**3GPP TSG-RAN3 Meeting # 123 *R3-240846***

**Athens, Greece, 26-02-2024 – 02-03-2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.455** | **CR** | **0132** | **rev** | 1 | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | NRPPa Rapporteur corrections | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Rapporteur (Ericsson) | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2024-02-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | D |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Editorial errors in the NRPPa specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. 2, In the reference “36:214”, point should replace the column. 2. 8.1, there is an extra blank after the ACTIVATION in "POSITIONING ACTIVATION “ then back to line and “FAILURE". 3. 8.2.8. reference of TS 23.273 should be [20] and not [Xx]. 4. 9.1.1.1 presence of some IEs should be 0..1 instead of 0. 5. 9.1.1.1 the criticality of the *Other-RAT Measurement Quantities Item* IE is not aligned on ASN.1, should be reject. 6. Further, the *Other-RAT Measurement Quantities IE* should have a YES/ignore and the *Other-RAT Measurement Quantities Item* IE should have a EACH/reject included in the respective columns. This is applicable to other “List” and “Item” IEs. 7. 9.1.1.6,  The Message Type IE criticality of E-CID MEASUREMENT TERMINATION COMMAND should be aligned on ASN.1 i.e. reject. 8. 9.1.4.2: The MEASUREMENT RESPONSE message is non UE associated, remove mention of message being associated to a target UE. 9. 9.1.4.4, the Message Type IE criticality of MEASUREMENT REPORT should be aligned on ASN.1 i.e. ignore. 10. 9.1.4.6, the Message Type IE criticality of MEASUREMENT ABORT should be aligned on ASN.1 i.e. ignore. 11. 9.1.4.7, The Message Type IE criticality of MEASUREMENT FAILURE INDICATION should be aligned on ASN.1 i.e. ignore. 12. 9.2.5: Report mapping of NR TA is defined in TS 38.133, not in TS 38.315. 13. 9.2.5, 9.2.13, PCI EUTRA IE missing the ellipsis in many place in tabular. 14. 9.2.6, *NR Cell Identifier* IE & *E-UTRAN Cell Identifier* IE, could be put in same order as ASN.1. 15. 9.2.13, EARFCN IE, missing the ellipsis in tabular (may not only that place). 16. 9.2.13,   RSRP EUTRA IE, missing the ellipsis in tabular (may not only that place). 17. 9.2.13, RSRQ EUTRA IE, missing the ellipsis in tabular (may not only that place). 18. 9.2.14, in the WLAN Measurement Result Item IE the presence of the BSSID IE is not aligned on ASN.1 should be O. 19. 9.2.37, add the "UL RTOA Measurement" in the reference of the UL RTOA IE. 20. 9.2.51, in the Coordinate ID IE, it is missing a point in the ellipsis 21. 9.2.60, the choice indentation is not correct. 22. 9.2.70 Merge with the correction proposed in R3-234463. 23. 9.2.71: the notion of “pair” in the Multiple UL-AOAs is unclear. It is either a pair of Azimuth AoA and Zenith AoA, or Azimuth only (due to IE being mandatory in 9.2.28) or Zenith AoA only. It is unlcear how the items in the list are paired, of if pairing refers to Azimuth and Zenith AoA. Revise the tabular description. 24. 9.2.72: Currently the UL-SRS-RSRPP IE is defined as First Path RSRP Power (9.2.72). Since UL SRS-RSRPP can be first path or additional paths (Rel-17), the name should be updated to a more generic one, e.g., “UL SRS-RSRPP” as in TS 38.215. 25. 9.2.74: the additional path list are for “extended” additional paths, also to align with IE name in ASN.1. 26. 9.2.81: Some of the bits definitions in the Measurement Characteristics Request Indicator IE are unclear, there is no TEG ID. 27. 9.2.88: typo in IE name. 28. ASN.1: assigning “level 4” in the ASN.1 PDU and IE module for better navigation. 29. ASN.1: PRS-ID, PRS-Resource-Set-ID and PRS-Resource- ID are re-used for the IE definitions. 30. In section 9.2.33, the *SRS Resource Set ID* IE is defined with a value range of INTEGER (0..15). However, in ASN.1 it is extensible SRSResourceSetID ::= INTEGER (0..15, …), Tabular is aligned (NOTE, in RRC the IE is not extensible). 31. ASN.1: *TRP Measurement Type* IE in MEASUREMENT REQUEST message name is not aligned with ASN.1 where it is named TRPMeasurementQuantities-Item | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Editorial errors and reading ambiguities remain in the specification | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.1.1.1, 9.1.1.6, 9.1.4.2, 9.1.4.4, 9.1.4.6, 9.1.4.7, 9.2.5, 9.2.13, 9.2.14, 9.2.33, 9.2.37, 9.2.51, 9.2.60, 9.2.70, 9.2.71, 9.2.72, 9.2.74, 9.2.81, 9.3.4, 9.3.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev#1: added fixes number 30 and 31. Revise fix 23 | | | | | | | | |

**<Start of changes>**

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 38.413:"NG-RAN; NG Application Protocol (NGAP)".

[3] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".

[4] Void.

[5] 3GPP TR 25.921 (version.7.0.0): "Guidelines and principles for protocol description and error handling".

[6] ITU-T Recommendation X.691 (2002-07): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER) ".

[7] 3GPP TS 36.104: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Base Station (BS) radio transmission and reception".

[8] 3GPP TS 23.032:"Technical Specification Group Services and System Aspects; Universal Geographical Area Description (GAD)".

[9] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".

[10] 3GPP TS 36.211:"Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Physical Channels and Modulation".

[11] IEEE Std 802.11™-2012, IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area network.

[12] 3GPP TS 36.455: " Evolved Universal Terrestrial Radio Access (E-UTRA); LTE Positioning Protocol A (LPPa)".

[13] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[14] 3GPP TS 37.355: " Technical Specification Group Radio Access Network; LTE Positioning Protocol (LPP)".

[15] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".

[16] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".

[17] 3GPP TS 36.214: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer (PHY); Measurements".

[18] 3GPP TS 38.305: "NG Radio Access Network (NG-RAN); Stage 2 functional specification of User Equipment (UE) positioning in NG-RAN".

[19] 3GPP TS 38.215: "NR; Physical layer (PHY); Measurements".

[20] 3GPP TS 23.273: "5G System (5GS) Location Services (LCS); Stage 2".

[21] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces".

**<Next change>**

## 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 |
| Measurement Preconfiguration | MEASUREMENT PRECONFIGURATION REQUIRED | MEASUREMENT PRECONFIGURATION CONFIRM | MEASUREMENT PRECONFIGURATION REFUSE |

Table 8.1-2: Class 2 Elementary Procedures

| Elementary Procedure | Initiating Message |
| --- | --- |
| E-CID Measurement Failure Indication | E-CID MEASUREMENT FAILURE INDICATION |
| E-CID Measurement Report | E-CID MEASUREMENT REPORT |
| E-CID Measurement Termination | E-CID MEASUREMENT TERMINATION COMMAND |
| Error Indication | ERROR INDICATION |
| Assistance Information Control | ASSISTANCE INFORMATION CONTROL |
| Assistance Information Feedback | ASSISTANCE INFORMATION FEEDBACK |
| Positioning Information Update | POSITIONING INFORMATION UPDATE |
| Measurement Report | MEASUREMENT REPORT |
| Measurement Update | MEASUREMENT UPDATE |
| Measurement Abort | MEASUREMENT ABORT |
| Measurement Failure Indication | MEASUREMENT FAILURE INDICATION |
| Positioning Deactivation | POSITIONING DEACTIVATION |
| Measurement Activation | MEASUREMENT ACTIVATION |

**<Next change>**

8.2.8 TRP Information Exchange

8.2.8.1 General

The purpose of the TRP Information Exchange procedure is to allow the LMF to request the NG-RAN node to provide detailed information for TRPs hosted by the NG-RAN node. This procedure applies only if the NG-RAN node is a gNB.

8.2.8.2 Successful Operation

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**Figure 8.2.8.2-1: TRP Information Exchange procedure, successful operation**

The LMF initiates the procedure by sending a TRP INFORMATION REQUEST message. The NG-RAN node responds with a TRP INFORMATION RESPONSE message that contains the requested TRP information.

If the *TRP List* IE is included in the TRP INFORMATION REQUEST message, the NG-RAN node should include in the TRP INFORMATION RESPONSE message, the requested information for all TRPs included in the *TRP List* IE.

If the *TRP List* IE is not included in the TRP INFORMATION REQUEST message, the NG-RAN node should include the requested information for all TRPs hosted by the NG-RAN node in the TRP INFORMATION RESPONSE message

If the *PRS Muting* IE is included in the *PRS Configuration* IE in the TRP INFORMATION RESPONSE message, the LMF may take it into account as the muting information for the given PRS resource set.

If the *QCL Info* IE is included in the *PRS Configuration* IE in the TRP INFORMATION RESPONSE message, the LMF may take it into account for the given PRS resource list.

If the *DL-PRS Resource Coordinates* IE is included in the *Geographical Coordinates* IE in the *TRP Information* IE in the TRP INFORMATION RESPONSE message, the LMF may take it into account as the DL PRS Resource Coordinates relative to the TRP coordinate.

If the *Mobile IAB-MT UE ID* IE is included in the *TRP Information* IE in the TRP INFORMATION RESPONSE message, the LMF shall, if supported, use this information to determine an updated location of the Mobile TRP as specified in TS 23.273 [20].

If the *TRP Information Type Item* IE is set to 'mobile trp location info', the NG-RAN node shall, if supported, derive the location of the Mobile TRP as specified in TS 23.273 [20] and include the *Mobile TRP Location Information* in the TRP INFORMATION RESPONSE message.

**<Next change>**

9.1.1.1 E-CID MEASUREMENT INITIATION REQUEST

This message is sent by LMF to initiate E-CID measurements.

