ToBeReleased-Item,

 DRBs-Setup-Item,

 DRBs-SetupMod-Item,

 DRBs-ToBeModified-Item,

 DRBs-ToBeReleased-Item,

 DRBs-ToBeSetup-Item,

 DRBs-ToBeSetupMod-Item,

 DRXCycle,

 DRXConfigurationIndicator,

 DUtoCURRCInformation,

 EUTRANQoS,

 ExecuteDuplication,

 FullConfiguration,

 GNB-CU-UE-F1AP-ID,

 GNB-DU-UE-F1AP-ID,

 GNB-DU-ID,

 GNB-DU-Served-Cells-Item,

 GNB-DU-System-Information,

 GNB-CU-Name,

 GNB-DU-Name,

 InactivityMonitoringRequest,

 InactivityMonitoringResponse,

 LowerLayerPresenceStatusChange,

 NotificationControl,

 NRCGI,

 NRPCI,

 UEContextNotRetrievable,

 Potential-SpCell-Item,

 RAT-FrequencyPriorityInformation,

 RequestedSRSTransmissionCharacteristics,

 ResourceCoordinationTransferContainer,

 RRCContainer,

 RRCContainer-RRCSetupComplete,

 RRCReconfigurationCompleteIndicator,

 SCellIndex,

 SCell-ToBeRemoved-Item,

 SCell-ToBeSetup-Item,

 SCell-ToBeSetupMod-Item,

 SCell-FailedtoSetup-Item,

 SCell-FailedtoSetupMod-Item,

 ServCellIndex,

 Served-Cell-Information,

 Served-Cells-To-Add-Item,

 Served-Cells-To-Delete-Item,

 Served-Cells-To-Modify-Item,

 ServingCellMO,

 SRBID,

 SRBs-FailedToBeSetup-Item,

 SRBs-FailedToBeSetupMod-Item,

 SRBs-Required-ToBeReleased-Item,

 SRBs-ToBeReleased-Item,

 SRBs-ToBeSetup-Item,

 SRBs-ToBeSetupMod-Item,

 SRBs-Modified-Item,

 SRBs-Setup-Item,

 SRBs-SetupMod-Item,

 TimeToWait,

 TransactionID,

 TransmissionActionIndicator,

 UE-associatedLogicalF1-ConnectionItem,

 DUtoCURRCContainer,

 PagingCell-Item,

 SItype-List,

 UEIdentityIndexValue,

 GNB-CU-TNL-Association-Setup-Item,

 GNB-CU-TNL-Association-Failed-To-Setup-Item,

 GNB-CU-TNL-Association-To-Add-Item,

 GNB-CU-TNL-Association-To-Remove-Item,

 GNB-CU-TNL-Association-To-Update-Item,

 MaskedIMEISV,

 PagingDRX,

 PagingPriority,

 PagingIdentity,

 Cells-to-be-Barred-Item,

 PWSSystemInformation,

 Broadcast-To-Be-Cancelled-Item,

 Cells-Broadcast-Cancelled-Item,

 NR-CGI-List-For-Restart-Item,

 PWS-Failed-NR-CGI-Item,

 RepetitionPeriod,

 NumberofBroadcastRequest,

 Cells-To-Be-Broadcast-Item,

 Cells-Broadcast-Completed-Item,

 Cancel-all-Warning-Messages-Indicator,

 EUTRA-NR-CellResourceCoordinationReq-Container,

 EUTRA-NR-CellResourceCoordinationReqAck-Container,

 RequestType,

 PLMN-Identity,

 RLCFailureIndication,

 UplinkTxDirectCurrentListInformation,

 SULAccessIndication,

 Protected-EUTRA-Resources-Item,

 GNB-DUConfigurationQuery,

 BitRate,

 RRC-Version,

 GNBDUOverloadInformation,

 RRCDeliveryStatusRequest,

 NeedforGap,

 RRCDeliveryStatus,

 ResourceCoordinationTransferInformation,

 Dedicated-SIDelivery-NeededUE-Item,

 Associated-SCell-Item,

 IgnoreResourceCoordinationContainer,

 PagingOrigin,

 UAC-Assistance-Info,

 RANUEID,

 GNB-DU-TNL-Association-To-Remove-Item,

 NotificationInformation,

 TraceActivation,

 TraceID,

 Neighbour-Cell-Information-Item,

 SymbolAllocInSlot,

 NumDLULSymbols,

 AdditionalRRMPriorityIndex,

 DUCURadioInformationType,

 CUDURadioInformationType,

 Transport-Layer-Address-Info,

 PosAssistance-Information,

 PosBroadcast,

 PosBroadcastTargetCell,

 RoutingID,

 PosAssistanceInformationFailureList,

 PosMeasurementQuantities,

 PosMeasurementResultList,

 PosMeasurementFailureList,

 PosMeasurementList,

 PosMeasurementstoModify,

 TRPInformationTypeItem,

 TRPInformationItem,

 LMF-UE-MeasurementID,

 ActivationTime,

 SRSResourceSetID,

 SRSSpatialRelation,

 SRSResourceTrigger

FROM F1AP-IEs

 PrivateIE-Container{},

 ProtocolExtensionContainer{},

 ProtocolIE-Container{},

 ProtocolIE-ContainerPair{},

 ProtocolIE-SingleContainer{},

 F1AP-PRIVATE-IES,

 F1AP-PROTOCOL-EXTENSION,

 F1AP-PROTOCOL-IES,

 F1AP-PROTOCOL-IES-PAIR

FROM F1AP-Containers

 id-Candidate-SpCell-Item,

 id-Candidate-SpCell-List,

 id-Cause,

 id-Cancel-all-Warning-Messages-Indicator,

 id-Cells-Failed-to-be-Activated-List,

 id-Cells-Failed-to-be-Activated-List-Item,

 id-Cells-Status-Item,

 id-Cells-Status-List,

 id-Cells-to-be-Activated-List,

 id-Cells-to-be-Activated-List-Item,

 id-Cells-to-be-Deactivated-List,

 id-Cells-to-be-Deactivated-List-Item,

 id-ConfirmedUEID,

 id-CriticalityDiagnostics,

 id-C-RNTI,

 id-CUtoDURRCInformation,

 id-DRB-Activity-Item,

 id-DRB-Activity-List,

 id-DRBs-FailedToBeModified-Item,

 id-DRBs-FailedToBeModified-List,

 id-DRBs-FailedToBeSetup-Item,

 id-DRBs-FailedToBeSetup-List,

 id-DRBs-FailedToBeSetupMod-Item,

 id-DRBs-FailedToBeSetupMod-List,

 id-DRBs-ModifiedConf-Item,

 id-DRBs-ModifiedConf-List,

 id-DRBs-Modified-Item,

 id-DRBs-Modified-List,

 id-DRB-Notify-Item,

 id-DRB-Notify-List,

 id-DRBs-Required-ToBeModified-Item,

 id-DRBs-Required-ToBeModified-List,

 id-DRBs-Required-ToBeReleased-Item,

 id-DRBs-Required-ToBeReleased-List,

 id-DRBs-Setup-Item,

 id-DRBs-Setup-List,

 id-DRBs-SetupMod-Item,

 id-DRBs-SetupMod-List,

 id-DRBs-ToBeModified-Item,

 id-DRBs-ToBeModified-List,

 id-DRBs-ToBeReleased-Item,

 id-DRBs-ToBeReleased-List,

 id-DRBs-ToBeSetup-Item,

 id-DRBs-ToBeSetup-List,

 id-DRBs-ToBeSetupMod-Item,

 id-DRBs-ToBeSetupMod-List,

 id-DRXCycle,

 id-DUtoCURRCInformation,

 id-ExecuteDuplication,

 id-FullConfiguration,

 id-gNB-CU-UE-F1AP-ID,

 id-gNB-DU-UE-F1AP-ID,

 id-gNB-DU-ID,

 id-GNB-DU-Served-Cells-Item,

 id-gNB-DU-Served-Cells-List,

 id-gNB-CU-Name,

 id-gNB-DU-Name,

 id-InactivityMonitoringRequest,

 id-InactivityMonitoringResponse,

 id-new-gNB-CU-UE-F1AP-ID,

 id-new-gNB-DU-UE-F1AP-ID,

 id-oldgNB-DU-UE-F1AP-ID,

 id-PLMNAssistanceInfoForNetShar,

 id-Potential-SpCell-Item,

 id-Potential-SpCell-List,

 id-RAT-FrequencyPriorityInformation,

 id-RedirectedRRCmessage,

 id-ResetType,

 id-RequestedSRSTransmissionCharacteristics,

 id-ResourceCoordinationTransferContainer,

 id-RRCContainer,

 id-RRCContainer-RRCSetupComplete,

 id-RRCReconfigurationCompleteIndicator,

 id-SCell-FailedtoSetup-List,

 id-SCell-FailedtoSetup-Item,

 id-SCell-FailedtoSetupMod-List,

 id-SCell-FailedtoSetupMod-Item,

 id-SCell-ToBeRemoved-Item,

 id-SCell-ToBeRemoved-List,

 id-SCell-ToBeSetup-Item,

 id-SCell-ToBeSetup-List,

 id-SCell-ToBeSetupMod-Item,

 id-SCell-ToBeSetupMod-List,

 id-SelectedPLMNID,

 id-Served-Cells-To-Add-Item,

 id-Served-Cells-To-Add-List,

 id-Served-Cells-To-Delete-Item,

 id-Served-Cells-To-Delete-List,

 id-Served-Cells-To-Modify-Item,

 id-Served-Cells-To-Modify-List,

 id-ServCellIndex,

 id-ServingCellMO,

 id-SpCell-ID,

 id-SpCellULConfigured,

 id-SRBID,

 id-SRBs-FailedToBeSetup-Item,

 id-SRBs-FailedToBeSetup-List,

 id-SRBs-FailedToBeSetupMod-Item,

 id-SRBs-FailedToBeSetupMod-List,

 id-SRBs-Required-ToBeReleased-Item,

 id-SRBs-Required-ToBeReleased-List,

 id-SRBs-ToBeReleased-Item,

 id-SRBs-ToBeReleased-List,

 id-SRBs-ToBeSetup-Item,

 id-SRBs-ToBeSetup-List,

 id-SRBs-ToBeSetupMod-Item,

 id-SRBs-ToBeSetupMod-List,

 id-SRBs-Modified-Item,

 id-SRBs-Modified-List,

 id-SRBs-Setup-Item,

 id-SRBs-Setup-List,

 id-SRBs-SetupMod-Item,

 id-SRBs-SetupMod-List,

 id-TimeToWait,

 id-TransactionID,

 id-TransmissionActionIndicator,

 id-UEContextNotRetrievable,

 id-UE-associatedLogicalF1-ConnectionItem,

 id-UE-associatedLogicalF1-ConnectionListResAck,

 id-DUtoCURRCContainer,

 id-NRCGI,

 id-PagingCell-Item,

 id-PagingCell-List,

 id-PagingDRX,

 id-PagingPriority,

 id-SItype-List,

 id-UEIdentityIndexValue,

 id-GNB-CU-TNL-Association-Setup-List,

 id-GNB-CU-TNL-Association-Setup-Item,

 id-GNB-CU-TNL-Association-Failed-To-Setup-List,

 id-GNB-CU-TNL-Association-Failed-To-Setup-Item,

 id-GNB-CU-TNL-Association-To-Add-Item,

 id-GNB-CU-TNL-Association-To-Add-List,

 id-GNB-CU-TNL-Association-To-Remove-Item,

 id-GNB-CU-TNL-Association-To-Remove-List,

 id-GNB-CU-TNL-Association-To-Update-Item,

 id-GNB-CU-TNL-Association-To-Update-List,

 id-MaskedIMEISV,

 id-PagingIdentity,

 id-Cells-to-be-Barred-List,

 id-Cells-to-be-Barred-Item,

 id-PWSSystemInformation,

 id-RepetitionPeriod,

 id-NumberofBroadcastRequest,

 id-Cells-To-Be-Broadcast-List,

 id-Cells-To-Be-Broadcast-Item,

 id-Cells-Broadcast-Completed-List,

 id-Cells-Broadcast-Completed-Item,

 id-Broadcast-To-Be-Cancelled-List,

 id-Broadcast-To-Be-Cancelled-Item,

 id-Cells-Broadcast-Cancelled-List,

 id-Cells-Broadcast-Cancelled-Item,

 id-NR-CGI-List-For-Restart-List,

 id-NR-CGI-List-For-Restart-Item,

 id-PWS-Failed-NR-CGI-List,

 id-PWS-Failed-NR-CGI-Item,

 id-EUTRA-NR-CellResourceCoordinationReq-Container,

 id-EUTRA-NR-CellResourceCoordinationReqAck-Container,

 id-Protected-EUTRA-Resources-List,

 id-RequestType,

 id-ServingPLMN,

 id-DRXConfigurationIndicator,

 id-RLCFailureIndication,

 id-UplinkTxDirectCurrentListInformation,

 id-SULAccessIndication,

 id-Protected-EUTRA-Resources-Item,

 id-GNB-DUConfigurationQuery,

 id-GNB-DU-UE-AMBR-UL,

 id-GNB-CU-RRC-Version,

 id-GNB-DU-RRC-Version,

 id-GNBDUOverloadInformation,

 id-NeedforGap,

 id-RRCDeliveryStatusRequest,

 id-RRCDeliveryStatus,

 id-Dedicated-SIDelivery-NeededUE-List,

 id-Dedicated-SIDelivery-NeededUE-Item,

 id-ResourceCoordinationTransferInformation,

 id-Associated-SCell-List,

 id-Associated-SCell-Item,

 id-IgnoreResourceCoordinationContainer,

 id-UAC-Assistance-Info,

 id-RANUEID,

 id-PagingOrigin,

 id-GNB-DU-TNL-Association-To-Remove-Item,

 id-GNB-DU-TNL-Association-To-Remove-List,

 id-NotificationInformation,

 id-TraceActivation,

 id-TraceID,

 id-Neighbour-Cell-Information-List,

 id-Neighbour-Cell-Information-Item,

 id-SymbolAllocInSlot,

 id-NumDLULSymbols,

 id-AdditionalRRMPriorityIndex,

 id-DUCURadioInformationType,

 id-CUDURadioInformationType,

 id-LowerLayerPresenceStatusChange,

 id-Transport-Layer-Address-Info,

 id-PosAssistance-Information,

 id-PosBroadcast,

 id-PosBroadcastTargetCell,

 id-RoutingID,

 id-PosAssistanceInformationFailureList,

 id-PosMeasurementQuantities,

 id-PosMeasurementResultList,

 id-PosMeasurementFailureList,

 id-PosMeasurementList,

 id-PosMeasurementstoModify,

 id-TRPInformationTypeListTRPReq,

 id-TRPInformationTypeItem,

 id-TRPInformationListTRPResp,

 id-TRPInformationItem,

 id-LMF-UE-MeasurementID,

 id-SRSType,

 id-ActivationTime,

 id-SRSResourceSetID,

 maxCellingNBDU,

 maxnoofCandidateSpCells,

 maxnoofDRBs,

 maxnoofErrors,

 maxnoofIndividualF1ConnectionsToReset,

 maxnoofPotentialSpCells,

 maxnoofSCells,

 maxnoofSRBs,

 maxnoofPagingCells,

 maxnoofTNLAssociations,

 maxCellineNB,

 maxnoofUEIDs,

 maxnoofTRPInfoTypes,

 maxnoofTRPs

FROM F1AP-Constants;

**\*\*\* skip unchanged asn \*\*\***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- POSITONING ACTIVATION PROCEDURE

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Positioning Activation Request

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

PositioningActivationRequest ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { PositioningActivationRequestIEs} },

 ...

