

TSG-RAN Meeting #28
Quebec, Canada, 01-03 June 2005

RP-050328
agenda items 8.6, 8.12, 8.1.2, 8.1.3, 8.1.4, 8.4, 8.6

Source: TSG-RAN WG2.

Subject: CR on 25.331 on ASN.1 corrections
(TEI5, NTShar-UTRANEnh, UMTS900, UMTS2600, EUDCH-L23, LCRTDD-L23, MBMS-RAN).

The following CR is in RP-050328:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	2605	-	Rel-6	Clean-up of R6 ASN.1 leftovers	F	6.5.0	6.6.0	R2-051655	TEI5, NTShar-UTRANEnh, UMTS900, UMTS2600, EUDCH-L23, LCRTDD-L23, MBMS-RAN

CHANGE REQUEST

⌘ **25.331 CR 2605** ⌘ rev **-** ⌘ Current version: **6.5.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Clean-up of R6 ASN.1 leftovers		
Source:	⌘ RAN WG2		
Work item code:	⌘ TEI5, NTShar-UTRANenh, UMTS900, UMTS2600, EUDCH- L23, LCRTDD-L23, MBMS-RAN	Date:	⌘ 12/05/2005
Category:	⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction 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 .	Release:	⌘ Rel-6 Use <u>one</u> of the following releases: R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change:	<p>⌘ CR 2517r3 [TEI5]: <i>The IE 'losslessDLRLC-PDUSizeChange' is missing in the 'SRNC-RelocationInfo' R6 message.</i></p> <p>CR 2525 [NTShar-UTRANenh]: <i>The core network IE "primary-PLMN-Identity" has been introduced by NCE in several messages. It has also been introduced in the new R6 messages (CR 2534 and CR 2543). However, the introduction in the R6 messages does not seem to be aligned with the tabular, due to recent changes introduced in the tabular by CR 2525. It is suggested to incorporate the IE "primary-PLMN-Identity" in an updated IE "CN-InformationInfo-r6" and use that IE in the R6 messages instead of the present version. That would be aligned with the current tabular.</i></p> <p><i>Note 1: If the NTShar-UTRANenh correction is agreed, it overrides CR 2543 (R2-051095), which should then be rejected.</i></p> <p>CR 2532 [UMTS900, UMTS2600]: <i>The frequency band extensions was introduced as NCEs in the R99..R5 branches of the SRNS RELOCATION INFO message. The information is missing in the R6 message.</i></p> <p>CR 2534 [EUDCH-L23]: <i>The wrong version of IE 'UL-LogicalChannelMappings' is referenced in IE 'RB-MappingOption-r6'. The reference shall be updated to IE 'UL-LogicalChannelMappings-r6'.</i></p> <p>CR 2535 [LCRTDD-L23]: <i>The IE 'BEACON-PL-Est' was introduced by NCEs in several R99...R5 messages. The new IE is missing in the R6 messages.</i></p> <p>CR 2536r1 [MBMS-RAN]: <i>The IE 'MBMS-PL-ServiceRestrictInfo-r6' was introduced by NCEs in several R99...R5 messages and it shall be <u>optionally</u> present. However, in the new R6 messages, the IE is <u>mandatory</u> present.</i></p>
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Summary of change: ⌘ The abovementioned errors are corrected.

Consequences if not approved: ⌘ The new R6 messages would not be useful for their intended purpose.

Clauses affected: ⌘ 11.2, 11.3, 11.5

	Y	N		
Other specs affected:	⌘	X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

11.2 PDU definitions

```
--*****
--
-- TABULAR: The message type and integrity check info are not
-- visible in this module as they are defined in the class module.
-- Also, all FDD/TDD specific choices have the FDD option first
-- and TDD second, just for consistency.
--
--*****

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

--*****
--
-- IE parameter types from other modules
--
--*****

IMPORTS

-- Core Network IEs :
  CN-DomainIdentity,
  CN-InformationInfo,
  CN-InformationInfo-r6,
  CN-InformationInfoFull,
  NAS-Message,
  PagingRecordTypeID,
  PLMN-Identity,
-- UTRAN Mobility IEs :
  CellIdentity,
  CellIdentity-PerRL-List,
  URA-Identity,
-- User Equipment IEs :
  UE-RadioAccessCapabBandFDDList2,
  UE-RadioAccessCapabBandFDDList-ext,
  AccessStratumReleaseIndicator,
  ActivationTime,
  C-RNTI,
  CapabilityUpdateRequirement,
  CapabilityUpdateRequirement-r4,
  CapabilityUpdateRequirement-r4-ext,
  CapabilityUpdateRequirement-r5,
  CellUpdateCause,
  CellUpdateCause-ext,
  CipheringAlgorithm,
  CipheringModeInfo,
  DSCH-RNTI,
  E-RNTI,
  EstablishmentCause,
  FailureCauseWithProtErr,
  FailureCauseWithProtErrTrId,
  GroupReleaseInformation,
  H-RNTI,
  UESpecificBehaviourInformationlidle,
  UESpecificBehaviourInformationlinterRAT,
  InitialUE-Identity,
  IntegrityProtActivationInfo,
  IntegrityProtectionModeInfo,
  N-308,
  PagingCause,
  PagingRecordList,
  PagingRecord2List-r5,
  ProtocolErrorIndicator,
  ProtocolErrorIndicatorWithMoreInfo,
  RadioFrequencyBandTDDList,
  Rb-timer-indicator,
  RedirectionInfo,
  RedirectionInfo-r6,
  RejectionCause,
  ReleaseCause,
  RF-CapabilityComp,
```

