**3GPP TSG-RAN WG3 Meeting #112-e *R3-212779***

**Online, 17 – 28 May 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.455** | **CR** | **0037** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Introduction of NR Positioning enhancements to NRPPa | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_pos\_enh | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | 7 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduce a new non-UE associated NRPPa procedure (class 1) to support on-demand PRS. Details FFS.  The new NRPPa procedure enables LMF to request gNB to (re)configure PRS transmission, and gNB to indicate the updated PRS configuration to LMF. Details FFS.  Details regarding information (e.g. parameters, PRS utilization, measurements in general, etc.) to be exchanged by the procedure is pending RAN1/RAN2.  **Editor’s note: all details on procedures and IEs are FFS** | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introducing new PRS Configuration Exchange class 1 procedure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | No support of on-demand PRS transmission in NRPPa. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | TBD | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 38.473 CR 0767 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1: CB#53 output | | | | | | | | |

**START OF CHANGES**

7 Functions of NRPPa

The NRPPa protocol provides the following functions:

- E-CID Location Information Transfer. This function allows the NG-RAN node to exchange location information with LMF for the purpose of E-CID positioning and NR E-CID positioning.

- OTDOA Information Transfer. This function allows the NG-RAN node to exchange information with the LMF for the purpose of OTDOA positioning.

- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

- Assistance Information Transfer. This function allows the LMF to exchange information with the NG-RAN node for the purpose of assistance information broadcasting.

- Positioning Information Transfer. This function allows the NG-RAN node to exchange positioning information with the LMF for the purpose of positioning.

- Measurement Information Transfer. This function allows the LMF to exchange measurement information with the NG-RAN node for the purpose of positioning.

- TRP Information Transfer. This function allows an LMF to obtain TRP related information from an NG-RAN node.

- PRS Information Transfer. This function allows the LMF to exchange PRS related information with the NG-RAN node.

The mapping between the above functions and NRPPa EPs is shown in the table below.

**Table 7-1: Mapping between NRPPa functions and NRPPa EPs**

| **Function** | **Elementary Procedure(s)** |
| --- | --- |
| E-CID Location Information Transfer | a) E-CID Measurement Initiation  b) E-CID Measurement Failure Indication  c) E-CID Measurement Report  d) E-CID Measurement Termination |
| OTDOA Information Transfer | OTDOA Information Exchange |
| Assistance Information Transfer | a) Assistance Information Control  b) Assistance Information Feedback |
| Reporting of General Error Situations | Error Indication |
| Positioning Information Transfer | a) Positioning Information Exchange  b) Positioning Information Update  c) Positioning Activation  d) Positioning Deactivation |
| TRP Information Transfer | TRP Information Exchange |
| Measurement Information Transfer | a) Measurement  b) Measurement Update  c) Measurement Report  d) Measurement Abort  e) Measurement Failure Indication |
| PRS Information Transfer | PRS Configuration Exchange |

8 NRPPa procedures

8.1 Elementary procedures

In the following tables, all EPs are divided into Class 1 and Class 2 EPs.

**Table 8.1-1: Class 1 Elementary Procedures**

| **Elementary Procedure** | **Initiating Message** | **Successful Outcome** | **Unsuccessful Outcome** | |
| --- | --- | --- | --- | --- |
| **Response message** | **Response message** | |
| E-CID Measurement Initiation | E-CID MEASUREMENT INITIATION REQUEST | E-CID MEASUREMENT INITIATION RESPONSE | E-CID MEASUREMENT INITIATION FAILURE |
| OTDOA Information Exchange | OTDOA INFORMATION REQUEST | OTDOA INFORMATION RESPONSE | OTDOA INFORMATION 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 |
| Measurement | MEASUREMENT REQUEST | MEASUREMENT RESPONSE | MEASUREMENT FAILURE |
| Positioning Activation | POSITIONING ACTIVATION REQUEST | POSITIONING ACTIVATION RESPONSE | POSITIONING ACTIVATION  FAILURE |
| PRS Configuration Exchange | PRS CONFIGURATION REQUEST | PRS CONFIGURATION RESPONSE | PRS CONFIGURATION FAILURE |

**NEXT CHANGE**

8.2.X PRS Configuration Exchange

8.2.X.1 General

The PRS Configuration Exchange procedure is initiated by the LMF to request the NG-RAN node to configure PRS transmission. This procedure applies only if the NG-RAN node is a gNB.

8.2.X.2 Successful Operation



**Figure 8.2.X.2-1: PRS Configuration Exchange procedure, successful operation**

The LMF initiates the procedure by sending a PRS CONFIGURATION REQUEST message to the NG-RAN node. The NG-RAN node responds with a PRS CONFIGURATION RESPONSE message.

8.2.X.3 Unsuccessful Operation



**Figure 8.2.X.3-1: PRS Configuration Exchange procedure, unsuccessful operation**

8.2.X.4 Abnormal Conditions

Void.

**NEXT CHANGE**

9.1.1.a1 PRS CONFIGURATION REQUEST

This message is sent by LMF to request NG-RAN node configuring the PRS transmission.

Direction: LMF → NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3 |  | YES | reject |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| **PRS TRP List** |  | [FFS] |  |  | YES | ignore |
| **>PRS TRP Item** |  | *1 .. <maxnoTRPs>* |  |  | EACH | ignore |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>Requested DL PRS Transmission Characteristics | [FFS] |  | 9.2.X |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoTRPs | Maximum no. of TRPs in a NG-RAN node. Value is 65535 |

9.1.1.a2 PRS CONFIGURATION RESPONSE

This message is sent by NG-RAN node to acknowledge updating the PRS transmission.

Direction: NG-RAN node → LMF.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3 |  | YES | reject |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| **PRS Transmission TRP List** |  | [FFS] |  |  | YES | ignore |
| **>PRS Transmission TRP Item** |  | *1 .. <maxnoTRPs>* |  |  | EACH | ignore |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>On-demand PRS information | [FFS] |  | 9.2.Y |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoTRPs | Maximum no. of TRPs in a NG-RAN node. Value is 65535 |

9.1.1.a3 PRS CONFIGURATION FAILURE

This message is sent by NG-RAN node to indicate that it cannot configure any PRS transmission.

Direction: NG-RAN node → LMF.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3 |  | YES | reject |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| Cause | M |  | 9.2.1 |  | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

**NEXT CHANGE**

### 9.2.X Requested DL PRS Transmission Characteristics [FFS]

This IE contains the requested PRS configuration for transmission by the LMF.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |

### 9.2.Y On-demand PRS information [FFS]

This IE contains the updated PRS configuration.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |

**NEXT CHANGE**

9.3.3 Elementary Procedure Definitions

-- ASN1START

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

--

-- Elementary Procedure definitions

--

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

NRPPA-PDU-Descriptions {

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

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

Criticality,

ProcedureCode,

NRPPATransactionID

FROM NRPPA-CommonDataTypes

ErrorIndication,

PrivateMessage,

E-CIDMeasurementInitiationRequest,

E-CIDMeasurementInitiationResponse,

E-CIDMeasurementInitiationFailure,

E-CIDMeasurementFailureIndication,

E-CIDMeasurementReport,

E-CIDMeasurementTerminationCommand,

OTDOAInformationRequest,

OTDOAInformationResponse,

OTDOAInformationFailure,

AssistanceInformationControl,

AssistanceInformationFeedback,

PositioningInformationRequest,

PositioningInformationResponse,

PositioningInformationFailure,

PositioningInformationUpdate,

MeasurementRequest,

MeasurementResponse,

MeasurementFailure,

MeasurementReport,

MeasurementUpdate,

MeasurementAbort,

MeasurementFailureIndication,

TRPInformationRequest,

TRPInformationResponse,

TRPInformationFailure,

PositioningActivationRequest,

PositioningActivationResponse,

PositioningActivationFailure,

PositioningDeactivation,

PRSConfigurationRequest,

PRSConfigurationResponse,

PRSConfigurationFailure

FROM NRPPA-PDU-Contents

id-errorIndication,

id-privateMessage,

id-e-CIDMeasurementInitiation,

id-e-CIDMeasurementFailureIndication,

id-e-CIDMeasurementReport,

id-e-CIDMeasurementTermination,

id-oTDOAInformationExchange,

id-assistanceInformationControl,

id-assistanceInformationFeedback,

id-positioningInformationExchange,

id-positioningInformationUpdate,

id-Measurement,

id-MeasurementReport,

id-MeasurementUpdate,

id-MeasurementAbort,

id-MeasurementFailureIndication,

id-tRPInformationExchange,

id-positioningActivation,

id-positioningDeactivation,

id-pRSConfigurationExchange

FROM NRPPA-Constants;

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

--

-- Interface Elementary Procedure Class

--

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

NRPPA-ELEMENTARY-PROCEDURE ::= CLASS {

&InitiatingMessage ,

&SuccessfulOutcome OPTIONAL,

&UnsuccessfulOutcome OPTIONAL,

&procedureCode ProcedureCode UNIQUE,

&criticality Criticality DEFAULT ignore

}

WITH SYNTAX {

INITIATING MESSAGE &InitiatingMessage

[SUCCESSFUL OUTCOME &SuccessfulOutcome]

[UNSUCCESSFUL OUTCOME &UnsuccessfulOutcome]

PROCEDURE CODE &procedureCode

[CRITICALITY &criticality]

}

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

--

-- Interface PDU Definition

--

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

NRPPA-PDU ::= CHOICE {

initiatingMessage InitiatingMessage,

successfulOutcome SuccessfulOutcome,

unsuccessfulOutcome UnsuccessfulOutcome,

...

}

InitiatingMessage ::= SEQUENCE {

procedureCode NRPPA-ELEMENTARY-PROCEDURE.&procedureCode ({NRPPA-ELEMENTARY-PROCEDURES}),

criticality NRPPA-ELEMENTARY-PROCEDURE.&criticality ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode}),

nrppatransactionID NRPPATransactionID,

value NRPPA-ELEMENTARY-PROCEDURE.&InitiatingMessage ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode})

}

SuccessfulOutcome ::= SEQUENCE {

procedureCode NRPPA-ELEMENTARY-PROCEDURE.&procedureCode ({NRPPA-ELEMENTARY-PROCEDURES}),

criticality NRPPA-ELEMENTARY-PROCEDURE.&criticality ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode}),

nrppatransactionID NRPPATransactionID,

value NRPPA-ELEMENTARY-PROCEDURE.&SuccessfulOutcome ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode})

}

UnsuccessfulOutcome ::= SEQUENCE {

procedureCode NRPPA-ELEMENTARY-PROCEDURE.&procedureCode ({NRPPA-ELEMENTARY-PROCEDURES}),

criticality NRPPA-ELEMENTARY-PROCEDURE.&criticality ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode}),

nrppatransactionID NRPPATransactionID,

value NRPPA-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({NRPPA-ELEMENTARY-PROCEDURES}{@procedureCode})

}

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

--

-- Interface Elementary Procedure List

--

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

NRPPA-ELEMENTARY-PROCEDURES NRPPA-ELEMENTARY-PROCEDURE ::= {

NRPPA-ELEMENTARY-PROCEDURES-CLASS-1 |

NRPPA-ELEMENTARY-PROCEDURES-CLASS-2 ,

...

}

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

e-CIDMeasurementInitiation |

oTDOAInformationExchange |

positioningInformationExchange |

measurement |

tRPInformationExchange |

positioningActivation |

pRSConfigurationExchange,

...

}

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

e-CIDMeasurementFailureIndication |

e-CIDMeasurementReport |

e-CIDMeasurementTermination |

errorIndication |

privateMessage |

assistanceInformationControl |

assistanceInformationFeedback |

positioningInformationUpdate |

measurementReport |

measurementUpdate |

measurementAbort |

measurementFailureIndication |

positioningDeactivation,

...

}

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

--

-- Interface Elementary Procedures

--

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

e-CIDMeasurementInitiation NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE E-CIDMeasurementInitiationRequest

SUCCESSFUL OUTCOME E-CIDMeasurementInitiationResponse

UNSUCCESSFUL OUTCOME E-CIDMeasurementInitiationFailure

PROCEDURE CODE id-e-CIDMeasurementInitiation

CRITICALITY reject

}

e-CIDMeasurementFailureIndication NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE E-CIDMeasurementFailureIndication

PROCEDURE CODE id-e-CIDMeasurementFailureIndication

CRITICALITY ignore

}

e-CIDMeasurementReport NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE E-CIDMeasurementReport

PROCEDURE CODE id-e-CIDMeasurementReport

CRITICALITY ignore

}

e-CIDMeasurementTermination NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE E-CIDMeasurementTerminationCommand

PROCEDURE CODE id-e-CIDMeasurementTermination

CRITICALITY reject

}

oTDOAInformationExchange NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE OTDOAInformationRequest

SUCCESSFUL OUTCOME OTDOAInformationResponse

UNSUCCESSFUL OUTCOME OTDOAInformationFailure

PROCEDURE CODE id-oTDOAInformationExchange

CRITICALITY reject

}

assistanceInformationControl NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE AssistanceInformationControl

PROCEDURE CODE id-assistanceInformationControl

CRITICALITY reject

}

assistanceInformationFeedback NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE AssistanceInformationFeedback

PROCEDURE CODE id-assistanceInformationFeedback

CRITICALITY reject

}

errorIndication NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE ErrorIndication

PROCEDURE CODE id-errorIndication

CRITICALITY ignore

}

privateMessage NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PrivateMessage

PROCEDURE CODE id-privateMessage

CRITICALITY ignore

}

positioningInformationExchange NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PositioningInformationRequest

SUCCESSFUL OUTCOME PositioningInformationResponse

UNSUCCESSFUL OUTCOME PositioningInformationFailure

PROCEDURE CODE id-positioningInformationExchange

CRITICALITY reject

}

positioningInformationUpdate NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PositioningInformationUpdate