}

PositioningActivationRequestIEs F1-PROTOCOL-IES ::= {

 { ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-SRSType CRITICALITY reject TYPE SRSType PRESENCE mandatory }|

 { ID id-ActivationTime CRITICALITY reject TYPE ActivationTime PRESENCE mandatory },

 ...

}

SRSType ::= CHOICE {

 semipersistentSRS SemipersistentSRS,

 aperiodicSRS AperiodicSRS,

 choice-extension ProtocolIE-SingleContainer { { SRSType-ExtIEs} }

}

SRSType-ExtIEs F1-PROTOCOL-IES ::= {

 ...

}

SemipersistentSRS ::= SEQUENCE {

 sRSResourceSetID SRSResourceSetID,

 sRSSpatialRelation SRSSpatialRelation,

 iE-Extensions ProtocolExtensionContainer { {SemipersistentSRS-ExtIEs} } OPTIONAL,

 ...

}

SemipersistentSRS-ExtIEs F1-PROTOCOL-EXTENSION ::= {

 ...

}

AperiodicSRS ::= SEQUENCE {

 sRSResourceTrigger SRSResourceTrigger,

 iE-Extensions ProtocolExtensionContainer { {AperiodicSRS-ExtIEs} } OPTIONAL,

 ...

}

AperiodicSRS-ExtIEs F1-PROTOCOL-EXTENSION ::= {

 ...

}

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Positioning Activation Response

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

PositioningActivationResponse ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { PositioningActivationResponseIEs} },

 ...

}

PositioningActivationResponseIEs F1-PROTOCOL-IES ::= {

 { ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },

 ...

}

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Positioning Activation Failure

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

PositioningActivationFailure ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { PositioningActivationFailureIEs} },

 ...

}

PositioningActivationFailureIEs F1-PROTOCOL-IES ::= {

 { ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|

 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },

 ...

}

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- POSITONING DEACTIVATION PROCEDURE

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Positioning Deactivation

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

PositioningDeactivation ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { PositioningActivationRequestIEs} },

 ...

}

PositioningDeactivationIEs F1-PROTOCOL-IES ::= {

 { ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

 { ID id-SRSResourceSetID CRITICALITY ignore TYPE SRSResourceSetID PRESENCE mandatory },

 ...

}

END

-- ASN1STOP

### 9.4.5 Information Element Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Information Element Definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

F1AP-IEs {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

 id-gNB-CUSystemInformation,

 id-HandoverPreparationInformation,

 id-TAISliceSupportList,

 id-RANAC,

 id-BearerTypeChange,

 id-Cell-Direction,

 id-Cell-Type,

 id-CellGroupConfig,

 id-AvailablePLMNList,

 id-PDUSessionID,

 id-ULPDUSessionAggregateMaximumBitRate,

 id-DC-Based-Duplication-Configured,

 id-DC-Based-Duplication-Activation,

 id-Duplication-Activation,

 id-DLPDCPSNLength,

 id-ULPDCPSNLength,

 id-RLC-Status,

 id-MeasurementTimingConfiguration,

 id-DRB-Information,

 id-QoSFlowMappingIndication,

 id-ServingCellMO,

 id-RLCMode,

 id-ExtendedServedPLMNs-List,

 id-ExtendedAvailablePLMN-List,

 id-DRX-LongCycleStartOffset,

 id-SelectedBandCombinationIndex,

 id-SelectedFeatureSetEntryIndex,

 id-Ph-InfoSCG,

 id-latest-RRC-Version-Enhanced,

 id-RequestedBandCombinationIndex,

 id-RequestedFeatureSetEntryIndex,

 id-DRX-Config,

 id-UEAssistanceInformation,

 id-PDCCH-BlindDetectionSCG,

 id-Requested-PDCCH-BlindDetectionSCG,

 id-BPLMN-ID-Info-List,

 id-NotificationInformation,

 id-TNLAssociationTransportLayerAddressgNBDU,

 id-portNumber,

 id-AdditionalSIBMessageList,

 id-IgnorePRACHConfiguration,

 id-CG-Config,

 id-Ph-InfoMCG,

 id-AggressorgNBSetID,

 id-VictimgNBSetID,

 id-MeasGapSharingConfig,

 id-systemInformationAreaID,

 id-areaScope,

 id-IntendedTDD-DL-ULConfig,

 id-QosMonitoringRequest,

 maxNRARFCN,

 maxnoofErrors,

 maxnoofBPLMNs,

 maxnoofBPLMNsNRminus1,

 maxnoofDLUPTNLInformation,

 maxnoofNrCellBands,

 maxnoofULUPTNLInformation,

 maxnoofQoSFlows,

 maxnoofSliceItems,

 maxnoofSIBTypes,

 maxnoofSITypes,

 maxCellineNB,

 maxnoofExtendedBPLMNs,

 maxnoofAdditionalSIBs,

 maxnoofUACPLMNs,

 maxnoofUACperPLMN,

 maxCellingNBDU,

 maxnoofTLAs,

 maxnoofGTPTLAs,

 maxnoofslots,

 maxnoMeas,

 maxnoofTRPInfoTypes,

 maxnoSRSTriggerStates,

 maxnoSpatialRelations

FROM F1AP-Constants

 Criticality,

 ProcedureCode,

 ProtocolIE-ID,

 TriggeringMessage

FROM F1AP-CommonDataTypes

 ProtocolExtensionContainer{},

 F1AP-PROTOCOL-EXTENSION,

 ProtocolIE-SingleContainer{},

 F1AP-PROTOCOL-IES

FROM F1AP-Containers;

-- A

--This IE is FFS –

AccessPointPosition ::= SEQUENCE {

 latitudeSign ENUMERATED {north, south},

 latitude INTEGER (0..8388607),

 longitude INTEGER (-8388608..8388607),

 directionOfAltitude ENUMERATED {height, depth},

 altitude INTEGER (0..32767),

 uncertaintySemi-major INTEGER (0..127),

 uncertaintySemi-minor INTEGER (0..127),

 orientationOfMajorAxis INTEGER (0..179),

 uncertaintyAltitude INTEGER (0..127),

 confidence INTEGER (0..100),

 iE-Extensions ProtocolExtensionContainer { { AccessPointPosition-ExtIEs} } OPTIONAL,

 ...

}

AccessPointPosition-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ActivationTime ::= BIT STRING (SIZE (64))

AdditionalSIBMessageList ::= SEQUENCE (SIZE(1..maxnoofAdditionalSIBs)) OF AdditionalSIBMessageList-Item

AdditionalSIBMessageList-Item ::= SEQUENCE {

 additionalSIB OCTET STRING,

 iE-Extensions ProtocolExtensionContainer { { AdditionalSIBMessageList-Item-ExtIEs} } OPTIONAL

}

AdditionalSIBMessageList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AdditionalRRMPriorityIndex ::= BIT STRING (SIZE(32))

AggressorCellList ::= SEQUENCE (SIZE(1..maxCellingNBDU)) OF AggressorCellList-Item

AggressorCellList-Item ::= SEQUENCE {

 aggressorCell-ID NRCGI,

 iE-Extensions ProtocolExtensionContainer { { AggressorCellList-Item-ExtIEs } } OPTIONAL

}

AggressorCellList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AggressorgNBSetID ::= SEQUENCE {

 aggressorgNBSetID GNBSetID,

 iE-Extensions ProtocolExtensionContainer { { AggressorgNBSetID-ExtIEs } } OPTIONAL

}

AggressorgNBSetID-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AllocationAndRetentionPriority ::= SEQUENCE {

 priorityLevel PriorityLevel,

 pre-emptionCapability Pre-emptionCapability,

 pre-emptionVulnerability Pre-emptionVulnerability,

 iE-Extensions ProtocolExtensionContainer { {AllocationAndRetentionPriority-ExtIEs} } OPTIONAL,

 ...

}

AllocationAndRetentionPriority-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AperiodicSRSResourceTriggerList ::= SEQUENCE (SIZE(1..maxnoSRSTriggerStates)) OF AperiodicSRSResourceTrigger

AperiodicSRSResourceTrigger ::= INTEGER (0..3, ...)

Associated-SCell-Item ::= SEQUENCE {

 sCell-ID NRCGI,

 iE-Extensions ProtocolExtensionContainer { { Associated-SCell-ItemExtIEs } } OPTIONAL

}

Associated-SCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AvailablePLMNList ::= SEQUENCE (SIZE(1..maxnoofBPLMNs)) OF AvailablePLMNList-Item

AvailablePLMNList-Item ::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 iE-Extensions ProtocolExtensionContainer { { AvailablePLMNList-Item-ExtIEs} } OPTIONAL

}

AvailablePLMNList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

AveragingWindow ::= INTEGER (0..4095, ...)

AreaScope ::= ENUMERATED {true, ...}

-- B

BitRate ::= INTEGER (0..4000000000000,...)

BearerTypeChange ::= ENUMERATED {true, ...}

BPLMN-ID-Info-List ::= SEQUENCE (SIZE(1..maxnoofBPLMNsNRminus1)) OF BPLMN-ID-Info-Item

BPLMN-ID-Info-Item ::= SEQUENCE {

 pLMN-Identity-List AvailablePLMNList,

 extended-PLMN-Identity-List ExtendedAvailablePLMN-List OPTIONAL,

 fiveGS-TAC FiveGS-TAC OPTIONAL,

 nr-cell-ID NRCellIdentity,

 ranac RANAC OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { BPLMN-ID-Info-ItemExtIEs} } OPTIONAL,

 ...

}

BPLMN-ID-Info-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ServedPLMNs-List ::= SEQUENCE (SIZE(1..maxnoofBPLMNs)) OF ServedPLMNs-Item

ServedPLMNs-Item ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 iE-Extensions ProtocolExtensionContainer { { ServedPLMNs-ItemExtIEs} } OPTIONAL,

 ...

}

ServedPLMNs-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-TAISliceSupportList CRITICALITY ignore EXTENSION SliceSupportList PRESENCE optional },

 ...

}

-- C

Cancel-all-Warning-Messages-Indicator ::= ENUMERATED {true, ...}

Candidate-SpCell-Item ::= SEQUENCE {

 candidate-SpCell-ID NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { Candidate-SpCell-ItemExtIEs } } OPTIONAL,

 ...

}

Candidate-SpCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cause ::= CHOICE {

 radioNetwork CauseRadioNetwork,

 transport CauseTransport,

 protocol CauseProtocol,

 misc CauseMisc,

 choice-extension ProtocolIE-SingleContainer { { Cause-ExtIEs} }

}

Cause-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

CauseMisc ::= ENUMERATED {

 control-processing-overload,

 not-enough-user-plane-processing-resources,

 hardware-failure,

 om-intervention,

 unspecified,

 ...

}

CauseProtocol ::= ENUMERATED {

 transfer-syntax-error,

 abstract-syntax-error-reject,

 abstract-syntax-error-ignore-and-notify,

 message-not-compatible-with-receiver-state,

 semantic-error,

 abstract-syntax-error-falsely-constructed-message,

 unspecified,

 ...

}

CauseRadioNetwork ::= ENUMERATED {

 unspecified,

 rl-failure-rlc,

 unknown-or-already-allocated-gnb-cu-ue-f1ap-id,

 unknown-or-already-allocated-gnb-du-ue-f1ap-id,

 unknown-or-inconsistent-pair-of-ue-f1ap-id,

 interaction-with-other-procedure,

 not-supported-qci-Value,

 action-desirable-for-radio-reasons,

 no-radio-resources-available,

 procedure-cancelled,

 normal-release,

 ...,

 cell-not-available,

 rl-failure-others,

 ue-rejection,

 resources-not-available-for-the-slice,

 amf-initiated-abnormal-release,

 release-due-to-pre-emption,

 plmn-not-served-by-the-gNB-CU,

 multiple-drb-id-instances,

 unknown-drb-id

}

CauseTransport ::= ENUMERATED {

 unspecified,

 transport-resource-unavailable,

 ...

}

CellGroupConfig ::= OCTET STRING

Cell-Direction ::= ENUMERATED {dl-only, ul-only}

Cell-Portion-ID ::= INTEGER (0..4095,...)

Cells-Failed-to-be-Activated-List-Item ::= SEQUENCE {

 nRCGI NRCGI,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { Cells-Failed-to-be-Activated-List-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-Failed-to-be-Activated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-Status-Item ::= SEQUENCE {

 nRCGI NRCGI,

 service-status Service-Status,

 iE-Extensions ProtocolExtensionContainer { { Cells-Status-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-Status-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-To-Be-Broadcast-Item ::= SEQUENCE {

 nRCGI NRCGI,

 iE-Extensions ProtocolExtensionContainer { { Cells-To-Be-Broadcast-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-To-Be-Broadcast-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-Broadcast-Completed-Item ::= SEQUENCE {

 nRCGI NRCGI,

 iE-Extensions ProtocolExtensionContainer { { Cells-Broadcast-Completed-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-Broadcast-Completed-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Broadcast-To-Be-Cancelled-Item ::= SEQUENCE {

 nRCGI NRCGI,

 iE-Extensions ProtocolExtensionContainer { { Broadcast-To-Be-Cancelled-ItemExtIEs } } OPTIONAL,

 ...

}

Broadcast-To-Be-Cancelled-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-Broadcast-Cancelled-Item ::= SEQUENCE {

 nRCGI NRCGI,

 numberOfBroadcasts NumberOfBroadcasts,

 iE-Extensions ProtocolExtensionContainer { { Cells-Broadcast-Cancelled-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-Broadcast-Cancelled-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-to-be-Activated-List-Item ::= SEQUENCE {

 nRCGI NRCGI,

 nRPCI NRPCI OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Activated-List-ItemExtIEs} } OPTIONAL,

 ...

}

Cells-to-be-Activated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-gNB-CUSystemInformation CRITICALITY reject EXTENSION GNB-CUSystemInformation PRESENCE optional }|

 { ID id-AvailablePLMNList CRITICALITY ignore EXTENSION AvailablePLMNList PRESENCE optional }|

 { ID id-ExtendedAvailablePLMN-List CRITICALITY ignore EXTENSION ExtendedAvailablePLMN-List PRESENCE optional },

 ...

