**3GPP TSG-RAN WG2 Meeting #123bis *R2-23xxxxx***

**Xiamen, China, 9th – 13th October, 2023**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **36.331** | **CR** |  | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  |
| *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 | **X** | Radio Access Network | **X** | Core Network |  |

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| --- |
|  |
| ***Title:***  | Running 36331 CR for SN RACH report |
|  |  |
| ***Source to WG:*** | ZTE Corporation, Sanechips |
| ***Source to TSG:*** | RAN2 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** | 2023-10-19 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | To support SN RACH report based on below agreements

|  |
| --- |
| **Agreements RAN2#119-e**2 RAN2 is asked to discuss the support of (NG)EN-DC and NE-DC scenarios for SN RACH report. Only focus on the leftover issues for completing the whole work which partly done in R17 in RAN3. Draft LS to RAN3 ask for clarification.  |
| **Agreements RAN2#120**2 RACH report enhancements required for NE-DC are de-prioritized.3 For EN-DC and NG-EN-DC, the UE collects SN RA report container (for NR) and reports to the LTE MN. FFS on whether and which PSCell identity UE should report outside the RACH report. |
| **Agreements RAN2#121**1: To have “a list of SN RA report entries as a single NR container (i.e. NR RA-ReportList)”.=> It is not supported in R18 that UE reports NR RACH Report to LTE cell when the UE is in standalone LTE.=> RAN2 assumes that the following two alternatives are feasible and would like to check RAN3’s views:- Alt 2b: Includes unique PSCell identities, i.e. if a PSCell occurs more than once in NR RA-ReportList, it is recorded only once in the list of PSCell identities- Alt 2c: Includes the last PSCell identity (in NR RA-ReportList) |
| **Agreements RAN2#122**4 When reporting SN NR RA-report to LTE BS, the unique PSCell identities (i.e. if a PSCell occurs more than once in NR RA-ReportList, it is recorded only once in the list of PSCell identities) are included outside the NR RA report container.5 Revert the agreement that UE does not support reporting NR RA report to LTE when it is in standalone LTE mode i.e., eNB may fetch the NR RA report irrespective to whether the UE is in single connectivity or dual connectivity.6 No need to introduce availability bit to notify LTE BS there are available NR RA report for fetching.7 Enhance the LTE UE information Request procedure with NR RA-Report request flag to fetch the NR RA-Report in LTE.8 For NR RACH report, UE performs RPLMN checking before sending the NR RACH report to LTE BS. |

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|  |  |
| ***Summary of change:*** | 1. In subclause 5.6.5.3 add the procedure description to support NR SN RACH report,
2. in subclause 6.2.2, update ASN.1 to allow report NR SN RACH report container and corresponding unique PSCell identities;
3. In 6.3.6, add new capability bit to indicate whether UE supports NR RACH Report in LTE.
4. In subclause 6.4, add constrainsts of the maximum PSCell identities stored in SN NR RA report
 |
|  |  |
| ***Consequences if not approved:*** | NR SN RACH report can not be supported. |
|  |  |
| ***Clauses affected:*** | 5.6.5.3, 6.2.2, 6.4 |
|  |  |
|  | **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:*** |  |

*START OF CHANGE*

####  5.6.5.3 Reception of the *UEInformationRequest* message

Upon receiving the *UEInformationRequest* message, the UE shall, only after successful security activation:

1> if *rach-ReportReq* is set to *true*, set the contents of the *rach-Report* in the *UEInformationResponse* message as follows:

2> set the *numberOfPreamblesSent* to indicate the number of preambles sent by MAC for the last successfully completed random access procedure;

2> if contention resolution was not successful as specified in TS 36.321 [6] for at least one of the transmitted preambles for the last successfully completed random access procedure:

3> set the *contentionDetected* to *true*;

2> else:

3> set the *contentionDetected* to *false*;

1> if *rach-ReportReqNR* is set to *true* and if the UE has NR RACH report information available in *VarRA-Report* of TS 38.331[82] that is stored when UE is in (NG)EN-DC or NE-DC and the RPLMN is included in *plmn-IdentityList* stored in *VarRA-Report* of TS 38.331[82], set the content of *rach-ReportNR* in the *UEInformationResponse* message as below:

2> For each *RA-Report* of *ra-ReportList* in *VarRA-Report* of TS 38.331[82], if it was stored when UE was in (NG)EN-DC or NE-DC:

3> includes it as part of *rach-ReportListNR*;

3> if the *pscellIdListNR* is empty or the *cellId* of *RA-Report* has not been included in *pscellIdListNR*:

4> add a new entry in *pscellIdListNR* and set the *pscellIdNR* to the global cell identity including the tracking area code, if available, otherwise to the physical cell identity and carrier frequency, as indicated in the *cellId* of *RA-Report*;

2> discard the *RA-Report* that was included in *rach-ReportListNR* from *ra-ReportList* in *VarRA-Report* of TS 38.331[82] upon successful delivery of the *UEInformationResponse* message as confirmed by lower layers;

*NEXT CHANGE*

### 6.2.2 Message definitions

/\*Irrelevant parts omitted/\*

#### – *UEInformationRequest*

The *UEInformationRequest* is the command used by E-UTRAN to retrieve information from the UE.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: E‑UTRAN to UE

*UEInformationRequest message*

-- ASN1START

UEInformationRequest-r9 ::= SEQUENCE {

 rrc-TransactionIdentifier RRC-TransactionIdentifier,

 criticalExtensions CHOICE {

 c1 CHOICE {

 ueInformationRequest-r9 UEInformationRequest-r9-IEs,

 spare3 NULL, spare2 NULL, spare1 NULL

 },

 criticalExtensionsFuture SEQUENCE {}

 }

}

UEInformationRequest-r9-IEs ::= SEQUENCE {

 rach-ReportReq-r9 BOOLEAN,

 rlf-ReportReq-r9 BOOLEAN,

 nonCriticalExtension UEInformationRequest-v930-IEs OPTIONAL

}

UEInformationRequest-v930-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UEInformationRequest-v1020-IEs OPTIONAL

}

UEInformationRequest-v1020-IEs ::= SEQUENCE {

 logMeasReportReq-r10 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UEInformationRequest-v1130-IEs OPTIONAL

}

UEInformationRequest-v1130-IEs ::= SEQUENCE {

 connEstFailReportReq-r11 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UEInformationRequest-v1250-IEs OPTIONAL

}

UEInformationRequest-v1250-IEs ::= SEQUENCE {

 mobilityHistoryReportReq-r12 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UEInformationRequest-v1530-IEs OPTIONAL

}

UEInformationRequest-v1530-IEs ::= SEQUENCE {

 idleModeMeasurementReq-r15 ENUMERATED {true} OPTIONAL, -- Need ON

 flightPathInfoReq-r15 FlightPathInfoReportConfig-r15 OPTIONAL, -- Need ON

 nonCriticalExtension UEInformationRequest-v1710-IEs OPTIONAL

}

UEInformationRequest-v1710-IEs ::= SEQUENCE {

 coarseLocationReq-r17 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UEInformationRequest-v18xx-IEs OPTIONAL

}

UEInformationRequest-v18xx-IEs ::= SEQUENCE {

 rach-ReportReqNR-r18 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension SEQUENCE OPTIONAL

}

-- ASN1STOP

| *UEInformationRequest* field descriptions |
| --- |
| ***coarseLocationReq***This field is used to request UE to report coarse location information. |
| ***rach-ReportReq***This field is used to indicate whether the UE shall report information about the random access procedure. |
| ***rach-ReportReqNR***This field is used to indicate whether the UE shall report information about the the SgNB RACH information stored when UE was in (NG)EN-DC. |

#### – *UEInformationResponse*

The *UEInformationResponse* message is used by the UE to transfer the information requested by the E-UTRAN.