PROCEDURE CODE id-positioningInformationUpdate

CRITICALITY ignore

}

measurement NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MeasurementRequest

SUCCESSFUL OUTCOME MeasurementResponse

UNSUCCESSFUL OUTCOME MeasurementFailure

PROCEDURE CODE id-Measurement

CRITICALITY reject

}

measurementReport NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MeasurementReport

PROCEDURE CODE id-MeasurementReport

CRITICALITY ignore

}

measurementUpdate NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MeasurementUpdate

PROCEDURE CODE id-MeasurementUpdate

CRITICALITY ignore

}

measurementAbort NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MeasurementAbort

PROCEDURE CODE id-MeasurementAbort

CRITICALITY ignore

}

measurementFailureIndication NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MeasurementFailureIndication

PROCEDURE CODE id-MeasurementFailureIndication

CRITICALITY ignore

}

tRPInformationExchange NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE TRPInformationRequest

SUCCESSFUL OUTCOME TRPInformationResponse

UNSUCCESSFUL OUTCOME TRPInformationFailure

PROCEDURE CODE id-tRPInformationExchange

CRITICALITY reject

}

positioningActivation NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PositioningActivationRequest

SUCCESSFUL OUTCOME PositioningActivationResponse

UNSUCCESSFUL OUTCOME PositioningActivationFailure

PROCEDURE CODE id-positioningActivation

CRITICALITY reject

}

positioningDeactivation NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PositioningDeactivation

PROCEDURE CODE id-positioningDeactivation

CRITICALITY ignore

}

pRSConfigurationExchange NRPPA-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PRSConfigurationRequest

SUCCESSFUL OUTCOME PRSConfigurationResponse

UNSUCCESSFUL OUTCOME PRSConfigurationFailure

PROCEDURE CODE id-pRSConfigurationExchange

CRITICALITY reject

}

END

-- ASN1STOP

9.3.4 PDU Definitions

-- ASN1START

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

--

-- PDU definitions for NRPPa

--

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

NRPPA-PDU-Contents {

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

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules

--

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

IMPORTS

Cause,

CriticalityDiagnostics,

E-CID-MeasurementResult,

OTDOACells,

OTDOA-Information-Item,

Measurement-ID,

UE-Measurement-ID,

MeasurementPeriodicity,

MeasurementQuantities,

ReportCharacteristics,

RequestedSRSTransmissionCharacteristics,

Cell-Portion-ID,

OtherRATMeasurementQuantities,

OtherRATMeasurementResult,

WLANMeasurementQuantities,

WLANMeasurementResult,

Assistance-Information,

Broadcast,

AssistanceInformationFailureList,

SRSConfiguration,

TRPMeasurementQuantities,

TrpMeasurementResult,

TRP-ID,

TRPInformationTypeListTRPReq,

TRPInformationListTRPResp,

TRP-MeasurementRequestList,

TRP-MeasurementResponseList,

MeasurementBeamInfoRequest,

PositioningBroadcastCells,

SRSResourceSetID,

SpatialRelationInfo,

SRSResourceTrigger,

TRPList,

AbortTransmission,

SystemFrameNumber,

SlotNumber,

SFNInitialisationTime,

PRSTRPList,

PRSTransmissionTRPList

FROM NRPPA-IEs

PrivateIE-Container{},

ProtocolExtensionContainer{},

ProtocolIE-Container{},

ProtocolIE-ContainerList{},

ProtocolIE-Single-Container{},

NRPPA-PRIVATE-IES,

NRPPA-PROTOCOL-EXTENSION,

NRPPA-PROTOCOL-IES

FROM NRPPA-Containers

maxnoOTDOAtypes,

id-Cause,

id-CriticalityDiagnostics,

id-LMF-Measurement-ID,

id-LMF-UE-Measurement-ID,

id-OTDOACells,

id-OTDOA-Information-Type-Group,

id-OTDOA-Information-Type-Item,

id-ReportCharacteristics,

id-MeasurementPeriodicity,

id-MeasurementQuantities,

id-RAN-Measurement-ID,

id-RAN-UE-Measurement-ID,

id-E-CID-MeasurementResult,

id-RequestedSRSTransmissionCharacteristics,

id-Cell-Portion-ID,

id-OtherRATMeasurementQuantities,

id-OtherRATMeasurementResult,

id-WLANMeasurementQuantities,

id-WLANMeasurementResult,

id-Assistance-Information,

id-Broadcast,

id-AssistanceInformationFailureList,

id-SRSConfiguration,

id-TRPMeasurementQuantities,

id-MeasurementResult,

id-TRP-ID,

id-TRPInformationTypeListTRPReq,

id-TRPInformationListTRPResp,

id-TRP-MeasurementRequestList,

id-TRP-MeasurementResponseList,

id-TRP-MeasurementReportList,

id-MeasurementBeamInfoRequest,

id-PositioningBroadcastCells,

id-SRSType,

id-ActivationTime,

id-SRSResourceSetID,

id-TRPList,

id-SRSSpatialRelation,

id-AbortTransmission,

id-SystemFrameNumber,

id-SlotNumber,

id-SRSResourceTrigger,

id-SFNInitialisationTime,

id-PRSTRPList,

id-PRSTransmissionTRPList

FROM NRPPA-Constants;

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

--

-- E-CID MEASUREMENT INITIATION REQUEST

--

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

E-CIDMeasurementInitiationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementInitiationRequest-IEs}},

...

}

E-CIDMeasurementInitiationRequest-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

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

{ ID id-MeasurementPeriodicity CRITICALITY reject TYPE MeasurementPeriodicity PRESENCE conditional}|

-- The IE shall be present if the Report Characteritics IE is set to “periodic” --

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

{ ID id-OtherRATMeasurementQuantities CRITICALITY ignore TYPE OtherRATMeasurementQuantities PRESENCE optional}|

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

...

}

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

--

-- E-CID MEASUREMENT INITIATION RESPONSE

--

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

E-CIDMeasurementInitiationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementInitiationResponse-IEs}},

...

}

E-CIDMeasurementInitiationResponse-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-E-CID-MeasurementResult CRITICALITY ignore TYPE E-CID-MeasurementResult PRESENCE optional}|

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

{ ID id-Cell-Portion-ID CRITICALITY ignore TYPE Cell-Portion-ID PRESENCE optional}|

{ ID id-OtherRATMeasurementResult CRITICALITY ignore TYPE OtherRATMeasurementResult PRESENCE optional}|

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

...

}

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

--

-- E-CID MEASUREMENT INITIATION FAILURE

--

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

E-CIDMeasurementInitiationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementInitiationFailure-IEs}},

...

}

E-CIDMeasurementInitiationFailure-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

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

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

...

}

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

--

-- E-CID MEASUREMENT FAILURE INDICATION

--

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

E-CIDMeasurementFailureIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementFailureIndication-IEs}},

...

}

E-CIDMeasurementFailureIndication-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

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

...

}

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

--

-- E-CID MEASUREMENT REPORT

--

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

E-CIDMeasurementReport ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementReport-IEs}},

...

}

E-CIDMeasurementReport-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-E-CID-MeasurementResult CRITICALITY ignore TYPE E-CID-MeasurementResult PRESENCE mandatory}|

{ ID id-Cell-Portion-ID CRITICALITY ignore TYPE Cell-Portion-ID PRESENCE optional},

...

}

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

--

-- E-CID MEASUREMENT TERMINATION

--

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

E-CIDMeasurementTerminationCommand ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{E-CIDMeasurementTerminationCommand-IEs}},

...

}

E-CIDMeasurementTerminationCommand-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-UE-Measurement-ID CRITICALITY reject TYPE UE-Measurement-ID PRESENCE mandatory},

...

}

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

--

-- OTDOA INFORMATION REQUEST

--

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

OTDOAInformationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{OTDOAInformationRequest-IEs}},

...

}

OTDOAInformationRequest-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-OTDOA-Information-Type-Group CRITICALITY reject TYPE OTDOA-Information-Type PRESENCE mandatory},

...

}

OTDOA-Information-Type ::= SEQUENCE (SIZE(1..maxnoOTDOAtypes)) OF ProtocolIE-Single-Container { { OTDOA-Information-TypeIEs} }

OTDOA-Information-TypeIEs NRPPA-PROTOCOL-IES ::= {

{ ID id-OTDOA-Information-Type-Item CRITICALITY reject TYPE OTDOA-Information-Type-Item PRESENCE mandatory},

...

}

OTDOA-Information-Type-Item ::= SEQUENCE {

oTDOA-Information-Type-Item OTDOA-Information-Item,

iE-Extensions ProtocolExtensionContainer { { OTDOA-Information-Type-ItemExtIEs} } OPTIONAL,

...

}

OTDOA-Information-Type-ItemExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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

--

-- OTDOA INFORMATION RESPONSE

--

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

OTDOAInformationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{OTDOAInformationResponse-IEs}},

...

}

OTDOAInformationResponse-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- OTDOA INFORMATION FAILURE

--

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

OTDOAInformationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{OTDOAInformationFailure-IEs}},

...

}

OTDOAInformationFailure-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- ASSISTANCE INFORMATION CONTROL

--

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

AssistanceInformationControl ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{AssistanceInformationControl-IEs}},

...

}

AssistanceInformationControl-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-Assistance-Information CRITICALITY reject TYPE Assistance-Information PRESENCE optional}|

{ ID id-Broadcast CRITICALITY reject TYPE Broadcast PRESENCE optional}|

{ ID id-PositioningBroadcastCells CRITICALITY reject TYPE PositioningBroadcastCells PRESENCE optional},

...

}

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

--

-- ASSISTANCE INFORMATION FEEDBACK

--

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

AssistanceInformationFeedback ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{AssistanceInformationFeedback-IEs}},

...

}

AssistanceInformationFeedback-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-AssistanceInformationFailureList CRITICALITY reject TYPE AssistanceInformationFailureList PRESENCE optional}|

{ ID id-PositioningBroadcastCells CRITICALITY reject TYPE PositioningBroadcastCells PRESENCE optional}|

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

...

}

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

--

-- ERROR INDICATION

--

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

ErrorIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ErrorIndication-IEs}},

...

}

ErrorIndication-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- PRIVATE MESSAGE

--

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

PrivateMessage ::= SEQUENCE {

privateIEs PrivateIE-Container {{PrivateMessage-IEs}},

...

}

PrivateMessage-IEs NRPPA-PRIVATE-IES ::= {

...

}

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

--

-- POSITIONING INFORMATION REQUEST

--

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

PositioningInformationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{PositioningInformationRequest-IEs}},

...

}

PositioningInformationRequest-IEs NRPPA-PROTOCOL-IES ::= {

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

...

}

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

--

-- POSITIONING INFORMATION RESPONSE

--

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

PositioningInformationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{PositioningInformationResponse-IEs}},

...

}

PositioningInformationResponse-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-SRSConfiguration CRITICALITY ignore TYPE SRSConfiguration PRESENCE optional}|

{ ID id-SFNInitialisationTime CRITICALITY ignore TYPE SFNInitialisationTime PRESENCE optional}|

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

...

}

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

--

-- POSITIONING INFORMATION FAILURE

--

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

PositioningInformationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{PositioningInformationFailure-IEs}},

...

}

PositioningInformationFailure-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- POSITIONING INFORMATION UPDATE

--

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

PositioningInformationUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{PositioningInformationUpdate-IEs}},

...

}

PositioningInformationUpdate-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-SRSConfiguration CRITICALITY ignore TYPE SRSConfiguration PRESENCE optional}|

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

...

}

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

--

-- MEASUREMENT REQUEST

--

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

MeasurementRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementRequest-IEs}},

...

}

MeasurementRequest-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-TRP-MeasurementRequestList CRITICALITY reject TYPE TRP-MeasurementRequestList PRESENCE mandatory}|

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

{ ID id-MeasurementPeriodicity CRITICALITY reject TYPE MeasurementPeriodicity PRESENCE conditional}|

-- The IE shall be present if the Report Characteritics IE is set to “periodic” –

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

{ ID id-SFNInitialisationTime CRITICALITY ignore TYPE SFNInitialisationTime PRESENCE optional}|

{ ID id-SRSConfiguration CRITICALITY ignore TYPE SRSConfiguration PRESENCE optional}|

{ ID id-MeasurementBeamInfoRequest CRITICALITY ignore TYPE MeasurementBeamInfoRequest PRESENCE optional}|

{ ID id-SystemFrameNumber CRITICALITY ignore TYPE SystemFrameNumber PRESENCE optional}|

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

...

}

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

--

-- MEASUREMENT RESPONSE

--

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

MeasurementResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementResponse-IEs}},

...

}

MeasurementResponse-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-TRP-MeasurementResponseList CRITICALITY reject TYPE TRP-MeasurementResponseList PRESENCE optional}|

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

...

}

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

--

-- MEASUREMENT FAILURE

--

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

MeasurementFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementFailure-IEs}},

...

}

MeasurementFailure-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

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

...

}

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

--

-- MEASUREMENT REPORT

--

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

MeasurementReport ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementReport-IEs}},

...

}

MeasurementReport-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-TRP-MeasurementReportList CRITICALITY reject TYPE TRP-MeasurementResponseList PRESENCE mandatory},

...

}

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

--

-- MEASUREMENT UPDATE

--

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

MeasurementUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementUpdate-IEs}},

...

}

MeasurementUpdate-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

...

}

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

--

-- MEASUREMENT ABORT

--

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

MeasurementAbort ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementAbort-IEs}},

...

}

MeasurementAbort-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory},

...

}

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

--

-- MEASUREMENT FAILURE INDICATION

--

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

MeasurementFailureIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{MeasurementFailureIndication-IEs}},

...

}

MeasurementFailureIndication-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-LMF-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

{ ID id-RAN-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

...

}

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

--

-- TRP INFORMATION REQUEST

--

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

TRPInformationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{TRPInformationRequest-IEs}},

...