}

Cells-to-be-Deactivated-List-Item ::= SEQUENCE {

 nRCGI NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Deactivated-List-ItemExtIEs } } OPTIONAL,

 ...

}

Cells-to-be-Deactivated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Cells-to-be-Barred-Item::= SEQUENCE {

 nRCGI NRCGI ,

 cellBarred CellBarred,

 iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Barred-Item-ExtIEs } } OPTIONAL

}

Cells-to-be-Barred-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CellBarred ::= ENUMERATED {barred, not-barred, ...}

CellSize ::= ENUMERATED {verysmall, small, medium, large, ...}

CellType ::= SEQUENCE {

 cellSize CellSize,

 iE-Extensions ProtocolExtensionContainer { {CellType-ExtIEs} } OPTIONAL,

 ...

}

CellType-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CellULConfigured ::= ENUMERATED {none, ul, sul, ul-and-sul, ...}

CNUEPagingIdentity ::= CHOICE {

 fiveG-S-TMSI BIT STRING (SIZE(48)),

 choice-extension ProtocolIE-SingleContainer { { CNUEPagingIdentity-ExtIEs } }

}

CNUEPagingIdentity-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

CP-TransportLayerAddress ::= CHOICE {

 endpoint-IP-address TransportLayerAddress,

 endpoint-IP-address-and-port Endpoint-IP-address-and-port,

 choice-extension ProtocolIE-SingleContainer { { CP-TransportLayerAddress-ExtIEs } }

}

CP-TransportLayerAddress-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

CriticalityDiagnostics ::= SEQUENCE {

 procedureCode ProcedureCode OPTIONAL,

 triggeringMessage TriggeringMessage OPTIONAL,

 procedureCriticality Criticality OPTIONAL,

 transactionID TransactionID OPTIONAL,

 iEsCriticalityDiagnostics CriticalityDiagnostics-IE-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer {{CriticalityDiagnostics-ExtIEs}} OPTIONAL,

 ...

}

CriticalityDiagnostics-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1.. maxnoofErrors)) OF CriticalityDiagnostics-IE-Item

CriticalityDiagnostics-IE-Item ::= SEQUENCE {

 iECriticality Criticality,

 iE-ID ProtocolIE-ID,

 typeOfError TypeOfError,

 iE-Extensions ProtocolExtensionContainer {{CriticalityDiagnostics-IE-Item-ExtIEs}} OPTIONAL,

 ...

}

CriticalityDiagnostics-IE-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

C-RNTI ::= INTEGER (0..65535, ...)

CUDURadioInformationType ::= CHOICE {

 rIM CUDURIMInformation,

 choice-extension ProtocolIE-SingleContainer { { CUDURadioInformationType-ExtIEs} }

}

CUDURadioInformationType-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

CUDURIMInformation ::= SEQUENCE {

 victimgNBSetID GNBSetID,

 rIMRSDetectionStatus RIMRSDetectionStatus,

 iE-Extensions ProtocolExtensionContainer { { CUDURIMInformation-ExtIEs} } OPTIONAL

}

CUDURIMInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CUtoDURRCInformation ::= SEQUENCE {

 cG-ConfigInfo CG-ConfigInfo OPTIONAL,

 uE-CapabilityRAT-ContainerList UE-CapabilityRAT-ContainerList OPTIONAL,

 measConfig MeasConfig OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { CUtoDURRCInformation-ExtIEs} } OPTIONAL,

 ...

}

CUtoDURRCInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-HandoverPreparationInformation CRITICALITY ignore EXTENSION HandoverPreparationInformation PRESENCE optional }|

 { ID id-CellGroupConfig CRITICALITY ignore EXTENSION CellGroupConfig PRESENCE optional }|

 { ID id-MeasurementTimingConfiguration CRITICALITY ignore EXTENSION MeasurementTimingConfiguration PRESENCE optional }|

 { ID id-UEAssistanceInformation CRITICALITY ignore EXTENSION UEAssistanceInformation PRESENCE optional }|

 { ID id-CG-Config CRITICALITY ignore EXTENSION CG-Config PRESENCE optional },

 ...

}

-- D

DCBasedDuplicationConfigured::= ENUMERATED{true,..., false}

Dedicated-SIDelivery-NeededUE-Item ::= SEQUENCE {

 gNB-CU-UE-F1AP-ID GNB-CU-UE-F1AP-ID,

 nRCGI NRCGI,

 iE-Extensions ProtocolExtensionContainer { { DedicatedSIDeliveryNeededUE-Item-ExtIEs} } OPTIONAL,

 ...

}

DedicatedSIDeliveryNeededUE-Item-ExtIEs F1AP-PROTOCOL-EXTENSION::={

 ...

}

DL-PRS ::= SEQUENCE {

 prsid INTEGER (0..255),

 dl-PRSResourceSetID INTEGER (0..7),

 dl-PRSResourceID INTEGER (0..63) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {DL-PRS-ExtIEs} } OPTIONAL,

 ...

}

DL-PRS-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

 ...

}

DLUPTNLInformation-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofDLUPTNLInformation)) OF DLUPTNLInformation-ToBeSetup-Item

DLUPTNLInformation-ToBeSetup-Item ::= SEQUENCE {

 dLUPTNLInformation UPTransportLayerInformation ,

 iE-Extensions ProtocolExtensionContainer { { DLUPTNLInformation-ToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

DLUPTNLInformation-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRB-Activity-Item ::= SEQUENCE {

 dRBID DRBID,

 dRB-Activity DRB-Activity OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRB-Activity-ItemExtIEs } } OPTIONAL,

 ...

}

DRB-Activity-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRB-Activity ::= ENUMERATED {active, not-active}

DRBID ::= INTEGER (1..32, ...)

DRBs-FailedToBeModified-Item ::= SEQUENCE {

 dRBID DRBID ,

 cause Cause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeModified-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-FailedToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-FailedToBeSetup-Item ::= SEQUENCE {

 dRBID DRBID,

 cause Cause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-FailedToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-FailedToBeSetupMod-Item ::= SEQUENCE {

 dRBID DRBID ,

 cause Cause OPTIONAL ,

 iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-FailedToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRB-Information ::= SEQUENCE {

 dRB-QoS QoSFlowLevelQoSParameters,

 sNSSAI SNSSAI,

 notificationControl NotificationControl OPTIONAL,

 flows-Mapped-To-DRB-List Flows-Mapped-To-DRB-List,

 iE-Extensions ProtocolExtensionContainer { { DRB-Information-ItemExtIEs } } OPTIONAL

}

DRB-Information-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-Modified-Item ::= SEQUENCE {

 dRBID DRBID,

 lCID LCID OPTIONAL,

 dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List,

 iE-Extensions ProtocolExtensionContainer { { DRBs-Modified-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-Modified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-RLC-Status CRITICALITY ignore EXTENSION RLC-Status PRESENCE optional },

 ...

}

DRBs-ModifiedConf-Item ::= SEQUENCE {

 dRBID DRBID,

 uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

 iE-Extensions ProtocolExtensionContainer { { DRBs-ModifiedConf-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-ModifiedConf-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRB-Notify-Item ::= SEQUENCE {

 dRBID DRBID,

 notification-Cause Notification-Cause,

 iE-Extensions ProtocolExtensionContainer { { DRB-Notify-ItemExtIEs } } OPTIONAL,

 ...

}

DRB-Notify-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-Required-ToBeModified-Item ::= SEQUENCE {

 dRBID DRBID,

 dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

 iE-Extensions ProtocolExtensionContainer { { DRBs-Required-ToBeModified-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-Required-ToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-RLC-Status CRITICALITY ignore EXTENSION RLC-Status PRESENCE optional },

 ...

}

DRBs-Required-ToBeReleased-Item ::= SEQUENCE {

 dRBID DRBID,

 iE-Extensions ProtocolExtensionContainer { { DRBs-Required-ToBeReleased-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-Required-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-Setup-Item ::= SEQUENCE {

 dRBID DRBID,

 lCID LCID OPTIONAL,

 dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

 iE-Extensions ProtocolExtensionContainer { { DRBs-Setup-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-Setup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-SetupMod-Item ::= SEQUENCE {

 dRBID DRBID,

 lCID LCID OPTIONAL,

 dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

 iE-Extensions ProtocolExtensionContainer { { DRBs-SetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-SetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-ToBeModified-Item ::= SEQUENCE {

 dRBID DRBID,

 qoSInformation QoSInformation OPTIONAL,

 uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

 uLConfiguration ULConfiguration OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeModified-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-ToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

 { ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

 {ID id-BearerTypeChange CRITICALITY ignore EXTENSION BearerTypeChange PRESENCE optional}|

 { ID id-RLCMode CRITICALITY ignore EXTENSION RLCMode PRESENCE optional }|

 { ID id-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

 { ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

 { ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional },

 ...

}

DRBs-ToBeReleased-Item ::= SEQUENCE {

 dRBID DRBID,

 iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeReleased-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBs-ToBeSetup-Item ::= SEQUENCE {

 dRBID DRBID,

 qoSInformation QoSInformation,

 uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

 rLCMode RLCMode,

 uLConfiguration ULConfiguration OPTIONAL,

 duplicationActivation DuplicationActivation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

 { ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

 { ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE mandatory }|

 { ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional },

 ...

}

DRBs-ToBeSetupMod-Item ::= SEQUENCE {

 dRBID DRBID,

 qoSInformation QoSInformation,

 uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List,

 rLCMode RLCMode,

 uLConfiguration ULConfiguration OPTIONAL,

 duplicationActivation DuplicationActivation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

DRBs-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

 { ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

 { ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

 { ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional },

 ...

}

DRXCycle ::= SEQUENCE {

 longDRXCycleLength LongDRXCycleLength,

 shortDRXCycleLength ShortDRXCycleLength OPTIONAL,

 shortDRXCycleTimer ShortDRXCycleTimer OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DRXCycle-ExtIEs} } OPTIONAL,

 ...

}

DRXCycle-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRX-Config ::= OCTET STRING

DRXConfigurationIndicator ::= ENUMERATED{ release, ...}

DRX-LongCycleStartOffset ::= INTEGER (0..10239)

DUtoCURRCContainer ::= OCTET STRING

DUCURadioInformationType ::= CHOICE {

 rIM DUCURIMInformation,

 choice-extension ProtocolIE-SingleContainer { { DUCURadioInformationType-ExtIEs} }

}

DUCURadioInformationType-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

DUCURIMInformation ::= SEQUENCE {

 victimgNBSetID GNBSetID,

 rIMRSDetectionStatus RIMRSDetectionStatus,

 aggressorCellList AggressorCellList,

 iE-Extensions ProtocolExtensionContainer { { DUCURIMInformation-ExtIEs} } OPTIONAL

}

DUCURIMInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DUtoCURRCInformation ::= SEQUENCE {

 cellGroupConfig CellGroupConfig,

 measGapConfig MeasGapConfig OPTIONAL,

 requestedP-MaxFR1 OCTET STRING OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { DUtoCURRCInformation-ExtIEs} } OPTIONAL,

 ...

}

DUtoCURRCInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-DRX-LongCycleStartOffset CRITICALITY ignore EXTENSION DRX-LongCycleStartOffset PRESENCE optional }|

 { ID id-SelectedBandCombinationIndex CRITICALITY ignore EXTENSION SelectedBandCombinationIndex PRESENCE optional }|

 { ID id-SelectedFeatureSetEntryIndex CRITICALITY ignore EXTENSION SelectedFeatureSetEntryIndex PRESENCE optional }|

 { ID id-Ph-InfoSCG CRITICALITY ignore EXTENSION Ph-InfoSCG PRESENCE optional }|

 { ID id-RequestedBandCombinationIndex CRITICALITY ignore EXTENSION RequestedBandCombinationIndex PRESENCE optional }|

 { ID id-RequestedFeatureSetEntryIndex CRITICALITY ignore EXTENSION RequestedFeatureSetEntryIndex PRESENCE optional }|

 { ID id-DRX-Config CRITICALITY ignore EXTENSION DRX-Config PRESENCE optional }|

 { ID id-PDCCH-BlindDetectionSCG CRITICALITY ignore EXTENSION PDCCH-BlindDetectionSCG PRESENCE optional }|

 { ID id-Requested-PDCCH-BlindDetectionSCG CRITICALITY ignore EXTENSION Requested-PDCCH-BlindDetectionSCG PRESENCE optional }|

 { ID id-Ph-InfoMCG CRITICALITY ignore EXTENSION Ph-InfoMCG PRESENCE optional }|

 { ID id-MeasGapSharingConfig CRITICALITY ignore EXTENSION MeasGapSharingConfig PRESENCE optional },

 ...

}

DuplicationActivation ::= ENUMERATED{active,inactive,... }

DuplicationIndication ::= ENUMERATED {true, ... , false }

Dynamic5QIDescriptor ::= SEQUENCE {

 qoSPriorityLevel INTEGER (1..127),

 packetDelayBudget PacketDelayBudget,

 packetErrorRate PacketErrorRate,

 fiveQI INTEGER (0..255, ...) OPTIONAL,

 delayCritical ENUMERATED {delay-critical, non-delay-critical} OPTIONAL,

 -- C-ifGBRflow: This IE shall be present if the GBR QoS Flow Information IE is present in the QoS Flow Level QoS Parameters IE.

 averagingWindow AveragingWindow OPTIONAL,

 -- C-ifGBRflow: This IE shall be present if the GBR QoS Flow Information IE is present in the QoS Flow Level QoS Parameters IE.

 maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Dynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

Dynamic5QIDescriptor-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- E

Endpoint-IP-address-and-port ::=SEQUENCE {

 endpointIPAddress TransportLayerAddress,

 iE-Extensions ProtocolExtensionContainer { { Endpoint-IP-address-and-port-ExtIEs} } OPTIONAL

}

Endpoint-IP-address-and-port-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-portNumber CRITICALITY reject EXTENSION PortNumber PRESENCE optional},

 ...

}

ExtendedAvailablePLMN-List ::= SEQUENCE (SIZE(1..maxnoofExtendedBPLMNs)) OF ExtendedAvailablePLMN-Item

ExtendedAvailablePLMN-Item ::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 iE-Extensions ProtocolExtensionContainer { { ExtendedAvailablePLMN-Item-ExtIEs} } OPTIONAL

}

ExtendedAvailablePLMN-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ExtendedServedPLMNs-List ::= SEQUENCE (SIZE(1.. maxnoofExtendedBPLMNs)) OF ExtendedServedPLMNs-Item

ExtendedServedPLMNs-Item ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 tAISliceSupportList SliceSupportList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { ExtendedServedPLMNs-ItemExtIEs} } OPTIONAL,

 ...