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 |  | - |  |
| LMF UE Measurement ID | M |  | INTEGER (1..15 ,…, 16..256) |  | YES | reject |
| Report Characteristics | M |  | ENUMERATED (OnDemand, Periodic,…) |  | YES | reject |
| Measurement Periodicity | C-ifReportCharacteristicsPeriodic |  | ENUMERATED (120ms, 240ms, 480ms, 640ms, 1024ms, 2048ms, 5120ms, 10240ms, 1min, 6min, 12min, 30min, 60min,…, 20480ms, 40960ms, extended) | The codepoint 60min applies only for ng-eNB.  The codepoint “extended” is not applicable.  This IE is not applicable to NR Angle of Arrival. | YES | reject |
| **Measurement Quantities** |  | *1* |  |  | YES | reject |
| **>Measurement Quantities Item** |  | *1..<maxnoMeas>* |  |  | EACH | reject |
| >>Measurement Quantities Value | M |  | ENUMERATED (Cell-ID, Angle of Arrival, Timing Advance Type 1, Timing Advance Type 2, RSRP, RSRQ,…, SS-RSRP, SS-RSRQ, CSI-RSRP, CSI-RSRQ, NR Angle of Arrival, NR Timing Advance) |  | - | - |
| **Other-RAT Measurement Quantities** |  | *0..1* |  |  | YES | ignore |
| **>Other-RAT Measurement Quantities Item** |  | *0 .. <maxnoMeas>* |  |  | EACH | reject |
| >>Other-RAT Measurement Quantities Value | M |  | ENUMERATED (GERAN, UTRAN,…, NR, EUTRA) |  | - |  |
| **WLAN Measurement Quantities** |  | *0..1* |  |  | YES | ignore |
| **>WLAN Measurement Quantities Item** |  | *0 .. <maxnoMeas>* |  |  | EACH | reject |
| >>WLAN Measurement Quantities Value | M |  | ENUMERATED (WLAN, ...) |  | - |  |
| Measurement Periodicity NR-AoA | C- ifReportCharacteristicsPeriodicAndMeasQuantityItemAoA |  | ENUMERATED (160ms, 320ms,  640ms,  1280ms, 2560ms,  5120ms,  10240ms, 20480ms,  40960ms,  61440ms,  81920ms, 368640ms, 737280ms, 1843200ms, …) |  | YES | reject |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoMeas | Maximum no. of measured quantities that can be configured and reported with one message. Value is 64. |

|  |  |
| --- | --- |
| **Condition** | **Explanation** |
| ifReportCharacteristicsPeriodic | This IE shall be present if the *Report Characteristics* IE is set to the value "Periodic". |
| ifReportCharacteristicsPeriodicAndMeasQuantityItemAoA | This IE shall be present if the *Report Characteristics* IE is set to the value "Periodic" and the *Measurement Quantities* *Item* IE is set to the value "NR Angle of Arrival". |

**<Next change>**

9.1.1.6 E-CID MEASUREMENT TERMINATION COMMAND

This message is sent by the LMF to terminate the requested E-CID measurement.

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 |  | - |  |
| LMF UE Measurement ID | M |  | INTEGER (1..15,…, 16..256) |  | YES | reject |
| RAN UE Measurement ID | M |  | INTEGER (1..15,…, 16..256) |  | YES | reject |

9.1.1.7 OTDOA INFORMATION REQUEST

This message is sent by LMF to request OTDOA information.

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 |  | - |  |
| **OTDOA Information Type** |  | *1* |  |  | YES | reject |
| **>OTDOA Information Type Item** |  | *1 .. <maxnoOTDOAtypes>* |  |  | EACH | reject |
| >>OTDOA Information Item | M |  | ENUMERATED (pci, cellid, tac, earfcn, prsBandwidth, prsConfigIndex, cpLength, noDlFrames, noAntennaPorts, sFNInitTime, nG-RANAccessPointPosition, prsmutingconfiguration, prsid, tpid, tpType, crsCPlength, dlBandwidth, multipleprsConfigurationsperCell, prsOccasionGroup, prsFrequencyHoppingConfiguration, …,  tddConfig) |  | - |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoOTDOAtypes | Maximum no. of OTDOA information types that can be requested and reported with one message. Value is 63. |

9.1.1.8 OTDOA INFORMATION RESPONSE

This message is sent by NG-RAN node to provide OTDOA information.

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 |  | - |  |
| **OTDOA Cells** |  | *1 .. <maxCellinRANnode>* |  | Served cells/TPs that broadcast PRS. May be used to signal multiple PRS configurations per cell/TPs (up to 3 are supported in this release). | YES | ignore |
| >OTDOA Cell Information | M |  | 9.2.15 |  | - |  |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxCellinRANnode | Maximum no. cells that can be served by a RAN Node. Value is 16384. |

**<Next change>**

9.1.4.2 MEASUREMENT RESPONSE

This message is sent by the NG-RAN node to report positioning measurements.

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 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| **TRP Measurement Response List** |  | *0..1* |  |  | YES | reject |
| **>TRP Measurement Response Item** |  | *1..<maxnoofMeasTRPs>* |  |  | EACH | reject |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>TRP Measurement Result | M |  | 9.2.37 |  | - |  |
| >>Cell ID | O |  | NR CGI  9.2.9 | The Cell ID of the TRP identified by the *TRP ID* IE. | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

**<Next change>**

9.1.1.14 TRP INFORMATION REQUEST

This message is sent by an LMF to request information for TRPs hosted by an NG-RAN node.

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 |  | - |  |
| **TRP List** |  | *0 ..1* |  |  | YES | ignore |
| **>TRP Item** |  | *1 .. <maxnoTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| **TRP Information Type List** |  | *1* |  |  | YES | reject |
| **>TRP Information Type Item** |  | *1 .. <maxnoTRPInfoTypes>* |  |  | EACH | reject |
| >>TRP Information Type Item | M |  | ENUMERATED (nr pci, ng-ran cgi, nr arfcn, prs config, ssb config, sfn init time, spatial direction info, geo-coordinates, …, trp type, on-demand prs, trp tx teg, beam antenna info, mobile trp location info, common ta) |  | - |  |

| **Range bound** | **Explanation** |
| --- | --- |
| maxnoTRPs | Maximum no. of TRPs in a NG-RAN node. Value is 65535 |
| maxnoTRPInfoTypes | Maximum no of TRP information types that can be requested and reported with one message. Value is 64. |

9.1.1.15 TRP INFORMATION RESPONSE

This message is sent by an NG-RAN node to convey TRP information to an LMF.

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 |  | - |  |
| **TRP Information List** |  | *1* |  |  | YES | ignore |
| **>TRP Information Item** | M | *1 .. <maxnoTRPs>* |  |  | - |  |
| >>TRP Information | M |  | 9.2.25 |  | - |  |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

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

**<Next change>**

9.1.1.21 PRS CONFIGURATION REQUEST

This message is sent by the LMF to request the NG-RAN node to configure or update 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 Configuration Request Type | M |  | ENUMERATED(configure, off, …) |  | YES | reject |
| **PRS TRP List** |  | *1* |  |  | YES | ignore |
| **>PRS TRP Item** |  | *1 .. <maxnoTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>Requested DL PRS Transmission Characteristics | C-ifConf |  | 9.2.61 |  | - |  |
| >>PRS Transmission Off Information | C-ifOff |  | 9.2.64 |  | - |  |

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

|  |  |
| --- | --- |
| **Condition** | **Explanation** |
| ifConf | This IE shall be present if the *PRS Configuration Request Type* IE is set to the value "configure". |
| ifOff | This IE shall be present if the *PRS Configuration Request Type* IE is set to the value "off". |

9.1.1.22 PRS CONFIGURATION RESPONSE

This message is sent by the NG-RAN node to acknowledge configuring or 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** |  | *0..1* |  |  | YES | ignore |
| **>PRS Transmission TRP Item** |  | *1 .. <maxnoTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>PRS Configuration | M |  | 9.2.44 |  | - |  |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

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

**<Next change>**

9.1.1.24 MEASUREMENT PRECONFIGURATION REQUIRED

This message is sent by the LMF to provide the PRS configuration information of multiple TRPs to the NG-RAN node and request to configure measurement gap or PRS processing window of the UE.

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 |  | - |  |
| **TRP PRS Information List** |  | *1* |  |  | YES | ignore |
| **>TRP PRS Information Item** |  | *1 .. <maxnoPRSTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>NR CGI | O |  | 9.2.9 |  | - |  |
| >>PRS Configuration | M |  | 9.2.44 |  | - |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoPRSTRPs | Maximum no. of TRPs for on-demand PRS in a NG-RAN node. Value is 256. |

**<Next change>**

9.1.4.1 MEASUREMENT REQUEST

This message is sent by the LMF to request the NG-RAN node to configure a positioning measurement.

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 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| **TRP Measurement Request List** |  | *1* |  |  | YES | reject |
| **>TRP Measurement Request Item** |  | *1..<maxnoofMeasTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>Search Window Information | O |  | 9.2.26 |  | - |  |
| >>Cell ID | O |  | NR CGI  9.2.9 | The Cell ID of the TRP identified by the *TRP ID* IE. | YES | ignore |
| >>AoA Search Window Information | O |  | UL-AoA Assistance Information 9.2.66 |  | YES | ignore |
| >>Number of TRP Rx TEGs | O |  | ENUMERATED (2, 3, 4, 6, 8, …) |  | YES | ignore |
| >>Number of TRP RxTx TEGs | O |  | ENUMERATED (2, 3, 4, 6, 8, …) |  | YES | ignore |
| Report Characteristics | M |  | ENUMERATED (OnDemand, Periodic, ...) |  | YES | reject |
| Measurement Periodicity | C-ifReportCharacteristicsPeriodic |  | ENUMERATED (120ms, 240ms, 480ms, 640ms, 1024ms, 2048ms, 5120ms, 10240ms, 1min, 6min, 12min, 30min, 60min,…, 20480ms, 40960ms, extended) | The codepoint 120ms, 240ms, 480ms, 1024ms, 2048ms, 1min, 6min, 12min, 30min, and 60min are not applicable | YES | reject |
| **TRP Measurement Quantities** |  | *1* |  |  | YES | reject |
| **>TRP Measurement Quantities Item** |  | *1 .. <maxnoPosMeas>* |  |  | - |  |
| >>TRP Measurement Type | M |  | ENUMERATED (gNB-RxTxTimeDiff, UL-SRS-RSRP, UL-AoA, UL-RTOA,…, Multiple UL-AoA, UL SRS-RSRPP) |  | - |  |
| >>Timing Reporting Granularity Factor | O |  | INTEGER (0..5) | Value (0..5) corresponds to (k0..k5)  TS 38.133 [16] | - |  |
| SFN initialisation Time | O |  | Relative Time 1900  9.2.36 | If this IE is not present, the TRP may assume that the value is same as its own SFN initialisation time. | YES | ignore |
| SRS Configuration | O |  | 9.2.28 |  | YES | ignore |
| Measurement Beam Information Request | O |  | ENUMERATED (true,...) | This IE is ignored when the *Measurement Characteristics Request Indicator* IE is included. | YES | ignore |
| System Frame Number | O |  | INTEGER(0..1023) |  | YES | ignore |
| Slot Number | O |  | INTEGER(0..79) |  | YES | ignore |
| Measurement Periodicity Extended | C-ifMeasPerExt |  | ENUMERATED (160ms, 320ms, 1280ms, 2560ms, 61440ms, 81920ms, 368640ms, 737280ms, 1843200ms, …) |  | YES | reject |
| Response Time | O |  | 9.2.68 | This IE is ignored when the *Report Characteristics* IE is set to “periodic”. | YES | ignore |
| Measurement Characteristics Request Indicator | O |  | 9.2.81 |  | YES | ignore |
| Measurement Time Occasion | O |  | ENUMERATED (o1, o4, …) |  | YES | ignore |
| Measurement Amount | O |  | ENUMERATED (0, 1, 2, 4, 8, 16, 32, 64) | This IE is ignored if the *Report Characteristics* IE is set to ‘OnDemand’.  Value 0 represents an infinite number of periodic reporting. | YES | ignore |