Signalling radio bearer: SRB1 or SRB2 (when logged measurement information is included)

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to E-UTRAN

*UEInformationResponse message*

-- ASN1START

UEInformationResponse-r9 ::= SEQUENCE {

 rrc-TransactionIdentifier RRC-TransactionIdentifier,

 criticalExtensions CHOICE {

 c1 CHOICE {

 ueInformationResponse-r9 UEInformationResponse-r9-IEs,

 spare3 NULL, spare2 NULL, spare1 NULL

 },

 criticalExtensionsFuture SEQUENCE {}

 }

}

UEInformationResponse-r9-IEs ::= SEQUENCE {

 rach-Report-r9 RACH-Report-r16 OPTIONAL,

 rlf-Report-r9 RLF-Report-r9 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v930-IEs OPTIONAL

}

-- Late non critical extensions

UEInformationResponse-v9e0-IEs ::= SEQUENCE {

 rlf-Report-v9e0 RLF-Report-v9e0 OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- Regular non critical extensions

UEInformationResponse-v930-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING (CONTAINING UEInformationResponse-v9e0-IEs) OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1020-IEs OPTIONAL

}

UEInformationResponse-v1020-IEs ::= SEQUENCE {

 logMeasReport-r10 LogMeasReport-r10 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1130-IEs OPTIONAL

}

UEInformationResponse-v1130-IEs ::= SEQUENCE {

 connEstFailReport-r11 ConnEstFailReport-r11 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1250-IEs OPTIONAL

}

UEInformationResponse-v1250-IEs ::= SEQUENCE {

 mobilityHistoryReport-r12 MobilityHistoryReport-r12 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1530-IEs OPTIONAL

}

UEInformationResponse-v1530-IEs ::= SEQUENCE {

 measResultListIdle-r15 MeasResultListIdle-r15 OPTIONAL,

 flightPathInfoReport-r15 FlightPathInfoReport-r15 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1610-IEs OPTIONAL

}

UEInformationResponse-v1610-IEs ::= SEQUENCE {

 rach-Report-v1610 RACH-Report-v1610 OPTIONAL,

 measResultListExtIdle-r16 MeasResultListExtIdle-r16 OPTIONAL,

 measResultListIdleNR-r16 MeasResultListIdleNR-r16 OPTIONAL,

 nonCriticalExtension UEInformationResponse-v1710-IEs OPTIONAL

}

UEInformationResponse-v1710-IEs ::= SEQUENCE {

 coarseLocationInfo-r17 OCTET STRING OPTIONAL,

nonCriticalExtension UEInformationResponse-v18xx-IEs OPTIONAL

}

UEInformationResponse-v18xx-IEs ::= SEQUENCE {

 rach-Report-r18 RACH-Report-r18 OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

RACH-Report-r16 ::= SEQUENCE {

 numberOfPreamblesSent-r16 NumberOfPreamblesSent-r11,

 contentionDetected-r16 BOOLEAN

}

RACH-Report-v1610 ::= SEQUENCE {

 initialCEL-r16 INTEGER (0..3),

 edt-Fallback-r16 BOOLEAN

}

RACH-Report-r18 ::= SEQUENCE {

numberOfPreamblesSent-r18 NumberOfPreamblesSent-r11 OPTIONAL,

contentionDetected-r16 BOOLEAN OPTIONAL,

 rach-ReportNR-r18 RACH-ReportNR-r18 OPTIONAL

}

RACH-ReportNR-r18 ::= SEQUENCE {

 rach-ReportListNR-r18 OCTET STRING,

 pscellIdListNR-r18 PSCellIdListNR-r18

}

PSCellIdListNR-r18 ::= SEQUENCE (SIZE (1..maxCellRAReportNR-r18)) OF PSCellIdNR-r18