}

ExtendedServedPLMNs-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRACells-List ::= SEQUENCE (SIZE (1.. maxCellineNB)) OF EUTRACells-List-item

EUTRACells-List-item ::= SEQUENCE {

 eUTRA-Cell-ID EUTRA-Cell-ID,

 served-EUTRA-Cells-Information Served-EUTRA-Cells-Information,

 iE-Extensions ProtocolExtensionContainer { { EUTRACells-List-itemExtIEs } } OPTIONAL

}

EUTRACells-List-itemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-Cell-ID ::= BIT STRING (SIZE(28))

EUTRA-Coex-FDD-Info ::= SEQUENCE {

 uL-EARFCN ExtendedEARFCN OPTIONAL,

 dL-EARFCN ExtendedEARFCN,

 uL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth OPTIONAL,

 dL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-FDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-Coex-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-Coex-Mode-Info ::= CHOICE {

 fDD EUTRA-Coex-FDD-Info,

 tDD EUTRA-Coex-TDD-Info,

 ...

}

EUTRA-Coex-TDD-Info ::= SEQUENCE {

 eARFCN ExtendedEARFCN,

 transmission-Bandwidth EUTRA-Transmission-Bandwidth,

 subframeAssignment EUTRA-SubframeAssignment,

 specialSubframe-Info EUTRA-SpecialSubframe-Info,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-Coex-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-CyclicPrefixDL ::= ENUMERATED {

 normal,

 extended,

 ...

}

EUTRA-CyclicPrefixUL ::= ENUMERATED {

 normal,

 extended,

 ...

}

EUTRA-PRACH-Configuration ::= SEQUENCE {

 rootSequenceIndex INTEGER (0..837),

 zeroCorrelationIndex INTEGER (0..15),

 highSpeedFlag BOOLEAN,

 prach-FreqOffset INTEGER (0..94),

 prach-ConfigIndex INTEGER (0..63) OPTIONAL,

 -- C-ifTDD: This IE shall be present if the EUTRA-Mode-Info IE in the Resource Coordination E-UTRA Cell Information IE is set to the value "TDD"

 iE-Extensions ProtocolExtensionContainer { {EUTRA-PRACH-Configuration-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-PRACH-Configuration-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-SpecialSubframe-Info ::= SEQUENCE {

 specialSubframePatterns EUTRA-SpecialSubframePatterns,

 cyclicPrefixDL EUTRA-CyclicPrefixDL,

 cyclicPrefixUL EUTRA-CyclicPrefixUL,

 iE-Extensions ProtocolExtensionContainer { { EUTRA-SpecialSubframe-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-SpecialSubframe-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-SpecialSubframePatterns ::= ENUMERATED {

 ssp0,

 ssp1,

 ssp2,

 ssp3,

 ssp4,

 ssp5,

 ssp6,

 ssp7,

 ssp8,

 ssp9,

 ssp10,

 ...

}

EUTRA-SubframeAssignment ::= ENUMERATED {

 sa0,

 sa1,

 sa2,

 sa3,

 sa4,

 sa5,

 sa6,

 ...

}

EUTRA-Transmission-Bandwidth ::= ENUMERATED {

 bw6,

 bw15,

 bw25,

 bw50,

 bw75,

 bw100,

 ...

}

EUTRANQoS ::= SEQUENCE {

 qCI QCI,

 allocationAndRetentionPriority AllocationAndRetentionPriority,

 gbrQosInformation GBR-QosInformation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { EUTRANQoS-ExtIEs} } OPTIONAL,

 ...

}

EUTRANQoS-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ExecuteDuplication ::= ENUMERATED{true,...}

ExtendedEARFCN ::= INTEGER (0..262143)

EUTRA-Mode-Info ::= CHOICE {

 eUTRAFDD EUTRA-FDD-Info,

 eUTRATDD EUTRA-TDD-Info,

 choice-extension ProtocolIE-SingleContainer { { EUTRA-Mode-Info-ExtIEs} }

}

EUTRA-Mode-Info-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

EUTRA-NR-CellResourceCoordinationReq-Container ::= OCTET STRING

EUTRA-NR-CellResourceCoordinationReqAck-Container ::= OCTET STRING

EUTRA-FDD-Info ::= SEQUENCE {

 uL-offsetToPointA OffsetToPointA,

 dL-offsetToPointA OffsetToPointA,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-FDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-TDD-Info ::= SEQUENCE {

 offsetToPointA OffsetToPointA,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- F

FDD-Info ::= SEQUENCE {

 uL-NRFreqInfo NRFreqInfo,

 dL-NRFreqInfo NRFreqInfo,

 uL-Transmission-Bandwidth Transmission-Bandwidth,

 dL-Transmission-Bandwidth Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { {FDD-Info-ExtIEs} } OPTIONAL,

 ...

}

FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Flows-Mapped-To-DRB-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF Flows-Mapped-To-DRB-Item

Flows-Mapped-To-DRB-Item ::= SEQUENCE {

 qoSFlowIdentifier QoSFlowIdentifier,

 qoSFlowLevelQoSParameters QoSFlowLevelQoSParameters,

 iE-Extensions ProtocolExtensionContainer { { Flows-Mapped-To-DRB-ItemExtIEs} } OPTIONAL

}

Flows-Mapped-To-DRB-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-QoSFlowMappingIndication CRITICALITY ignore EXTENSION QoSFlowMappingIndication PRESENCE optional},

 ...

}

FreqBandNrItem ::= SEQUENCE {

 freqBandIndicatorNr INTEGER (1..1024,...),

 supportedSULBandList SEQUENCE (SIZE(0..maxnoofNrCellBands)) OF SupportedSULFreqBandItem,

 iE-Extensions ProtocolExtensionContainer { {FreqBandNrItem-ExtIEs} } OPTIONAL,

 ...

}

FreqBandNrItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

FullConfiguration ::= ENUMERATED {full, ...}

-- G

GBR-QosInformation ::= SEQUENCE {

 e-RAB-MaximumBitrateDL BitRate,

 e-RAB-MaximumBitrateUL BitRate,

 e-RAB-GuaranteedBitrateDL BitRate,

 e-RAB-GuaranteedBitrateUL BitRate,

 iE-Extensions ProtocolExtensionContainer { { GBR-QosInformation-ExtIEs} } OPTIONAL,

 ...

}

GBR-QosInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GBR-QoSFlowInformation::= SEQUENCE {

 maxFlowBitRateDownlink BitRate,

 maxFlowBitRateUplink BitRate,

 guaranteedFlowBitRateDownlink BitRate,

 guaranteedFlowBitRateUplink BitRate,

 maxPacketLossRateDownlink MaxPacketLossRate OPTIONAL,

 maxPacketLossRateUplink MaxPacketLossRate OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { GBR-QosFlowInformation-ExtIEs} } OPTIONAL,

 ...

}

GBR-QosFlowInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CG-Config ::= OCTET STRING

GNB-CUSystemInformation::= SEQUENCE {

 sibtypetobeupdatedlist SEQUENCE (SIZE(1.. maxnoofSIBTypes)) OF SibtypetobeupdatedListItem,

 iE-Extensions ProtocolExtensionContainer { { GNB-CUSystemInformation-ExtIEs} } OPTIONAL,

 ...

}

GNB-CUSystemInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-systemInformationAreaID CRITICALITY ignore EXTENSION SystemInformationAreaID PRESENCE optional},

 ...

}

GNB-CU-TNL-Association-Setup-Item::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-Setup-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-Setup-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-CU-TNL-Association-Failed-To-Setup-Item ::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-Failed-To-Setup-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-Failed-To-Setup-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-CU-TNL-Association-To-Add-Item ::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 tNLAssociationUsage TNLAssociationUsage,

 iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Add-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Add-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-CU-TNL-Association-To-Remove-Item::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Remove-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-TNLAssociationTransportLayerAddressgNBDU CRITICALITY reject EXTENSION CP-TransportLayerAddress PRESENCE optional},

 ...

}

GNB-CU-TNL-Association-To-Update-Item::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 tNLAssociationUsage TNLAssociationUsage OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Update-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Update-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-CU-UE-F1AP-ID ::= INTEGER (0..4294967295)

GNB-DU-UE-F1AP-ID ::= INTEGER (0..4294967295)

GNB-DU-ID ::= INTEGER (0..68719476735)

GNB-CU-Name ::= PrintableString(SIZE(1..150,...))

GNB-DU-Name ::= PrintableString(SIZE(1..150,...))

GNB-DU-Served-Cells-Item ::= SEQUENCE {

 served-Cell-Information Served-Cell-Information,

 gNB-DU-System-Information GNB-DU-System-Information OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { GNB-DU-Served-Cells-ItemExtIEs} } OPTIONAL,

 ...

}

GNB-DU-Served-Cells-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-DU-System-Information ::= SEQUENCE {

 mIB-message MIB-message,

 sIB1-message SIB1-message,

 iE-Extensions ProtocolExtensionContainer { { GNB-DU-System-Information-ExtIEs } } OPTIONAL,

 ...

}

GNB-DU-System-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNB-DUConfigurationQuery ::= ENUMERATED {true, ...}

GNBDUOverloadInformation ::= ENUMERATED {overloaded, not-overloaded}

GNB-DU-TNL-Association-To-Remove-Item::= SEQUENCE {

 tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

 tNLAssociationTransportLayerAddressgNBCU CP-TransportLayerAddress OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { GNB-DU-TNL-Association-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-DU-TNL-Association-To-Remove-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GNBSetID ::= BIT STRING (SIZE(22))

GTP-TEID ::= OCTET STRING (SIZE (4))

GTPTLAs ::= SEQUENCE (SIZE(1.. maxnoofGTPTLAs)) OF GTPTLA-Item

GTPTLA-Item ::= SEQUENCE {

 gTPTransportLayerAddress TransportLayerAddress,

 iE-Extensions ProtocolExtensionContainer { { GTPTLA-Item-ExtIEs } } OPTIONAL

}

GTPTLA-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

GTPTunnel ::= SEQUENCE {

 transportLayerAddress TransportLayerAddress,

 gTP-TEID GTP-TEID,

 iE-Extensions ProtocolExtensionContainer { { GTPTunnel-ExtIEs } } OPTIONAL,

 ...

}

GTPTunnel-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- H

HandoverPreparationInformation ::= OCTET STRING

-- I

IgnorePRACHConfiguration::= ENUMERATED { true,...}

IgnoreResourceCoordinationContainer ::= ENUMERATED { yes,...}

InactivityMonitoringRequest ::= ENUMERATED { true,...}

InactivityMonitoringResponse ::= ENUMERATED { not-supported,...}

InterfacesToTrace ::= BIT STRING (SIZE(8))

IntendedTDD-DL-ULConfig ::= SEQUENCE {

 nRSCS ENUMERATED { scs15, scs30, scs60, scs120,...},

 nRCP ENUMERATED { normal, extended,...},

 nRDLULTxPeriodicity ENUMERATED { ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms3, ms4, ms5, ms10, ms20, ms40, ms60, ms80, ms100, ms120, ms140, ms160, ...},

 slot-Configuration-List Slot-Configuration-List,

 iE-Extensions ProtocolExtensionContainer { {IntendedTDD-DL-ULConfig-ExtIEs} } OPTIONAL

}

IntendedTDD-DL-ULConfig-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- J

-- K

-- L

LCID ::= INTEGER (1..32, ...)

LMF-UE-MeasurementID ::= INTEGER (1..15, ...)

LongDRXCycleLength ::= ENUMERATED

{ms10, ms20, ms32, ms40, ms60, ms64, ms70, ms80, ms128, ms160, ms256, ms320, ms512, ms640, ms1024, ms1280, ms2048, ms2560, ms5120, ms10240, ...}

LowerLayerPresenceStatusChange ::= ENUMERATED {

 suspend-lower-layers,

 resume-lower-layers,

 ...

}

-- M

MaskedIMEISV ::= BIT STRING (SIZE (64))

MaxDataBurstVolume ::= INTEGER (0..4095, ..., 4096.. 2000000)

MaxPacketLossRate ::= INTEGER (0..1000)

MIB-message ::= OCTET STRING

MeasConfig ::= OCTET STRING

MeasGapConfig ::= OCTET STRING

MeasGapSharingConfig ::= OCTET STRING

MeasurementTimingConfiguration ::= OCTET STRING

MessageIdentifier ::= BIT STRING (SIZE (16))

-- N

NeedforGap::= ENUMERATED {true, ...}

Neighbour-Cell-Information-Item ::= SEQUENCE {

 nRCGI NRCGI,

 intendedTDD-DL-ULConfig IntendedTDD-DL-ULConfig OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Neighbour-Cell-Information-ItemExtIEs } } OPTIONAL

}

Neighbour-Cell-Information-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NGRANAllocationAndRetentionPriority ::= SEQUENCE {

 priorityLevel PriorityLevel,

 pre-emptionCapability Pre-emptionCapability,

 pre-emptionVulnerability Pre-emptionVulnerability,

 iE-Extensions ProtocolExtensionContainer { {NGRANAllocationAndRetentionPriority-ExtIEs} } OPTIONAL

}

NGRANAllocationAndRetentionPriority-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NGRANAccessPointPosition::= SEQUENCE {

 latitudeSign ENUMERATED {north, south},

 latitude INTEGER (0..8388607),

 longitude INTEGER (-8388608..8388607),

 directionOfAltitude ENUMERATED {height, depth},

 altitude INTEGER (0..32767),

 uncertaintySemi-major INTEGER (0..127),

 uncertaintySemi-minor INTEGER (0..127),

 orientationOfMajorAxis INTEGER (0..179),

 uncertaintyAltitude INTEGER (0..127),

 confidence INTEGER (0..100),

 iE-Extensions ProtocolExtensionContainer { { NGRANAccessPointPosition-ExtIEs} } OPTIONAL

}

NGRANAccessPointPosition-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NR-CGI-List-For-Restart-Item ::= SEQUENCE {

 nRCGI NRCGI,

 iE-Extensions ProtocolExtensionContainer { { NR-CGI-List-For-Restart-ItemExtIEs } } OPTIONAL,

 ...

}

NR-CGI-List-For-Restart-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NonDynamic5QIDescriptor ::= SEQUENCE {

 fiveQI INTEGER (0..255, ...),

 qoSPriorityLevel INTEGER (1..127) OPTIONAL,

 averagingWindow AveragingWindow OPTIONAL,

 maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { NonDynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

NonDynamic5QIDescriptor-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Notification-Cause ::= ENUMERATED {fulfilled, not-fulfilled, ...}

NotificationControl ::= ENUMERATED {active, not-active, ...}

NotificationInformation ::= SEQUENCE {

 message-Identifier MessageIdentifier,

 serialNumber SerialNumber,

 iE-Extensions ProtocolExtensionContainer { { NotificationInformationExtIEs} } OPTIONAL,

 ...

}

NotificationInformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NRFreqInfo ::= SEQUENCE {

 nRARFCN INTEGER (0..maxNRARFCN),

 sul-Information SUL-Information OPTIONAL,

 freqBandListNr SEQUENCE (SIZE(1..maxnoofNrCellBands)) OF FreqBandNrItem,

 iE-Extensions ProtocolExtensionContainer { { NRFreqInfoExtIEs} } OPTIONAL,

 ...