| **Condition** | **Explanation** |
| --- | --- |
| ifReportCharacteristicsPeriodic | This IE shall be present if the *Report Characteristics* IE is set to the value "Periodic". |
| ifMeasPerExt | This IE shall be present if the *Measurement Periodicity* IE is set to the value "extended". |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoPosMeas | Maximum no. of measured quantities that can be configured and reported with one positioning measurement message. Value is 16384. |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

9.1.4.2 MEASUREMENT RESPONSE

This message is sent by the NG-RAN node to report positioning measurements for the target UE.

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 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| **TRP Measurement Response List** |  | *0..1* |  |  | YES | reject |
| **>TRP Measurement Response Item** |  | *1..<maxnoofMeasTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>TRP Measurement Result | M |  | 9.2.37 |  | - |  |
| >>Cell ID | O |  | NR CGI  9.2.9 | The Cell ID of the TRP identified by the *TRP ID* IE. | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.2 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

**<Next change>**

9.1.4.4 MEASUREMENT REPORT

This message is sent by the NG-RAN node to report positioning measurements for the target UE.

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 | ignore |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| **TRP Measurement Response List** |  | *1* |  |  | YES | reject |
| **>TRP Measurement Response Item** |  | *1..<maxnoofMeasTRPs>* |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>TRP Measurement Result | M |  | 9.2.37 |  | - |  |
| >>Cell ID | O |  | NR CGI  9.2.9 | The Cell ID of the TRP identified by the *TRP ID* IE. | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

9.1.4.5 MEASUREMENT UPDATE

This message is sent by the LMF to update a previously configured measurement.

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 | ignore |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| SRS Configuration | O |  | 9.2.28 |  | YES | ignore |
| **TRP Measurement Update List** |  | *0..1* |  |  | YES | reject |
| **>TRP Measurement Update Item** |  | 1..<*maxnoofMeasTRPs*> |  |  | - |  |
| >>TRP ID | M |  | 9.2.24 |  | - |  |
| >>AoA Search Window Information | O |  | UL-AoA Assistance Information 9.2.66 |  | YES | ignore |
| >>Number of TRP Rx TEGs | O |  | ENUMERATED (2, 3, 4, 6, 8, …) |  | YES | ignore |
| >>Number of TRP RxTx TEGs | O |  | ENUMERATED (2, 3, 4, 6, 8, …) |  | YES | ignore |
| Measurement Characteristics Request Indicator | O |  | 9.2.81 |  | YES | ignore |
| Measurement Time Occasion | O |  | ENUMERATED (o1, o4, …) |  | YES | ignore |

| **Range bound** | **Explanation** |
| --- | --- |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

9.1.4.6 MEASUREMENT ABORT

This message is sent by the LMF to request the NG-RAN node to abort a measurement.

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 | ignore |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |

9.1.4.7 MEASUREMENT FAILURE INDICATION

This message is sent by the NG-RAN node to indicate that the previously requested measurements can no longer be reported.

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 | ignore |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| Cause | M |  | 9.2.1 |  | YES | ignore |

9.2.5 E-CID Measurement Result

The purpose of the E-CID Measurement Result information element is to provide the E-CID measurement result.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| Serving Cell ID | M |  | NG-RAN CGI  9.2.6 | NG-RAN Cell Identifier of the serving cell | - |  |
| Serving Cell TAC | M |  | TAC  9.2.11 | Tracking Area Code of the serving cell | - |  |
| NG-RAN Access Point Position | O |  | 9.2.10 | The configured estimated geographical position of the antenna of the cell.  If the *Geographical Coordinates* IE is used, the *NG-RAN Access Point Position* IE shall be ignored. | - |  |
| **Measured Results** |  | *0..1* |  | Measurement results of the serving RAT. | - |  |
| >CHOICE *Measured Results Value* |  | *1 ..<maxnoMeas>* |  |  | - |  |
| *>>Value Angle of Arrival EUTRA* |  |  | INTEGER (0..719) | According to mapping in TS 36.133 [9] |  |  |
| *>>Value Timing Advance Type 1 EUTRA* |  |  | INTEGER (0..7690) | As defined in TS 36.214 [17] |  |  |
| *>>Value Timing Advance Type 2 EUTRA* |  |  | INTEGER (0..7690) | As defined in TS 36.214 [17] |  |  |
| *>>Result RSRP EUTRA* |  |  |  |  |  |  |
| **>>>Result RSRP EUTRA Item** |  | *1 .. <maxCellReport>* |  |  | - |  |
| >>>>PCI EUTRA | M |  | INTEGER (0..503, …) | Physical Cell Identifier of the reported E-UTRA cell | - |  |
| >>>>EARFCN | M |  | INTEGER (0.. 262143, …) | Corresponds to NDL for FDD and NDL/UL for TDD in ref. TS 36.104 [7] | - |  |
| >>>>CGI EUTRA | O |  | 9.2.7 | Cell Global Identifier of the reported E-UTRA cell | - |  |
| >>>>Value RSRP EUTRA | M |  | INTEGER (0..97, …) |  | - |  |
| *>>Result RSRQ EUTRA* |  |  |  |  |  |  |
| **>>>Result RSRQ EUTRA Item** |  | *1 .. <maxCellReport>* |  |  | - |  |
| *>>>>PCI EUTRA* | M |  | INTEGER (0..503, …) | Physical Cell Identifier of the reported E-UTRA cell | - |  |
| *>>>>EARFCN* | M |  | INTEGER (0..262143, …) | Corresponds to NDL for FDD and NDL/UL for TDD in ref. TS 36.104 [7] | - |  |
| *>>>>CGI EUTRA* | O |  | 9.2.7 | Cell Global Identifier of the reported E-UTRA cell | - |  |
| *>>>>Value RSRQ EUTRA* | M |  | INTEGER (0..34, …) |  | - |  |
| *>>Result SS-RSRP* |  |  |  |  | YES | ignore |
| **>>>Result SS-RSRP Item** |  | *1 .. <maxCellReportNR>* |  |  | - |  |
| >>>>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>>>NR ARFCN | M |  | INTEGER (0..3279165) |  | - |  |
| >>>>NR CGI | O |  | 9.2.9 |  | - |  |
| >>>>Value SS-RSRP Cell | O |  | INTEGER (0..127) | SS-RSRP measurement aggregated at cell level | - |  |
| **>>>>SS-RSRP per SSB Resource** |  | *0..1* |  |  | - |  |
| **>>>>>SS-RSRP per SSB Resource Item** |  | *1 .. <maxIndexesReport>* |  |  | - |  |
| >>>>>>SSB Index | M |  | INTEGER (0..63) |  | - |  |
| >>>>>>Value SS-RSRP | M |  | INTEGER (0..127) | SS-RSRP measurement per SSB resource | - |  |
| *>>Result SS-RSRQ* |  |  |  |  | YES | ignore |
| **>>>ResultSS-RSRQ-Item** |  | *1 .. <maxCellReportNR>* |  |  | - |  |
| >>>>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>>>NR ARFCN | M |  | INTEGER (0..3279165) |  | - |  |
| >>>>NR CGI | O |  | 9.2.9 |  | - |  |
| >>>>Value SS-RSRQ Cell | O |  | INTEGER (0..127) | SS-RSRQ measurement aggregated at cell level | - |  |
| **>>>>SS-RSRQ per SSB Resource** |  | *0..1* |  |  | - |  |
| **>>>>>SS-RSRQ PerSSB Resource Item** |  | *1 .. <maxIndexesReport>* |  |  | - |  |
| >>>>>>SSB Index | M |  | INTEGER (0..63) |  | - |  |
| >>>>>>Value SS-RSRQ | M |  | INTEGER (0..127) | SS-RSRQ measurement per SSB resource | - |  |
| *>>Result CSI-RSRP* |  |  |  |  | YES | ignore |
| **>>>Result CSI-RSRP Item** |  | *1 .. <maxCellReportNR>* |  |  | - |  |
| >>>>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>>>NR ARFCN | M |  | INTEGER (0..3279165) |  | - |  |
| >>>>NR CGI | O |  | 9.2.9 |  | - |  |
| >>>>Value CSI-RSRP Cell | O |  | INTEGER (0..127) | CSI-RSRP measurement aggregated at cell level | - |  |
| **>>>>CSI-RSRP per CSI-RS Resource** |  | *0..1* |  |  | - |  |
| **>>>>>CSI-RSRP per CSI-RS Resource Item** |  | *1.. <maxIndexesReport>* |  |  | - |  |
| >>>>>>CSI-RS Index | M |  | INTEGER (0..95) |  | - |  |
| >>>>>>Value CSI-RSRP | M |  | INTEGER (0..127) | CSI-RSRP measurement per CSI-RS resource | - |  |
| *>>Result CSI-RSRQ* |  |  |  |  | YES | ignore |
| >>>Result CSI-RSRQ Item |  | *1 .. <maxCellReportNR>* |  |  | - |  |
| >>>>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>>>NR ARFCN | M |  | INTEGER (0..3279165) |  | - |  |
| >>>>NR CGI | O |  | 9.2.9 |  | - |  |
| >>>>Value CSI-RSRQ Cell | O |  | INTEGER (0..127) | CSI-RSRQ measurement aggregated at cell level | - |  |
| **>>>>CSI-RSRQ per CSI-RS Resource** |  | *0..1* |  |  | - |  |
| **>>>>>CSI-RSRQ per CSI-RS Resource Item** |  | *1 .. <maxIndexesReport>* |  |  | - |  |
| >>>>>>CSI-RS Index | M |  | INTEGER (0..95) |  | - |  |
| >>>>>>Value CSI-RSRQ | M |  | INTEGER (0..127) | CSI-RSRQ measurement per CSI-RS resource | - |  |
| *>>Angle of Arrival NR* |  |  | UL Angle of Arrival  9.2.38 |  | YES | ignore |
| *>>Value Timing Advance NR* |  |  | INTEGER (0.. 7690) | Report mapping as defined in TS 38.133 [16] | YES | ignore |
| Geographical Coordinates | O |  | 9.2.46 |  | YES | ignore |
| Mobile Access Point Location Information | O |  | Mobile TRP Location Information  9.2.88 | The location information of the mobile access point of the cell that is associated to the mobile TRP. | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoMeas | Maximum no. of measured quantities that can be configured and reported with one message. Value is 64. |
| maxCellReport | Maximum no. of cells that can be reported with one message. Value is 9. |
| maxCellReportNR | Maximum no. of NR cells that can be reported with one message. Value is 9. |
| maxIndexesReport | Maximum no. of beam level measurement results that can be reported with one message. Value is 64. |