}

TRPInformationRequest-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-TRPList CRITICALITY ignore TYPE TRPList PRESENCE optional}|

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

...

}

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

--

-- TRP INFORMATION RESPONSE

--

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

TRPInformationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{TRPInformationResponse-IEs}},

...

}

TRPInformationResponse-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- TRP INFORMATION FAILURE

--

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

TRPInformationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{TRPInformationFailure-IEs}},

...

}

TRPInformationFailure-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- POSITIONING ACTIVATION REQUEST

--

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

PositioningActivationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PositioningActivationRequestIEs} },

...

}

PositioningActivationRequestIEs NRPPA-PROTOCOL-IES ::= {

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

{ ID id-ActivationTime CRITICALITY ignore TYPE SFNInitialisationTime PRESENCE optional },

...

}

SRSType ::= CHOICE {

semipersistentSRS SemipersistentSRS,

aperiodicSRS AperiodicSRS,

sRSType-extension ProtocolIE-Single-Container { { SRSType-ExtIEs} }

}

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

...

}

SemipersistentSRS ::= SEQUENCE {

sRSResourceSetID SRSResourceSetID,

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

...

}

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

{ ID id-SRSSpatialRelation CRITICALITY ignore EXTENSION SpatialRelationInfo PRESENCE optional},

...

}

AperiodicSRS ::= SEQUENCE {

aperiodic ENUMERATED{true,...},

sRSResourceTrigger SRSResourceTrigger OPTIONAL,

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

...

}

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

...

}

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

--

-- POSITIONING ACTIVATION RESPONSE

--

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

PositioningActivationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PositioningActivationResponseIEs} },

...

}

PositioningActivationResponseIEs NRPPA-PROTOCOL-IES ::= {

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

{ ID id-SystemFrameNumber CRITICALITY ignore TYPE SystemFrameNumber PRESENCE optional }|

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

...

}

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

--

-- POSITIONING ACTIVATION FAILURE

--

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

PositioningActivationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PositioningActivationFailureIEs} },

...

}

PositioningActivationFailureIEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- POSITIONING DEACTIVATION

--

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

PositioningDeactivation ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PositioningDeactivationIEs} },

...

}

PositioningDeactivationIEs NRPPA-PROTOCOL-IES ::= {

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

...

}

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

--

-- PRS CONFIGURATION REQUEST

--

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

PRSConfigurationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{PRSConfigurationRequest-IEs}},

...

}

PRSConfigurationRequest-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-PRSTRPList CRITICALITY ignore TYPE PRSTRPList PRESENCE FFS},

...

}

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

--

-- PRS CONFIGURATION RESPONSE

--

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

PRSConfigurationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ PRSConfigurationResponse-IEs}},

...

}

PRSConfigurationResponse-IEs NRPPA-PROTOCOL-IES ::= {

{ ID id-PRSTransmissionTRPList CRITICALITY ignore TYPE PRSTransmissionTRPList PRESENCE FFS},

...

}

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

--

-- PRS CONFIGURATION FAILURE

--

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

PRSConfigurationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ PRSConfigurationFailure-IEs}},

...

}

PRSConfigurationFailure-IEs NRPPA-PROTOCOL-IES ::= {

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

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

...

}

END

-- ASN1STOP

9.3.5 Information Element definitions

-- ASN1START

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

--

-- Information Element Definitions

--

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

NRPPA-IEs {

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

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-MeasurementQuantities-Item,

id-CGI-NR,

id-SFNInitialisationTime-NR,

id-GeographicalCoordinates,

id-ResultSS-RSRP,

id-ResultSS-RSRQ,

id-ResultCSI-RSRP,

id-ResultCSI-RSRQ,

id-AngleOfArrivalNR,

id-ResultNR,

id-ResultEUTRA,

maxCellinRANnode,

maxCellReport,

maxNrOfErrors,

maxNoMeas,

maxnoOTDOAtypes,

maxServCell,

id-OtherRATMeasurementQuantities-Item,

id-WLANMeasurementQuantities-Item,

maxGERANMeas,

maxUTRANMeas,

maxWLANchannels,

maxnoFreqHoppingBandsMinusOne,

id-TDD-Config-EUTRA-Item,

maxNrOfPosSImessage,

maxnoAssistInfoFailureListItems,

maxNrOfSegments,

maxNrOfPosSIBs,

maxnoPosMeas,

maxnoTRPs,

maxnoTRPInfoTypes,

maxNoOfMeasTRPs,

maxNoPath,

maxnoofAngleInfo,

maxnolcs-gcs-translation,

maxnoBcastCell,

maxnoSRSTriggerStates,

maxnoSpatialRelations,

maxNRMeas,

maxEUTRAMeas,

maxIndexesReport,

maxCellReportNR,

maxnoSRS-Carriers,

maxnoSCSs,

maxnoSRS-Resources,

maxnoSRS-PosResources,

maxnoSRS-ResourceSets,

maxnoSRS-ResourcePerSet,

maxnoSRS-PosResourceSets,

maxnoSRS-PosResourcePerSet,

maxPRS-ResourceSets,

maxPRS-ResourcesPerSet,

maxNoSSBs,

maxnoofPRSresourceSet,

maxnoofPRSresource,

id-Cell-ID,

id-TRPInformationTypeItem

FROM NRPPA-Constants

Criticality,

NRPPATransactionID,

ProcedureCode,

ProtocolIE-ID,

TriggeringMessage

FROM NRPPA-CommonDataTypes

ProtocolExtensionContainer{},

ProtocolIE-Single-Container{},

NRPPA-PROTOCOL-EXTENSION,

NRPPA-PROTOCOL-IES

FROM NRPPA-Containers;

-- A

AbortTransmission ::= CHOICE {

deactivateSRSResourceSetID SRSResourceSetID,

releaseALL NULL,

choice-extension ProtocolIE-Single-Container { { AbortTransmission-ExtIEs } }

}

AbortTransmission-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

ActiveULBWP ::= SEQUENCE {

locationAndBandwidth INTEGER (0..37949,...),

subcarrierSpacing ENUMERATED {kHz15, kHz30, kHz60, kHz120,...},

cyclicPrefix ENUMERATED {normal, extended},

txDirectCurrentLocation INTEGER (0..3301,...),

shift7dot5kHz ENUMERATED {true, ...} OPTIONAL,

sRSConfig SRSConfig,

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

...

}

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

...

}

AdditionalPathList ::= SEQUENCE (SIZE (1.. maxNoPath)) OF AdditionalPathListItem

AdditionalPathListItem ::= SEQUENCE {

relativeTimeOfPath RelativePathDelay,

pathQuality TrpMeasurementQuality OPTIONAL,

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

...

}

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

...

}

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

AperiodicSRSResourceTrigger ::= INTEGER (1..3)

Assistance-Information ::= SEQUENCE {

systemInformation SystemInformation,

iE-Extensions ProtocolExtensionContainer { { Assistance-Information-ExtIEs} } OPTIONAL,

...

}

Assistance-Information-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

AssistanceInformationFailureList ::= SEQUENCE (SIZE (1..maxnoAssistInfoFailureListItems)) OF SEQUENCE {

posSIB-Type PosSIB-Type,

outcome Outcome,

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

...

}

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

...

}

AssistanceInformationMetaData ::= SEQUENCE {

encrypted ENUMERATED {true, ...} OPTIONAL,

gNSSID ENUMERATED {gps, sbas, qzss, galileo, glonass, bds, navic, ...} OPTIONAL,

sBASID ENUMERATED {waas, egnos, msas, gagan, ...} OPTIONAL,

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

...

}

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

...

}

-- B

BandwidthSRS ::= CHOICE {

fR1 ENUMERATED {mHz5, mHz10, mHz20, mHz40, mHz50, mHz80, mHz100, ...},

fR2 ENUMERATED {mHz50, mHz100, mHz200, mHz400, ...},

choice-extension ProtocolIE-Single-Container { { BandwidthSRS-ExtIEs } }

}

BandwidthSRS-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

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

Broadcast ::= ENUMERATED {

start,

stop,

...

}

BroadcastPeriodicity ::= ENUMERATED {

ms80,

ms160,

ms320,

ms640,

ms1280,

ms2560,

ms5120,

...

}

PositioningBroadcastCells ::= SEQUENCE (SIZE (1..maxnoBcastCell)) OF NG-RAN-CGI

BSSID ::= OCTET STRING (SIZE(6))

-- C

Cause ::= CHOICE {

radioNetwork CauseRadioNetwork,

protocol CauseProtocol,

misc CauseMisc,

cause-Extension ProtocolIE-Single-Container {{ Cause-ExtensionIE }}

}

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

...

}

CauseMisc ::= ENUMERATED {

unspecified,

...

}

CauseProtocol ::= ENUMERATED {

transfer-syntax-error,

abstract-syntax-error-reject,

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

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

semantic-error,

unspecified,

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

...

}

CauseRadioNetwork ::= ENUMERATED {

unspecified,

requested-item-not-supported,

requested-item-temporarily-not-available,

...

}

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

CGI-EUTRA ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

eUTRAcellIdentifier EUTRACellIdentifier,

iE-Extensions ProtocolExtensionContainer { {CGI-EUTRA-ExtIEs} } OPTIONAL,

...

}

CGI-EUTRA-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

CGI-NR ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

nRcellIdentifier NRCellIdentifier,

iE-Extensions ProtocolExtensionContainer { {CGI-NR-ExtIEs} } OPTIONAL,

...

}

CGI-NR-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

CPLength-EUTRA ::= ENUMERATED {

normal,

extended,

...

}

CriticalityDiagnostics ::= SEQUENCE {

procedureCode ProcedureCode OPTIONAL,

triggeringMessage TriggeringMessage OPTIONAL,

procedureCriticality Criticality OPTIONAL,

nrppatransactionID NRPPATransactionID OPTIONAL,

iEsCriticalityDiagnostics CriticalityDiagnostics-IE-List OPTIONAL,

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

...

}

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

...

}

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

SEQUENCE {

iECriticality Criticality,

iE-ID ProtocolIE-ID,

typeOfError TypeOfError,

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

...

}

CriticalityDiagnostics-IE-List-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

-- D

DL-Bandwidth-EUTRA ::= ENUMERATED {

bw6,

bw15,

bw25,

bw50,

bw75,

bw100,

...

}

DL-PRS ::= SEQUENCE {

prsid INTEGER (0..255),

dl-PRSResourceSetID PRS-Resource-Set-ID,

dl-PRSResourceID PRS-Resource-ID OPTIONAL,

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

...

}

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

...

}

DL-PRSMutingPattern ::= CHOICE {

two BIT STRING (SIZE(2)),

four BIT STRING (SIZE(4)),

six BIT STRING (SIZE(6)),

eight BIT STRING (SIZE(8)),

sixteen BIT STRING (SIZE(16)),

thirty-two BIT STRING (SIZE(32)),

choice-extension ProtocolIE-Single-Container { { DL-PRSMutingPattern-ExtIEs } }

}

DL-PRSMutingPattern-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

DLPRSResourceCoordinates ::= SEQUENCE {

listofDL-PRSResourceSetARP SEQUENCE (SIZE(1.. maxPRS-ResourceSets)) OF DLPRSResourceSetARP,

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

...

}

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

...

}

DLPRSResourceSetARP ::= SEQUENCE {

dl-PRSResourceSetID PRS-Resource-Set-ID,

dL-PRSResourceSetARPLocation DL-PRSResourceSetARPLocation,

listofDL-PRSResourceARP SEQUENCE (SIZE(1.. maxPRS-ResourcesPerSet)) OF DLPRSResourceARP,

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

...

}

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

...

}

DL-PRSResourceSetARPLocation ::= CHOICE {

relativeGeodeticLocation RelativeGeodeticLocation,

relativeCartesianLocation RelativeCartesianLocation,

choice-Extension ProtocolIE-Single-Container { { DL-PRSResourceSetARPLocation-ExtIEs } }

}

DL-PRSResourceSetARPLocation-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

DLPRSResourceARP ::= SEQUENCE {

dl-PRSResourceID PRS-Resource-ID,

dL-PRSResourceARPLocation DL-PRSResourceARPLocation,

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

...

}

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

...

}

DL-PRSResourceARPLocation ::= CHOICE {

relativeGeodeticLocation RelativeGeodeticLocation,

relativeCartesianLocation RelativeCartesianLocation,

choice-Extension ProtocolIE-Single-Container { { DL-PRSResourceARPLocation-ExtIEs } }

}

DL-PRSResourceARPLocation-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

-- E

E-CID-MeasurementResult ::= SEQUENCE {

servingCell-ID NG-RAN-CGI,

servingCellTAC TAC,

nG-RANAccessPointPosition NG-RANAccessPointPosition OPTIONAL,

measuredResults MeasuredResults OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { E-CID-MeasurementResult-ExtIEs} } OPTIONAL,

...

}

E-CID-MeasurementResult-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

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

...

}

EUTRACellIdentifier ::= BIT STRING (SIZE (28))

EARFCN ::= INTEGER (0..262143, ...)

-- F

-- G

GeographicalCoordinates ::= SEQUENCE {

tRPPositionDefinitionType TRPPositionDefinitionType,

dLPRSResourceCoordinates DLPRSResourceCoordinates OPTIONAL,

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

...

}

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

...

}

GNB-RxTxTimeDiff ::= SEQUENCE {

rxTxTimeDiff GNBRxTxTimeDiffMeas,

additionalPathList AdditionalPathList OPTIONAL,

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

...