}

NRFreqInfoExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NRCGI ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 nRCellIdentity NRCellIdentity,

 iE-Extensions ProtocolExtensionContainer { {NRCGI-ExtIEs} } OPTIONAL,

 ...

}

NRCGI-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NR-Mode-Info ::= CHOICE {

 fDD FDD-Info,

 tDD TDD-Info,

 choice-extension ProtocolIE-SingleContainer { { NR-Mode-Info-ExtIEs} }

}

NR-Mode-Info-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

NRCellIdentity ::= BIT STRING (SIZE(36))

NRNRB ::= ENUMERATED { nrb11, nrb18, nrb24, nrb25, nrb31, nrb32, nrb38, nrb51, nrb52, nrb65, nrb66, nrb78, nrb79, nrb93, nrb106, nrb107, nrb121, nrb132, nrb133, nrb135, nrb160, nrb162, nrb189, nrb216, nrb217, nrb245, nrb264, nrb270, nrb273, ...}

NRPCI ::= INTEGER(0..1007)

NRSCS ::= ENUMERATED { scs15, scs30, scs60, scs120, ...}

NumberOfBroadcasts ::= INTEGER (0..65535)

NumberofBroadcastRequest ::= INTEGER (0..65535)

NumDLULSymbols ::= SEQUENCE {

 numDLSymbols INTEGER (0..13, ...),

 numULSymbols INTEGER (0..13, ...),

 iE-Extensions ProtocolExtensionContainer { { NumDLULSymbols-ExtIEs} } OPTIONAL

}

NumDLULSymbols-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NZP-CSI-RS-ResourceID::= INTEGER (0..191, ...)

-- O

OffsetToPointA ::= INTEGER (0..2199,...)

-- P

PacketDelayBudget ::= INTEGER (0..1023, ...)

PacketErrorRate ::= SEQUENCE {

 pER-Scalar PER-Scalar,

 pER-Exponent PER-Exponent,

 iE-Extensions ProtocolExtensionContainer { {PacketErrorRate-ExtIEs} } OPTIONAL,

 ...

}

PacketErrorRate-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PER-Scalar ::= INTEGER (0..9, ...)

PER-Exponent ::= INTEGER (0..9, ...)

PagingCell-Item ::= SEQUENCE {

 nRCGI NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { PagingCell-ItemExtIEs } } OPTIONAL

}

PagingCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PagingDRX ::= ENUMERATED {

 v32,

 v64,

 v128,

 v256,

 ...

}

PagingIdentity ::= CHOICE {

 rANUEPagingIdentity RANUEPagingIdentity,

 cNUEPagingIdentity CNUEPagingIdentity,

 choice-extension ProtocolIE-SingleContainer { { PagingIdentity-ExtIEs } }

}

PagingIdentity-ExtIEs F1AP-PROTOCOL-IES::= {

 ...

}

PagingOrigin ::= ENUMERATED { non-3gpp, ...}

PagingPriority ::= ENUMERATED { priolevel1, priolevel2, priolevel3, priolevel4, priolevel5, priolevel6, priolevel7, priolevel8,...}

PDCCH-BlindDetectionSCG ::= OCTET STRING

PDCP-SN ::= INTEGER (0..4095)

PDCPSNLength ::= ENUMERATED { twelve-bits,eighteen-bits,...}

PDUSessionID ::= INTEGER (0..255)

Ph-InfoMCG ::= OCTET STRING

Ph-InfoSCG ::= OCTET STRING

PLMN-Identity ::= OCTET STRING (SIZE(3))

PortNumber ::= BIT STRING (SIZE (16))

PosAssistance-Information ::= OCTET STRING

PosAssistanceInformationFailureList ::= OCTET STRING

-- Editor’s Note: Details of the following IEs are FFS pending RAN2 progress

PosBroadcast ::= ENUMERATED {

 start,

 stop,

 ...

}

PosBroadcastTargetCell ::= NRCGI

PosMeasurementFailureList ::= SEQUENCE (SIZE(1.. maxnoMeas)) OF PosMeasurementFailureList-Item

PosMeasurementFailureList-Item ::= SEQUENCE {

 lMF-UE-MeasurementID LMF-UE-MeasurementID,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { PosMeasurementFailureList-ItemExtIEs} } OPTIONAL

}

PosMeasurementFailureList-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PosMeasurementList ::= SEQUENCE (SIZE(1.. maxnoMeas)) OF LMF-UE-MeasurementID

PosMeasurementPeriodicity ::= ENUMERATED

{ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, min1, min6, min12, min30, min60, ...}

PosMeasurementQuantities ::= SEQUENCE (SIZE(1.. maxnoMeas)) OF PosMeasurementQuantities-Item

PosMeasurementQuantities-Item ::= SEQUENCE {

 lMF-UE-MeasurementID LMF-UE-MeasurementID,

 posMeasurementType PosMeasurementType,

 posReportCharacteristics PosReportingCharacteristics,

 posMeasurementPeriodicity PosMeasurementPeriodicity OPTIONAL,

--the above IE is included if the posReportCharacteristics is set to “periodic” --

 uL-SRS-MeasurementConfig UL-SRS-MeasurementConfig OPTIONAL,

--the above IE is included if the posMeasurementType is set to “ul-rtoa” --

 iE-Extensions ProtocolExtensionContainer { { PosMeasurementQuantities-ItemExtIEs} } OPTIONAL

}

PosMeasurementQuantities-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PosMeasurementResult ::= SEQUENCE {

 nRCGI NRCGI OPTIONAL,

 fiveGS-TAC FiveGS-TAC OPTIONAL,

 accessPointPosition AccessPointPosition OPTIONAL,

 cell-Portion-ID Cell-Portion-ID OPTIONAL,

 ul-rtoa-measurement UL-RTOA-Measurement OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PosMeasurementResultExtIEs } } OPTIONAL

}

PosMeasurementResultExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PosMeasurementResultList ::= SEQUENCE (SIZE(1.. maxnoMeas)) OF PosMeasurementResultList-Item

PosMeasurementResultList-Item ::= SEQUENCE {

 lMF-UE-MeasurementID LMF-UE-MeasurementID,

 posMeasurementResult PosMeasurementResult,

 iE-Extensions ProtocolExtensionContainer { { PosMeasurementResultList-ItemExtIEs} } OPTIONAL

}

PosMeasurementResultList-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PosMeasurementstoModify ::= SEQUENCE (SIZE(1.. maxnoMeas)) OF PosMeasurementstoModify-Item

PosMeasurementstoModify-Item ::= SEQUENCE {

 lMF-UE-MeasurementID LMF-UE-MeasurementID,

 uL-SRS-MeasurementConfig UL-SRS-MeasurementConfig OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PosMeasurementstoModify-ItemExtIEs} } OPTIONAL

}

PosMeasurementstoModify-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PosMeasurementType ::= ENUMERATED {

 cell-id,

 ul-rtoa,

 ul-aoa,

 gnb-rx-tx,

 ...

}

PosReportingCharacteristics ::= ENUMERATED {

 ondemand,

 periodic,

 ...

}

Pre-emptionCapability ::= ENUMERATED {

 shall-not-trigger-pre-emption,

 may-trigger-pre-emption

}

Pre-emptionVulnerability ::= ENUMERATED {

 not-pre-emptable,

 pre-emptable

}

PriorityLevel ::= INTEGER { spare (0), highest (1), lowest (14), no-priority (15) } (0..15)

ProtectedEUTRAResourceIndication ::= OCTET STRING

Protected-EUTRA-Resources-Item ::= SEQUENCE {

 spectrumSharingGroupID SpectrumSharingGroupID,

 eUTRACells-List EUTRACells-List,

 iE-Extensions ProtocolExtensionContainer { { Protected-EUTRA-Resources-ItemExtIEs } } OPTIONAL

}

Protected-EUTRA-Resources-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PRSConfigurations ::= SEQUENCE {

 sFNInitialisationTime SFNInitialisationTime,

 iE-Extensions ProtocolExtensionContainer { { PRSConfigurations-ItemExtIEs } } OPTIONAL,

 ...

}

PRSConfigurations-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Potential-SpCell-Item ::= SEQUENCE {

 potential-SpCell-ID NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { Potential-SpCell-ItemExtIEs } } OPTIONAL,

 ...

}

Potential-SpCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PWS-Failed-NR-CGI-Item ::= SEQUENCE {

 nRCGI NRCGI,

 numberOfBroadcasts NumberOfBroadcasts,

 iE-Extensions ProtocolExtensionContainer { { PWS-Failed-NR-CGI-ItemExtIEs } } OPTIONAL,

 ...

}

PWS-Failed-NR-CGI-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PWSSystemInformation ::= SEQUENCE {

 sIBtype SIBType-PWS,

 sIBmessage OCTET STRING,

 iE-Extensions ProtocolExtensionContainer { { PWSSystemInformationExtIEs } } OPTIONAL,

 ...

}

PWSSystemInformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-NotificationInformation CRITICALITY ignore EXTENSION NotificationInformation PRESENCE optional}|

 { ID id-AdditionalSIBMessageList CRITICALITY reject EXTENSION AdditionalSIBMessageList PRESENCE optional},

 ...

}

-- Q

QCI ::= INTEGER (0..255)

QoS-Characteristics ::= CHOICE {

 non-Dynamic-5QI NonDynamic5QIDescriptor,

 dynamic-5QI Dynamic5QIDescriptor,

 choice-extension ProtocolIE-SingleContainer { { QoS-Characteristics-ExtIEs } }

}

QoS-Characteristics-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

QoSFlowIdentifier ::= INTEGER (0..63)

QoSFlowLevelQoSParameters ::= SEQUENCE {

 qoS-Characteristics QoS-Characteristics,

 nGRANallocationRetentionPriority NGRANAllocationAndRetentionPriority,

 gBR-QoS-Flow-Information GBR-QoSFlowInformation OPTIONAL,

 reflective-QoS-Attribute ENUMERATED {subject-to, ...} OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { QoSFlowLevelQoSParameters-ExtIEs } } OPTIONAL

}

QoSFlowLevelQoSParameters-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-PDUSessionID CRITICALITY ignore EXTENSION PDUSessionID PRESENCE optional}|

 { ID id-ULPDUSessionAggregateMaximumBitRate CRITICALITY ignore EXTENSION BitRate PRESENCE optional}|

 { ID id-QosMonitoringRequest CRITICALITY ignore EXTENSION QosMonitoringRequest PRESENCE optional},

 ...

}

QoSFlowMappingIndication ::= ENUMERATED {ul,dl,...}

QoSInformation ::= CHOICE {

 eUTRANQoS EUTRANQoS,

 choice-extension ProtocolIE-SingleContainer { { QoSInformation-ExtIEs} }

}

QoSInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

 { ID id-DRB-Information CRITICALITY ignore TYPE DRB-Information PRESENCE mandatory},

 ...

}

QosMonitoringRequest ::= ENUMERATED {ul, dl, both}

-- R

RANAC ::= INTEGER (0..255)

RANUEID ::= OCTET STRING (SIZE (8))

RANUEPagingIdentity ::= SEQUENCE {

 iRNTI BIT STRING (SIZE(40)),

 iE-Extensions ProtocolExtensionContainer { { RANUEPagingIdentity-ExtIEs } } OPTIONAL}

RANUEPagingIdentity-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RAT-FrequencyPriorityInformation::= CHOICE {

 eNDC SubscriberProfileIDforRFP,

 nGRAN RAT-FrequencySelectionPriority,

 choice-extension ProtocolIE-SingleContainer { { RAT-FrequencyPriorityInformation-ExtIEs} }

}

RAT-FrequencyPriorityInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

RAT-FrequencySelectionPriority::= INTEGER (1.. 256, ...)

Reestablishment-Indication ::= ENUMERATED {

 reestablished,

 ...

}

ReferenceSignal ::= CHOICE {

 nZP-CSI-RS NZP-CSI-RS-ResourceID,

 sSB SSB,

 sRS SRSResourceID,

 positioningSRS SRSPosResourceID,

 dL-PRS DL-PRS,

 ReferenceSignal-Extension ProtocolIE-Single-Container {{ReferenceSignal-ExtensionIE }}

}

ReferenceSignal-ExtensionIE NRPPA-PROTOCOL-IES ::= {

 ...

}

RequestedBandCombinationIndex ::= OCTET STRING

RequestedFeatureSetEntryIndex ::= OCTET STRING

Requested-PDCCH-BlindDetectionSCG ::= OCTET STRING

RequestedSRSTransmissionCharacteristics ::= SEQUENCE {

 numberOfTransmissions INTEGER (0..500, ...),

 bandwidth INTEGER (1..100, ...),

 iE-Extensions ProtocolExtensionContainer { { RequestedSRSTransmissionCharacteristics-ExtIEs} } OPTIONAL,

 ...

}

RequestedSRSTransmissionCharacteristics-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- IE contents are FFS pending RAN2

RequestType ::= ENUMERATED {offer, execution, ...}

ResourceCoordinationEUTRACellInfo ::= SEQUENCE {

 eUTRA-Mode-Info EUTRA-Coex-Mode-Info,

 eUTRA-PRACH-Configuration EUTRA-PRACH-Configuration,

 iE-Extensions ProtocolExtensionContainer { { ResourceCoordinationEUTRACellInfo-ExtIEs } } OPTIONAL,

 ...

}

ResourceCoordinationEUTRACellInfo-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-IgnorePRACHConfiguration CRITICALITY reject EXTENSION IgnorePRACHConfiguration PRESENCE optional },

 ...

}

ResourceCoordinationTransferInformation ::= SEQUENCE {

 meNB-Cell-ID EUTRA-Cell-ID,

 resourceCoordinationEUTRACellInfo ResourceCoordinationEUTRACellInfo OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { ResourceCoordinationTransferInformation-ExtIEs } } OPTIONAL,

 ...

}

ResourceCoordinationTransferInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ResourceCoordinationTransferContainer ::= OCTET STRING

RepetitionPeriod ::= INTEGER (0..131071, ...)

RLCFailureIndication ::= SEQUENCE {

 assocatedLCID LCID,

 iE-Extensions ProtocolExtensionContainer { {RLCFailureIndication-ExtIEs} } OPTIONAL

}

RLCFailureIndication-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RLCMode ::= ENUMERATED {

 rlc-am,

 rlc-um-bidirectional,

 rlc-um-unidirectional-ul,

 rlc-um-unidirectional-dl,

 ...

}

RLC-Status ::= SEQUENCE {

 reestablishment-Indication Reestablishment-Indication,

 iE-Extensions ProtocolExtensionContainer { { RLC-Status-ExtIEs } } OPTIONAL,

 ...