9.2.6 NG-RAN CGI

The NG-RAN Cell Global Identifier (CGI) is used to globally identify a cell.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| PLMN identity | M |  | 9.2.8 |  |
| CHOICE *NG-RAN Cell* | M |  |  |  |
| *>E-UTRAN Cell* |  |  |  |  |
| >>E-UTRAN Cell Identifier | M |  | BIT STRING (28) |  |
| *>NR Cell* |  |  |  |  |
| >>NR Cell Identifier | M |  | BIT STRING (36) |  |

**<Next change>**

9.2.13 Other-RAT Measurement Result

The purpose of the Other-RAT Measurement Result information element is to provide the measurement results of RATs other than the serving RAT.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| **Other-RAT Measured Results** |  | *1* |  |  | - |  |
| >CHOICE *Other-RAT Measured Results Value* |  | *1.. <maxnoMeas>* |  |  | - |  |
| *>>Result GERAN* |  |  |  |  |  |  |
| **>>>Result GERAN Item** |  | *1..<maxGERANMeas>* |  |  | - |  |
| >>>>ARFCN of BCCH | M |  | INTEGER (0..1023, ...) |  | - |  |
| >>>>Physical CellId GERAN | M |  | INTEGER (0..63, ...) |  | - |  |
| >>>>RSSI | M |  | INTEGER (0..63, ...) |  | - |  |
| *>>Result UTRAN* |  |  |  |  |  |  |
| **>>>Result UTRAN Item** |  | *1..<maxUTRANMeas>* |  |  | - |  |
| >>>>UARFCN | M |  | INTEGER (0..16383, ...) |  | - |  |
| >>>>CHOICE *Physical CellId UTRA* | M |  |  |  | - |  |
| *>>>>>Physical CellId UTRA FDD* |  |  | INTEGER (0..511, ...) |  |  |  |
| *>>>>>Physical CellId UTRA TDD* |  |  | INTEGER (0..127, ...) |  |  |  |
| >>>>UTRA RSCP | O |  | INTEGER (-5..91, ...) |  | - |  |
| >>>>UTRA EcNo | O |  | INTEGER (0..49, ...) | This IE applies to FDD only. | - |  |
| *>>Result NR* |  |  |  |  | YES | ignore |
| **>>>Result NR Item** |  | *1..<maxNRMeas>* |  |  | - |  |
| >>>>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >>>>NR ARFCN | M |  | INTEGER (0..3279165) |  | - |  |
| >>>>SS-RSRP Cell | O |  | INTEGER (0..127) | SS-RSRP measurement aggregated at cell level | - |  |
| >>>>SS-RSRQ Cell | O |  | INTEGER (0..127) | SS-RSRQ measurement aggregated at cell level | - |  |
| **>>>>SS-RSRP per SSB Resource** |  | *0..1* |  |  | - |  |
| **>>>>>Result SS-RSRP Per SSB Item** |  | *1..<maxIndexesReport)>* |  |  | - |  |
| >>>>>>SSB Index | M |  | INTEGER (0..63) |  | - |  |
| >>>>>>Value SS-RSRP | M |  | INTEGER (0..127) | SS-RSRP measurement per SSB resource | - |  |
| **>>>>SS-RSRQ per SSB Resource** |  | *0..1* |  |  | - |  |
| **>>>>>Result SS-RSRQ Per SSB Item** |  | *1..<maxIndexesReport>* |  |  | - |  |
| >>>>>>SSB Index | M |  | INTEGER (0..63) |  | - |  |
| >>>>>>Value SS-RSRQ | M |  | INTEGER (0..127) | SS-RSRQ measurement per SSB resource | - |  |
| >>>>CGI NR | O |  | 9.2.9 | Cell Global Identifier of the reported NR cell | - |  |
| *>>Result EUTRA* |  |  |  |  | YES | ignore |
| **>>>Result EUTRA Item** |  | *1..<maxEUTRAMeas>* |  |  | - |  |
| >>>>PCI EUTRA | M |  | INTEGER (0..503, …) |  | - |  |
| >>>>EARFCN | M |  | INTEGER (0..262143, …) |  | - |  |
| >>>>RSRP EUTRA | O |  | INTEGER (0..97, …) |  | - |  |
| >>>>RSRQ EUTRA | O |  | INTEGER (0..34, …) |  | - |  |
| >>>>CGI EUTRA | O |  | 9.2.7 | Cell Global Identifier of the reported E-UTRA cell | - |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoMeas | Maximum no. of measured quantities that can be configured and reported with one message. Value is 64. |
| maxGERANMeas | Maximum no. of GERAN cells that can be reported with one message. Value is 8. |
| maxUTRANMeas | Maximum no. of UTRAN cells that can be reported with one message. Value is 8. |
| maxNRMeas | Maximum no. of NR cells that can be reported with one message. Value is 8. |
| maxEUTRAMeas | Maximum no. of EUTRA cells that can be reported with one message. Value is 8. |
| maxIndexesReport | Maximum no. of beam level measurement results that can be reported with one message. Value is 64. |

9.2.14 WLAN Measurement Result

The WLAN Measurement Result information element provides the WLAN measurement results.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| **WLAN Measured Results** |  | *1* |  |  |
| **>WLAN Measurement Result Item** |  | *1.. <maxnoMeas>* |  |  |
| >>WLAN RSSI | M |  | INTEGER (0..141, ...) |  |
| >>SSID | O |  | OCTET STRING (SIZE(1..32)) | Includes the SSID field as defined in subclause 8.4.2.2 of IEEE 802.11™ [11]. |
| >>BSSID | O |  | OCTET STRING (SIZE(6)) | Includes the BSSID field as defined in subclause 8.2.4.3.4 of IEEE 802.11™ [11]. |
| >>HESSID | O |  | OCTET STRING (SIZE(6)) | Includes the HESSID field as defined in subclause 8.4.2.94 of IEEE 802.11™ [11]. |
| >>Operating Class | O |  | INTEGER (0..255) | Indicates the WLAN Operating Class as defined in IEEE 802.11™ [11]. |
| >>Country Code | O |  | ENUMERATED (unitedStates, europe, japan, global, …) | Indicates the WLAN country code as defined in IEEE 802.11™ [11]. |
| **>>WLAN Channel List** |  | *0..1* |  |  |
| **>>>WLAN Channel List Item** |  | *1..<maxWLANchannels>* |  |  |
| >>>>WLAN Channel | M |  | INTEGER (0..255) | Indicates the WLAN channel number as defined in IEEE 802.11™ [11]. |
| >>WLAN Band | O |  | ENUMERATED (band2dot4, band5, …) | Indicates the WLAN band as defined in IEEE 802.11™ [11]. |

| **Range bound** | **Explanation** |
| --- | --- |
| maxnoMeas | Maximum no. of measured quantities that can be configured and reported with one message. Value is 63. |
| maxWLANchannels | Maximum no. of WLAN channels that can be reported within one list. Value is 16. |

**<Next change>**

9.2.33 SRS Resource Set ID

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| SRS Resource Set ID | M |  | INTEGER (0..15, …) | Corresponds to information provided in *SRS-ResourceSetId* contained in *SRS-Config* IE as defined in TS 38.331 [13] |

**<Next change>**

9.2.37 TRP Measurement Result

This information element contains the measurement result.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| **Measured Result Item** |  | *1 .. <maxnoPosMeas>* |  |  | - |  |
| >CHOICE *Measured Results Value* | M |  |  |  | - |  |
| *>>UL Angle of Arrival* |  |  | 9.2.38 |  |  |  |
| *>>UL SRS-RSRP* |  |  | INTEGER (0..126) |  |  |  |
| *>>UL RTOA Measurement* |  |  | 9.2.39 |  |  |  |
| *>>gNB Rx-Tx Time Difference* |  |  | 9.2.40 |  |  |  |
| *>>Z-AoA* |  |  | 9.2.67 |  | YES | reject |
| *>>Multiple UL-AoA* |  |  | 9.2.71 |  | YES | reject |
| *>>UL SRS-RSRPP* |  |  | 9.2.72 |  | YES | reject |
| >Time Stamp | M |  | 9.2.42 |  | - |  |
| >Measurement Quality | O |  | 9.2.43 |  | - |  |
| >Measurement Beam Information | O |  | 9.2.57 |  | - |  |
| >SRS Resource type | O |  | 9.2.73 |  | YES | ignore |
| >ARP ID | O |  | 9.2.75 |  | YES | ignore |
| >LoS/NLoS Information | O |  | 9.2.77 |  | YES | ignore |
| >Mobile TRP Location Information | O |  | 9.2.88 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoPosMeas | Maximum no. of measured quantities that can be configured and reported with one positioning measurement message. Value is 16384. |