PSCellIdNR-r18 CHOICE {

 cellGlobalId-r18 CellGlobalIdNR-r16,

 pci-arfcn-r18 SEQUENCE {

 physCellId-r18 PhysCellIdNR-r15,

 carrierFreq-r18 ARFCN-ValueNR-r15

 }

}

RLF-Report-r9 ::= SEQUENCE {

 measResultLastServCell-r9 SEQUENCE {

 rsrpResult-r9 RSRP-Range,

 rsrqResult-r9 RSRQ-Range OPTIONAL

 },

 measResultNeighCells-r9 SEQUENCE {

 measResultListEUTRA-r9 MeasResultList2EUTRA-r9 OPTIONAL,

 measResultListUTRA-r9 MeasResultList2UTRA-r9 OPTIONAL,

 measResultListGERAN-r9 MeasResultListGERAN OPTIONAL,

 measResultsCDMA2000-r9 MeasResultList2CDMA2000-r9 OPTIONAL

 } OPTIONAL,

 ...,

 [[ locationInfo-r10 LocationInfo-r10 OPTIONAL,

 failedPCellId-r10 CHOICE {

 cellGlobalId-r10 CellGlobalIdEUTRA,

 pci-arfcn-r10 SEQUENCE {

 physCellId-r10 PhysCellId,

 carrierFreq-r10 ARFCN-ValueEUTRA

 }

 } OPTIONAL,

 reestablishmentCellId-r10 CellGlobalIdEUTRA OPTIONAL,

 timeConnFailure-r10 INTEGER (0..1023) OPTIONAL,

 connectionFailureType-r10 ENUMERATED {rlf, hof} OPTIONAL,

 previousPCellId-r10 CellGlobalIdEUTRA OPTIONAL

 ]],

 [[ failedPCellId-v1090 SEQUENCE {

 carrierFreq-v1090 ARFCN-ValueEUTRA-v9e0

 } OPTIONAL

 ]],

 [[ basicFields-r11 SEQUENCE {

 c-RNTI-r11 C-RNTI,

 rlf-Cause-r11 ENUMERATED {

 t310-Expiry, randomAccessProblem,

 rlc-MaxNumRetx, t312-Expiry-r12},

 timeSinceFailure-r11 TimeSinceFailure-r11

 } OPTIONAL,

 previousUTRA-CellId-r11 SEQUENCE {

 carrierFreq-r11 ARFCN-ValueUTRA,

 physCellId-r11 CHOICE {

 fdd-r11 PhysCellIdUTRA-FDD,

 tdd-r11 PhysCellIdUTRA-TDD

 },

 cellGlobalId-r11 CellGlobalIdUTRA OPTIONAL

 } OPTIONAL,

 selectedUTRA-CellId-r11 SEQUENCE {

 carrierFreq-r11 ARFCN-ValueUTRA,

 physCellId-r11 CHOICE {

 fdd-r11 PhysCellIdUTRA-FDD,

 tdd-r11 PhysCellIdUTRA-TDD

 }

 } OPTIONAL

 ]],

 [[ failedPCellId-v1250 SEQUENCE {

 tac-FailedPCell-r12 TrackingAreaCode

 } OPTIONAL,

 measResultLastServCell-v1250 RSRQ-Range-v1250 OPTIONAL,

 lastServCellRSRQ-Type-r12 RSRQ-Type-r12 OPTIONAL,

 measResultListEUTRA-v1250 MeasResultList2EUTRA-v1250 OPTIONAL

 ]],

 [[ drb-EstablishedWithQCI-1-r13 ENUMERATED {qci1} OPTIONAL

 ]],

 [[ measResultLastServCell-v1360 RSRP-Range-v1360 OPTIONAL

 ]],

 [[ logMeasResultListBT-r15 LogMeasResultListBT-r15 OPTIONAL,

 logMeasResultListWLAN-r15 LogMeasResultListWLAN-r15 OPTIONAL

 ]],

 [[ measResultListNR-r16 MeasResultCellListNR-r15 OPTIONAL,

 previousNR-PCellId-r16 CellGlobalIdNR-r16 OPTIONAL,

 failedNR-PCellId-r16 CHOICE {

 cellGlobalId CellGlobalIdNR-r16,

 pci-arfcn SEQUENCE {

 physCellId-r16 PhysCellIdNR-r15,

 carrierFreq-r16 ARFCN-ValueNR-r15

 }

 } OPTIONAL,

 reconnectCellId-r16 CHOICE {

 nrReconnectCellId CellGlobalIdNR-r16,

 eutraReconnectCellId SEQUENCE {

 cellGlobalId-r16 CellGlobalIdEUTRA,

 trackingAreaCode-EPC-r16 TrackingAreaCode OPTIONAL,

 trackingAreaCode-5GC-r16 TrackingAreaCode-5GC-r15 OPTIONAL

 }

 } OPTIONAL,

 timeUntilReconnection-r16 TimeUntilReconnection-r16 OPTIONAL

 ]],

 [[ measResultListNR-v1640 SEQUENCE {

 carrierFreqNR-r16 ARFCN-ValueNR-r15

 } OPTIONAL,

 measResultListExtNR-r16 MeasResultFreqListNR-r16 OPTIONAL

 ]]

}

RLF-Report-v9e0 ::= SEQUENCE {

 measResultListEUTRA-v9e0 MeasResultList2EUTRA-v9e0

}

MeasResultList2EUTRA-r9 ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2EUTRA-r9

MeasResultList2EUTRA-v9e0 ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2EUTRA-v9e0

MeasResultList2EUTRA-v1250 ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2EUTRA-v1250

MeasResult2EUTRA-r9 ::= SEQUENCE {

 carrierFreq-r9 ARFCN-ValueEUTRA,

 measResultList-r9 MeasResultListEUTRA

}

MeasResult2EUTRA-v9e0 ::= SEQUENCE {

 carrierFreq-v9e0 ARFCN-ValueEUTRA-v9e0 OPTIONAL

}

MeasResult2EUTRA-v1250 ::= SEQUENCE {

 rsrq-Type-r12 RSRQ-Type-r12 OPTIONAL

}

MeasResultList2UTRA-r9 ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2UTRA-r9

MeasResult2UTRA-r9 ::= SEQUENCE {

 carrierFreq-r9 ARFCN-ValueUTRA,

 measResultList-r9 MeasResultListUTRA

}

MeasResultList2CDMA2000-r9 ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2CDMA2000-r9

MeasResult2CDMA2000-r9 ::= SEQUENCE {

 carrierFreq-r9 CarrierFreqCDMA2000,

 measResultList-r9 MeasResultsCDMA2000

}

LogMeasReport-r10 ::= SEQUENCE {

 absoluteTimeStamp-r10 AbsoluteTimeInfo-r10,

 traceReference-r10 TraceReference-r10,

 traceRecordingSessionRef-r10 OCTET STRING (SIZE (2)),

 tce-Id-r10 OCTET STRING (SIZE (1)),

 logMeasInfoList-r10 LogMeasInfoList-r10,

 logMeasAvailable-r10 ENUMERATED {true} OPTIONAL,

 ...,

 [[ logMeasAvailableBT-r15 ENUMERATED {true} OPTIONAL,

 logMeasAvailableWLAN-r15 ENUMERATED {true} OPTIONAL

 ]]

}

LogMeasInfoList-r10 ::= SEQUENCE (SIZE (1..maxLogMeasReport-r10)) OF LogMeasInfo-r10

LogMeasInfo-r10 ::= SEQUENCE {

 locationInfo-r10 LocationInfo-r10 OPTIONAL,

 relativeTimeStamp-r10 INTEGER (0..7200),

 servCellIdentity-r10 CellGlobalIdEUTRA,

 measResultServCell-r10 SEQUENCE {

 rsrpResult-r10 RSRP-Range,

 rsrqResult-r10 RSRQ-Range

 },

 measResultNeighCells-r10 SEQUENCE {

 measResultListEUTRA-r10 MeasResultList2EUTRA-r9 OPTIONAL,

 measResultListUTRA-r10 MeasResultList2UTRA-r9 OPTIONAL,

 measResultListGERAN-r10 MeasResultList2GERAN-r10 OPTIONAL,

 measResultListCDMA2000-r10 MeasResultList2CDMA2000-r9 OPTIONAL

 } OPTIONAL,

 ...,

 [[ measResultListEUTRA-v1090 MeasResultList2EUTRA-v9e0 OPTIONAL

 ]],

 [[ measResultListMBSFN-r12 MeasResultListMBSFN-r12 OPTIONAL,

 measResultServCell-v1250 RSRQ-Range-v1250 OPTIONAL,

 servCellRSRQ-Type-r12 RSRQ-Type-r12 OPTIONAL,

 measResultListEUTRA-v1250 MeasResultList2EUTRA-v1250 OPTIONAL

 ]],

 [[ inDeviceCoexDetected-r13 ENUMERATED {true} OPTIONAL

 ]],

 [[ measResultServCell-v1360 RSRP-Range-v1360 OPTIONAL

 ]],

 [[ logMeasResultListBT-r15 LogMeasResultListBT-r15 OPTIONAL,

 logMeasResultListWLAN-r15 LogMeasResultListWLAN-r15 OPTIONAL

 ]],

 [[ anyCellSelectionDetected-r15 ENUMERATED {true} OPTIONAL

 ]],

 [[ measResultListNR-r16 MeasResultCellListNR-r15 OPTIONAL

 ]],

 [[ measResultListNR-v1640 SEQUENCE {

 carrierFreqNR-r16 ARFCN-ValueNR-r15

 } OPTIONAL,

 measResultListExtNR-r16 MeasResultFreqListNR-r16 OPTIONAL

 ]],

 [[ uncomBarPreMeasResult-r17 OCTET STRING OPTIONAL

 ]]

}

MeasResultListMBSFN-r12 ::= SEQUENCE (SIZE (1..maxMBSFN-Area)) OF MeasResultMBSFN-r12

MeasResultMBSFN-r12 ::= SEQUENCE {

 mbsfn-Area-r12 SEQUENCE {

 mbsfn-AreaId-r12 MBSFN-AreaId-r12,

 carrierFreq-r12 ARFCN-ValueEUTRA-r9

 },

 rsrpResultMBSFN-r12 RSRP-Range,

 rsrqResultMBSFN-r12 MBSFN-RSRQ-Range-r12,

 signallingBLER-Result-r12 BLER-Result-r12 OPTIONAL,

 dataBLER-MCH-ResultList-r12 DataBLER-MCH-ResultList-r12 OPTIONAL,

 ...