}

RLC-Status-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RIMRSDetectionStatus ::= ENUMERATED {rs-detected, rs-disappeared, ...}

RRCContainer ::= OCTET STRING

RRCContainer-RRCSetupComplete ::= OCTET STRING

RRCDeliveryStatus ::= SEQUENCE {

 delivery-status PDCP-SN,

 triggering-message PDCP-SN,

 iE-Extensions ProtocolExtensionContainer { { RRCDeliveryStatus-ExtIEs } } OPTIONAL}

RRCDeliveryStatus-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RRCDeliveryStatusRequest ::= ENUMERATED {true, ...}

RRCReconfigurationCompleteIndicator ::= ENUMERATED {

 true,

 ...,

 failure

}

RRC-Version ::= SEQUENCE {

 latest-RRC-Version BIT STRING (SIZE(3)),

 iE-Extensions ProtocolExtensionContainer { { RRC-Version-ExtIEs } } OPTIONAL}

RRC-Version-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-latest-RRC-Version-Enhanced CRITICALITY ignore EXTENSION OCTET STRING (SIZE(3)) PRESENCE optional },

 ...

}

RoutingID ::= OCTET STRING

-- S

SCell-FailedtoSetup-Item ::= SEQUENCE {

 sCell-ID NRCGI ,

 cause Cause OPTIONAL ,

 iE-Extensions ProtocolExtensionContainer { { SCell-FailedtoSetup-ItemExtIEs } } OPTIONAL,

 ...

}

SCell-FailedtoSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SCell-FailedtoSetupMod-Item ::= SEQUENCE {

 sCell-ID NRCGI ,

 cause Cause OPTIONAL ,

 iE-Extensions ProtocolExtensionContainer { { SCell-FailedtoSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

SCell-FailedtoSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SCell-ToBeRemoved-Item ::= SEQUENCE {

 sCell-ID NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { SCell-ToBeRemoved-ItemExtIEs } } OPTIONAL,

 ...

}

SCell-ToBeRemoved-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SCell-ToBeSetup-Item ::= SEQUENCE {

 sCell-ID NRCGI ,

 sCellIndex SCellIndex,

 sCellULConfigured CellULConfigured OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SCell-ToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

SCell-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-ServingCellMO CRITICALITY ignore EXTENSION ServingCellMO PRESENCE optional },

 ...

}

SCell-ToBeSetupMod-Item ::= SEQUENCE {

 sCell-ID NRCGI ,

 sCellIndex SCellIndex,

 sCellULConfigured CellULConfigured OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SCell-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

SCell-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-ServingCellMO CRITICALITY ignore EXTENSION ServingCellMO PRESENCE optional },

 ...

}

SCellIndex ::=INTEGER (1..31, ...)

SerialNumber ::= BIT STRING (SIZE (16))

SIBType-PWS ::=INTEGER (6..8, ...)

SelectedBandCombinationIndex ::= OCTET STRING

SelectedFeatureSetEntryIndex ::= OCTET STRING

CG-ConfigInfo ::= OCTET STRING

ServCellIndex ::= INTEGER (0..31, ...)

ServingCellMO ::= INTEGER (1..64, ...)

Served-Cell-Information ::= SEQUENCE {

 nRCGI NRCGI,

 nRPCI NRPCI,

 fiveGS-TAC FiveGS-TAC OPTIONAL,

 configured-EPS-TAC Configured-EPS-TAC OPTIONAL,

 servedPLMNs ServedPLMNs-List,

 nR-Mode-Info NR-Mode-Info,

 measurementTimingConfiguration OCTET STRING,

 iE-Extensions ProtocolExtensionContainer { {Served-Cell-Information-ExtIEs} } OPTIONAL,

 ...

}

Served-Cell-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-RANAC CRITICALITY ignore EXTENSION RANAC PRESENCE optional }|

 { ID id-ExtendedServedPLMNs-List CRITICALITY ignore EXTENSION ExtendedServedPLMNs-List PRESENCE optional }|

 { ID id-Cell-Direction CRITICALITY ignore EXTENSION Cell-Direction PRESENCE optional }|

 { ID id-BPLMN-ID-Info-List CRITICALITY ignore EXTENSION BPLMN-ID-Info-List PRESENCE optional }|

 { ID id-Cell-Type CRITICALITY ignore EXTENSION CellType PRESENCE optional}|

 { ID id-AggressorgNBSetID CRITICALITY ignore EXTENSION AggressorgNBSetID PRESENCE optional}|

 { ID id-VictimgNBSetID CRITICALITY ignore EXTENSION VictimgNBSetID PRESENCE optional},

 ...

}

Served-Cells-To-Add-Item ::= SEQUENCE {

 served-Cell-Information Served-Cell-Information,

 gNB-DU-System-Information GNB-DU-System-Information OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Add-ItemExtIEs} } OPTIONAL,

 ...

}

Served-Cells-To-Add-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Served-Cells-To-Delete-Item ::= SEQUENCE {

 oldNRCGI NRCGI ,

 iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Delete-ItemExtIEs } } OPTIONAL,

 ...

}

Served-Cells-To-Delete-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Served-Cells-To-Modify-Item ::= SEQUENCE {

 oldNRCGI NRCGI ,

 served-Cell-Information Served-Cell-Information ,

 gNB-DU-System-Information GNB-DU-System-Information OPTIONAL ,

 iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Modify-ItemExtIEs } } OPTIONAL,

 ...

}

Served-Cells-To-Modify-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Served-EUTRA-Cells-Information::= SEQUENCE {

 eUTRA-Mode-Info EUTRA-Mode-Info,

 protectedEUTRAResourceIndication ProtectedEUTRAResourceIndication,

 iE-Extensions ProtocolExtensionContainer { {Served-EUTRA-Cell-Information-ExtIEs} } OPTIONAL,

 ...

}

Served-EUTRA-Cell-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Service-State ::= ENUMERATED {

 in-service,

 out-of-service,

 ...

}

Service-Status ::= SEQUENCE {

 service-state Service-State,

 switchingOffOngoing ENUMERATED {true, ...} OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Service-Status-ExtIEs } } OPTIONAL,

 ...

}

Service-Status-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SFNInitialisationTime ::= BIT STRING (SIZE (64))

ShortDRXCycleLength ::= ENUMERATED {ms2, ms3, ms4, ms5, ms6, ms7, ms8, ms10, ms14, ms16, ms20, ms30, ms32, ms35, ms40, ms64, ms80, ms128, ms160, ms256, ms320, ms512, ms640, ...}

ShortDRXCycleTimer ::= INTEGER (1..16)

SIB1-message ::= OCTET STRING

SItype ::= INTEGER (1..32, ...)

SItype-List ::= SEQUENCE (SIZE(1.. maxnoofSITypes)) OF SItype-Item

SItype-Item ::= SEQUENCE {

 sItype SItype ,

 iE-Extensions ProtocolExtensionContainer { { SItype-ItemExtIEs } } OPTIONAL

}

SItype-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SibtypetobeupdatedListItem ::= SEQUENCE {

 sIBtype INTEGER (2..32,...),

 sIBmessage OCTET STRING,

 valueTag INTEGER (0..31,...),

 iE-Extensions ProtocolExtensionContainer { { SibtypetobeupdatedListItem-ExtIEs } } OPTIONAL,

 ...

}

SibtypetobeupdatedListItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-areaScope CRITICALITY ignore EXTENSION AreaScope PRESENCE optional},

 ...

}

SliceSupportList ::= SEQUENCE (SIZE(1.. maxnoofSliceItems)) OF SliceSupportItem

SliceSupportItem ::= SEQUENCE {

 sNSSAI SNSSAI,

 iE-Extensions ProtocolExtensionContainer { { SliceSupportItem-ExtIEs } } OPTIONAL

}

SliceSupportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Slot-Configuration-List ::= SEQUENCE (SIZE(1.. maxnoofslots)) OF Slot-Configuration-Item

Slot-Configuration-Item ::= SEQUENCE {

 slotIndex INTEGER (0..319, ...),

 symbolAllocInSlot SymbolAllocInSlot,

 iE-Extensions ProtocolExtensionContainer { { Slot-Configuration-ItemExtIEs } } OPTIONAL

}

Slot-Configuration-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SNSSAI ::= SEQUENCE {

 sST OCTET STRING (SIZE(1)),

 sD OCTET STRING (SIZE(3)) OPTIONAL ,

 iE-Extensions ProtocolExtensionContainer { { SNSSAI-ExtIEs } } OPTIONAL

}

SNSSAI-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SpatialRelationforResourceID ::= SEQUENCE (SIZE(1..maxnoSpatialRelations)) OF ReferenceSignal

SRSPosResourceID ::= INTEGER (0..63, ...)

SRSResourceID ::= INTEGER (0..63, ...)

SRSResourceSetID ::= INTEGER (0..15, ...)

SRSResourceTrigger ::= SEQUENCE {

 aperiodicSRSResourceTriggerList AperiodicSRSResourceTriggerList,

 iE-Extensions ProtocolExtensionContainer { {SRSResourceTrigger-ExtIEs} } OPTIONAL,

 ...

}

SRSResourceTrigger-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

 ...

}

SRSSpatialRelation ::= SEQUENCE {

 spatialRelationforResourceID SpatialRelationforResourceID,

 iE-Extensions ProtocolExtensionContainer { {SRSSpatialRelation-ExtIEs} } OPTIONAL,

 ...

}

SRSSpatialRelation-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

 ...

}

SRSSpatialRelation-ExtensionIE NRPPA-PROTOCOL-IES ::= {

 ...

}

SSB ::= SEQUENCE {

 pCI-NR INTEGER (0..1007),

 ssb-index INTEGER (0..63),

 iE-Extensions ProtocolExtensionContainer { {SSB-ExtIEs} } OPTIONAL,

 ...

}

SSB-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

 ...

}

SpectrumSharingGroupID ::= INTEGER (1..maxCellineNB)

SRBID ::= INTEGER (0..3, ...)

SRBs-FailedToBeSetup-Item ::= SEQUENCE {

 sRBID SRBID ,

 cause Cause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SRBs-FailedToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-FailedToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-FailedToBeSetupMod-Item ::= SEQUENCE {

 sRBID SRBID ,

 cause Cause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SRBs-FailedToBeSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-FailedToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-Modified-Item ::= SEQUENCE {

 sRBID SRBID,

 lCID LCID,

 iE-Extensions ProtocolExtensionContainer { { SRBs-Modified-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-Modified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-Required-ToBeReleased-Item ::= SEQUENCE {

 sRBID SRBID,

 iE-Extensions ProtocolExtensionContainer { { SRBs-Required-ToBeReleased-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-Required-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-Setup-Item ::= SEQUENCE {

 sRBID SRBID,

 lCID LCID,

 iE-Extensions ProtocolExtensionContainer { { SRBs-Setup-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-Setup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-SetupMod-Item ::= SEQUENCE {

 sRBID SRBID,

 lCID LCID,

 iE-Extensions ProtocolExtensionContainer { { SRBs-SetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-SetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-ToBeReleased-Item ::= SEQUENCE {

 sRBID SRBID,

 iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeReleased-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-ToBeSetup-Item ::= SEQUENCE {

 sRBID SRBID ,

 duplicationIndication DuplicationIndication OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SRBs-ToBeSetupMod-Item ::= SEQUENCE {

 sRBID SRBID,

 duplicationIndication DuplicationIndication OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

 ...

}

SRBs-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SUL-Information ::= SEQUENCE {

 sUL-NRARFCN INTEGER (0..maxNRARFCN),

 sUL-transmission-Bandwidth Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { { SUL-InformationExtIEs} } OPTIONAL,

 ...

}

SUL-InformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SubscriberProfileIDforRFP ::= INTEGER (1..256, ...)

SULAccessIndication ::= ENUMERATED {true,...}

SupportedSULFreqBandItem ::= SEQUENCE {

 freqBandIndicatorNr INTEGER (1..1024,...),

 iE-Extensions ProtocolExtensionContainer { { SupportedSULFreqBandItem-ExtIEs} } OPTIONAL,

 ...

}

SupportedSULFreqBandItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SymbolAllocInSlot ::= CHOICE {

 all-DL NULL,

 all-UL NULL,

 both-DL-and-UL NumDLULSymbols,

 choice-extension ProtocolIE-SingleContainer { { SymbolAllocInSlot-ExtIEs } }

}

SymbolAllocInSlot-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

SystemInformationAreaID ::=BIT STRING (SIZE (24))

-- T

FiveGS-TAC ::= OCTET STRING (SIZE(3))

Configured-EPS-TAC ::= OCTET STRING (SIZE(2))

TDD-Info ::= SEQUENCE {

 nRFreqInfo NRFreqInfo,

 transmission-Bandwidth Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { {TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-IntendedTDD-DL-ULConfig CRITICALITY ignore EXTENSION IntendedTDD-DL-ULConfig PRESENCE optional},

 ...

}

TimeToWait ::= ENUMERATED {v1s, v2s, v5s, v10s, v20s, v60s, ...}

TNLAssociationUsage ::= ENUMERATED {

 ue,

 non-ue,

 both,

 ...

}

TraceActivation ::= SEQUENCE {

 traceID TraceID,

 interfacesToTrace InterfacesToTrace,

 traceDepth TraceDepth,

 traceCollectionEntityIPAddress TransportLayerAddress,

 iE-Extensions ProtocolExtensionContainer { {TraceActivation-ExtIEs} } OPTIONAL

}

TraceActivation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TraceDepth ::= ENUMERATED {

 minimum,

 medium,

 maximum,

 minimumWithoutVendorSpecificExtension,

 mediumWithoutVendorSpecificExtension,

 maximumWithoutVendorSpecificExtension,

 ...

}

TraceID ::= OCTET STRING (SIZE(8))

TransportLayerAddress ::= BIT STRING (SIZE(1..160, ...))

TransactionID ::= INTEGER (0..255, ...)

Transmission-Bandwidth ::= SEQUENCE {

 nRSCS NRSCS,

 nRNRB NRNRB,

 iE-Extensions ProtocolExtensionContainer { { Transmission-Bandwidth-ExtIEs} } OPTIONAL,

 ...

}

Transmission-Bandwidth-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Transport-UP-Layer-Address-Info-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Add-Item

Transport-UP-Layer-Address-Info-To-Add-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressToAdd GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Transport-UP-Layer-Address-Info-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Remove-Item

Transport-UP-Layer-Address-Info-To-Remove-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressToRemove GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TransmissionActionIndicator ::= ENUMERATED {stop, ..., restart }

TRPID::= INTEGER (0.. 16384)

TRPInformation ::= SEQUENCE {

 tRPID TRPID,

 nRCGI NRCGI,

 pRSConfigurations PRSConfigurations OPTIONAL,

 nGRANAccessPointPosition NGRANAccessPointPosition,

 tRPInformationTypeResponseList TRPInformationTypeResponseList,

 iE-Extensions ProtocolExtensionContainer { { TRPInformation-ExtIEs } } OPTIONAL

}

TRPInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPInformationItem ::= SEQUENCE {

 tRPInformation TRPInformation,

 iE-Extensions ProtocolExtensionContainer { { TRPInformationItem-ExtIEs } } OPTIONAL

}

TRPInformationItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPInformationTypeItem ::= ENUMERATED { arfcn, ...}

TRPInformationTypeResponseList ::= SEQUENCE (SIZE(1.. maxnoofTRPInfoTypes)) OF TRPInformationTypeResponseItem

TRPInformationTypeResponseItem ::= CHOICE {

 nRARFCN INTEGER (0..maxNRARFCN),

 choice-extension ProtocolIE-SingleContainer { { TRPInformationTypeResponseItem-ExtIEs} }

}

TRPInformationTypeResponseItem-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TypeOfError ::= ENUMERATED {

 not-understood,

 missing,

 ...