**<Next change>**

9.2.51 Reference Point

This information element provides a reference point information.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| CHOICE *ReferencePoint* | M |  |  | Reference point to which relative location information is related to |
| *>Coordinate ID* |  |  |  |  |
| >>Coordinate ID | M |  | INTEGER(0.. 29-1,…) | Referential ID mapped via OAM |
| *>Reference Point Coordinates* |  |  |  |  |
| >>Reference Point Position | M |  | NG-RAN Access Point Position  9.2.10 |  |
| *>Reference Point Coordinates High Accuracy* |  |  |  |  |
| >>Reference Point High Accuracy Access Position | M |  | NG-RAN High Accuracy Access Point Position  9.2.49 |  |

**<Next change>**

9.2.60 Spatial Relation Information per SRS Resource

This information element indicates a spatial relation for transmission of each UL SRS resource recommended by LMF.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| **Spatial Relation per SRS Resource List** |  | *1* |  |  |
| >Spatial Relation per SRS Resource Item |  | *1..<maxnoSRS-ResourcePerSet>* |  |  |
| >CHOICE *Reference Signal* | M |  |  |  |
| *>>NZP CSI-RS* |  |  |  |  |
| >>*>*NZP CSI-RS Resource ID | M |  | INTEGER (0..191) |  |
| *>>SSB* |  |  |  |  |
| >>*>*NR PCI | M |  | INTEGER (0..1007) |  |
| >>*>*SSB Index | O |  | INTEGER (0..63) |  |
| *>>SRS* |  |  |  |  |
| >>*>*SRS Resource ID | M |  | INTEGER (0..63) |  |
| *>>Positioning SRS* |  |  |  |  |
| >>*>*Positioning SRS Resource ID | M |  | INTEGER (0..63) |  |
| *>>DL-PRS* |  |  |  |  |
| >>*>*DL-PRS ID | M |  | INTEGER (0..255) |  |
| >>*>*DL-PRS Resource Set ID | M |  | INTEGER (0..7) |  |
| >>*>*DL-PRS Resource ID | O |  | INTEGER (0..63) |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoSRS-ResourcePerSet | Maximum no of SRS resources per SRS resource set. Value is 16. |

**<Next change>**

9.2.70 UE Reporting Information

This IE contains the UE Reporting Information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| Reporting Amount | M |  | ENUMERATED (0, 1, 2, 4, 8, 16, 32, 64) | Value 0 represents an infinite number of periodic reporting |
| Reporting Interval | M |  | ENUMERATED (none, 1, 2, 4, 8, 10, 16, 20, 32, 64, …) | Unit: seconds |

9.2.71 Multiple UL-AoA

This information element contains the list of the multiple UL-AOAs values.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| **UL AoA List** |  | *1* |  |  |
| **>UL AoA item** |  | *1..<maxnoofULAoAs* > |  |  |
| >>CHOICE *AngleMeasurement* | M |  |  |  |
| *>>>UL Angle of Arrival* |  |  |  |  |
| >>>>UL Angle of Arrival | M |  | 9.2.38 |  |
| *>>>UL Zenith Angle of Arrival* |  |  |  |  |
| >>>>UL Zenith Angle of Arrival | M |  | Z-AoA  9.2.67 |  |

| **Range bound** | **Explanation** |
| --- | --- |
| maxnoofULAoAs | Maximum no of UL-AOAs values that can be reported. Value is 8 |

9.2.72 UL SRS-RSRPP

This information element contains the UL SRS Reference Signal Received Path Power measurement.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| UL SRS-RSRPP | M |  | INTEGER (0..126) | As defined in TS 38.215 [19] |

**<Next change>**

9.2.74 Extended Additional Path List

This IE contains the extended additional path results of time measurement.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| **Extended Additional Path Item** |  | *1..<maxNoPathExtended>* |  |  |
| >CHOICE *Relative Path Delay* | M |  |  |  |
| *>>k0* |  |  | INTEGER(0..16351) |  |
| *>>k1* |  |  | INTEGER(0..8176) |  |
| *>>k2* |  |  | INTEGER(0..4088) |  |
| *>>k3* |  |  | INTEGER(0..2044) |  |
| *>>k4* |  |  | INTEGER(0..1022) |  |
| *>>k5* |  |  | INTEGER(0..511) |  |
| >Path Quality | O |  | Measurement Quality  9.2.43 |  |
| >Multiple UL-AoA | O |  | 9.2.71 |  |
| >Path Power | O |  | UL SRS-RSRPP  9.2.72 |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxNoPathExtended | Maximum no. of extended additional path measurement. Value is 8. |

**<Next change>**

9.2.81 Measurement Characteristics Request Indicator

This IE contains the measurement characteristic information requested by LMF.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| Measurement characteristic request indicator | M |  | BIT STRING (SIZE(16)) | Each position in the bitmap represents a requested measurement characteristic:  first bit: Measurement Beam Information  Second bit: Extended Additional Path List  Third bit: UL SRS-RSRPP in Additional Path  Fourth Bit: Multiple UL AoA in Additional Path  Fifth bit: LoS/NLoS Information  Sixth bit: TRP Rx TEG association for UL-TDOA  Seventh bit: TRP RxTxTEG information for DL+UL positioning.  Eighth bit: SRS Resource Type  Ninth bit: Multiple Measurement Instances  Tenth bit: Mobile TRP location information  Other bits reserved for future use. Value ‘1’ indicates ‘requested measurement characteristic’, Value ‘0’ indicates ‘not requested’. |

**<Next change>**

9.2.88 Mobile TRP Location Information

This IE contains location information for one mobile TRP.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| Location Information | O |  | OCTET STRING | Location of the mobile TRP, Includes the *locationEstimate* IE as defined in TS 37.355 [14] |
| Velocity Information | O |  | OCTET STRING | Velocity of the mobile TRP, Includes the *velocityEstimate* IE as defined in TS 37.355 [14] |
| Location Time stamp | O |  | Time Stamp  9.2.42 | Indicates the time when the mobile TRP location information is generated. |

**<Next change>**

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,

TRP-MeasurementUpdateList,

MeasurementBeamInfoRequest,

PositioningBroadcastCells,

SRSResourceSetID,

SpatialRelationInfo,

SRSResourceTrigger,

TRPList,

AbortTransmission,

SystemFrameNumber,

SlotNumber,

RelativeTime1900,

SpatialRelationPerSRSResource,

MeasurementPeriodicityExtended,

PRSTRPList,

PRSTransmissionTRPList,

ResponseTime,

UEReportingInformation,

UETxTEGAssociationList,

TRP-PRS-Information-List,

PRS-Measurements-Info-List,

UE-TEG-Info-Request,

MeasurementCharacteristicsRequestIndicator,

MeasurementTimeOccasion,

PRSConfigRequestType,

MeasurementAmount,

PreconfigurationResult,

RequestType,

UE-TEG-ReportingPeriodicity,

MeasurementPeriodicityNR-AoA,

SRSTransmissionStatus,

CGI-NR

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-TRP-MeasurementUpdateList,

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-SRSSpatialRelationPerSRSResource,

id-MeasurementPeriodicityExtended,

id-PRSTRPList,

id-PRSTransmissionTRPList,

id-ResponseTime,

id-UEReportingInformation,

id-UETxTEGAssociationList,

id-TRP-PRS-Information-List,

id-PRS-Measurements-Info-List,

id-UE-TEG-Info-Request,

id-MeasurementCharacteristicsRequestIndicator,

id-MeasurementTimeOccasion,

id-PRSConfigRequestType,

id-MeasurementAmount,

id-PreconfigurationResult,

id-RequestType,

id-UE-TEG-ReportingPeriodicity,

id-MeasurementPeriodicityNR-AoA,

id-SRSTransmissionStatus,

id-NewNRCGI

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}|

{ ID id-MeasurementPeriodicityNR-AoA CRITICALITY reject TYPE MeasurementPeriodicityNR-AoA PRESENCE conditional},

-- The IE shall be present if the Report Characteritics IE is set to “periodic” and the MeasurementQuantities-Item IE in the MeasurementQuantities IE is set to the value "angleOfArrivalNR" --

...

}

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

--

-- 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 COMMAND

--

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

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-Type-ItemIEs} }

OTDOA-Information-Type-ItemIEs 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-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 }|

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

{ ID id-UE-TEG-Info-Request CRITICALITY ignore TYPE UE-TEG-Info-Request PRESENCE optional }|

{ ID id-UE-TEG-ReportingPeriodicity CRITICALITY reject TYPE UE-TEG-ReportingPeriodicity PRESENCE conditional },

-- The IE shall be present if the UE TEG Info Request IE is set to “periodic”

...

}

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

--

-- 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 RelativeTime1900 PRESENCE optional}|

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

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

{ ID id-NewNRCGI CRITICALITY ignore TYPE CGI-NR 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 RelativeTime1900 PRESENCE optional}|

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

{ ID id-SRSTransmissionStatus CRITICALITY ignore TYPE SRSTransmissionStatus 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 RelativeTime1900 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}|

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

-- The IE shall be present the MeasurementPeriodicity IE is set to the value "extended"

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

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

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

{ ID id-MeasurementAmount CRITICALITY ignore TYPE MeasurementAmount 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}|

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

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

{ ID id-MeasurementTimeOccasion CRITICALITY ignore TYPE MeasurementTimeOccasion 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 RelativeTime1900 PRESENCE optional },

...

}

SRSType ::= CHOICE {

semipersistentSRS SemipersistentSRS,

aperiodicSRS AperiodicSRS,

choice-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}|

{ ID id-SRSSpatialRelationPerSRSResource CRITICALITY ignore EXTENSION SpatialRelationPerSRSResource 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-PRSConfigRequestType CRITICALITY reject TYPE PRSConfigRequestType PRESENCE mandatory}|

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

...

}

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

--

-- PRS CONFIGURATION RESPONSE

--

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

PRSConfigurationResponse ::= SEQUENCE {

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

...

}

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

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

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

...

}

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

--

-- 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},

...

}

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

--

-- MEASUREMENT PRECONFIGURATION REQUIRED

--

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

MeasurementPreconfigurationRequired ::= SEQUENCE {

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

...

}

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

{ ID id-TRP-PRS-Information-List CRITICALITY ignore TYPE TRP-PRS-Information-List PRESENCE mandatory},

...

}

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

--

-- MEASUREMENT PRECONFIGURATION CONFIRM

--

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

MeasurementPreconfigurationConfirm::= SEQUENCE {

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

...