}

GNB-RxTxTimeDiff-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

GNBRxTxTimeDiffMeas ::= CHOICE {

k0 INTEGER (0.. 1970049),

k1 INTEGER (0.. 985025),

k2 INTEGER (0.. 492513),

k3 INTEGER (0.. 246257),

k4 INTEGER (0.. 123129),

k5 INTEGER (0.. 61565),

choice-extension ProtocolIE-Single-Container { { GNBRxTxTimeDiffMeas-ExtIEs } }

}

GNBRxTxTimeDiffMeas-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

-- H

HESSID ::= OCTET STRING (SIZE(6))

-- I

-- J

-- K

-- L

LCS-to-GCS-TranslationAoA::= SEQUENCE {

alpha INTEGER (0..3599),

beta INTEGER (0..3599),

gamma INTEGER (0..3599),

iE-Extensions ProtocolExtensionContainer { { LCS-to-GCS-TranslationAoA-ExtIEs} } OPTIONAL,

...

}

LCS-to-GCS-TranslationAoA-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

LCS-to-GCS-TranslationItem::= SEQUENCE {

alpha INTEGER (0..359),

alphaFine INTEGER (0..9) OPTIONAL,

beta INTEGER (0..359),

betaFine INTEGER (0..9) OPTIONAL,

gamma INTEGER (0..359),

gammaFine INTEGER (0..9) OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { LCS-to-GCS-TranslationItem-ExtIEs} } OPTIONAL,

...

}

LCS-to-GCS-TranslationItem-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

LocationUncertainty ::= SEQUENCE {

horizontalUncertainty INTEGER (0..255),

horizontalConfidence INTEGER (0..100),

verticalUncertainty INTEGER (0..255),

verticalConfidence INTEGER (0..100),

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

...

}

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

...

}

-- M

Measurement-ID ::= INTEGER (1.. 65536, ...)

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

MeasurementBeamInfo ::= SEQUENCE {

pRS-Resource-ID PRS-Resource-ID OPTIONAL,

pRS-Resource-Set-ID PRS-Resource-Set-ID OPTIONAL,

sSB-Index SSB-Index OPTIONAL,

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

...

}

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

...

}

MeasurementPeriodicity ::= ENUMERATED {

ms120,

ms240,

ms480,

ms640,

ms1024,

ms2048,

ms5120,

ms10240,

min1,

min6,

min12,

min30,

min60,

...,

ms20480,

ms40960

}

MeasurementQuantities ::= SEQUENCE (SIZE (1.. maxNoMeas)) OF ProtocolIE-Single-Container { {MeasurementQuantities-ItemIEs} }

MeasurementQuantities-ItemIEs NRPPA-PROTOCOL-IES ::= {

{ ID id-MeasurementQuantities-Item CRITICALITY reject TYPE MeasurementQuantities-Item PRESENCE mandatory}

}

MeasurementQuantities-Item ::= SEQUENCE {

measurementQuantitiesValue MeasurementQuantitiesValue,

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

...

}

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

...

}

MeasurementQuantitiesValue ::= ENUMERATED {

cell-ID,

angleOfArrival,

timingAdvanceType1,

timingAdvanceType2,

rSRP,

rSRQ,

... ,

sS-RSRP,

sS-RSRQ,

cSI-RSRP,

cSI-RSRQ,

angleOfArrivalNR

}

MeasuredResults ::= SEQUENCE (SIZE (1.. maxNoMeas)) OF MeasuredResultsValue

MeasuredResultsValue ::= CHOICE {

valueAngleOfArrival-EUTRA INTEGER (0..719),

valueTimingAdvanceType1-EUTRA INTEGER (0..7690),

valueTimingAdvanceType2-EUTRA INTEGER (0..7690),

resultRSRP-EUTRA ResultRSRP-EUTRA,

resultRSRQ-EUTRA ResultRSRQ-EUTRA,

measuredResultsValue-Extension ProtocolIE-Single-Container {{ MeasuredResultsValue-ExtensionIE }}

}

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

{ ID id-ResultSS-RSRP CRITICALITY ignore TYPE ResultSS-RSRP PRESENCE mandatory }|

{ ID id-ResultSS-RSRQ CRITICALITY ignore TYPE ResultSS-RSRQ PRESENCE mandatory }|

{ ID id-ResultCSI-RSRP CRITICALITY ignore TYPE ResultCSI-RSRP PRESENCE mandatory }|

{ ID id-ResultCSI-RSRQ CRITICALITY ignore TYPE ResultCSI-RSRQ PRESENCE mandatory }|

{ ID id-AngleOfArrivalNR CRITICALITY ignore TYPE UL-AoA PRESENCE mandatory },

...

}

-- N

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

NG-RANAccessPointPosition ::= 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 { { NG-RANAccessPointPosition-ExtIEs} } OPTIONAL,

...

}

NG-RANAccessPointPosition-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

NGRANHighAccuracyAccessPointPosition ::= SEQUENCE {

latitude INTEGER (-2147483648.. 2147483647),

longitude INTEGER (-2147483648.. 2147483647),

altitude INTEGER (-64000..1280000),

uncertaintySemi-major INTEGER (0..255),

uncertaintySemi-minor INTEGER (0..255),

orientationOfMajorAxis INTEGER (0..179),

horizontalConfidence INTEGER (0..100),

uncertaintyAltitude INTEGER (0..255),

verticalConfidence INTEGER (0..100),

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

...

}

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

...

}

NG-RAN-CGI ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

nG-RANcell NG-RANCell,

iE-Extensions ProtocolExtensionContainer { {NG-RAN-CGI-ExtIEs} } OPTIONAL,

...

}

NG-RAN-CGI-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

NG-RANCell ::= CHOICE {

eUTRA-CellID EUTRACellIdentifier,

nR-CellID NRCellIdentifier,

nG-RANCell-Extension ProtocolIE-Single-Container {{ NG-RANCell-ExtensionIE }}

}

NG-RANCell-ExtensionIE NRPPA-PROTOCOL-IES ::= {

...

}

NR-ARFCN ::= INTEGER (0..3279165)

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

NR-PCI ::= INTEGER (0..1007)

NR-PRS-Beam-Information ::= SEQUENCE {

nR-PRS-Beam-InformationList SEQUENCE (SIZE(1.. maxPRS-ResourceSets)) OF NR-PRS-Beam-InformationItem,

lCS-to-GCS-TranslationList SEQUENCE (SIZE(1..maxnolcs-gcs-translation)) OF LCS-to-GCS-TranslationItem OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { NR-PRS-Beam-Information-IEs} } OPTIONAL,

...

}

NR-PRS-Beam-Information-IEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

NR-PRS-Beam-InformationItem ::= SEQUENCE {

pRSresourceSetID PRS-Resource-Set-ID,

pRSAngleItem SEQUENCE (SIZE(1..maxPRS-ResourcesPerSet)) OF PRSAngleItem,

iE-Extensions ProtocolExtensionContainer { { NR-PRS-Beam-InformationItem-ExtIEs} } OPTIONAL,

...

}

NR-PRS-Beam-InformationItem-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

NumberOfAntennaPorts-EUTRA ::= ENUMERATED {

n1-or-n2,

n4,

...

}

NumberOfDlFrames-EUTRA ::= ENUMERATED {

sf1,

sf2,

sf4,

sf6,

...

}

NumberOfDlFrames-Extended-EUTRA ::= INTEGER (1..160,...)

NumberOfFrequencyHoppingBands ::= ENUMERATED {

twobands,

fourbands,

...

}

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

-- O

OTDOACells ::= SEQUENCE (SIZE (1.. maxCellinRANnode)) OF SEQUENCE {

oTDOACellInfo OTDOACell-Information,

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

...

}

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

...

}

OTDOACell-Information ::= SEQUENCE (SIZE (1..maxnoOTDOAtypes)) OF OTDOACell-Information-Item

OTDOACell-Information-Item ::= CHOICE {

pCI-EUTRA PCI-EUTRA,

cGI-EUTRA CGI-EUTRA,

tAC TAC,

eARFCN EARFCN,

pRS-Bandwidth-EUTRA PRS-Bandwidth-EUTRA,

pRS-ConfigurationIndex-EUTRA PRS-ConfigurationIndex-EUTRA,

cPLength-EUTRA CPLength-EUTRA,

numberOfDlFrames-EUTRA NumberOfDlFrames-EUTRA,

numberOfAntennaPorts-EUTRA NumberOfAntennaPorts-EUTRA,

sFNInitialisationTime-EUTRA SFNInitialisationTime-EUTRA,

nG-RANAccessPointPosition NG-RANAccessPointPosition,

pRSMutingConfiguration-EUTRA PRSMutingConfiguration-EUTRA,

prsid-EUTRA PRS-ID-EUTRA,

tpid-EUTRA TP-ID-EUTRA,

tpType-EUTRA TP-Type-EUTRA,

numberOfDlFrames-Extended-EUTRA NumberOfDlFrames-Extended-EUTRA,

crsCPlength-EUTRA CPLength-EUTRA,

dL-Bandwidth-EUTRA DL-Bandwidth-EUTRA,

pRSOccasionGroup-EUTRA PRSOccasionGroup-EUTRA,

pRSFrequencyHoppingConfiguration-EUTRA PRSFrequencyHoppingConfiguration-EUTRA,

oTDOACell-Information-Item-Extension ProtocolIE-Single-Container {{ OTDOACell-Information-Item-ExtensionIE }}

}

OTDOACell-Information-Item-ExtensionIE NRPPA-PROTOCOL-IES ::= {

{ ID id-TDD-Config-EUTRA-Item CRITICALITY ignore TYPE TDD-Config-EUTRA-Item PRESENCE mandatory }|

{ ID id-CGI-NR CRITICALITY ignore TYPE CGI-NR PRESENCE mandatory }|

{ ID id-SFNInitialisationTime-NR CRITICALITY ignore TYPE SFNInitialisationTime-EUTRA PRESENCE mandatory },

...

}

OTDOA-Information-Item ::= ENUMERATED {

pci,

cGI,

tac,

earfcn,

prsBandwidth,

prsConfigIndex,

cpLength,

noDlFrames,

noAntennaPorts,

sFNInitTime,

nG-RANAccessPointPosition,

prsmutingconfiguration,

prsid,

tpid,

tpType,

crsCPlength,

dlBandwidth,

multipleprsConfigurationsperCell,

prsOccasionGroup,

prsFrequencyHoppingConfiguration,

...,

tddConfig

}

OtherRATMeasurementQuantities ::= SEQUENCE (SIZE (0.. maxNoMeas)) OF ProtocolIE-Single-Container { {OtherRATMeasurementQuantities-ItemIEs} }

OtherRATMeasurementQuantities-ItemIEs NRPPA-PROTOCOL-IES ::= {

{ ID id-OtherRATMeasurementQuantities-Item CRITICALITY reject TYPE OtherRATMeasurementQuantities-Item PRESENCE mandatory}}

OtherRATMeasurementQuantities-Item ::= SEQUENCE {

otherRATMeasurementQuantitiesValue OtherRATMeasurementQuantitiesValue,

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

...

}

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

...

}

OtherRATMeasurementQuantitiesValue ::= ENUMERATED {

geran,

utran,

... ,

nR,

eUTRA

}

OtherRATMeasurementResult ::= SEQUENCE (SIZE (1.. maxNoMeas)) OF OtherRATMeasuredResultsValue

OtherRATMeasuredResultsValue ::= CHOICE {

resultGERAN ResultGERAN,

resultUTRAN ResultUTRAN,

otherRATMeasuredResultsValue-Extension ProtocolIE-Single-Container {{ OtherRATMeasuredResultsValue-ExtensionIE }}

}

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

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

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

...

}

Outcome ::= ENUMERATED {

failed,

...

}

-- P

PathlossReferenceInformation ::= SEQUENCE {

pathlossReferenceSignal PathlossReferenceSignal,

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

...

}

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

...

}

PathlossReferenceSignal ::= CHOICE {

sSB-Reference SSB,

dL-PRS-Reference DL-PRS,

choice-Extension ProtocolIE-Single-Container {{ PathlossReferenceSignal-ExtensionIE }}

}

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

...

}

PCI-EUTRA ::= INTEGER (0..503, ...)

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

PhysCellIDUTRA-FDD ::= INTEGER (0..511, ...)

PhysCellIDUTRA-TDD ::= INTEGER (0..127, ...)

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

PeriodicityList ::= SEQUENCE (SIZE (1.. maxnoSRS-ResourcePerSet)) OF PeriodicityItem

PeriodicityItem ::= ENUMERATED {ms0dot125, ms0dot25, ms0dot5, ms0dot625, ms1, ms1dot25, ms2, ms2dot5, ms4dot, ms5, ms8, ms10, ms16, ms20, ms32, ms40, ms64, ms80m, ms160, ms320, ms640m, ms1280, ms2560, ms5120, ms10240, ...}

PosSIBs ::= SEQUENCE (SIZE (1.. maxNrOfPosSIBs)) OF SEQUENCE {

posSIB-Type PosSIB-Type,

posSIB-Segments PosSIB-Segments,

assistanceInformationMetaData AssistanceInformationMetaData OPTIONAL,

broadcastPriority INTEGER (1..16,...) OPTIONAL,

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

...

}

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

...

}

PosSIB-Segments ::= SEQUENCE (SIZE (1.. maxNrOfSegments)) OF SEQUENCE {

assistanceDataSIBelement OCTET STRING,

iE-Extensions ProtocolExtensionContainer { { PosSIB-Segments-ExtIEs} } OPTIONAL,

...

}

PosSIB-Segments-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PosSIB-Type ::= ENUMERATED {

posSibType1-1,

posSibType1-2,

posSibType1-3,

posSibType1-4,

posSibType1-5,

posSibType1-6,

posSibType1-7,

posSibType1-8,

posSibType2-1,

posSibType2-2,

posSibType2-3,

posSibType2-4,

posSibType2-5,

posSibType2-6,

posSibType2-7,

posSibType2-8,

posSibType2-9,

posSibType2-10,

posSibType2-11,

posSibType2-12,

posSibType2-13,

posSibType2-14,

posSibType2-15,

posSibType2-16,

posSibType2-17,

posSibType2-18,

posSibType2-19,

posSibType2-20,

posSibType2-21,

posSibType2-22,

posSibType2-23,

posSibType2-24,

posSibType2-25,

posSibType3-1,

posSibType4-1,

posSibType5-1,

posSibType6-1,

posSibType6-2,

posSibType6-3,

...