}

DataBLER-MCH-ResultList-r12 ::= SEQUENCE (SIZE (1.. maxPMCH-PerMBSFN)) OF DataBLER-MCH-Result-r12

DataBLER-MCH-Result-r12 ::= SEQUENCE {

 mch-Index-r12 INTEGER (1..maxPMCH-PerMBSFN),

 dataBLER-Result-r12 BLER-Result-r12

}

BLER-Result-r12 ::= SEQUENCE {

 bler-r12 BLER-Range-r12,

 blocksReceived-r12 SEQUENCE {

 n-r12 BIT STRING (SIZE (3)),

 m-r12 BIT STRING (SIZE (8))

 }

}

BLER-Range-r12 ::= INTEGER(0..31)

MeasResultList2GERAN-r10 ::= SEQUENCE (SIZE (1..maxCellListGERAN)) OF MeasResultListGERAN

MeasResultFreqListNR-r16::= SEQUENCE (SIZE (1..maxFreq-1-r16)) OF MeasResultFreqFailNR-r15

ConnEstFailReport-r11 ::= SEQUENCE {

 failedCellId-r11 CellGlobalIdEUTRA,

 locationInfo-r11 LocationInfo-r10 OPTIONAL,

 measResultFailedCell-r11 SEQUENCE {

 rsrpResult-r11 RSRP-Range,

 rsrqResult-r11 RSRQ-Range OPTIONAL

 },

 measResultNeighCells-r11 SEQUENCE {

 measResultListEUTRA-r11 MeasResultList2EUTRA-r9 OPTIONAL,

 measResultListUTRA-r11 MeasResultList2UTRA-r9 OPTIONAL,

 measResultListGERAN-r11 MeasResultListGERAN OPTIONAL,

 measResultsCDMA2000-r11 MeasResultList2CDMA2000-r9 OPTIONAL

 } OPTIONAL,

 numberOfPreamblesSent-r11 NumberOfPreamblesSent-r11,

 contentionDetected-r11 BOOLEAN,

 maxTxPowerReached-r11 BOOLEAN,

 timeSinceFailure-r11 TimeSinceFailure-r11,

 measResultListEUTRA-v1130 MeasResultList2EUTRA-v9e0 OPTIONAL,

 ...,

 [[ measResultFailedCell-v1250 RSRQ-Range-v1250 OPTIONAL,

 failedCellRSRQ-Type-r12 RSRQ-Type-r12 OPTIONAL,

 measResultListEUTRA-v1250 MeasResultList2EUTRA-v1250 OPTIONAL

 ]],

 [[ measResultFailedCell-v1360 RSRP-Range-v1360 OPTIONAL

 ]],

 [[ logMeasResultListBT-r15 LogMeasResultListBT-r15 OPTIONAL,

 logMeasResultListWLAN-r15 LogMeasResultListWLAN-r15 OPTIONAL

 ]],

 [[ measResultListNR-r16 MeasResultCellListNR-r15 OPTIONAL

 ]],

 [[ measResultListNR-v1640 SEQUENCE {

 carrierFreqNR-r16 ARFCN-ValueNR-r15

 } OPTIONAL,

 measResultListExtNR-r16 MeasResultFreqListNR-r16 OPTIONAL

 ]]

}

NumberOfPreamblesSent-r11::= INTEGER (1..200)

TimeSinceFailure-r11 ::= INTEGER (0..172800)

TimeUntilReconnection-r16 ::= INTEGER (0..172800)

MobilityHistoryReport-r12 ::= VisitedCellInfoList-r12

FlightPathInfoReport-r15 ::= SEQUENCE {

 flightPath-r15 SEQUENCE (SIZE (1..maxWayPoint-r15)) OF WayPointLocation-r15 OPTIONAL,