}

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

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

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

...

}

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

--

-- MEASUREMENT PRECONFIGURATION REFUSE

--

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

MeasurementPreconfigurationRefuse::= SEQUENCE {

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

...

}

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

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

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

...

}

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

--

-- MEASUREMENT ACTIVATION

--

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

MeasurementActivation::= SEQUENCE {

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

...

}

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

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

{ ID id-PRS-Measurements-Info-List CRITICALITY ignore TYPE PRS-Measurements-Info-List 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,

maxnoofULAoAs,

maxNoPathExtended,

maxnoARPs,

maxnoTRPTEGs,

maxnoUETEGs,

maxFreqLayers,

maxnoPRSTRPs,

maxNumResourcesPerAngle,

maxnoAzimuthAngles,

maxnoElevationAngles,

id-Cell-ID,

id-TRPInformationTypeItem,

id-SrsFrequency,

id-TRPType,

id-SRSSpatialRelationPerSRSResource,

id-PRS-Resource-ID,

id-OnDemandPRS,

id-AoA-SearchWindow,

id-ZoA,

id-MultipleULAoA,

id-UL-SRS-RSRPP,

id-SRSResourcetype,

id-ExtendedAdditionalPathList,

id-ARPLocationInfo,

id-ARP-ID,

id-LoS-NLoSInformation,

id-NumberOfTRPRxTEG,

id-NumberOfTRPRxTxTEG,

id-TRPTxTEGAssociation,

id-TRPTEGInformation,

id-TRP-Rx-TEGInformation,

id-TRPBeamAntennaInformation,

id-NR-TADV,

id-pathPower,

id-SRSPortIndex,

id-UETxTimingErrorMargin,

id-nrofSymbolsExtended,

id-repetitionFactorExtended,

id-StartRBHopping,

id-StartRBIndex,

id-transmissionCombn8,

id-ExtendedResourceSymbolOffset,

id-Mobile-TRP-LocationInformation,

id-Mobile-IAB-MT-UE-ID,

id-MobileAccessPointLocation,

id-CommonTAParameters

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,..., kHz480, kHz960},

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 ::= {

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

{ ID id-pathPower CRITICALITY ignore EXTENSION UL-SRS-RSRPP PRESENCE optional},

...

}

ExtendedAdditionalPathList ::= SEQUENCE (SIZE (1.. maxNoPathExtended)) OF ExtendedAdditionalPathList-Item

ExtendedAdditionalPathList-Item ::= SEQUENCE {

relativeTimeOfPath RelativePathDelay,

pathQuality TrpMeasurementQuality OPTIONAL,

multipleULAoA MultipleULAoA OPTIONAL,

pathPower UL-SRS-RSRPP OPTIONAL,

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

...

}

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

...

}

AoA-AssistanceInfo ::= SEQUENCE {

angleMeasurement AngleMeasurementType,

lCS-to-GCS-Translation LCS-to-GCS-Translation OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { AoA-AssistanceInfo-ExtIEs } } OPTIONAL,

...

}

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

...

}

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

AperiodicSRSResourceTrigger ::= INTEGER (1..3)

AngleMeasurementType ::= CHOICE {

expected-ULAoA Expected-UL-AoA,

expected-ZoA Expected-ZoA-only,

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

}

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

...

}

Expected-UL-AoA ::= SEQUENCE {

expected-Azimuth-AoA Expected-Azimuth-AoA,

expected-Zenith-AoA Expected-Zenith-AoA OPTIONAL,

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

...

}

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

...

}

Expected-ZoA-only ::= SEQUENCE {

expected-ZoA-only Expected-Zenith-AoA,

iE-extensions ProtocolExtensionContainer { { Expected-ZoA-only-ExtIEs } } OPTIONAL,

...

}

Expected-ZoA-only-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

Expected-Azimuth-AoA ::= SEQUENCE {

expected-Azimuth-AoA-value Expected-Value-AoA,

expected-Azimuth-AoA-uncertainty Uncertainty-range-AoA,

iE-extensions ProtocolExtensionContainer { { Expected-Azimuth-AoA-ExtIEs } } OPTIONAL,

...

}

Expected-Azimuth-AoA-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

Expected-Zenith-AoA ::= SEQUENCE {

expected-Zenith-AoA-value Expected-Value-ZoA,

expected-Zenith-AoA-uncertainty Uncertainty-range-ZoA,

iE-extensions ProtocolExtensionContainer { { Expected-Zenith-AoA-ExtIEs } } OPTIONAL,

...

}

Expected-Zenith-AoA-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

ARP-ID ::= INTEGER (1..16, ...)

ARPLocationInformation ::= SEQUENCE (SIZE (1..maxnoARPs)) OF ARPLocationInformation-Item

ARPLocationInformation-Item ::= SEQUENCE {

aRP-ID ARP-ID,

aRPLocationType ARPLocationType,

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

...

}

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

...

}

ARPLocationType ::= CHOICE {

aRPPositionRelativeGeodetic RelativeGeodeticLocation,

aRPPositionRelativeCartesian RelativeCartesianLocation,

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

}

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

...

}

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

CarrierFreq ::= SEQUENCE {

pointA INTEGER (0..3279165),

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

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

...

}

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

...

}

Cause ::= CHOICE {

radioNetwork CauseRadioNetwork,

protocol CauseProtocol,

misc CauseMisc,

choice-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,

...,

serving-NG-RAN-node-changed,

requested-item-not-supported-on-time

}

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 ::= {

...

}

CommonTAParameters ::= SEQUENCE {

epochTime OCTET STRING,

taInfo OCTET STRING,

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

...

}

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

...

}

-- D

DL-Bandwidth-EUTRA ::= ENUMERATED {

bw6,

bw15,

bw25,

bw50,

bw75,

bw100,

...

}

DL-PRS ::= SEQUENCE {

prsid PRS-ID,

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}|

{ ID id-MobileAccessPointLocation CRITICALITY ignore EXTENSION Mobile-TRP-LocationInformation PRESENCE optional },

...

}

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

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

Expected-Value-AoA ::= INTEGER (0..3599)

Expected-Value-ZoA ::= INTEGER (0..1799)

-- F

-- G

GeographicalCoordinates ::= SEQUENCE {

tRPPositionDefinitionType TRPPositionDefinitionType,

dLPRSResourceCoordinates DLPRSResourceCoordinates OPTIONAL,

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

...

}

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

{ ID id-ARPLocationInfo CRITICALITY ignore EXTENSION ARPLocationInformation PRESENCE optional},

...

}

GNB-RxTxTimeDiff ::= SEQUENCE {

rxTxTimeDiff GNBRxTxTimeDiffMeas,

additionalPathList AdditionalPathList OPTIONAL,

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

...

}

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

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

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

...

}

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-Translation::= SEQUENCE {

alpha INTEGER (0..3599),

beta INTEGER (0..3599),

gamma INTEGER (0..3599),

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

...

}

LCS-to-GCS-Translation-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 ::= {

...

}

LoS-NLoSIndicatorHard ::= ENUMERATED {nlos, los}

LoS-NLoSIndicatorSoft ::= INTEGER (0..10)

LoS-NLoSInformation ::= CHOICE {

loS-NLoSIndicatorSoft LoS-NLoSIndicatorSoft,

loS-NLoSIndicatorHard LoS-NLoSIndicatorHard,

choice-Extension ProtocolIE-Single-Container {{ LoS-NLoSInformation-ExtIEs}}

}

LoS-NLoSInformation-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

-- M

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

MeasurementAmount ::= ENUMERATED {ma0, ma1, ma2, ma4, ma8, ma16, ma32, ma64}

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,

extended

}

MeasurementPeriodicityExtended ::= ENUMERATED {

ms160,

ms320,

ms1280,

ms2560,

ms61440,

ms81920,

ms368640,

ms737280,

ms1843200,

...

}

MeasurementPeriodicityNR-AoA ::= ENUMERATED {

ms160,

ms320,

ms640,

ms1280,

ms2560,

ms5120,

ms10240,

ms20480,

ms40960,

ms61440,

ms81920,

ms368640,

ms737280,

ms1843200,

...

}

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,

timingAdvanceNR

}

MeasurementTimeOccasion ::= ENUMERATED {o1, o4, ...}

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

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,

choice-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 }|

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

...

}

Mobile-TRP-LocationInformation ::= SEQUENCE {

location-Information OCTET STRING OPTIONAL,

velocity-Information OCTET STRING OPTIONAL,

location-time-stamp TimeStamp OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Mobile-TRP-LocationInformation-ExtIEs} } OPTIONAL,

...

}

Mobile-TRP-LocationInformation-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

Mobile-IAB-MT-UE-ID ::= OCTET STRING

MultipleULAoA ::= SEQUENCE {

multipleULAoA MultipleULAoA-List,

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

...

}

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

...

}

MultipleULAoA-List ::= SEQUENCE (SIZE(1.. maxnoofULAoAs)) OF MultipleULAoA-Item

MultipleULAoA-Item ::= CHOICE {

uL-AoA UL-AoA,

ul-ZoA ZoA,

choice-extension ProtocolIE-Single-Container { { MultipleULAoA-Item-ExtIEs } }

}

MultipleULAoA-Item-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

-- 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,

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

}

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

...

}

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

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

NrofSymbolsExtended ::= ENUMERATED {n8, n10, n12, n14, ...}

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,

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

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

...

}

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

...

}

NR-TADV ::= INTEGER (0.. 7690)

NumberOfAntennaPorts-EUTRA ::= ENUMERATED {

n1-or-n2,

n4,

...

}

NumberOfDlFrames-EUTRA ::= ENUMERATED {

sf1,

sf2,

sf4,

sf6,

...

}

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

NumberOfFrequencyHoppingBands ::= ENUMERATED {

twobands,

fourbands,

...

}

NumberOfTRPRxTEG ::= ENUMERATED {two, three, four, six, eight, ...}

NumberOfTRPRxTxTEG ::= ENUMERATED {two, three, four, six, eight, ...}

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

-- O

OnDemandPRS-Info ::= SEQUENCE {

onDemandPRSRequestAllowed BIT STRING (SIZE (16)),

allowedResourceSetPeriodicityValues BIT STRING (SIZE (24)) OPTIONAL,

allowedPRSBandwidthValues BIT STRING (SIZE (64)) OPTIONAL,

allowedResourceRepetitionFactorValues BIT STRING (SIZE (8)) OPTIONAL,

allowedResourceNumberOfSymbolsValues BIT STRING (SIZE (8)) OPTIONAL,

allowedCombSizeValues BIT STRING (SIZE (8)) OPTIONAL,

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

...