}

Transport-Layer-Address-Info ::= SEQUENCE {

 transport-UP-Layer-Address-Info-To-Add-List Transport-UP-Layer-Address-Info-To-Add-List OPTIONAL,

 transport-UP-Layer-Address-Info-To-Remove-List Transport-UP-Layer-Address-Info-To-Remove-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-Layer-Address-Info-ExtIEs } } OPTIONAL

}

Transport-Layer-Address-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- U

UAC-Assistance-Info ::= SEQUENCE {

 uACPLMN-List UACPLMN-List,

 iE-Extensions ProtocolExtensionContainer { { UAC-Assistance-InfoExtIEs} } OPTIONAL

}

UAC-Assistance-InfoExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UACPLMN-List ::= SEQUENCE (SIZE(1..maxnoofUACPLMNs)) OF UACPLMN-Item

UACPLMN-Item::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 uACType-List UACType-List, iE-Extensions ProtocolExtensionContainer { { UACPLMN-Item-ExtIEs} } OPTIONAL

}

UACPLMN-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UACType-List ::= SEQUENCE (SIZE(1..maxnoofUACperPLMN)) OF UACType-Item

UACType-Item::= SEQUENCE {

 uACReductionIndication UACReductionIndication,

 uACCategoryType UACCategoryType,

 iE-Extensions ProtocolExtensionContainer { { UACType-Item-ExtIEs } } OPTIONAL

}

UACType-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UACCategoryType ::= CHOICE {

 uACstandardized UACAction,

 uACOperatorDefined UACOperatorDefined,

 choice-extension ProtocolIE-SingleContainer { { UACCategoryType-ExtIEs } }

}

UACCategoryType-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

UACOperatorDefined ::= SEQUENCE {

 accessCategory INTEGER (32..63,...),

 accessIdentity BIT STRING (SIZE(7)),

 iE-Extensions ProtocolExtensionContainer { { UACOperatorDefined-ExtIEs} } OPTIONAL

}

UACOperatorDefined-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UACAction ::= ENUMERATED {

 reject-non-emergency-mo-dt,

 reject-rrc-cr-signalling,

 permit-emergency-sessions-and-mobile-terminated-services-only,

 permit-high-priority-sessions-and-mobile-terminated-services-only,

 ...

}

UACReductionIndication ::= INTEGER (0..100)

UE-associatedLogicalF1-ConnectionItem ::= SEQUENCE {

 gNB-CU-UE-F1AP-ID GNB-CU-UE-F1AP-ID OPTIONAL,

 gNB-DU-UE-F1AP-ID GNB-DU-UE-F1AP-ID OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { UE-associatedLogicalF1-ConnectionItemExtIEs} } OPTIONAL,

 ...

}

UEAssistanceInformation ::= OCTET STRING

UE-associatedLogicalF1-ConnectionItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UE-CapabilityRAT-ContainerList::= OCTET STRING

UEContextNotRetrievable ::= ENUMERATED {true, ...}

UEIdentityIndexValue ::= CHOICE {

 indexLength10 BIT STRING (SIZE (10)),

 choice-extension ProtocolIE-SingleContainer { {UEIdentityIndexValueChoice-ExtIEs} }

}

UEIdentityIndexValueChoice-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

ULConfiguration ::= SEQUENCE {

 uLUEConfiguration ULUEConfiguration,

 iE-Extensions ProtocolExtensionContainer { { ULConfigurationExtIEs } } OPTIONAL,

 ...

}

ULConfigurationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

--The IEs below are FFS, just set to a dummy format –

UL-RTOA-Measurement ::= OCTET STRING

UL-SRS-MeasurementConfig ::= OCTET STRING

ULUEConfiguration ::= ENUMERATED {no-data, shared, only, ...}

ULUPTNLInformation-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofULUPTNLInformation)) OF ULUPTNLInformation-ToBeSetup-Item

ULUPTNLInformation-ToBeSetup-Item ::=SEQUENCE {

 uLUPTNLInformation UPTransportLayerInformation,

 iE-Extensions ProtocolExtensionContainer { { ULUPTNLInformation-ToBeSetup-ItemExtIEs } } OPTIONAL,

 ...

}

ULUPTNLInformation-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

UplinkTxDirectCurrentListInformation ::= OCTET STRING

UPTransportLayerInformation ::= CHOICE {

 gTPTunnel GTPTunnel,

 choice-extension ProtocolIE-SingleContainer { { UPTransportLayerInformation-ExtIEs} }

}

UPTransportLayerInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

-- V

VictimgNBSetID ::= SEQUENCE {

 victimgNBSetID GNBSetID,

 iE-Extensions ProtocolExtensionContainer { { VictimgNBSetID-ExtIEs } } OPTIONAL

}

VictimgNBSetID-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- W

-- X

-- Y

-- Z

END

-- ASN1STOP

**\*\*\* skip unchanged asn \*\*\***

### 9.4.7 Constant Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Constant definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

F1AP-Constants {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- IE parameter types from other modules.

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

IMPORTS

 ProcedureCode,

 ProtocolIE-ID

FROM F1AP-CommonDataTypes;