 dummy SEQUENCE {} OPTIONAL

}

WayPointLocation-r15 ::= SEQUENCE {

 wayPointLocation-r15 LocationInfo-r10,

 timeStamp-r15 AbsoluteTimeInfo-r10 OPTIONAL

}

-- ASN1STOP

| *UEInformationResponse* field descriptions |
| --- |
| ***absoluteTimeStamp***Indicates the absolute time when the logged measurement configuration logging is provided, as indicated by E-UTRAN within *absoluteTimeInfo*. |
| ***anyCellSelectionDetected***This field is used to indicate the detection of *any cell selection* state, as defined in TS 36.304 [4]. The UE sets this field when performing the logging of measurement results in RRC\_IDLE and there is no suitable cell or no acceptable cell. |
| ***bler***Indicates the measured BLER value. The coding of BLER value is defined in TS 36.133 [16]. |
| ***blocksReceived***Indicates total number of MCH blocks, which were received by the UE and used for the corresponding BLER calculation, within the measurement period as defined in TS 36.133 [16]. |
| ***carrierFreq***In case the UE includes *carrierFreq-v9e0* and/ or *carrierFreq-v1090*, the UE shall set the corresponding entry of *carrierFreq-r9* and/ or *carrierFreq-r10* respectively to *maxEARFCN*. For E-UTRA and UTRA frequencies, the UE sets the ARFCN according to the band used when obtaining the concerned measurement results. |
| ***carrierFreqNR***In case the UE includes *measResultListNR*, the UE uses this field to indicate the ARFCN value according to the band used when obtaining the concrned measurement results |
| ***connectionFailureType***This field is used to indicate whether the connection failure is due to radio link failure or handover failure. |
| ***contentionDetected***This field is used to indicate that contention was detected for at least one of the transmitted preambles, see TS 36.321 [6].  |
| ***coarseLocationInfo***This field indicates the coarse location information reported by the UE. This field is coded as the *Ellipsoid-Point* IE defined in TS 37.355 [109]. The first/leftmost bit of the first octet contains the most significant bit. The least significant bits of *degreesLatitude* and *degreesLongitude* are set to 0 to meet the accuracy requirement which corresponds to a granularity of approximately 2 km.It is up to UE implementation as to how many LSBs are set to 0 to meet the accuracy requirement. |
| ***c-RNTI***This field indicates the C-RNTI used in the PCell upon detecting radio link failure or the C-RNTI used in the source PCell upon handover failure. |
| ***dataBLER-MCH-ResultList***Includes a BLER result per MCH on subframes using *dataMCS*, with the applicable MCH(s) listed in the same order as in *pmch-InfoList* within *MBSFNAreaConfiguration*. |
| ***drb-EstablishedWithQCI-1***This field is used to indicate the radio link failure occurred while a bearer with QCI value equal to 1 was configured, see TS 24.301 [35]. |
| ***dummy***This field is not used in the specification. It shall not be sent by the UE. |
| ***edt-Fallback***Value TRUE indicates the last successfully completed random access procedure was initiated with EDT PRACH resource and succeeded after receiving EDT fallback indication from lower layers. |
| ***failedCellId***This field is used to indicate the cell in which connection establishment failed. |
| ***failedPCellId***This field is used to indicate the PCell in which RLF is detected or the target PCell of the failed handover. The UE sets the EARFCN according to the band used for transmission/ reception when the failure occurred. |
| ***inDeviceCoexDetected***Indicates that measurement logging is suspended due to IDC problem detection. |
| ***initialCEL***Indicates the initial CE level used for the last successfully completed random access procedure for BL UEs and UEs in CE. |
| ***logMeasResultListBT***This field refers to the Bluetooth measurement results. |
| ***logMeasResultListWLAN***This field refers to the WLAN measurement results. |
| ***maxTxPowerReached***This field is used to indicate whether or not the maximum power level was used for the last transmitted preamble, see TS 36.321 [6]. |
| ***mch-Index***Indicates the MCH by referring to the entry as listed in *pmch-InfoList* within *MBSFNAreaConfiguration*. |
| ***measResultFailedCell***This field refers to the last measurement results taken in the cell, where connection establishment failure happened. For UE supporting CE Mode B, when CE mode B is not restricted by upper layers, *measResultFailedCell-v1360* is reported if the measured RSRP is less than -140 dBm. |
| ***measResultLastServCell***This field refers to the last measurement results taken in the PCell, where radio link failure or handover failure happened. For BL UEs or UEs in CE, when operating in CE Mode B, *measResultLastServCell-v1360* is reported if the measured RSRP is less than -140 dBm. |
| ***measResultListEUTRA***If *measResultListEUTRA-v9e0*, *measResultListEUTRA-v1090* or *measResultListEUTRA-v1130* is included, the UE shall include the same number of entries, and listed in the same order, as in *measResultListEUTRA-r9*, *measResultListEUTRA-r10* and/ or *measResultListEUTRA-r11* respectively. |
| ***measResultListEUTRA-v1250***If included in *RLF-Report-r9* the UE shall include the same number of entries, and listed in the same order, as in *measResultListEUTRA-r9*.If included in *LogMeasInfo-r10* the UE shall include the same number of entries, and listed in the same order, as in *measResultListEUTRA-r10*.If included in *ConnEstFailReport-r11* the UE shall include the same number of entries, and listed in the same order, as in *measResultListEUTRA-r11*. |
| ***measResultListIdle***This field indicates the E-UTRA measurement results done during RRC\_IDLE and RRC\_INACTIVE at network request. |
| ***measResultListIdleNR***This field indicates the NR measurement results done during RRC\_IDLE and RRC\_INACTIVE at network request. |
| ***measResultListNR, measResultListExtNR***Includes NR measurement results, with *measResultListNR* including results of a first NR frequency and *measResultListExtNR* including results of additinal NR frequencies, if available. |
| ***measResultServCell***This field refers to the log measurement results taken in the Serving cell. For UE supporting CE Mode B, when CE mode B is not restricted by upper layers, *measResultServCell-v1360* is reported if the measured RSRP is less than -140 dBm. |
| ***mobilityHistoryReport***This field is used to indicate the time of stay in 16 most recently visited E-UTRA cells or of stay out of E-UTRA. |
| ***numberOfPreamblesSent***This field is used to indicate the number of RACH preambles that were transmitted. Corresponds to parameter PREAMBLE\_TRANSMISSION\_COUNTER in TS 36.321 [6]. |
| ***previousPCellId***This field is used to indicate the source PCell of the last handover (source PCell when the last *RRCConnectionReconfiguration* message including *mobilityControlInfo* was received). |
| ***previousUTRA-CellId***This field is used to indicate the source UTRA cell of the last successful handover to E-UTRAN, when RLF occurred at the target PCell. The UE sets the ARFCN according to the band used for transmission/ reception on the concerned cell. |
| ***pscellIdListNR***This field is used to indicate the unique NR PCsell identities of the RA procedure information stored in *RA-ReportList* IE, which is specified in TS 38.331 [82]. |
| ***rach-ReportListNR***This field is used to indicate the NR *RA-ReportList* IE，which is specified in TS 38.331 [82]. |
| ***reconnectCellId***This field is used to indicate the cell in which the UE comes back to connected after connection failure and after failing to perform reestablishment. If the UE comes back to RRC CONNECTED in an NR cell then *nrReconnectCellID* is included and if the UE comes back to RRC CONNECTED in an LTE cell then *eutraReconnectCellID* is included. |
| ***reestablishmentCellId***This field is used to indicate the cell in which the re-establishment attempt was made after connection failure. |
| ***relativeTimeStamp***Indicates the time of logging measurement results, measured relative to the *absoluteTimeStamp*. Value in seconds. |
| ***rlf-Cause***This field is used to indicate the cause of the last radio link failure that was detected. In case of handover failure information reporting (i.e., the *connectionFailureType* is set to '*hof*'), the UE is allowed to set this field to any value. |
| ***selectedUTRA-CellId***This field is used to indicate the UTRA cell that the UE selects after RLF is detected, while T311 is running. The UE sets the ARFCN according to the band selected for transmission/ reception on the concerned cell. |
| ***signallingBLER-Result***Includes a BLER result of MBSFN subframes using *signallingMCS*.  |
| ***tac-FailedPCell***This field is used to indicate the Tracking Area Code of the PCell in which RLF is detected. |
| ***tce-Id***Parameter Trace Collection Entity Id: See TS 32.422 [58]. |
| ***timeConnFailure***This field is used to indicate the time elapsed since the last HO initialization until connection failure. Actual value = field value \* 100ms. The maximum value 1023 means 102.3s or longer. |
| ***timeSinceFailure***This field is used to indicate the time that elapsed since the connection (establishment) failure. Value in seconds. The maximum value 172800 means 172800s or longer. |
| ***timeStamp***Includes time stamps for the waypoints that describe planned locations for the UE. |
| ***timeUntilReconnection***This field is used to indicate the time that elapsed between the connection (radio link or handover) failure and the next time the UE comes to RRC CONNECTED in an NR or EUTRA cell, after failing to perform reestablishment. Value in seconds. The maximum value 172800 means 172800s or longer. |
| ***traceRecordingSessionRef***Parameter Trace Recording Session Reference: See TS 32.422 [58]. |
| ***uncomBarPreMeasResult***This field provides barometric pressure measurements as *Sensor-MeasurementInformation* defined in TS 37.355 [109]. The first/leftmost bit of the first octet contains the most significant bit. |
| ***wayPointLocation***Includes location coordinates for a UE for Aerial UE operation. The waypoints describe planned locations for the UE. |

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## 6.4 RRC multiplicity and type constraint values

### – Multiplicity and type constraint definitions

-- ASN1START

maxAccessCat-1-r15 INTEGER ::= 63 -- Maximum number of Access Categories - 1

maxACDC-Cat-r13 INTEGER ::= 16 -- Maximum number of ACDC categories (per PLMN)

maxAvailNarrowBands-r13 INTEGER ::= 16 -- Maximum number of narrowbands

maxAvailNarrowBands-1-r16 INTEGER ::= 15 -- Maximum number of narrowbands minus one

maxBandComb-r10 INTEGER ::= 128 -- Maximum number of band combinations.

maxBandComb-r11 INTEGER ::= 256 -- Maximum number of additional band combinations.

maxBandComb-r13 INTEGER ::= 384 -- Maximum number of band combinations in Rel-13

maxBandCombSidelinkNR-r16 INTEGER ::= 512 -- Maximum number of NR sidelink band combinations

maxBands INTEGER ::= 64 -- Maximum number of bands listed in EUTRA UE caps

maxBandsNR-r15 INTEGER ::= 1024 -- Maximum number of NR bands listed in EUTRA UE caps

maxBandsENDC-r16 INTEGER ::= 10 -- Maximum number of NR bands from across all the PLMNs