}

OnDemandPRS-Info-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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,

choice-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,

choice-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,

...,

posSibType1-9,

posSibType1-10,

posSibType6-4,

posSibType6-5,

posSibType6-6

}

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 ::= {

...

}

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

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

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

PosSRSResourceSet-Item ::= SEQUENCE {

possrsResourceSetID INTEGER(0..15),

possRSResourceIDPerSet-List PosSRSResourceIDPerSet-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 ::= {

...

}

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

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 ::= {

{ ID id-PRS-Resource-ID CRITICALITY ignore EXTENSION PRS-Resource-ID PRESENCE optional },

...

}

PRSInformationPos ::= SEQUENCE {

pRS-IDPos PRS-ID,

pRS-Resource-Set-IDPos PRS-Resource-Set-ID,

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

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

...

}

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

...

}

PRSConfigRequestType ::= ENUMERATED {configure, off, ...}

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)),

choice-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 ::= {

...

}

PRS-Measurements-Info-List ::= SEQUENCE (SIZE(1..maxFreqLayers)) OF PRS-Measurements-Info-List-Item

PRS-Measurements-Info-List-Item ::= SEQUENCE {

pointA INTEGER (0..3279165),

measPRSPeriodicity ENUMERATED {ms20, ms40, ms80, ms160, ...},

measPRSOffset INTEGER (0..159, ...),

measurementPRSLength ENUMERATED {ms1dot5, ms3, ms3dot5, ms4, ms5dot5, ms6, ms10, ms20},

iE-Extensions ProtocolExtensionContainer { { PRS-Measurements-Info-List-Item-ExtIEs} } OPTIONAL,

...

}

PRS-Measurements-Info-List-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

PRSMuting::= SEQUENCE {

pRSMutingOption1 PRSMutingOption1 OPTIONAL,

pRSMutingOption2 PRSMutingOption2 OPTIONAL,

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 ::= {

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

...

}

ExtendedResourceSymbolOffset ::= INTEGER (0..13,...)

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,..., n128, n256, n512},

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,...,n1},

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)

PRSTransmissionOffIndication ::= CHOICE {

pRSTransmissionOffPerTRP NULL,

pRSTransmissionOffPerResourceSet PRSTransmissionOffPerResourceSet,

pRSTransmissionOffPerResource PRSTransmissionOffPerResource,

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

}

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

...

}

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

PRSTransmissionOffPerResource-Item ::= SEQUENCE {

pRSResourceSetID PRS-Resource-Set-ID,

pRSTransmissionOffIndicationPerResourceList SEQUENCE (SIZE(1.. maxnoofPRSresource)) OF PRSTransmissionOffIndicationPerResource-Item,

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

...

}

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

...

}

PRSTransmissionOffIndicationPerResource-Item ::= SEQUENCE {

pRSResourceID PRS-Resource-ID,

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

...

}

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

...

}

PRSTransmissionOffInformation ::= SEQUENCE {

pRSTransmissionOffIndication PRSTransmissionOffIndication,

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

...

}

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

...

}

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

PRSTransmissionOffPerResourceSet-Item ::= SEQUENCE {

pRSResourceSetID PRS-Resource-Set-ID,

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

...

}

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

...

}

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

PRSTRPItem ::= SEQUENCE {

tRP-ID TRP-ID,

requestedDLPRSTransmissionCharacteristics RequestedDLPRSTransmissionCharacteristics OPTIONAL,

-- The IE shall be present if the PRS Configuration Request Type IE is set to “configure” --

pRSTransmissionOffInformation PRSTransmissionOffInformation OPTIONAL,

-- The IE shall be present if the PRS Configuration Request Type IE is set to “off” --

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

...

}

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

...

}

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

PRSTransmissionTRPItem ::= SEQUENCE {

tRP-ID TRP-ID,

pRSConfiguration PRSConfiguration,

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

...

}

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

...

}

-- 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 ::= {

...

}

RepetitionFactorExtended ::= ENUMERATED {n3, n5, n6, n7, n8, n10, n12, n14, ...}

ReportCharacteristics ::= ENUMERATED {

onDemand,

periodic,

...

}

RequestedDLPRSTransmissionCharacteristics ::= SEQUENCE {

requestedDLPRSResourceSet-List RequestedDLPRSResourceSet-List,

numberofFrequencyLayers INTEGER(1..4) OPTIONAL,

startTimeAndDuration StartTimeAndDuration OPTIONAL,

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

...

}

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

...

}

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

RequestedDLPRSResourceSet-Item ::= SEQUENCE {

pRSbandwidth INTEGER(1..63) OPTIONAL,

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

resourceSetPeriodicity ENUMERATED{n4,n5,n8,n10,n16,n20,n32,n40,n64,n80,n160,n320,n640,n1280,n2560,n5120,n10240,n20480,n40960, n81920,..., n128, n256 ,n512} OPTIONAL,

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

resourceNumberofSymbols ENUMERATED{n2,n4,n6,n12,...,n1} OPTIONAL,

requestedDLPRSResource-List RequestedDLPRSResource-List OPTIONAL,

resourceSetStartTimeAndDuration StartTimeAndDuration OPTIONAL,

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

...

}

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

...

}

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

RequestedDLPRSResource-Item ::= SEQUENCE {

qCLInfo PRSResource-QCLInfo OPTIONAL,

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

...

}

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

...

}

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 ::= {

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

...

}

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 ::= {

{ ID id-SRSSpatialRelationPerSRSResource CRITICALITY ignore EXTENSION SpatialRelationPerSRSResource PRESENCE optional},

...

}

RequestType ::= ENUMERATED {activate, deactivate, ...}

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, ..., slot128, slot256, slot512, slot20480},

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, ..., slot128, slot256, slot512, slot20480},

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 ::= {

...

}

ResponseTime ::= SEQUENCE {

time INTEGER (1..128,...),

timeUnit ENUMERATED {second, ten-seconds, ten-milliseconds,...},

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

...

}

ResponseTime-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, ...)

RxTxTimingErrorMargin ::= ENUMERATED {tc0dot5, tc1, tc2, tc4, tc8, tc12, tc16, tc20, tc24, tc32, tc40, tc48, tc64, tc80, tc96, tc128, ...}

-- S

SCS-SpecificCarrier ::= SEQUENCE {

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

subcarrierSpacing ENUMERATED {kHz15, kHz30, kHz60, kHz120,..., kHz480, kHz960},

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 ::= {

...

}

RelativeTime1900 ::= 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 ::= {

...

}

SpatialRelationPerSRSResource ::= SEQUENCE {

spatialRelationPerSRSResource-List SpatialRelationPerSRSResource-List,

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

...

}

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

...

}

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

SpatialRelationPerSRSResourceItem ::= SEQUENCE {

referenceSignal ReferenceSignal,

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

...

}

SpatialRelationPerSRSResourceItem-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 ::= {

...

}

SrsFrequency ::= INTEGER (0..3279165)

SRSPortIndex ::= ENUMERATED{id1000, id1001, id1002, id1003, ...}

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 ::= {

{ ID id-nrofSymbolsExtended CRITICALITY ignore EXTENSION NrofSymbolsExtended PRESENCE optional}|

{ ID id-repetitionFactorExtended CRITICALITY ignore EXTENSION RepetitionFactorExtended PRESENCE optional}|

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

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

...

}

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 ::= {

...

}

SRSResourcetype ::= SEQUENCE {

sRSResourceTypeChoice SRSResourceTypeChoice,

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

...

}

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

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

...

}

SRSResourceTypeChoice ::= CHOICE {

sRSResourceInfo SRSInfo,

posSRSResourceInfo PosSRSInfo,

...

}

SRSInfo ::= SEQUENCE {

sRSResource SRSResourceID,

...

}

SRSTransmissionStatus ::= ENUMERATED {stopped, ...}

PosSRSInfo ::= SEQUENCE {

posSRSResourceID SRSPosResourceID,

...

}

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))

StartRBIndex ::= CHOICE{

freqScalingFactor2 INTEGER(0..1),

freqScalingFactor4 INTEGER(0..3),

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

}

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

...

}

StartRBHopping ::= ENUMERATED {enable}

StartTimeAndDuration ::= SEQUENCE {

startTime RelativeTime1900 OPTIONAL,

duration INTEGER (0..90060, ...) OPTIONAL,

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

...

}

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

...

}

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 ::= {

...

}

TRPTEGInformation ::= CHOICE {

rxTx-TEG RxTxTEG,

rx-TEG RxTEG,

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

}

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

...

}

RxTxTEG ::= SEQUENCE {

tRP-RxTx-TEGInformation TRP-RxTx-TEGInformation,

tRP-Tx-TEGInformation TRP-Tx-TEGInformation OPTIONAL,

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

...

}

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

...

}

RxTEG ::= SEQUENCE {

tRP-Rx-TEGInformation TRP-Rx-TEGInformation,

tRP-Tx-TEGInformation TRP-Tx-TEGInformation,

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

...

}

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

...

}

TimingErrorMargin ::= ENUMERATED {tc0, tc2, tc4, tc6, tc8, tc12, tc16, tc20, tc24, tc32, tc40, tc48, tc56, tc64, tc72, tc80, ...}

TF-Configuration ::= SEQUENCE {

sSB-frequency INTEGER (0..3279165),

sSB-subcarrier-spacing ENUMERATED {kHz15, kHz30, kHz120, kHz240, ..., kHz60, kHz480, kHz960},

-- The value kHz60 is not supported in this version of the specification.

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 RelativeTime1900 OPTIONAL,

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

...

}

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

...

}

TimeStamp ::= SEQUENCE {

systemFrameNumber SystemFrameNumber,

slotIndex TimeStampSlotIndex,

measurementTime RelativeTime1900 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 ::= {

{ ID id-transmissionCombn8 CRITICALITY reject TYPE TransmissionCombn8 PRESENCE mandatory},

...

}

TransmissionCombn8 ::= SEQUENCE {

combOffset-n8 INTEGER (0..7),

cyclicShift-n8 INTEGER (0..5),

iE-Extensions ProtocolExtensionContainer { { TransmissionCombn8-ExtIEs } } OPTIONAL

}

TransmissionCombn8-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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 ::= {

...