}

PosSRSResource-List ::= SEQUENCE (SIZE (1..maxnoSRS-PosResources)) OF PosSRSResource-Item

PosSRSResource-Item ::= SEQUENCE {

srs-PosResourceId SRSPosResourceID,

transmissionCombPos TransmissionCombPos,

startPosition INTEGER (0..13),

nrofSymbols ENUMERATED {n1, n2, n4, n8, n12},

freqDomainShift INTEGER (0..268),

c-SRS INTEGER (0..63),

groupOrSequenceHopping ENUMERATED { neither, groupHopping, sequenceHopping },

resourceTypePos ResourceTypePos,

sequenceId INTEGER (0.. 65535),

spatialRelationPos SpatialRelationPos OPTIONAL,

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

...

}

PosSRSResource-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PosSRSResourceSet-List ::= SEQUENCE (SIZE (1..maxnoSRS-PosResourceSets)) OF PosSRSResourceSet-Item

PosSRSResourceID-List ::= SEQUENCE (SIZE (1..maxnoSRS-PosResourcePerSet)) OF SRSPosResourceID

PosSRSResourceSet-Item ::= SEQUENCE {

possrsResourceSetID INTEGER(0..15),

possRSResourceID-List PosSRSResourceID-List,

posresourceSetType PosResourceSetType,

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

...

}

PosSRSResourceSet-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PosResourceSetType ::= CHOICE {

periodic PosResourceSetTypePeriodic,

semi-persistent PosResourceSetTypeSemi-persistent,

aperiodic PosResourceSetTypeAperiodic,

choice-extension ProtocolIE-Single-Container {{ PosResourceSetType-ExtIEs }}

}

PosResourceSetType-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

PosResourceSetTypePeriodic ::= SEQUENCE {

posperiodicSet ENUMERATED{true, ...},

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

...

}

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

...

}

PosResourceSetTypeSemi-persistent ::= SEQUENCE {

possemi-persistentSet ENUMERATED{true, ...},

iE-Extensions ProtocolExtensionContainer { { PosResourceSetTypeSemi-persistent-ExtIEs} } OPTIONAL,

...

}

PosResourceSetTypeSemi-persistent-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PosResourceSetTypeAperiodic ::= SEQUENCE {

sRSResourceTrigger INTEGER(1..3),

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

...

}

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

...

}

PRS-Bandwidth-EUTRA ::= ENUMERATED {

bw6,

bw15,

bw25,

bw50,

bw75,

bw100,

...

}

PRSAngleItem ::= SEQUENCE {

nRPRSAzimuth INTEGER (0..359),

nRPRSAzimuthFine INTEGER (0..9) OPTIONAL,

nRPRSElevation INTEGER (0..180) OPTIONAL,

nRPRSElevationFine INTEGER (0..9) OPTIONAL,

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

...

}

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

...

}

PRSInformationPos ::= SEQUENCE {

pRS-IDPos INTEGER(0..255),

pRS-Resource-Set-IDPos INTEGER(0..7),

pRS-Resource-IDPos INTEGER(0..63) OPTIONAL,

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

...

}

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

...

}

PRSConfiguration ::= SEQUENCE {

pRSResourceSet-List PRSResourceSet-List,

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

...

}

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

...

}

PRS-ConfigurationIndex-EUTRA ::= INTEGER (0..4095, ...)

PRS-ID-EUTRA ::= INTEGER (0..4095, ...)

PRSMutingConfiguration-EUTRA ::= CHOICE {

two BIT STRING (SIZE (2)),

four BIT STRING (SIZE (4)),

eight BIT STRING (SIZE (8)),

sixteen BIT STRING (SIZE (16)),

thirty-two BIT STRING (SIZE (32)),

sixty-four BIT STRING (SIZE (64)),

one-hundred-and-twenty-eight BIT STRING (SIZE (128)),

two-hundred-and-fifty-six BIT STRING (SIZE (256)),

five-hundred-and-twelve BIT STRING (SIZE (512)),

one-thousand-and-twenty-four BIT STRING (SIZE (1024)),

pRSMutingConfiguration-EUTRA-Extension ProtocolIE-Single-Container {{ PRSMutingConfiguration-EUTRA-ExtensionIE }}

}

PRSMutingConfiguration-EUTRA-ExtensionIE NRPPA-PROTOCOL-IES ::= {

...

}

PRSOccasionGroup-EUTRA ::= ENUMERATED {

og2,

og4,

og8,

og16,

og32,

og64,

og128,

...

}

PRSFrequencyHoppingConfiguration-EUTRA ::= SEQUENCE {

noOfFreqHoppingBands NumberOfFrequencyHoppingBands,

bandPositions SEQUENCE(SIZE (1..maxnoFreqHoppingBandsMinusOne)) OF NarrowBandIndex,

iE-Extensions ProtocolExtensionContainer { { PRSFrequencyHoppingConfiguration-EUTRA-Item-IEs} } OPTIONAL,

...

}

PRSFrequencyHoppingConfiguration-EUTRA-Item-IEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSMuting::= SEQUENCE {

pRSMutingOption1 PRSMutingOption1,

pRSMutingOption2 PRSMutingOption2,

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

...

}

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

...

}

PRSMutingOption1 ::= SEQUENCE {

mutingPattern DL-PRSMutingPattern,

mutingBitRepetitionFactor ENUMERATED{n1,n2,n4,n8,...},

iE-Extensions ProtocolExtensionContainer { { PRSMutingOption1-ExtIEs} } OPTIONAL,

...

}

PRSMutingOption1-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSMutingOption2 ::= SEQUENCE {

mutingPattern DL-PRSMutingPattern,

iE-Extensions ProtocolExtensionContainer { { PRSMutingOption2-ExtIEs} } OPTIONAL,

...

}

PRSMutingOption2-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSResource-List::= SEQUENCE (SIZE (1..maxnoofPRSresource)) OF PRSResource-Item

PRSResource-Item ::= SEQUENCE {

pRSResourceID PRS-Resource-ID,

sequenceID INTEGER(0..4095),

rEOffset INTEGER(0..11,...),

resourceSlotOffset INTEGER(0..511),

resourceSymbolOffset INTEGER(0..12),

qCLInfo PRSResource-QCLInfo OPTIONAL,

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

...

}

PRSResource-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSResource-QCLInfo ::= CHOICE {

qCLSourceSSB PRSResource-QCLSourceSSB,

qCLSourcePRS PRSResource-QCLSourcePRS,

choice-Extension ProtocolIE-Single-Container {{ PRSResource-QCLInfo-ExtIEs }}

}

PRSResource-QCLInfo-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

PRSResource-QCLSourceSSB ::= SEQUENCE {

pCI-NR INTEGER(0..1007),

sSB-Index SSB-Index OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PRSResource-QCLSourceSSB-ExtIEs} } OPTIONAL,

...

}

PRSResource-QCLSourceSSB-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSResource-QCLSourcePRS ::= SEQUENCE {

qCLSourcePRSResourceSetID PRS-Resource-Set-ID,

qCLSourcePRSResourceID PRS-Resource-ID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PRSResource-QCLSourcePRS-ExtIEs} } OPTIONAL,

...

}

PRSResource-QCLSourcePRS-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSResourceSet-List ::= SEQUENCE (SIZE (1..maxnoofPRSresourceSet)) OF PRSResourceSet-Item

PRSResourceSet-Item ::= SEQUENCE {

pRSResourceSetID PRS-Resource-Set-ID,

subcarrierSpacing ENUMERATED{kHz15, kHz30, kHz60, kHz120, ...},

pRSbandwidth INTEGER(1..63),

startPRB INTEGER(0..2176),

pointA INTEGER (0..3279165),

combSize ENUMERATED{n2, n4, n6, n12, ...},

cPType ENUMERATED{normal, extended, ...},

resourceSetPeriodicity ENUMERATED{n4,n5,n8,n10,n16,n20,n32,n40,n64,n80,n160,n320,n640,n1280,n2560,n5120,n10240,n20480,n40960, n81920,...},

resourceSetSlotOffset INTEGER(0..81919,...),

resourceRepetitionFactor ENUMERATED{rf1,rf2,rf4,rf6,rf8,rf16,rf32,...},

resourceTimeGap ENUMERATED{tg1,tg2,tg4,tg8,tg16,tg32,...},

resourceNumberofSymbols ENUMERATED{n2,n4,n6,n12,...},

pRSMuting PRSMuting OPTIONAL,

pRSResourceTransmitPower INTEGER(-60..50),

pRSResource-List PRSResource-List,

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

...

}

PRSResourceSet-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRS-Resource-ID ::= INTEGER (0..63)

PRS-Resource-Set-ID ::= INTEGER(0..7)

PRS-ID ::= INTEGER(0..255)

PRSTRPList ::= SEQUENCE (SIZE(1.. maxnoTRPs)) OF PRSTRPItem

PRSTRPItem ::= SEQUENCE {

tRP-ID TRP-ID,

requestedDLPRSTransmissionCharacteristics RequestedDLPRS FFS,

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

...

}

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

...

}

RequestedDLPRS ::= FFS

PRSTransmissionTRPList ::= SEQUENCE (SIZE(1.. maxnoTRPs)) OF PRSTransmissionTRPItem

PRSTransmissionTRPItem ::= SEQUENCE {

tRP-ID TRP-ID,

on-demandPRSInfo OnDemandPRSInfo FFS,

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

...

}

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

...

}

OnDemandPRSInfo ::= FFS

-- Q

-- R

ReferenceSignal ::= CHOICE {

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

sSB SSB,

sRS SRSResourceID,

positioningSRS SRSPosResourceID,

dL-PRS DL-PRS,

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

}

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

...

}

ReferencePoint ::= CHOICE {

relativeCoordinateID CoordinateID,

referencePointCoordinate NG-RANAccessPointPosition,

referencePointCoordinateHA NGRANHighAccuracyAccessPointPosition,

choice-Extension ProtocolIE-Single-Container { { ReferencePoint-ExtIEs} }

}

ReferencePoint-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

CoordinateID ::= INTEGER (0..511, ...)

RelativeGeodeticLocation ::= SEQUENCE {

milli-Arc-SecondUnits ENUMERATED {zerodot03, zerodot3, three, ...}, heightUnits ENUMERATED {mm, cm, m, ...},

deltaLatitude INTEGER (-1024.. 1023),

deltaLongitude INTEGER (-1024.. 1023),

deltaHeight INTEGER (-1024.. 1023),

locationUncertainty LocationUncertainty,

iE-extensions ProtocolExtensionContainer {{RelativeGeodeticLocation-ExtIEs }} OPTIONAL,

...

}

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

...

}

RelativeCartesianLocation ::= SEQUENCE {

xYZunit ENUMERATED {mm, cm, dm, ...},

xvalue INTEGER (-65536..65535),

yvalue INTEGER (-65536..65535),

zvalue INTEGER (-32768..32767),

locationUncertainty LocationUncertainty,

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

...

}

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

...

}

RelativePathDelay ::= CHOICE {

k0 INTEGER(0..16351),

k1 INTEGER(0..8176),

k2 INTEGER(0..4088),

k3 INTEGER(0..2044),

k4 INTEGER(0..1022),

k5 INTEGER(0..511),

choice-Extension ProtocolIE-Single-Container { { RelativePathDelay-ExtIEs} }

}

RelativePathDelay-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

ReportCharacteristics ::= ENUMERATED {

onDemand,

periodic,

...

}

RequestedSRSTransmissionCharacteristics ::= SEQUENCE {

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

-- The IE shall be present if the Resource Type IE is set to “periodic” --

resourceType ENUMERATED {periodic, semi-persistent, aperiodic, ...},

bandwidth BandwidthSRS,

listOfSRSResourceSet SEQUENCE (SIZE (1.. maxnoSRS-ResourceSets)) OF SRSResourceSet-Item OPTIONAL,

sSBInformation SSBInfo OPTIONAL,

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

...

}

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

...

}

SRSResourceSet-Item ::= SEQUENCE {

numberOfSRSResourcePerSet INTEGER (1..16, ...) OPTIONAL,

periodicityList PeriodicityList OPTIONAL,

spatialRelationInformation SpatialRelationInfo OPTIONAL,

pathlossReferenceInformation PathlossReferenceInformation OPTIONAL,

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

...

}

SRSResourceSet-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResourceSetType ::= CHOICE {

periodic ResourceSetTypePeriodic,

semi-persistent ResourceSetTypeSemi-persistent,

aperiodic ResourceSetTypeAperiodic,

choice-extension ProtocolIE-Single-Container {{ ResourceSetType-ExtIEs }}

}

ResourceSetType-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

ResourceSetTypePeriodic ::= SEQUENCE {

periodicSet ENUMERATED{true, ...},

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

...

}

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

...

}

ResourceSetTypeSemi-persistent ::= SEQUENCE {

semi-persistentSet ENUMERATED{true, ...},

iE-Extensions ProtocolExtensionContainer { { ResourceSetTypeSemi-persistent-ExtIEs} } OPTIONAL,

...

}

ResourceSetTypeSemi-persistent-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResourceSetTypeAperiodic ::= SEQUENCE {

sRSResourceTrigger INTEGER(1..3),

slotoffset INTEGER(0..32),

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

...

}

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

...

}

ResourceType ::= CHOICE {

periodic ResourceTypePeriodic,

semi-persistent ResourceTypeSemi-persistent,

aperiodic ResourceTypeAperiodic,

choice-extension ProtocolIE-Single-Container {{ ResourceType-ExtIEs }}

}

ResourceType-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

ResourceTypePeriodic ::= SEQUENCE {

periodicity ENUMERATED{slot1, slot2, slot4, slot5, slot8, slot10, slot16, slot20, slot32, slot40, slot64, slot80, slot160, slot320, slot640, slot1280, slot2560, ...},

offset INTEGER(0..2559, ...),

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

...