 -- sharing the serving cell in EN-DC for the forwarding

 -- of *upperLayerIndication*.

maxBandwidthClass-r10 INTEGER ::= 16 -- Maximum number of supported CA BW classes per band

maxBandwidthCombSet-r10 INTEGER ::= 32 -- Maximum number of bandwidth combination sets per

 -- supported band combination

maxBarringInfoSet-r15 INTEGER ::= 8 -- Maximum number of UAC barring information sets

maxBT-IdReport-r15 INTEGER ::= 32 -- Maximum number of Bluetooth IDs to report

maxBT-Name-r15 INTEGER ::= 4 -- Maximum number of Bluetooth name

maxCBR-Level-r14 INTEGER ::= 16 -- Maximum number of CBR levels

maxCBR-Level-1-r14 INTEGER ::= 15

maxCBR-Report-r14 INTEGER ::= 72 -- Maximum number of CBR results in a report

maxCDMA-BandClass INTEGER ::= 32 -- Maximum value of the CDMA band classes

maxCE-Level-r13 INTEGER ::= 4 -- Maximum number of CE levels

maxExcludedCell INTEGER ::= 16 -- Maximum number of exclude-listed physical cell identity

 -- ranges listed in SIB type 4 and 5

maxCellHistory-r12 INTEGER ::= 16 -- Maximum number of visited EUTRA cells reported

maxCellInfoGERAN-r9 INTEGER ::= 32 -- Maximum number of GERAN cells for which system in-

 -- formation can be provided as redirection assistance

maxCellInfoUTRA-r9 INTEGER ::= 16 -- Maximum number of UTRA cells for which system

 -- information can be provided as redirection

 -- assistance

maxCellMeasIdle-r15 INTEGER ::= 8 -- Maximum number of neighbouring inter-frequency

 -- cells per carrier measured in RRC\_IDLE and RRC\_INACTIVE

maxCellNR-r17 INTEGER ::= 8 -- Maximum number of NR cells

maxCombIDC-r11 INTEGER ::= 128 -- Maximum number of reported UL CA or

 -- MR-DC combinations

maxCSI-IM-r11 INTEGER ::= 3 -- Maximum number of CSI-IM configurations

 -- (per carrier frequency)

maxCSI-IM-r12 INTEGER ::= 4 -- Maximum number of CSI-IM configurations

 -- (per carrier frequency)

minCSI-IM-r13 INTEGER ::= 5 -- Minimum number of CSI IM configurations from which

 -- REL-13 extension is used

maxCSI-IM-r13 INTEGER ::= 24 -- Maximum number of CSI-IM configurations

 -- (per carrier frequency)

maxCSI-IM-v1310 INTEGER ::= 20 -- Maximum number of additional CSI-IM configurations

 -- (per carrier frequency)

maxCSI-Proc-r11 INTEGER ::= 4 -- Maximum number of CSI processes (per carrier

 -- frequency)

maxCSI-RS-NZP-r11 INTEGER ::= 3 -- Maximum number of CSI RS resource

 -- configurations using non-zero Tx power

 -- (per carrier frequency)

minCSI-RS-NZP-r13 INTEGER ::= 4 -- Minimum number of CSI RS resource from which

 -- REL-13 extension is used

maxCSI-RS-NZP-r13 INTEGER ::= 24 -- Maximum number of CSI RS resource

 -- configurations using non-zero Tx power

 -- (per carrier frequency)

maxCSI-RS-NZP-v1310 INTEGER ::= 21 -- Maximum number of additional CSI RS resource

 -- configurations using non-zero Tx power

 -- (per carrier frequency)

maxCSI-RS-ZP-r11 INTEGER ::= 4 -- Maximum number of CSI RS resource

 -- configurations using zero Tx power(per carrier

 -- frequency)

maxCQI-ProcExt-r11 INTEGER ::= 3 -- Maximum number of additional periodic CQI

 -- configurations (per carrier frequency)

maxFreqUTRA-TDD-r10 INTEGER ::= 6 -- Maximum number of UTRA TDD carrier frequencies for

 -- which system information can be provided as

 -- redirection assistance

maxCellInter INTEGER ::= 16 -- Maximum number of neighbouring inter-frequency

 -- cells listed in SIB type 5

maxCellIntra INTEGER ::= 16 -- Maximum number of neighbouring intra-frequency

 -- cells listed in SIB type 4

maxCellListGERAN INTEGER ::= 3 -- Maximum number of lists of GERAN cells

maxCellMeas INTEGER ::= 32 -- Maximum number of entries in each of the

 -- cell lists in a measurement object

maxCellReport INTEGER ::= 8 -- Maximum number of reported cells/CSI-RS resources

maxCellSFTD INTEGER ::= 3 -- Maximum number of cells for SFTD reporting

maxCellAllowedNR-r16 INTEGER ::= 16 -- Maximum number of allowlisted NR cells in SIB24

maxCondConfig-r16 INTEGER ::= 8 -- Maximum number of conditional configurations

maxConfigSPS-r14 INTEGER ::= 8 -- Maximum number of simultaneous SPS configurations

maxConfigSPS-r15 INTEGER ::= 6 -- Maximum number of simultaneous SPS configurations

 -- configured with SPS C-RNTI

maxCSI-RS-Meas-r12 INTEGER ::= 96 -- Maximum number of entries in the CSI-RS list

 -- in a measurement object

maxDRB INTEGER ::= 11 -- Maximum number of Data Radio Bearers

maxDRBExt-r15 INTEGER ::= 4 -- Maximum number of additional DRBs

maxDRB-r15 INTEGER ::= 15 -- Highest value of extended maximum number of DRBs

maxDS-Duration-r12 INTEGER ::= 5 -- Maximum number of subframes in a discovery signals

 -- occasion

maxDS-ZTP-CSI-RS-r12 INTEGER ::= 5 -- Maximum number of zero transmission power CSI-RS for

 -- a serving cell concerning discovery signals

maxEARFCN INTEGER ::= 65535 -- Maximum value of EUTRA carrier frequency

maxEARFCN-Plus1 INTEGER ::= 65536 -- Lowest value extended EARFCN range

maxEARFCN2 INTEGER ::= 262143 -- Highest value extended EARFCN range

maxEPDCCH-Set-r11 INTEGER ::= 2 -- Maximum number of EPDCCH sets

maxFBI INTEGER ::= 64 -- Maximum value of fequency band indicator

maxFBI-NR-r15 INTEGER ::= 1024 -- Highest value FBI range for NR.

maxFBI-Plus1 INTEGER ::= 65 -- Lowest value extended FBI range

maxFBI2 INTEGER ::= 256 -- Highest value extended FBI range

maxFeatureSets-r15 INTEGER ::= 256 -- Total number of feature sets (size of pool)

maxPerCC-FeatureSets-r15 INTEGER ::= 32 -- Total number of CC-specific feature sets