}

TRPBeamAntennaInformation ::= SEQUENCE {

choice-TRP-Beam-Antenna-Info-Item Choice-TRP-Beam-Antenna-Info-Item,

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

...

}

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

...

}

Choice-TRP-Beam-Antenna-Info-Item ::= CHOICE {

reference TRP-ID,

explicit TRP-BeamAntennaExplicitInformation,

noChange NULL,

choice-extension ProtocolIE-Single-Container { { Choice-TRP-Beam-Info-Item-ExtIEs } }

}

Choice-TRP-Beam-Info-Item-ExtIEs NRPPA-PROTOCOL-IES ::= {

...

}

TRP-BeamAntennaExplicitInformation ::= SEQUENCE {

trp-BeamAntennaAngles TRP-BeamAntennaAngles,

lcs-to-gcs-translation LCS-to-GCS-Translation OPTIONAL,

iE-Extensions ProtocolExtensionContainer {{ TRP-BeamAntennaExplicitInformation-ExtIEs}} OPTIONAL,

...

}

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

...

}

TRP-BeamAntennaAngles ::= SEQUENCE (SIZE (1.. maxnoAzimuthAngles)) OF TRP-BeamAntennaAnglesList-Item

TRP-BeamAntennaAnglesList-Item ::= SEQUENCE {

trp-azimuth-angle INTEGER (0..359),

trp-azimuth-angle-fine INTEGER (0..9) OPTIONAL,

trp-elevation-angle-list SEQUENCE (SIZE (1.. maxnoElevationAngles)) OF TRP-ElevationAngleList-Item,

iE-Extensions ProtocolExtensionContainer {{ TRP-BeamAntennaAnglesList-Item-ExtIEs}} OPTIONAL,

...

}

TRP-BeamAntennaAnglesList-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRP-ElevationAngleList-Item ::= SEQUENCE {

trp-elevation-angle INTEGER (0..180),

trp-elevation-angle-fine INTEGER (0..9) OPTIONAL,

trp-beam-power-list SEQUENCE (SIZE (2..maxNumResourcesPerAngle)) OF TRP-Beam-Power-Item,

iE-Extensions ProtocolExtensionContainer {{ TRP-ElevationAngleList-Item-ExtIEs}} OPTIONAL,

...

}

TRP-ElevationAngleList-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRP-Beam-Power-Item ::= SEQUENCE {

pRSResourceSetID PRS-Resource-Set-ID OPTIONAL,

pRSResourceID PRS-Resource-ID,

relativePower INTEGER (0..30), --negative value

relativePowerFine INTEGER (0..9) OPTIONAL, --negative value

iE-Extensions ProtocolExtensionContainer {{ TRP-Beam-Power-Item-ExtIEs}} OPTIONAL,

...

}

TRP-Beam-Power-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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

TRPMeasurementQuantitiesList-Item ::= SEQUENCE {

tRPMeasurementQuantities-Item TRPMeasurementType,

timingReportingGranularityFactor INTEGER (0..5) OPTIONAL,

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

...

}

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

...

}

TRPMeasurementType::= ENUMERATED {

gNB-RxTxTimeDiff,

uL-SRS-RSRP,

uL-AoA,

uL-RTOA,

...,

multiple-UL-AoA,

uL-SRS-RSRPP

}

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 ::= {

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

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

{ ID id-LoS-NLoSInformation CRITICALITY ignore EXTENSION LoS-NLoSInformation PRESENCE optional }|

{ ID id-Mobile-TRP-LocationInformation CRITICALITY ignore EXTENSION Mobile-TRP-LocationInformation PRESENCE optional },

...

}

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 ::= {

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

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

{ ID id-UL-SRS-RSRPP CRITICALITY reject TYPE UL-SRS-RSRPP PRESENCE mandatory},

...

}

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 }|

{ ID id-AoA-SearchWindow CRITICALITY ignore EXTENSION AoA-AssistanceInfo PRESENCE optional }|

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

{ ID id-NumberOfTRPRxTxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTxTEG 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 },

...

}

TRP-MeasurementUpdateList ::= SEQUENCE (SIZE (1..maxNoOfMeasTRPs)) OF TRP-MeasurementUpdateItem

TRP-MeasurementUpdateItem ::= SEQUENCE {

tRP-ID TRP-ID,

aoA-window-information AoA-AssistanceInfo OPTIONAL,

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

...

}

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

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

{ ID id-NumberOfTRPRxTxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTxTEG 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 ::= {

{ ID id-Mobile-IAB-MT-UE-ID CRITICALITY reject EXTENSION Mobile-IAB-MT-UE-ID PRESENCE optional},

--This IE shall be present if the TRP type IE is set to the value "mobile trp"

...

}

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 RelativeTime1900,

spatialDirectionInformation SpatialDirectionInformation,

geographicalCoordinates GeographicalCoordinates,

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

}

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

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

{ ID id-OnDemandPRS CRITICALITY reject TYPE OnDemandPRS-Info PRESENCE mandatory}|

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

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

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

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

...

}

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,

...,

trp-type,

ondemandPRSInfo,

trpTxTeg,

beam-antenna-info,

mobile-trp-location-info,

commonTA

}

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 ::= {

...

}

TRP-PRS-Information-List ::= SEQUENCE (SIZE(1.. maxnoPRSTRPs)) OF TRP-PRS-Information-List-Item

TRP-PRS-Information-List-Item ::= SEQUENCE {

tRP-ID TRP-ID,

nR-PCI NR-PCI,

cGI-NR CGI-NR OPTIONAL,

pRSConfiguration PRSConfiguration,

iE-Extensions ProtocolExtensionContainer { { TRP-PRS-Information-List-Item-ExtIEs} } OPTIONAL,

...

}

TRP-PRS-Information-List-Item-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRPReferencePointType ::= CHOICE {

tRPPositionRelativeGeodetic RelativeGeodeticLocation,

tRPPositionRelativeCartesian RelativeCartesianLocation,

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

}

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

...

}

TRP-Rx-TEGInformation ::= SEQUENCE {

tRP-Rx-TEGID INTEGER (0..31),

tRP-Rx-TimingErrorMargin TimingErrorMargin,

iE-Extensions ProtocolExtensionContainer { { TRP-Rx-TEGInformation-ExtIEs } } OPTIONAL,

...

}

TRP-Rx-TEGInformation-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRP-RxTx-TEGInformation ::= SEQUENCE {

tRP-RxTx-TEGID INTEGER (0..255),

tRP-RxTx-TimingErrorMargin RxTxTimingErrorMargin,

iE-Extensions ProtocolExtensionContainer { { TRP-RxTx-TEGInformation-ExtIEs } } OPTIONAL,

...

}

TRP-RxTx-TEGInformation-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRP-Tx-TEGInformation ::= SEQUENCE {

tRP-Tx-TEGID INTEGER (0..7),

tRP-Tx-TimingErrorMargin TimingErrorMargin,

iE-Extensions ProtocolExtensionContainer { { TRP-Tx-TEGInformation-ExtIEs } } OPTIONAL,

...

}

TRP-Tx-TEGInformation-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

TRPTxTEGAssociation ::= SEQUENCE (SIZE(1.. maxnoTRPTEGs)) OF TRPTEGItem

TRPTEGItem ::= SEQUENCE {

tRP-Tx-TEGInformation TRP-Tx-TEGInformation,

dl-PRSResourceSetID PRS-Resource-Set-ID,

dl-PRSResourceID-List SEQUENCE (SIZE(1.. maxPRS-ResourcesPerSet)) OF DLPRSResourceID-Item OPTIONAL,

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

...

}

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

...

}

DLPRSResourceID-Item ::= SEQUENCE {

dl-PRSResourceID PRS-Resource-ID,

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

...

}

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

...

}

TRPType ::= ENUMERATED {

prsOnlyTP,

srsOnlyRP,

tp,

rp,

trp,

...,

mobile-trp

}

TypeOfError ::= ENUMERATED {

not-understood,

missing,

...

}

-- U

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

UE-Measurement-ID ::= INTEGER (1..15, ..., 16..256)

UEReportingInformation::= SEQUENCE {

reportingAmount ENUMERATED {ma0, ma1, ma2, ma4, ma8, ma16, ma32, ma64},

reportingInterval ENUMERATED {none, one, two, four, eight, ten, sixteen, twenty, thirty-two, sixty-four, ...},

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

...

}

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

...

}

UE-TEG-ReportingPeriodicity ::= ENUMERATED {

ms160,

ms320,

ms1280,

ms2560,

ms61440,

ms81920,

ms368640,

ms737280,

...

}

UETxTEGAssociationList ::= SEQUENCE (SIZE(1.. maxnoUETEGs)) OF UETxTEGAssociationItem

UETxTEGAssociationItem ::= SEQUENCE {

uE-Tx-TEG-ID INTEGER (0..7),

posSRSResourceID-List PosSRSResourceID-List,

timeStamp TimeStamp,

carrierFreq CarrierFreq OPTIONAL,

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

...

}

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

{ ID id-UETxTimingErrorMargin CRITICALITY ignore EXTENSION TimingErrorMargin PRESENCE optional },

...

}

SRSResourceID-Item ::= SEQUENCE {

sRSResourceID SRSResourceID,

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

...

}

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

...

}

UE-TEG-Info-Request ::= ENUMERATED {onDemand, periodic, stop, ...}

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-Translation LCS-to-GCS-Translation 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 ::= {

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

{ ID id-TRP-Rx-TEGInformation CRITICALITY ignore EXTENSION TRP-Rx-TEGInformation PRESENCE optional},

...

}

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)

UL-SRS-RSRPP ::= SEQUENCE {

firstPathRSRPP INTEGER (0..126),

iE-extensions ProtocolExtensionContainer { { UL-SRS-RSRPP-ExtIEs } } OPTIONAL,

...

}

UL-SRS-RSRPP-ExtIEs NRPPA-PROTOCOL-EXTENSION ::= {

...

}

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

Uncertainty-range-AoA ::= INTEGER (0..3599)

Uncertainty-range-ZoA ::= INTEGER (0..1799)

-- 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

ZoA ::= SEQUENCE {

zenithAoA INTEGER (0..1799),

lCS-to-GCS-Translation LCS-to-GCS-Translation OPTIONAL,

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

...

}

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

...

}

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