}

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

...

}

ResourceTypeSemi-persistent ::= SEQUENCE {

periodicity ENUMERATED{slot1, slot2, slot4, slot5, slot8, slot10, slot16, slot20, slot32, slot40, slot64, slot80, slot160, slot320, slot640, slot1280, slot2560, ...},

offset INTEGER(0..2559, ...),

iE-Extensions ProtocolExtensionContainer { { ResourceTypeSemi-persistent-ExtIEs} } OPTIONAL,

...

}

ResourceTypeSemi-persistent-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResourceTypeAperiodic ::= SEQUENCE {

aperiodicResourceType ENUMERATED{true, ...},

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

...

}

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

...

}

ResourceTypePos ::= CHOICE {

periodic ResourceTypePeriodicPos,

semi-persistent ResourceTypeSemi-persistentPos,

aperiodic ResourceTypeAperiodicPos,

choice-extension ProtocolIE-Single-Container {{ ResourceTypePos-ExtIEs }}

}

ResourceTypePos-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

ResourceTypePeriodicPos ::= SEQUENCE {

periodicity ENUMERATED{slot1, slot2, slot4, slot5, slot8, slot10, slot16, slot20, slot32, slot40, slot64, slot80, slot160, slot320, slot640, slot1280, slot2560, slot5120, slot10240, slot40960, slot81920, ...},

offset INTEGER(0..81919, ...),

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

...

}

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

...

}

ResourceTypeSemi-persistentPos ::= SEQUENCE {

periodicity ENUMERATED{slot1, slot2, slot4, slot5, slot8, slot10, slot16, slot20, slot32, slot40, slot64, slot80, slot160, slot320, slot640, slot1280, slot2560, slot5120, slot10240, slot40960, slot81920, ...},

offset INTEGER(0..81919, ...),

iE-Extensions ProtocolExtensionContainer { { ResourceTypeSemi-persistentPos-ExtIEs} } OPTIONAL,

...

}

ResourceTypeSemi-persistentPos-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResourceTypeAperiodicPos ::= SEQUENCE {

slotOffset INTEGER (0..32),

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

...

}

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

...

}

ResultCSI-RSRP ::= SEQUENCE (SIZE (1.. maxCellReportNR)) OF ResultCSI-RSRP-Item

ResultCSI-RSRP-Item ::= SEQUENCE {

nR-PCI NR-PCI,

nR-ARFCN NR-ARFCN,

cGI-NR CGI-NR OPTIONAL,

valueCSI-RSRP-Cell ValueRSRP-NR OPTIONAL,

cSI-RSRP-PerCSI-RS ResultCSI-RSRP-PerCSI-RS OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { ResultCSI-RSRP-Item-ExtIEs} } OPTIONAL,

...

}

ResultCSI-RSRP-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultCSI-RSRP-PerCSI-RS ::= SEQUENCE (SIZE (1.. maxIndexesReport)) OF ResultCSI-RSRP-PerCSI-RS-Item

ResultCSI-RSRP-PerCSI-RS-Item ::= SEQUENCE {

cSI-RS-Index INTEGER (0..95),

valueCSI-RSRP ValueRSRP-NR,

iE-Extensions ProtocolExtensionContainer { { ResultCSI-RSRP-PerCSI-RS-Item-ExtIEs} } OPTIONAL,

...

}

ResultCSI-RSRP-PerCSI-RS-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultCSI-RSRQ ::= SEQUENCE (SIZE (1.. maxCellReportNR)) OF ResultCSI-RSRQ-Item

ResultCSI-RSRQ-Item ::= SEQUENCE {

nR-PCI NR-PCI,

nR-ARFCN NR-ARFCN,

cGI-NR CGI-NR OPTIONAL,

valueCSI-RSRQ-Cell ValueRSRQ-NR OPTIONAL,

cSI-RSRQ-PerCSI-RS ResultCSI-RSRQ-PerCSI-RS OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { ResultCSI-RSRQ-Item-ExtIEs} } OPTIONAL,

...

}

ResultCSI-RSRQ-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultCSI-RSRQ-PerCSI-RS ::= SEQUENCE (SIZE (1.. maxIndexesReport)) OF ResultCSI-RSRQ-PerCSI-RS-Item

ResultCSI-RSRQ-PerCSI-RS-Item ::= SEQUENCE {

cSI-RS-Index INTEGER (0..95),

valueCSI-RSRQ ValueRSRQ-NR,

iE-Extensions ProtocolExtensionContainer { { ResultCSI-RSRQ-PerCSI-RS-Item-ExtIEs} } OPTIONAL,

...

}

ResultCSI-RSRQ-PerCSI-RS-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultEUTRA ::= SEQUENCE (SIZE (1.. maxEUTRAMeas)) OF ResultEUTRA-Item

ResultEUTRA-Item ::= SEQUENCE {

pCI-EUTRA PCI-EUTRA,

eARFCN EARFCN,

valueRSRP-EUTRA ValueRSRP-EUTRA OPTIONAL,

valueRSRQ-EUTRA ValueRSRQ-EUTRA OPTIONAL,

cGI-EUTRA CGI-EUTRA OPTIONAL,

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

...

}

ResultEUTRA-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultRSRP-EUTRA ::= SEQUENCE (SIZE (1.. maxCellReport)) OF ResultRSRP-EUTRA-Item

ResultRSRP-EUTRA-Item ::= SEQUENCE {

pCI-EUTRA PCI-EUTRA,

eARFCN EARFCN,

cGI-EUTRA CGI-EUTRA OPTIONAL,

valueRSRP-EUTRA ValueRSRP-EUTRA,

iE-Extensions ProtocolExtensionContainer { { ResultRSRP-EUTRA-Item-ExtIEs} } OPTIONAL,

...

}

ResultRSRP-EUTRA-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultRSRQ-EUTRA ::= SEQUENCE (SIZE (1.. maxCellReport)) OF ResultRSRQ-EUTRA-Item

ResultRSRQ-EUTRA-Item ::= SEQUENCE {

pCI-EUTRA PCI-EUTRA,

eARFCN EARFCN,

cGI-UTRA CGI-EUTRA OPTIONAL,

valueRSRQ-EUTRA ValueRSRQ-EUTRA,

iE-Extensions ProtocolExtensionContainer { { ResultRSRQ-EUTRA-Item-ExtIEs} } OPTIONAL,

...

}

ResultRSRQ-EUTRA-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultSS-RSRP ::= SEQUENCE (SIZE (1.. maxCellReportNR)) OF ResultSS-RSRP-Item

ResultSS-RSRP-Item ::= SEQUENCE {

nR-PCI NR-PCI,

nR-ARFCN NR-ARFCN,

cGI-NR CGI-NR OPTIONAL,

valueSS-RSRP-Cell ValueRSRP-NR OPTIONAL,

sS-RSRP-PerSSB ResultSS-RSRP-PerSSB OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { ResultSS-RSRP-Item-ExtIEs} } OPTIONAL,

...

}

ResultSS-RSRP-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultSS-RSRP-PerSSB ::= SEQUENCE (SIZE (1.. maxIndexesReport)) OF ResultSS-RSRP-PerSSB-Item

ResultSS-RSRP-PerSSB-Item ::= SEQUENCE {

sSB-Index SSB-Index,

valueSS-RSRP ValueRSRP-NR,

iE-Extensions ProtocolExtensionContainer { { ResultSS-RSRP-PerSSB-Item-ExtIEs} } OPTIONAL,

...

}

ResultSS-RSRP-PerSSB-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultSS-RSRQ ::= SEQUENCE (SIZE (1.. maxCellReportNR)) OF ResultSS-RSRQ-Item

ResultSS-RSRQ-Item ::= SEQUENCE {

nR-PCI NR-PCI,

nR-ARFCN NR-ARFCN,

cGI-NR CGI-NR OPTIONAL,

valueSS-RSRQ-Cell ValueRSRQ-NR OPTIONAL,

sS-RSRQ-PerSSB ResultSS-RSRQ-PerSSB OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { ResultSS-RSRQ-Item-ExtIEs} } OPTIONAL,

...

}

ResultSS-RSRQ-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultSS-RSRQ-PerSSB ::= SEQUENCE (SIZE (1.. maxIndexesReport)) OF ResultSS-RSRQ-PerSSB-Item

ResultSS-RSRQ-PerSSB-Item ::= SEQUENCE {

sSB-Index SSB-Index,

valueSS-RSRQ ValueRSRQ-NR,

iE-Extensions ProtocolExtensionContainer { { ResultSS-RSRQ-PerSSB-Item-ExtIEs} } OPTIONAL,

...

}

ResultSS-RSRQ-PerSSB-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultGERAN ::= SEQUENCE (SIZE (1.. maxGERANMeas)) OF ResultGERAN-Item

ResultGERAN-Item ::= SEQUENCE {

bCCH BCCH,

physCellIDGERAN PhysCellIDGERAN,

rSSI RSSI,

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

...

}

ResultGERAN-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultNR ::= SEQUENCE (SIZE (1.. maxNRMeas)) OF ResultNR-Item

ResultNR-Item ::= SEQUENCE {

nR-PCI NR-PCI,

nR-ARFCN NR-ARFCN,

valueSS-RSRP-Cell ValueRSRP-NR OPTIONAL,

valueSS-RSRQ-Cell ValueRSRQ-NR OPTIONAL,

sS-RSRP-PerSSB ResultSS-RSRP-PerSSB OPTIONAL,

sS-RSRQ-PerSSB ResultSS-RSRQ-PerSSB OPTIONAL,

cGI-NR CGI-NR OPTIONAL,

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

...

}

ResultNR-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ResultUTRAN ::= SEQUENCE (SIZE (1.. maxUTRANMeas)) OF ResultUTRAN-Item

ResultUTRAN-Item ::= SEQUENCE {

uARFCN UARFCN,

physCellIDUTRAN CHOICE {

physCellIDUTRA-FDD PhysCellIDUTRA-FDD,

physCellIDUTRA-TDD PhysCellIDUTRA-TDD

},

uTRA-RSCP UTRA-RSCP OPTIONAL,

uTRA-EcN0 UTRA-EcN0 OPTIONAL,

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

...

}

ResultUTRAN-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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

-- S

SCS-SpecificCarrier ::= SEQUENCE {

offsetToCarrier INTEGER (0..2199,...),

subcarrierSpacing ENUMERATED {kHz15, kHz30, kHz60, kHz120,...},

carrierBandwidth INTEGER (1..275,...),

iE-Extensions ProtocolExtensionContainer { { SCS-SpecificCarrier-ExtIEs } } OPTIONAL,

...

}

SCS-SpecificCarrier-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

Search-window-information ::= SEQUENCE {

expectedPropagationDelay INTEGER (-3841..3841,...),

delayUncertainty INTEGER (1..246,...),

iE-Extensions ProtocolExtensionContainer { { Search-window-information-ExtIEs } } OPTIONAL,

...

}

Search-window-information-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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

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

SlotNumber ::= INTEGER (0..79)

SpatialDirectionInformation ::= SEQUENCE {

nR-PRS-Beam-Information NR-PRS-Beam-Information,

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

...

}

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

...

}

SpatialRelationInfo ::= SEQUENCE {

spatialRelationforResourceID SpatialRelationforResourceID,

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

...

}

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

...

}

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

SpatialRelationforResourceIDItem ::= SEQUENCE {

referenceSignal ReferenceSignal,

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

...

}

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

...

}

SpatialRelationPos ::= CHOICE {

sSBPos SSB,

pRSInformationPos PRSInformationPos,

choice-extension ProtocolIE-Single-Container {{ SpatialInformationPos-ExtIEs }}

}

SpatialInformationPos-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

SRSConfig ::= SEQUENCE {

sRSResource-List SRSResource-List OPTIONAL,

posSRSResource-List PosSRSResource-List OPTIONAL,

sRSResourceSet-List SRSResourceSet-List OPTIONAL,

posSRSResourceSet-List PosSRSResourceSet-List OPTIONAL,

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

...

}

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

...

}

SRSCarrier-List ::= SEQUENCE (SIZE(1.. maxnoSRS-Carriers)) OF SRSCarrier-List-Item

SRSCarrier-List-Item ::= SEQUENCE {

pointA INTEGER (0..3279165),

uplinkChannelBW-PerSCS-List UplinkChannelBW-PerSCS-List,

activeULBWP ActiveULBWP,

pCI-NR INTEGER (0..1007) OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SRSCarrier-List-Item-ExtIEs } } OPTIONAL,

...

}

SRSCarrier-List-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

SRSConfiguration ::= SEQUENCE {

sRSCarrier-List SRSCarrier-List,

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

...

}

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

...

}

SRSPosResourceID ::= INTEGER (0..63)

SRSResource::= SEQUENCE {

sRSResourceID SRSResourceID,

nrofSRS-Ports ENUMERATED {port1, ports2, ports4},

transmissionComb TransmissionComb,

startPosition INTEGER (0..13),

nrofSymbols ENUMERATED {n1, n2, n4},

repetitionFactor ENUMERATED {n1, n2, n4},

freqDomainPosition INTEGER (0..67),

freqDomainShift INTEGER (0..268),

c-SRS INTEGER (0..63),

b-SRS INTEGER (0..3),

b-hop INTEGER (0..3),

groupOrSequenceHopping ENUMERATED { neither, groupHopping, sequenceHopping },

resourceType ResourceType,

sequenceId INTEGER (0..1023),

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

...

}

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

...