 -- (size of the pool)

maxFreq INTEGER ::= 8 -- Maximum number of carrier frequencies

maxFreq-1-r16 INTEGER ::= 7 -- Maximum number of carrier frequencies

maxFreqIDC-r11 INTEGER ::= 32 -- Maximum number of carrier frequencies that are

 -- affected by the IDC problems

maxFreqIdle-r15 INTEGER ::= 8 -- Maximum number of carrier frequencies for

 -- IDLE mode measurements configured by eNB

maxFreqMBMS-r11 INTEGER ::= 5 -- Maximum number of carrier frequencies for which an

 -- MBMS capable UE may indicate an interest

maxFreqNBIOT-r16 INTEGER ::= 8 -- Maximum number of NB-IoT carrier frequencies that can

 -- be provided as assistance information for inter-RAT

 -- cell selection

maxFreqNR-r15 INTEGER ::= 5 -- Maximum number of NR carrier frequencies for

 -- which a UE may provide measurement results upon

 -- NR SCG failure

maxFreqSL-NR-r16 INTEGER ::= 8 -- Maximum number of NR anchor carrier frequencies on

 -- which configurations for V2X sidelink communication

 -- are provided

maxFreqV2X-r14 INTEGER ::= 8 -- Maximum number of carrier frequencies for which V2X

 -- sidelink communication can be configured

maxFreqV2X-1-r14 INTEGER ::= 7 -- Highest index of frequencies

maxGERAN-SI INTEGER ::= 10 -- Maximum number of GERAN SI blocks that can be

 -- provided as part of NACC information

maxGNFG INTEGER ::= 16 -- Maximum number of GERAN neighbour freq groups

maxGWUS-Groups-1-r16 INTEGER ::= 31 -- Maximum number of groups minus one for each

 -- probability group

maxGWUS-Resources-r16 INTEGER ::= 4 -- Maximum number of GWUS resources for each group

maxGWUS-ProbThresholds-r16 INTEGER ::= 3 -- Maximum number of paging probability thresholds

maxIdleMeasCarriers-r15 INTEGER ::= 3 -- Maximum number of neighbouring inter-

 -- frequency carriers measured in RRC\_IDLE and RRC\_INACTIVE

maxIdleMeasCarriersExt-r16 INTEGER ::= 5 --Additional number of neighbouring inter-

 -- frequency carriers measured in RRC\_IDLE and RRC\_INACTIVE

maxIdleMeasCarriers-r16 INTEGER ::= 8 -- Maximum number of neighbouring inter-

 -- frequency/inter-RAT carriers measured in RRC\_IDLE and RRC\_INACTIVE

maxLCG-r13 INTEGER ::= 4 -- Maximum number of logical channel groups

maxLogMeasReport-r10 INTEGER ::= 520 -- Maximum number of logged measurement entries

 -- that can be reported by the UE in one message

maxMBSFN-Allocations INTEGER ::= 8 -- Maximum number of MBSFN frame allocations with

 -- different offset

maxMBSFN-Area INTEGER ::= 8

maxMBSFN-Area-1 INTEGER ::= 7

maxMBMS-ServiceListPerUE-r13 INTEGER ::= 15 -- Maximum number of services which the UE can

 -- include in the MBMS interest indication

maxMeasId INTEGER ::= 32

maxMeasId-Plus1 INTEGER ::= 33

maxMeasId-r12 INTEGER ::= 64

maxMultiBands INTEGER ::= 8 -- Maximum number of additional frequency bands

 -- that a cell belongs to

maxMultiBandsNR-r15 INTEGER ::= 32 -- Maximum number of additional NR frequency bands

 -- that a cell belongs to

maxMultiBandsNR-1-r15 INTEGER ::= 31

maxNS-Pmax-r10 INTEGER ::= 8 -- Maximum number of NS and P-Max values per band

maxNAICS-Entries-r12 INTEGER ::= 8 -- Maximum number of supported NAICS combination(s)

maxNeighCell-r12 INTEGER ::= 8 -- Maximum number of neighbouring cells in NAICS

 -- configuration (per carrier frequency)

maxNeighCell-SCPTM-r13 INTEGER ::= 8 -- Maximum number of SCPTM neighbour cells

maxNrofPCI-PerSMTC-r16 INTEGER ::= 64 -- Maximum number of PCIs per SMTC

maxNrofS-NSSAI-r15 INTEGER ::= 8 -- Maximum number of S-NSSAI

maxObjectId INTEGER ::= 32

maxObjectId-Plus1-r13 INTEGER ::= 33

maxObjectId-r13 INTEGER ::= 64

maxP-a-PerNeighCell-r12 INTEGER ::= 3 -- Maximum number of power offsets for a neighbour cell

 -- in NAICS configuration

maxPageRec INTEGER ::= 16 --

maxPhysCellIdRange-r9 INTEGER ::= 4 -- Maximum number of physical cell identity ranges

maxPLMN-r11 INTEGER ::= 6 -- Maximum number of PLMNs

maxPLMN-1-r14 INTEGER ::= 5 -- Maximum number of PLMNs minus one

maxPLMN-r15 INTEGER ::= 8 -- Maximum number of PLMNs for RNA configuration

maxPLMN-NR-r15 INTEGER ::= 12 -- Maximum number of NR PLMNs

maxPNOffset INTEGER ::= 511 -- Maximum number of CDMA2000 PNOffsets

maxPMCH-PerMBSFN INTEGER ::= 15

maxPSSCH-TxConfig-r14 INTEGER ::= 16 -- Maximum number of PSSCH TX configurations

maxQuantSetsNR-r15 INTEGER ::= 2 -- Maximum number of NR quantity configuration sets

maxCellRAReportNR-r18 INTEGER ::= 8 -- Maximum number of unique PSCells Identities of -- RA reports included in the NR RA report container

maxQCI-r13 INTEGER ::= 6 -- Maximum number of QCIs

maxRAT-Capabilities INTEGER ::= 8 -- Maximum number of interworking RATs (incl EUTRA)

maxRE-MapQCL-r11 INTEGER ::= 4 -- Maximum number of PDSCH RE Mapping configurations

 -- (per carrier frequency)

maxReportConfigId INTEGER ::= 32

maxReservationPeriod-r14 INTEGER ::= 16 -- Maximum number of resource reservation periodicities

 -- for sidelink V2X communication

maxRS-Index-r15 INTEGER ::= 64 -- Maximum number of RS indices

maxRS-Index-1-r15 INTEGER ::= 63 -- Highest value of RS index as used to identify

 -- RS index in RRM reports.

maxRS-IndexCellQual-r15 INTEGER ::= 16 -- Maximum number of RS indices averaged to derive

 -- cell quality for RRM.

maxRS-IndexReport-r15 INTEGER ::= 32 -- Maximum number of RS indices for RRM.

maxRSTD-Freq-r10 INTEGER ::= 3 -- Maximum number of frequency layers for RSTD

 -- measurement

maxSAI-MBMS-r11 INTEGER ::= 64 -- Maximum number of MBMS service area identities

 -- broadcast per carrier frequency

maxSat-r17 INTEGER ::= 4 -- Maximum number of satellites

maxSCell-r10 INTEGER ::= 4 -- Maximum number of SCells

maxSCell-r13 INTEGER ::= 31 -- Highest value of extended number range of SCells

maxSCellGroups-r15 INTEGER ::= 4 -- Maximum number of SCell common parameter groups

maxSC-MTCH-r13 INTEGER ::= 1023 -- Maximum number of SC-MTCHs in one cell

maxSC-MTCH-BR-r14 INTEGER ::= 128 -- Maximum number of SC-MTCHs in one cell for feMTC

maxSL-CommRxPoolNFreq-r13 INTEGER ::= 32 -- Maximum number of individual sidelink communication