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Elementary Procedures

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

id-Reset ProcedureCode ::= 0

id-F1Setup ProcedureCode ::= 1

id-ErrorIndication ProcedureCode ::= 2

id-gNBDUConfigurationUpdate ProcedureCode ::= 3

id-gNBCUConfigurationUpdate ProcedureCode ::= 4

id-UEContextSetup ProcedureCode ::= 5

id-UEContextRelease ProcedureCode ::= 6

id-UEContextModification ProcedureCode ::= 7

id-UEContextModificationRequired ProcedureCode ::= 8

id-UEMobilityCommand ProcedureCode ::= 9

id-UEContextReleaseRequest ProcedureCode ::= 10

id-InitialULRRCMessageTransfer ProcedureCode ::= 11

id-DLRRCMessageTransfer ProcedureCode ::= 12

id-ULRRCMessageTransfer ProcedureCode ::= 13

id-privateMessage ProcedureCode ::= 14

id-UEInactivityNotification ProcedureCode ::= 15

id-GNBDUResourceCoordination ProcedureCode ::= 16

id-SystemInformationDeliveryCommand ProcedureCode ::= 17

id-Paging ProcedureCode ::= 18

id-Notify ProcedureCode ::= 19

id-WriteReplaceWarning ProcedureCode ::= 20

id-PWSCancel ProcedureCode ::= 21

id-PWSRestartIndication ProcedureCode ::= 22

id-PWSFailureIndication ProcedureCode ::= 23

id-GNBDUStatusIndication ProcedureCode ::= 24

id-RRCDeliveryReport ProcedureCode ::= 25

id-F1Removal ProcedureCode ::= 26

id-NetworkAccessRateReduction ProcedureCode ::= 27

id-TraceStart ProcedureCode ::= 28

id-DeactivateTrace ProcedureCode ::= 29

id-DUCURadioInformationTransfer ProcedureCode ::= 30

id-CUDURadioInformationTransfer ProcedureCode ::= 31

id-PositioningMeasurementExchange ProcedureCode ::= 32

id-PositioningAssistanceInformationControl ProcedureCode ::= 33

id-PositioningAssistanceInformationFeedback ProcedureCode ::= 34

id-PositioningMeasurementReport ProcedureCode ::= 35

id-PositioningMeasurementAbort ProcedureCode ::= 36

id-PositioningMeasurementFailureIndication ProcedureCode ::= 37

id-PositioningMeasurementUpdate ProcedureCode ::= 38

id-TRPInformationExchange ProcedureCode ::= 39

id-PositioningInformationExchange ProcedureCode ::= 40

id-PositioningActivation ProcedureCode ::= 41

id-PositioningDeactivation ProcedureCode ::= 42

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Extension constants

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Lists

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

maxNRARFCN INTEGER ::= 3279165

maxnoofErrors INTEGER ::= 256

maxnoofIndividualF1ConnectionsToReset INTEGER ::= 65536

maxCellingNBDU INTEGER ::= 512

maxnoofSCells INTEGER ::= 32

maxnoofSRBs INTEGER ::= 8

maxnoofDRBs INTEGER ::= 64

maxnoofULUPTNLInformation INTEGER ::= 2

maxnoofDLUPTNLInformation INTEGER ::= 2

maxnoofBPLMNs INTEGER ::= 6

maxnoofCandidateSpCells INTEGER ::= 64

maxnoofPotentialSpCells INTEGER ::= 64

maxnoofNrCellBands INTEGER ::= 32

maxnoofSIBTypes INTEGER ::= 32

maxnoofSITypes INTEGER ::= 32

maxnoofPagingCells INTEGER ::= 512

maxnoofTNLAssociations INTEGER ::= 32

maxnoofQoSFlows INTEGER ::= 64

maxnoofSliceItems INTEGER ::= 1024

maxCellineNB INTEGER ::= 256

maxnoofExtendedBPLMNs INTEGER ::= 6

maxnoofUEIDs INTEGER ::= 65536

maxnoofBPLMNsNRminus1 INTEGER ::= 11

maxnoofUACPLMNs INTEGER ::= 12

maxnoofUACperPLMN INTEGER ::= 64

maxnoofAdditionalSIBs INTEGER ::= 63

maxnoofslots INTEGER ::= 320

maxnoofTLAs INTEGER ::= 16

maxnoofGTPTLAs INTEGER ::= 16

maxnoMeas INTEGER ::= 64

maxnoofTRPInfoTypes INTEGER ::= 64

-- FFS dummy value

maxnoofTRPs INTEGER ::= 16384

maxnoSRSTriggerStates INTEGER ::= 3

maxnoSpatialRelations INTEGER ::= 64

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- IEs

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

id-Cause ProtocolIE-ID ::= 0

id-Cells-Failed-to-be-Activated-List ProtocolIE-ID ::= 1

id-Cells-Failed-to-be-Activated-List-Item ProtocolIE-ID ::= 2

id-Cells-to-be-Activated-List ProtocolIE-ID ::= 3

id-Cells-to-be-Activated-List-Item ProtocolIE-ID ::= 4

id-Cells-to-be-Deactivated-List ProtocolIE-ID ::= 5

id-Cells-to-be-Deactivated-List-Item ProtocolIE-ID ::= 6

id-CriticalityDiagnostics ProtocolIE-ID ::= 7

id-CUtoDURRCInformation ProtocolIE-ID ::= 9

id-DRBs-FailedToBeModified-Item ProtocolIE-ID ::= 12

id-DRBs-FailedToBeModified-List ProtocolIE-ID ::= 13

id-DRBs-FailedToBeSetup-Item ProtocolIE-ID ::= 14

id-DRBs-FailedToBeSetup-List ProtocolIE-ID ::= 15

id-DRBs-FailedToBeSetupMod-Item ProtocolIE-ID ::= 16

id-DRBs-FailedToBeSetupMod-List ProtocolIE-ID ::= 17

id-DRBs-ModifiedConf-Item ProtocolIE-ID ::= 18

id-DRBs-ModifiedConf-List ProtocolIE-ID ::= 19

id-DRBs-Modified-Item ProtocolIE-ID ::= 20

id-DRBs-Modified-List ProtocolIE-ID ::= 21

id-DRBs-Required-ToBeModified-Item ProtocolIE-ID ::= 22

id-DRBs-Required-ToBeModified-List ProtocolIE-ID ::= 23

id-DRBs-Required-ToBeReleased-Item ProtocolIE-ID ::= 24

id-DRBs-Required-ToBeReleased-List ProtocolIE-ID ::= 25

id-DRBs-Setup-Item ProtocolIE-ID ::= 26

id-DRBs-Setup-List ProtocolIE-ID ::= 27

id-DRBs-SetupMod-Item ProtocolIE-ID ::= 28

id-DRBs-SetupMod-List ProtocolIE-ID ::= 29

id-DRBs-ToBeModified-Item ProtocolIE-ID ::= 30

id-DRBs-ToBeModified-List ProtocolIE-ID ::= 31

id-DRBs-ToBeReleased-Item ProtocolIE-ID ::= 32

id-DRBs-ToBeReleased-List ProtocolIE-ID ::= 33

id-DRBs-ToBeSetup-Item ProtocolIE-ID ::= 34

id-DRBs-ToBeSetup-List ProtocolIE-ID ::= 35

id-DRBs-ToBeSetupMod-Item ProtocolIE-ID ::= 36

id-DRBs-ToBeSetupMod-List ProtocolIE-ID ::= 37

id-DRXCycle ProtocolIE-ID ::= 38

id-DUtoCURRCInformation ProtocolIE-ID ::= 39

id-gNB-CU-UE-F1AP-ID ProtocolIE-ID ::= 40

id-gNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 41

id-gNB-DU-ID ProtocolIE-ID ::= 42

id-GNB-DU-Served-Cells-Item ProtocolIE-ID ::= 43

id-gNB-DU-Served-Cells-List ProtocolIE-ID ::= 44

id-gNB-DU-Name ProtocolIE-ID ::= 45

id-NRCellID ProtocolIE-ID ::= 46

id-oldgNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 47

id-ResetType ProtocolIE-ID ::= 48

id-ResourceCoordinationTransferContainer ProtocolIE-ID ::= 49

id-RRCContainer ProtocolIE-ID ::= 50

id-SCell-ToBeRemoved-Item ProtocolIE-ID ::= 51

id-SCell-ToBeRemoved-List ProtocolIE-ID ::= 52

id-SCell-ToBeSetup-Item ProtocolIE-ID ::= 53

id-SCell-ToBeSetup-List ProtocolIE-ID ::= 54

id-SCell-ToBeSetupMod-Item ProtocolIE-ID ::= 55

id-SCell-ToBeSetupMod-List ProtocolIE-ID ::= 56

id-Served-Cells-To-Add-Item ProtocolIE-ID ::= 57

id-Served-Cells-To-Add-List ProtocolIE-ID ::= 58

id-Served-Cells-To-Delete-Item ProtocolIE-ID ::= 59

id-Served-Cells-To-Delete-List ProtocolIE-ID ::= 60

id-Served-Cells-To-Modify-Item ProtocolIE-ID ::= 61

id-Served-Cells-To-Modify-List ProtocolIE-ID ::= 62

id-SpCell-ID ProtocolIE-ID ::= 63

id-SRBID ProtocolIE-ID ::= 64

id-SRBs-FailedToBeSetup-Item ProtocolIE-ID ::= 65

id-SRBs-FailedToBeSetup-List ProtocolIE-ID ::= 66

id-SRBs-FailedToBeSetupMod-Item ProtocolIE-ID ::= 67

id-SRBs-FailedToBeSetupMod-List ProtocolIE-ID ::= 68

id-SRBs-Required-ToBeReleased-Item ProtocolIE-ID ::= 69

id-SRBs-Required-ToBeReleased-List ProtocolIE-ID ::= 70

id-SRBs-ToBeReleased-Item ProtocolIE-ID ::= 71

id-SRBs-ToBeReleased-List ProtocolIE-ID ::= 72

id-SRBs-ToBeSetup-Item ProtocolIE-ID ::= 73

id-SRBs-ToBeSetup-List ProtocolIE-ID ::= 74

id-SRBs-ToBeSetupMod-Item ProtocolIE-ID ::= 75

id-SRBs-ToBeSetupMod-List ProtocolIE-ID ::= 76

id-TimeToWait ProtocolIE-ID ::= 77

id-TransactionID ProtocolIE-ID ::= 78

id-TransmissionActionIndicator ProtocolIE-ID ::= 79

id-UE-associatedLogicalF1-ConnectionItem ProtocolIE-ID ::= 80

id-UE-associatedLogicalF1-ConnectionListResAck ProtocolIE-ID ::= 81

id-gNB-CU-Name ProtocolIE-ID ::= 82

id-SCell-FailedtoSetup-List ProtocolIE-ID ::= 83

id-SCell-FailedtoSetup-Item ProtocolIE-ID ::= 84

id-SCell-FailedtoSetupMod-List ProtocolIE-ID ::= 85

id-SCell-FailedtoSetupMod-Item ProtocolIE-ID ::= 86

id-RRCReconfigurationCompleteIndicator ProtocolIE-ID ::= 87

id-Cells-Status-Item ProtocolIE-ID ::= 88

id-Cells-Status-List ProtocolIE-ID ::= 89

id-Candidate-SpCell-List ProtocolIE-ID ::= 90

id-Candidate-SpCell-Item ProtocolIE-ID ::= 91

id-Potential-SpCell-List ProtocolIE-ID ::= 92

id-Potential-SpCell-Item ProtocolIE-ID ::= 93

id-FullConfiguration ProtocolIE-ID ::= 94

id-C-RNTI ProtocolIE-ID ::= 95

id-SpCellULConfigured ProtocolIE-ID ::= 96

id-InactivityMonitoringRequest ProtocolIE-ID ::= 97

id-InactivityMonitoringResponse ProtocolIE-ID ::= 98

id-DRB-Activity-Item ProtocolIE-ID ::= 99

id-DRB-Activity-List ProtocolIE-ID ::= 100

id-EUTRA-NR-CellResourceCoordinationReq-Container ProtocolIE-ID ::= 101

id-EUTRA-NR-CellResourceCoordinationReqAck-Container ProtocolIE-ID ::= 102

id-Protected-EUTRA-Resources-List ProtocolIE-ID ::= 105

id-RequestType ProtocolIE-ID ::= 106

id-ServCellIndex ProtocolIE-ID ::= 107

id-RAT-FrequencyPriorityInformation ProtocolIE-ID ::= 108

id-ExecuteDuplication ProtocolIE-ID ::= 109

id-NRCGI ProtocolIE-ID ::= 111

id-PagingCell-Item ProtocolIE-ID ::= 112

id-PagingCell-List ProtocolIE-ID ::= 113

id-PagingDRX ProtocolIE-ID ::= 114

id-PagingPriority ProtocolIE-ID ::= 115

id-SItype-List ProtocolIE-ID ::= 116

id-UEIdentityIndexValue ProtocolIE-ID ::= 117

id-gNB-CUSystemInformation ProtocolIE-ID ::= 118

id-HandoverPreparationInformation ProtocolIE-ID ::= 119

id-GNB-CU-TNL-Association-To-Add-Item ProtocolIE-ID ::= 120

id-GNB-CU-TNL-Association-To-Add-List ProtocolIE-ID ::= 121

id-GNB-CU-TNL-Association-To-Remove-Item ProtocolIE-ID ::= 122

id-GNB-CU-TNL-Association-To-Remove-List ProtocolIE-ID ::= 123

id-GNB-CU-TNL-Association-To-Update-Item ProtocolIE-ID ::= 124

id-GNB-CU-TNL-Association-To-Update-List ProtocolIE-ID ::= 125

id-MaskedIMEISV ProtocolIE-ID ::= 126

id-PagingIdentity ProtocolIE-ID ::= 127

id-DUtoCURRCContainer ProtocolIE-ID ::= 128

id-Cells-to-be-Barred-List ProtocolIE-ID ::= 129

id-Cells-to-be-Barred-Item ProtocolIE-ID ::= 130

id-TAISliceSupportList ProtocolIE-ID ::= 131

id-GNB-CU-TNL-Association-Setup-List ProtocolIE-ID ::= 132

id-GNB-CU-TNL-Association-Setup-Item ProtocolIE-ID ::= 133

id-GNB-CU-TNL-Association-Failed-To-Setup-List ProtocolIE-ID ::= 134

id-GNB-CU-TNL-Association-Failed-To-Setup-Item ProtocolIE-ID ::= 135

id-DRB-Notify-Item ProtocolIE-ID ::= 136

id-DRB-Notify-List ProtocolIE-ID ::= 137

id-NotficationControl ProtocolIE-ID ::= 138

id-RANAC ProtocolIE-ID ::= 139

id-PWSSystemInformation ProtocolIE-ID ::= 140

id-RepetitionPeriod ProtocolIE-ID ::= 141

id-NumberofBroadcastRequest ProtocolIE-ID ::= 142

id-Cells-To-Be-Broadcast-List ProtocolIE-ID ::= 144

id-Cells-To-Be-Broadcast-Item ProtocolIE-ID ::= 145

id-Cells-Broadcast-Completed-List ProtocolIE-ID ::= 146

id-Cells-Broadcast-Completed-Item ProtocolIE-ID ::= 147

id-Broadcast-To-Be-Cancelled-List ProtocolIE-ID ::= 148

id-Broadcast-To-Be-Cancelled-Item ProtocolIE-ID ::= 149

id-Cells-Broadcast-Cancelled-List ProtocolIE-ID ::= 150

id-Cells-Broadcast-Cancelled-Item ProtocolIE-ID ::= 151

id-NR-CGI-List-For-Restart-List ProtocolIE-ID ::= 152

id-NR-CGI-List-For-Restart-Item ProtocolIE-ID ::= 153

id-PWS-Failed-NR-CGI-List ProtocolIE-ID ::= 154

id-PWS-Failed-NR-CGI-Item ProtocolIE-ID ::= 155

id-ConfirmedUEID ProtocolIE-ID ::= 156

id-Cancel-all-Warning-Messages-Indicator ProtocolIE-ID ::= 157

id-GNB-DU-UE-AMBR-UL ProtocolIE-ID ::= 158

id-DRXConfigurationIndicator ProtocolIE-ID ::= 159

id-RLC-Status ProtocolIE-ID ::= 160

id-DLPDCPSNLength ProtocolIE-ID ::= 161

id-GNB-DUConfigurationQuery ProtocolIE-ID ::= 162

id-MeasurementTimingConfiguration ProtocolIE-ID ::= 163

id-DRB-Information ProtocolIE-ID ::= 164

id-ServingPLMN ProtocolIE-ID ::= 165

id-Protected-EUTRA-Resources-Item ProtocolIE-ID ::= 168

id-GNB-CU-RRC-Version ProtocolIE-ID ::= 170

id-GNB-DU-RRC-Version ProtocolIE-ID ::= 171

id-GNBDUOverloadInformation ProtocolIE-ID ::= 172

id-CellGroupConfig ProtocolIE-ID ::= 173

id-RLCFailureIndication ProtocolIE-ID ::= 174

id-UplinkTxDirectCurrentListInformation ProtocolIE-ID ::= 175

id-DC-Based-Duplication-Configured ProtocolIE-ID ::= 176

id-DC-Based-Duplication-Activation ProtocolIE-ID ::= 177

id-SULAccessIndication ProtocolIE-ID ::= 178

id-AvailablePLMNList ProtocolIE-ID ::= 179

id-PDUSessionID ProtocolIE-ID ::= 180

id-ULPDUSessionAggregateMaximumBitRate ProtocolIE-ID ::= 181

id-ServingCellMO ProtocolIE-ID ::= 182

id-QoSFlowMappingIndication ProtocolIE-ID ::= 183

id-RRCDeliveryStatusRequest ProtocolIE-ID ::= 184

id-RRCDeliveryStatus ProtocolIE-ID ::= 185

id-BearerTypeChange ProtocolIE-ID ::= 186

id-RLCMode ProtocolIE-ID ::= 187

id-Duplication-Activation ProtocolIE-ID ::= 188

id-Dedicated-SIDelivery-NeededUE-List ProtocolIE-ID ::= 189

id-Dedicated-SIDelivery-NeededUE-Item ProtocolIE-ID ::= 190

id-DRX-LongCycleStartOffset ProtocolIE-ID ::= 191

id-ULPDCPSNLength ProtocolIE-ID ::= 192

id-SelectedBandCombinationIndex ProtocolIE-ID ::= 193

id-SelectedFeatureSetEntryIndex ProtocolIE-ID ::= 194

id-ResourceCoordinationTransferInformation ProtocolIE-ID ::= 195

id-ExtendedServedPLMNs-List ProtocolIE-ID ::= 196

id-ExtendedAvailablePLMN-List ProtocolIE-ID ::= 197

id-Associated-SCell-List ProtocolIE-ID ::= 198

id-latest-RRC-Version-Enhanced ProtocolIE-ID ::= 199

id-Associated-SCell-Item ProtocolIE-ID ::= 200

id-Cell-Direction ProtocolIE-ID ::= 201

id-SRBs-Setup-List ProtocolIE-ID ::= 202

id-SRBs-Setup-Item ProtocolIE-ID ::= 203

id-SRBs-SetupMod-List ProtocolIE-ID ::= 204

id-SRBs-SetupMod-Item ProtocolIE-ID ::= 205

id-SRBs-Modified-List ProtocolIE-ID ::= 206

id-SRBs-Modified-Item ProtocolIE-ID ::= 207

id-Ph-InfoSCG ProtocolIE-ID ::= 208

id-RequestedBandCombinationIndex ProtocolIE-ID ::= 209

id-RequestedFeatureSetEntryIndex ProtocolIE-ID ::= 210

id-RequestedP-MaxFR2 ProtocolIE-ID ::= 211

id-DRX-Config ProtocolIE-ID ::= 212

id-IgnoreResourceCoordinationContainer ProtocolIE-ID ::= 213

id-UEAssistanceInformation ProtocolIE-ID ::= 214

id-NeedforGap ProtocolIE-ID ::= 215

id-PagingOrigin ProtocolIE-ID ::= 216

id-new-gNB-CU-UE-F1AP-ID ProtocolIE-ID ::= 217

id-RedirectedRRCmessage ProtocolIE-ID ::= 218

id-new-gNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 219

id-NotificationInformation ProtocolIE-ID ::= 220

id-PLMNAssistanceInfoForNetShar ProtocolIE-ID ::= 221

id-UEContextNotRetrievable ProtocolIE-ID ::= 222

id-BPLMN-ID-Info-List ProtocolIE-ID ::= 223

id-SelectedPLMNID ProtocolIE-ID ::= 224

id-UAC-Assistance-Info ProtocolIE-ID ::= 225

id-RANUEID ProtocolIE-ID ::= 226

id-GNB-DU-TNL-Association-To-Remove-Item ProtocolIE-ID ::= 227

id-GNB-DU-TNL-Association-To-Remove-List ProtocolIE-ID ::= 228

id-TNLAssociationTransportLayerAddressgNBDU ProtocolIE-ID ::= 229

id-portNumber ProtocolIE-ID ::= 230

id-AdditionalSIBMessageList ProtocolIE-ID ::= 231

id-Cell-Type ProtocolIE-ID ::= 232

id-IgnorePRACHConfiguration ProtocolIE-ID ::= 233

id-CG-Config ProtocolIE-ID ::= 234

id-PDCCH-BlindDetectionSCG ProtocolIE-ID ::= 235

id-Requested-PDCCH-BlindDetectionSCG ProtocolIE-ID ::= 236

id-Ph-InfoMCG ProtocolIE-ID ::= 237

id-MeasGapSharingConfig ProtocolIE-ID ::= 238

id-systemInformationAreaID ProtocolIE-ID ::= 239

id-areaScope ProtocolIE-ID ::= 240

id-RRCContainer-RRCSetupComplete ProtocolIE-ID ::= 241

id-TraceActivation ProtocolIE-ID ::= 242

id-TraceID ProtocolIE-ID ::= 243

id-Neighbour-Cell-Information-List ProtocolIE-ID ::= 244

id-SymbolAllocInSlot ProtocolIE-ID ::= 246

id-NumDLULSymbols ProtocolIE-ID ::= 247

id-AdditionalRRMPriorityIndex ProtocolIE-ID ::= 248

id-DUCURadioInformationType ProtocolIE-ID ::= 249

id-CUDURadioInformationType ProtocolIE-ID ::= 250

id-AggressorgNBSetID ProtocolIE-ID ::= 251

id-VictimgNBSetID ProtocolIE-ID ::= 252

id-LowerLayerPresenceStatusChange ProtocolIE-ID ::= 253

id-Transport-Layer-Address-Info ProtocolIE-ID ::= 254

id-Neighbour-Cell-Information-Item ProtocolIE-ID ::= 255

id-IntendedTDD-DL-ULConfig ProtocolIE-ID ::= 256

id-QosMonitoringRequest ProtocolIE-ID ::= 257

id-RequestedSRSTransmissionCharacteristics ProtocolIE-ID ::= 300

id-PosAssistance-Information ProtocolIE-ID ::= 301

id-PosBroadcast ProtocolIE-ID ::= 302

id-PosBroadcastTargetCell ProtocolIE-ID ::= 303

id-RoutingID ProtocolIE-ID ::= 304

id-PosAssistanceInformationFailureList ProtocolIE-ID ::= 305

id-PosMeasurementQuantities ProtocolIE-ID ::= 306

id-PosMeasurementResultList ProtocolIE-ID ::= 307

id-PosMeasurementFailureList ProtocolIE-ID ::= 308

id-PosMeasurementList ProtocolIE-ID ::= 309

id-PosMeasurementstoModify ProtocolIE-ID ::= 310

id-TRPInformationTypeListTRPReq ProtocolIE-ID ::= 311

id-TRPInformationTypeItem ProtocolIE-ID ::= 312

id-TRPInformationListTRPResp ProtocolIE-ID ::= 311

id-TRPInformationItem ProtocolIE-ID ::= 312

id-LMF-UE-MeasurementID ProtocolIE-ID ::= 313

id-SRSType ProtocolIE-ID ::= 314

id-ActivationTime ProtocolIE-ID ::= 315

id-SRSResourceSetID ProtocolIE-ID ::= 316

END

-- ASN1STOP

**END OF CHANGES**