}

SRSResourceID ::= INTEGER (0..63)

SRSResource-List ::= SEQUENCE (SIZE (1..maxnoSRS-Resources)) OF SRSResource

SRSResourceSet-List ::= SEQUENCE (SIZE (1..maxnoSRS-ResourceSets)) OF SRSResourceSet

SRSResourceID-List::= SEQUENCE (SIZE (1..maxnoSRS-ResourcePerSet)) OF SRSResourceID

SRSResourceSet::= SEQUENCE {

sRSResourceSetID INTEGER(0..15),

sRSResourceID-List SRSResourceID-List,

resourceSetType ResourceSetType,

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

...

}

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

...

}

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

SRSResourceTrigger ::= SEQUENCE {

aperiodicSRSResourceTriggerList AperiodicSRSResourceTriggerList,

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

...

}

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

...

}

SSBInfo ::= SEQUENCE {

listOfSSBInfo SEQUENCE (SIZE (1..maxNoSSBs)) OF SSBInfoItem,

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

...

}

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

...

}

SSBInfoItem ::= SEQUENCE {

sSB-Configuration TF-Configuration,

pCI-NR INTEGER (0..1007),

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

...

}

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

...

}

SSB ::= SEQUENCE {

pCI-NR INTEGER (0..1007),

ssb-index SSB-Index OPTIONAL,

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

...

}

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

...

}

SSBBurstPosition ::= CHOICE {

shortBitmap BIT STRING (SIZE(4)),

mediumBitmap BIT STRING (SIZE(8)),

longBitmap BIT STRING (SIZE(64)),

choice-extension ProtocolIE-Single-Container { { SSBBurstPosition-ExtIEs} }

}

SSBBurstPosition-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

SSB-Index ::= INTEGER(0..63)

SSID ::= OCTET STRING (SIZE(1..32))

SystemFrameNumber ::= INTEGER (0..1023)

SystemInformation ::= SEQUENCE (SIZE (1.. maxNrOfPosSImessage)) OF SEQUENCE {

broadcastPeriodicity BroadcastPeriodicity,

posSIBs PosSIBs,

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

...

}

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

...

}

-- T

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

TDD-Config-EUTRA-Item ::= SEQUENCE {

subframeAssignment ENUMERATED { sa0, sa1, sa2, sa3, sa4, sa5, sa6, ... },

iE-Extensions ProtocolExtensionContainer { { TDD-Config-EUTRA-Item-Item-ExtIEs } } OPTIONAL,

...

}

TDD-Config-EUTRA-Item-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TF-Configuration ::= SEQUENCE {

sSB-frequency INTEGER (0..3279165),

sSB-subcarrier-spacing ENUMERATED {kHz15, kHz30, kHz120, kHz240, ...},

sSB-Transmit-power INTEGER (-60..50),

sSB-periodicity ENUMERATED {ms5, ms10, ms20, ms40, ms80, ms160, ...},

sSB-half-frame-offset INTEGER(0..1),

sSB-SFN-offset INTEGER(0..15),

sSB-BurstPosition SSBBurstPosition OPTIONAL,

sFN-initialisation-time SFNInitialisationTime OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { TF-Configuration-ExtIEs} } OPTIONAL,

...

}

TF-Configuration-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TimeStamp ::= SEQUENCE {

systemFrameNumber SystemFrameNumber,

slotIndex TimeStampSlotIndex,

measurementTime SFNInitialisationTime OPTIONAL,

iE-Extension ProtocolExtensionContainer { { TimeStamp-ExtIEs} } OPTIONAL,

...

}

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

...

}

TimeStampSlotIndex ::= CHOICE {

sCS-15 INTEGER(0..9),

sCS-30 INTEGER(0..19),

sCS-60 INTEGER(0..39),

sCS-120 INTEGER(0..79),

choice-extension ProtocolIE-Single-Container { { TimeStampSlotIndex-ExtIEs} }

}

TimeStampSlotIndex-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TP-ID-EUTRA ::= INTEGER (0..4095, ...)

TP-Type-EUTRA ::= ENUMERATED { prs-only-tp, ... }

TransmissionComb ::= CHOICE {

n2 SEQUENCE {

combOffset-n2 INTEGER (0..1),

cyclicShift-n2 INTEGER (0..7)

},

n4 SEQUENCE {

combOffset-n4 INTEGER (0..3),

cyclicShift-n4 INTEGER (0..11)

},

choice-extension ProtocolIE-Single-Container { { TransmissionComb-ExtIEs} }

}

TransmissionComb-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TransmissionCombPos ::= CHOICE {

n2 SEQUENCE {

combOffset-n2 INTEGER (0..1),

cyclicShift-n2 INTEGER (0..7)

},

n4 SEQUENCE {

combOffset-n4 INTEGER (0..3),

cyclicShift-n4 INTEGER (0..11)

},

n8 SEQUENCE {

combOffset-n8 INTEGER (0..7),

cyclicShift-n8 INTEGER (0..5)

},

choice-extension ProtocolIE-Single-Container { { TransmissionCombPos-ExtIEs} }

}

TransmissionCombPos-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TRPMeasurementQuantities ::= SEQUENCE (SIZE (1..maxnoPosMeas)) OF TRPMeasurementQuantitiesList-Item

TRPMeasurementQuantitiesList-Item ::= SEQUENCE {

tRPMeasurementQuantities-Item TRPMeasurementQuantities-Item,

timingReportingGranularityFactor INTEGER (0..5) OPTIONAL,

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

...

}

TRPMeasurementQuantitiesList-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRPMeasurementQuantities-Item ::= ENUMERATED {

gNB-RxTxTimeDiff,

uL-SRS-RSRP,

uL-AoA,

uL-RTOA,

...

}

TrpMeasurementResult ::= SEQUENCE (SIZE (1.. maxnoPosMeas)) OF TrpMeasurementResultItem

TrpMeasurementResultItem ::= SEQUENCE {

measuredResultsValue TrpMeasuredResultsValue,

timeStamp TimeStamp,

measurementQuality TrpMeasurementQuality OPTIONAL,

measurementBeamInfo MeasurementBeamInfo OPTIONAL,

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

...

}

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

...

}

TrpMeasuredResultsValue ::= CHOICE {

uL-AngleOfArrival UL-AoA,

uL-SRS-RSRP UL-SRS-RSRP,

uL-RTOA UL-RTOAMeasurement,

gNB-RxTxTimeDiff GNB-RxTxTimeDiff,

choice-extension ProtocolIE-Single-Container { { TrpMeasuredResultsValue-ExtIEs } }

}

TrpMeasuredResultsValue-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TrpMeasurementQuality ::= CHOICE {

timingMeasQuality TrpMeasurementTimingQuality,

angleMeasQuality TrpMeasurementAngleQuality,

choice-Extension ProtocolIE-Single-Container {{ TrpMeasurementQuality-ExtIEs}}

}

TrpMeasurementQuality-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TrpMeasurementTimingQuality ::= SEQUENCE {

measurementQuality INTEGER (0..31),

resolution ENUMERATED {m0dot1, m1, m10, m30, ...},

iE-extensions ProtocolExtensionContainer { { TrpMeasurementTimingQuality-ExtIEs } } OPTIONAL,

...

}

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

...

}

TrpMeasurementAngleQuality ::= SEQUENCE {

azimuthQuality INTEGER (0..255),

zenithQuality INTEGER (0..255) OPTIONAL,

resolution ENUMERATED {deg0dot1, ...},

iE-extensions ProtocolExtensionContainer { { TrpMeasurementAngleQuality-ExtIEs } } OPTIONAL,

...

}

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

...

}

TRP-MeasurementRequestList ::= SEQUENCE (SIZE (1..maxNoOfMeasTRPs)) OF TRP-MeasurementRequestItem

TRP-MeasurementRequestItem ::= SEQUENCE {

tRP-ID TRP-ID,

search-window-information Search-window-information OPTIONAL,

iE-extensions ProtocolExtensionContainer { { TRP-MeasurementRequestItem-ExtIEs } } OPTIONAL,

...

}

TRP-MeasurementRequestItem-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

{ ID id-Cell-ID CRITICALITY ignore EXTENSION CGI-NR PRESENCE optional },

...

}

TRP-MeasurementResponseList ::= SEQUENCE (SIZE (1..maxNoOfMeasTRPs)) OF TRP-MeasurementResponseItem

TRP-MeasurementResponseItem ::= SEQUENCE {

tRP-ID TRP-ID,

measurementResult TrpMeasurementResult,

iE-extensions ProtocolExtensionContainer { { TRP-MeasurementResponseItem-ExtIEs } } OPTIONAL,

...

}

TRP-MeasurementResponseItem-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

{ ID id-Cell-ID CRITICALITY ignore EXTENSION CGI-NR PRESENCE optional },

...

}

TRPInformationListTRPResp ::= SEQUENCE (SIZE (1.. maxnoTRPs)) OF SEQUENCE {

tRPInformation TRPInformation,

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

...

}

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

...

}

TRPInformation ::= SEQUENCE {

tRP-ID TRP-ID,

tRPInformationTypeResponseList TRPInformationTypeResponseList,

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

...

}

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

...

}

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

TRPInformationTypeResponseItem ::= CHOICE {

pCI-NR INTEGER (0..1007),

cGI-NR CGI-NR,

aRFCN INTEGER (0..3279165),

pRSConfiguration PRSConfiguration,

sSBinformation SSBInfo,

sFNInitialisationTime SFNInitialisationTime,

spatialDirectionInformation SpatialDirectionInformation,

geographicalCoordinates GeographicalCoordinates,

choice-extension ProtocolIE-Single-Container { { TRPInformationTypeResponseItem-ExtIEs } }

}

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

...

}

TRPInformationTypeListTRPReq ::= SEQUENCE (SIZE(1.. maxnoTRPInfoTypes)) OF ProtocolIE-Single-Container { {TRPInformationTypeItemTRPReq} }

TRPInformationTypeItemTRPReq NRPPA-PROTOCOL-IES ::= {

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

...

}

TRPInformationTypeItem ::= ENUMERATED {

nrPCI,

nG-RAN-CGI,

arfcn,

pRSConfig,

sSBInfo,

sFNInitTime,

spatialDirectInfo,

geoCoord,

...

}

TRPList ::= SEQUENCE (SIZE(1.. maxnoTRPs)) OF TRPItem

TRPItem ::= SEQUENCE {

tRP-ID TRP-ID,

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

...

}

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

...

}

TRP-ID ::= INTEGER (1.. maxnoTRPs, ...)

TRPPositionDefinitionType ::= CHOICE {

direct TRPPositionDirect,

referenced TRPPositionReferenced,

choice-extension ProtocolIE-Single-Container { { TRPPositionDefinitionType-ExtIEs } }

}

TRPPositionDefinitionType-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TRPPositionDirect ::= SEQUENCE {

accuracy TRPPositionDirectAccuracy,

iE-extensions ProtocolExtensionContainer { { TRPPositionDirect-ExtIEs } } OPTIONAL,

...

}

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

...

}

TRPPositionDirectAccuracy ::= CHOICE {

tRPPosition NG-RANAccessPointPosition ,

tRPHAposition NGRANHighAccuracyAccessPointPosition ,

choice-extension ProtocolIE-Single-Container { { TRPPositionDirectAccuracy-ExtIEs } }

}

TRPPositionDirectAccuracy-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TRPPositionReferenced ::= SEQUENCE {

referencePoint ReferencePoint,

referencePointType TRPReferencePointType,

iE-extensions ProtocolExtensionContainer { { TRPPositionReferenced-ExtIEs } } OPTIONAL,

...

}

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

...

}

TRPReferencePointType ::= CHOICE {

tRPPositionRelativeGeodetic RelativeGeodeticLocation,

tRPPositionRelativeCartesian RelativeCartesianLocation,

choice-extension ProtocolIE-Single-Container { { TRPReferencePointType-ExtIEs } }

}

TRPReferencePointType-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TypeOfError ::= ENUMERATED {

not-understood,

missing,

...

}

-- U

UARFCN ::= INTEGER (0..16383, ...)

UE-Measurement-ID ::= INTEGER (1..15, ..., 256)

UTRA-EcN0 ::= INTEGER (0..49, ...)

UTRA-RSCP ::= INTEGER (-5..91, ...)

UL-AoA ::= SEQUENCE {

azimuthAoA INTEGER (0..3599),

zenithAoA INTEGER (0..1799) OPTIONAL,

lCS-to-GCS-TranslationAoA LCS-to-GCS-TranslationAoA OPTIONAL,

iE-extensions ProtocolExtensionContainer { { UL-AoA-ExtIEs } } OPTIONAL,

...

}

UL-AoA-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

UL-RTOAMeasurement ::= SEQUENCE {

uLRTOAmeas ULRTOAMeas,

additionalPathList AdditionalPathList OPTIONAL,

iE-extensions ProtocolExtensionContainer { { UL-RTOAMeasurement-ExtIEs } } OPTIONAL, ...

}

UL-RTOAMeasurement-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ULRTOAMeas::= CHOICE {

k0 INTEGER (0.. 1970049),

k1 INTEGER (0.. 985025),

k2 INTEGER (0.. 492513),

k3 INTEGER (0.. 246257),

k4 INTEGER (0.. 123129),

k5 INTEGER (0.. 61565),

choice-extension ProtocolIE-Single-Container { { ULRTOAMeas-ExtIEs } }

}

ULRTOAMeas-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

UL-SRS-RSRP ::= INTEGER (0..126)

UplinkChannelBW-PerSCS-List ::= SEQUENCE (SIZE (1..maxnoSCSs)) OF SCS-SpecificCarrier

-- V

ValueRSRP-EUTRA ::= INTEGER (0..97, ...)

ValueRSRQ-EUTRA ::= INTEGER (0..34, ...)