 -- Rx resource pools on neighbouring freq

maxSL-CommRxPoolPreconf-v1310 INTEGER ::= 12 -- Maximum number of additional preconfigured

 -- sidelink communication Rx resource pool entries

maxSL-TxPool-r12Plus1-r13 INTEGER ::= 5 -- First additional individual sidelink

 -- Tx resource pool

maxSL-TxPool-v1310 INTEGER ::= 4 -- Maximum number of additional sidelink

 -- Tx resource pool entries

maxSL-TxPool-r13 INTEGER ::= 8 -- Maximum number of individual sidelink

 -- Tx resource pools

maxSL-CommTxPoolPreconf-v1310 INTEGER ::= 7 -- Maximum number of additional preconfigured

 -- sidelink Tx resource pool entries

maxSL-Dest-r12 INTEGER ::= 16 -- Maximum number of sidelink destinations

maxSL-DiscCells-r13 INTEGER ::= 16 -- Maximum number of cells with similar sidelink

 -- configurations

maxSL-DiscPowerClass-r12 INTEGER ::= 3 -- Maximum number of sidelink power classes

maxSL-DiscRxPoolPreconf-r13 INTEGER ::= 16 -- Maximum number of preconfigured sidelink

 -- discovery Rx resource pool entries

maxSL-DiscSysInfoReportFreq-r13 INTEGER ::= 8 -- Maximum number of frequencies to include in a

 -- SidelinkUEInformation for SI reporting

maxSL-DiscTxPoolPreconf-r13 INTEGER ::= 4 -- Maximum number of preconfigured sidelink

 -- discovery Tx resource pool entries

maxSL-GP-r13 INTEGER ::= 8 -- Maximum number of gap patterns that can be requested

 -- for a frequency or assigned

maxSL-PoolToMeasure-r14 INTEGER ::= 72 -- Maximum number of TX resource pools for CBR

 -- measurement and report

maxSL-Prio-r13 INTEGER ::= 8 -- Maximum number of entries in sidelink priority list

maxSL-RxPool-r12 INTEGER ::= 16 -- Maximum number of individual sidelink Rx resource pools

maxSL-Reliability-r15 INTEGER ::= 8 -- Maximum number of entries in sidelink reliability list

maxSL-SyncConfig-r12 INTEGER ::= 16 -- Maximum number of sidelink Sync configurations

maxSL-TF-IndexPair-r12 INTEGER ::= 64 -- Maximum number of sidelink Time Freq resource index

 -- pairs

maxSL-TxPool-r12 INTEGER ::= 4 -- Maximum number of individual sidelink Tx resource pools

maxSL-V2X-RxPool-r14 INTEGER ::= 16 -- Maximum number of RX resource pools for

 -- V2X sidelink communication

maxSL-V2X-RxPoolPreconf-r14 INTEGER ::= 16 -- Maximum number of RX resource pools for

 -- V2X sidelink communication

maxSL-V2X-TxPool-r14 INTEGER ::= 8 -- Maximum number of TX resource pools for

 -- V2X sidelink communication

maxSL-V2X-TxPoolPreconf-r14 INTEGER ::= 8 -- Maximum number of TX resource pools for

 -- V2X sidelink communication

maxSL-V2X-SyncConfig-r14 INTEGER ::= 16 -- Maximum number of sidelink Sync configurations

 -- for V2X sidelink communication

maxSL-V2X-CBRConfig-r14 INTEGER ::= 4 -- Maximum number of CBR range configurations

 -- for V2X sidelink communication congestion

 -- control

maxSL-V2X-CBRConfig-1-r14 INTEGER ::= 3

maxSL-V2X-TxConfig-r14 INTEGER ::= 64 -- Maximum number of TX parameter configurations

 -- for V2X sidelink communication congestion

 -- control

maxSL-V2X-TxConfig-1-r14 INTEGER ::= 63

maxSL-V2X-CBRConfig2-r14 INTEGER ::= 8 -- Maximum number of CBR range configurations in

 -- pre-configuration for V2X sidelink

 -- communication congestion control

maxSL-V2X-CBRConfig2-1-r14 INTEGER ::= 7

maxSL-V2X-TxConfig2-r14 INTEGER ::= 128 -- Maximum number of TX parameter

 -- configurations in pre-configuration for V2X

 -- sidelink communication congestion control

maxSL-V2X-TxConfig2-1-r14 INTEGER ::= 127

maxSTAG-r11 INTEGER ::= 3 -- Maximum number of STAGs

maxServCell-r10 INTEGER ::= 5 -- Maximum number of Serving cells

maxServCell-r13 INTEGER ::= 32 -- Highest value of extended number range of Serving cells

maxServCellNR-r15 INTEGER ::= 16 -- Maximum number of NR serving cells

maxServiceCount INTEGER ::= 16 -- Maximum number of MBMS services that can be included

 -- in an MBMS counting request and response

maxServiceCount-1 INTEGER ::= 15

maxSessionPerPMCH INTEGER ::= 29

maxSessionPerPMCH-1 INTEGER ::= 28

maxSIB INTEGER ::= 32 -- Maximum number of SIBs

maxSIB-1 INTEGER ::= 31

maxSI-Message INTEGER ::= 32 -- Maximum number of SI messages

maxSimultaneousBands-r10 INTEGER ::= 64 -- Maximum number of simultaneously aggregated bands

maxSubframePatternIDC-r11 INTEGER ::= 8 -- Maximum number of subframe reservation patterns

 -- that the UE can simultaneously recommend to the

 -- E-UTRAN for use.

maxTAC-r17 INTEGER ::= 12 -- Maximum number of Tracking Area Codes

 -- broadcast in a cell

maxTrafficPattern-r14 INTEGER ::= 8 -- Maximum number of periodical traffic patterns

 -- that the UE can simultaneously report to the

 -- E-UTRAN.

maxUTRA-FDD-Carrier INTEGER ::= 16 -- Maximum number of UTRA FDD carrier frequencies

maxUTRA-TDD-Carrier INTEGER ::= 16 -- Maximum number of UTRA TDD carrier frequencies

maxWayPoint-r15 INTEGER ::= 20 -- Maximum number of flight path information waypoints

maxWLAN-Id-r12 INTEGER ::= 16 -- Maximum number of WLAN identifiers

maxWLAN-Bands-r13 INTEGER ::= 8 -- Maximum number of WLAN bands

maxWLAN-Id-r13 INTEGER ::= 32 -- Maximum number of WLAN identifiers

maxWLAN-Channels-r13 INTEGER ::= 16 -- maximum number of WLAN channels used in

-- WLAN-CarrierInfo

maxWLAN-CarrierInfo-r13 INTEGER ::= 8 -- Maximum number of WLAN Carrier Information

maxWLAN-Id-Report-r14 INTEGER ::= 32 -- Maximum number of WLAN IDs to report

maxWLAN-Name-r15 INTEGER ::= 4 -- Maximum number of WLAN name

-- ASN1STOP

NOTE: The value of maxDRB aligns with SA2.

*End OF CHANGE*