ValueRSRP-NR ::= INTEGER (0..127)

ValueRSRQ-NR ::= INTEGER (0..127)

-- W

WLANMeasurementQuantities ::= SEQUENCE (SIZE (0.. maxNoMeas)) OF ProtocolIE-Single-Container { {WLANMeasurementQuantities-ItemIEs} }

WLANMeasurementQuantities-ItemIEs NRPPA-PROTOCOL-IES ::= {

{ ID id-WLANMeasurementQuantities-Item CRITICALITY reject TYPE WLANMeasurementQuantities-Item PRESENCE mandatory}}

WLANMeasurementQuantities-Item ::= SEQUENCE {

wLANMeasurementQuantitiesValue WLANMeasurementQuantitiesValue,

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

...

}

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

...

}

WLANMeasurementQuantitiesValue ::= ENUMERATED {

wlan,

...

}

WLANMeasurementResult ::= SEQUENCE (SIZE (1..maxNoMeas)) OF WLANMeasurementResult-Item

WLANMeasurementResult-Item ::= SEQUENCE {

wLAN-RSSI WLAN-RSSI,

sSID SSID OPTIONAL,

bSSID BSSID OPTIONAL,

hESSID HESSID OPTIONAL,

operatingClass WLANOperatingClass OPTIONAL,

countryCode WLANCountryCode OPTIONAL,

wLANChannelList WLANChannelList OPTIONAL,

wLANBand WLANBand OPTIONAL,

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

...

}

WLANMeasurementResult-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

WLAN-RSSI ::= INTEGER (0..141, ...)

WLANBand ::= ENUMERATED {band2dot4, band5, ...}

WLANChannelList ::= SEQUENCE (SIZE (1..maxWLANchannels)) OF WLANChannel

WLANChannel ::= INTEGER (0..255)

WLANCountryCode ::= ENUMERATED {

unitedStates,

europe,

japan,

global,

...

}

WLANOperatingClass ::= INTEGER (0..255)

-- X

-- Y

-- Z

END

-- ASN1STOP

9.3.6 Common definitions

-- ASN1START

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

--

-- Common definitions

--

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

NRPPA-CommonDataTypes {

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

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-CommonDataTypes (3)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- Extension constants

--

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

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

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

--

-- Common Data Types

--

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

Criticality ::= ENUMERATED { reject, ignore, notify }

NRPPATransactionID ::= INTEGER (0..32767)

Presence ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID ::= CHOICE {

local INTEGER (0.. maxPrivateIEs),

global OBJECT IDENTIFIER

}

ProcedureCode ::= INTEGER (0..255)

ProtocolIE-ID ::= INTEGER (0..maxProtocolIEs)

TriggeringMessage ::= ENUMERATED { initiating-message, successful-outcome, unsuccessful-outcome}

END

-- ASN1STOP

9.3.7 Constant definitions

-- ASN1START

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

--

-- Constant definitions

--

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

NRPPA-Constants {

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

ProcedureCode,

ProtocolIE-ID

FROM NRPPA-CommonDataTypes;

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

--

-- Elementary Procedures

--

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

id-errorIndication ProcedureCode ::= 0

id-privateMessage ProcedureCode ::= 1

id-e-CIDMeasurementInitiation ProcedureCode ::= 2

id-e-CIDMeasurementFailureIndication ProcedureCode ::= 3

id-e-CIDMeasurementReport ProcedureCode ::= 4

id-e-CIDMeasurementTermination ProcedureCode ::= 5

id-oTDOAInformationExchange ProcedureCode ::= 6

id-assistanceInformationControl ProcedureCode ::= 7

id-assistanceInformationFeedback ProcedureCode ::= 8

id-positioningInformationExchange ProcedureCode ::= 9

id-positioningInformationUpdate ProcedureCode ::= 10

id-Measurement ProcedureCode ::= 11

id-MeasurementReport ProcedureCode ::= 12

id-MeasurementUpdate ProcedureCode ::= 13

id-MeasurementAbort ProcedureCode ::= 14

id-MeasurementFailureIndication ProcedureCode ::= 15

id-tRPInformationExchange ProcedureCode ::= 16

id-positioningActivation ProcedureCode ::= 17

id-positioningDeactivation ProcedureCode ::= 18

id-pRSConfigurationExchange ProcedureCode ::= a1

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

--

-- Lists

--

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

maxNrOfErrors INTEGER ::= 256

maxCellinRANnode INTEGER ::= 3840

maxIndexesReport INTEGER ::= 64

maxNoMeas INTEGER ::= 64

maxCellReport INTEGER ::= 9

maxCellReportNR INTEGER ::= 9

maxnoOTDOAtypes INTEGER ::= 63

maxServCell INTEGER ::= 5

maxEUTRAMeas INTEGER ::= 8

maxGERANMeas INTEGER ::= 8

maxNRMeas INTEGER ::= 8

maxUTRANMeas INTEGER ::= 8

maxWLANchannels INTEGER ::= 16

maxnoFreqHoppingBandsMinusOne INTEGER ::= 7

maxNoPath INTEGER ::= 2

maxNrOfPosSImessage INTEGER ::= 32

maxnoAssistInfoFailureListItems INTEGER ::= 32

maxNrOfSegments INTEGER ::= 64

maxNrOfPosSIBs INTEGER ::= 32

maxNoOfMeasTRPs INTEGER ::= 64

maxnoTRPs INTEGER ::= 65535

maxnoTRPInfoTypes INTEGER ::= 64

maxnoofAngleInfo INTEGER ::= 65535

maxnolcs-gcs-translation INTEGER ::= 3

maxnoBcastCell INTEGER ::= 16384

maxnoSRSTriggerStates INTEGER ::= 3

maxnoSpatialRelations INTEGER ::= 64

maxnoPosMeas INTEGER ::= 16384

maxnoSRS-Carriers INTEGER ::= 32

maxnoSCSs INTEGER ::= 5

maxnoSRS-Resources INTEGER ::= 64

maxnoSRS-PosResources INTEGER ::= 64

maxnoSRS-ResourceSets INTEGER ::= 16

maxnoSRS-ResourcePerSet INTEGER ::= 16

maxnoSRS-PosResourceSets INTEGER ::= 16

maxnoSRS-PosResourcePerSet INTEGER ::= 16

maxPRS-ResourceSets INTEGER ::= 2

maxPRS-ResourcesPerSet INTEGER ::= 64

maxNoSSBs INTEGER ::= 255

maxnoofPRSresourceSet INTEGER ::= 8

maxnoofPRSresource INTEGER ::= 64

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

--

-- IEs

--

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

id-Cause ProtocolIE-ID ::= 0

id-CriticalityDiagnostics ProtocolIE-ID ::= 1

id-LMF-UE-Measurement-ID ProtocolIE-ID ::= 2

id-ReportCharacteristics ProtocolIE-ID ::= 3

id-MeasurementPeriodicity ProtocolIE-ID ::= 4

id-MeasurementQuantities ProtocolIE-ID ::= 5

id-RAN-UE-Measurement-ID ProtocolIE-ID ::= 6

id-E-CID-MeasurementResult ProtocolIE-ID ::= 7

id-OTDOACells ProtocolIE-ID ::= 8

id-OTDOA-Information-Type-Group ProtocolIE-ID ::= 9

id-OTDOA-Information-Type-Item ProtocolIE-ID ::= 10

id-MeasurementQuantities-Item ProtocolIE-ID ::= 11

id-RequestedSRSTransmissionCharacteristics ProtocolIE-ID ::= 12

id-Cell-Portion-ID ProtocolIE-ID ::= 14

id-OtherRATMeasurementQuantities ProtocolIE-ID ::= 15

id-OtherRATMeasurementQuantities-Item ProtocolIE-ID ::= 16

id-OtherRATMeasurementResult ProtocolIE-ID ::= 17

id-WLANMeasurementQuantities ProtocolIE-ID ::= 19

id-WLANMeasurementQuantities-Item ProtocolIE-ID ::= 20

id-WLANMeasurementResult ProtocolIE-ID ::= 21

id-TDD-Config-EUTRA-Item ProtocolIE-ID ::= 22

id-Assistance-Information ProtocolIE-ID ::= 23

id-Broadcast ProtocolIE-ID ::= 24

id-AssistanceInformationFailureList ProtocolIE-ID ::= 25

id-SRSConfiguration ProtocolIE-ID ::= 26

id-MeasurementResult ProtocolIE-ID ::= 27

id-TRP-ID ProtocolIE-ID ::= 28

id-TRPInformationTypeListTRPReq ProtocolIE-ID ::= 29

id-TRPInformationListTRPResp ProtocolIE-ID ::= 30

id-MeasurementBeamInfoRequest ProtocolIE-ID ::= 31

id-ResultSS-RSRP ProtocolIE-ID ::= 32

id-ResultSS-RSRQ ProtocolIE-ID ::= 33

id-ResultCSI-RSRP ProtocolIE-ID ::= 34

id-ResultCSI-RSRQ ProtocolIE-ID ::= 35

id-AngleOfArrivalNR ProtocolIE-ID ::= 36

id-GeographicalCoordinates ProtocolIE-ID ::= 37

id-PositioningBroadcastCells ProtocolIE-ID ::= 38

id-LMF-Measurement-ID ProtocolIE-ID ::= 39

id-RAN-Measurement-ID ProtocolIE-ID ::= 40

id-TRP-MeasurementRequestList ProtocolIE-ID ::= 41

id-TRP-MeasurementResponseList ProtocolIE-ID ::= 42

id-TRP-MeasurementReportList ProtocolIE-ID ::= 43

id-SRSType ProtocolIE-ID ::= 44

id-ActivationTime ProtocolIE-ID ::= 45

id-SRSResourceSetID ProtocolIE-ID ::= 46

id-TRPList ProtocolIE-ID ::= 47

id-SRSSpatialRelation ProtocolIE-ID ::= 48

id-SystemFrameNumber ProtocolIE-ID ::= 49

id-SlotNumber ProtocolIE-ID ::= 50

id-SRSResourceTrigger ProtocolIE-ID ::= 51

id-TRPMeasurementQuantities ProtocolIE-ID ::= 52

id-AbortTransmission ProtocolIE-ID ::= 53

id-SFNInitialisationTime ProtocolIE-ID ::= 54

id-ResultNR ProtocolIE-ID ::= 55

id-ResultEUTRA ProtocolIE-ID ::= 56

id-TRPInformationTypeItem ProtocolIE-ID ::= 57

id-CGI-NR ProtocolIE-ID ::= 58

id-SFNInitialisationTime-NR ProtocolIE-ID ::= 59

id-Cell-ID ProtocolIE-ID ::= 60

id-PRSTRPList ProtocolIE-ID ::= x1

id-PRSTransmissionTRPList ProtocolIE-ID ::= x2

END

-- ASN1STOP

9.3.8 Container definitions

-- ASN1START

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

--

-- Container definitions

--

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

NRPPA-Containers {

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

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-Containers (5)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

maxPrivateIEs,

maxProtocolExtensions,

maxProtocolIEs,

Criticality,

Presence,

PrivateIE-ID,

ProtocolIE-ID

FROM NRPPA-CommonDataTypes;

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

--

-- Class Definition for Protocol IEs

--

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

NRPPA-PROTOCOL-IES ::= CLASS {

&id ProtocolIE-ID UNIQUE,

&criticality Criticality,

&Value,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

TYPE &Value

PRESENCE &presence

}

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

--

-- Class Definition for Protocol Extensions

--

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

NRPPA-PROTOCOL-EXTENSION ::= CLASS {

&id ProtocolIE-ID UNIQUE,

&criticality Criticality,

&Extension,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

EXTENSION &Extension

PRESENCE &presence

}

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

--

-- Class Definition for Private IEs

--

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

NRPPA-PRIVATE-IES ::= CLASS {

&id PrivateIE-ID,

&criticality Criticality,

&Value,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

TYPE &Value

PRESENCE &presence

}

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

--

-- Container for Protocol IEs

--

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

ProtocolIE-Container { NRPPA-PROTOCOL-IES : IEsSetParam} ::=

SEQUENCE (SIZE (0..maxProtocolIEs)) OF

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Single-Container { NRPPA-PROTOCOL-IES : IEsSetParam} ::=

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field { NRPPA-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {

id NRPPA-PROTOCOL-IES.&id ({IEsSetParam}),

criticality NRPPA-PROTOCOL-IES.&criticality ({IEsSetParam}{@id}),

value NRPPA-PROTOCOL-IES.&Value ({IEsSetParam}{@id})

}

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

--

-- Container Lists for Protocol IE Containers

--

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

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, NRPPA-PROTOCOL-IES : IEsSetParam} ::=

SEQUENCE (SIZE (lowerBound..upperBound)) OF

ProtocolIE-Container {{IEsSetParam}}

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

--

-- Container for Protocol Extensions

--

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

ProtocolExtensionContainer { NRPPA-PROTOCOL-EXTENSION : ExtensionSetParam} ::=

SEQUENCE (SIZE (1..maxProtocolExtensions)) OF

ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField { NRPPA-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {

id NRPPA-PROTOCOL-EXTENSION.&id ({ExtensionSetParam}),

criticality NRPPA-PROTOCOL-EXTENSION.&criticality ({ExtensionSetParam}{@id}),

extensionValue NRPPA-PROTOCOL-EXTENSION.&Extension ({ExtensionSetParam}{@id})

}

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

--

-- Container for Private IEs

--

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

PrivateIE-Container { NRPPA-PRIVATE-IES : IEsSetParam} ::=

SEQUENCE (SIZE (1..maxPrivateIEs)) OF

PrivateIE-Field {{IEsSetParam}}

PrivateIE-Field { NRPPA-PRIVATE-IES : IEsSetParam} ::= SEQUENCE {

id NRPPA-PRIVATE-IES.&id ({IEsSetParam}),

criticality NRPPA-PRIVATE-IES.&criticality ({IEsSetParam}{@id}),

value NRPPA-PRIVATE-IES.&Value ({IEsSetParam}{@id})

}

END

-- ASN1STOP

**END OF CHANGES**