RRC-StateIndicator,
RRC-TransactionIdentifier,
SecurityCapability,
START-Value,
STARTList,
SystemSpecificCapUpdateReq-v590ext,
U-RNTI,
U-RNTI-Short,
UE-RadioAccessCapability,
UE-RadioAccessCapability-v370ext,
UE-RadioAccessCapability-v380ext,
UE-RadioAccessCapability-v3a0ext,
UE-RadioAccessCapability-v3g0ext,
UE-RadioAccessCapability-v4b0ext,
UE-RadioAccessCapability-v590ext,
UE-RadioAccessCapability-v5c0ext,
UE-RadioAccessCapability-v650ext,
UE-RadioAccessCapabilityComp,
DL-PhysChCapabilityFDD-v380ext,
UE-ConnTimersAndConstants,
UE-ConnTimersAndConstants-v3a0ext,
UE-ConnTimersAndConstants-r5,
UE-SecurityInformation,
URA-UpdateCause,
UTRAN-DRX-CycleLengthCoefficient,
WaitTime,
-- Radio Bearer IEs :
DefaultConfigIdentity,
DefaultConfigIdentity-r4,
DefaultConfigIdentity-r5,
DefaultConfigMode,
DL-CounterSynchronisationInfo,
DL-CounterSynchronisationInfo-r5,
PredefinedConfigIdentity,
PredefinedConfigStatusList,
PredefinedConfigStatusListComp,
PredefinedConfigSetWithDifferentValueTag,
RAB-Info,
RAB-Info-Post,
RAB-InformationList,
RAB-InformationReconfigList,
RAB-InformationSetupList,
RAB-InformationSetupList-r4,
RAB-InformationSetupList-r5,
RAB-InformationSetupList-r6-ext,
RAB-InformationSetupList-r6,
RB-ActivationTimeInfoList,
RB-COUNT-C-InformationList,
RB-COUNT-C-MSB-InformationList,
RB-IdentityList,
RB-InformationAffectedList,
RB-InformationAffectedList-r5,
RB-InformationAffectedList-r6,
RB-InformationReconfigList,
RB-InformationReconfigList-r4,
RB-InformationReconfigList-r5,
RB-InformationReconfigList-r6,
RB-InformationReleaseList,
RB-PDCPContextRelocationList,
SRB-InformationSetupList,
SRB-InformationSetupList-r5,
SRB-InformationSetupList-r6,
SRB-InformationSetupList2,
UL-CounterSynchronisationInfo,
-- Transport Channel IEs:
CPCH-SetID,
DL-AddReconfTransChInfo2List,
DL-AddReconfTransChInfoList,
DL-AddReconfTransChInfoList-r4,
DL-AddReconfTransChInfoList-r5,
DL-CommonTransChInfo,
DL-CommonTransChInfo-r4,
DL-DeletedTransChInfoList,
DL-DeletedTransChInfoList-r5,
DRAC-StaticInformationList,
TFC-Subset,
TFCS-Identity,
UL-AddReconfTransChInfoList,

- UL-AddReconfTransChInfoList-r6,
- UL-CommonTransChInfo,
- UL-CommonTransChInfo-r4,
- UL-DeletedTransChInfoList,
- UL-DeletedTransChInfoList-r6,

-- Physical Channel IEs :

- Alpha,
- BEACON-PL-Est,
- CCTrCH-PowerControlInfo,
- CCTrCH-PowerControlInfo-r4,
- CCTrCH-PowerControlInfo-r5,
- ConstantValue,
- ConstantValueTdd,
- CPCH-SetInfo,
- DL-CommonInformation,
- DL-CommonInformation-r4,
- DL-CommonInformation-r5,
- DL-CommonInformation-r6,
- DL-CommonInformationPost,
- DL-HSPDSCH-Information,
- DL-InformationPerRL-List,
- DL-InformationPerRL-List-r4,
- DL-InformationPerRL-List-r5,
- DL-InformationPerRL-List-r5bis,
- DL-InformationPerRL-List-r6,
- DL-InformationPerRL-ListPostFDD,
- DL-InformationPerRL-PostTDD,
- DL-InformationPerRL-PostTDD-LCR-r4,
- DL-PDSCH-Information,
- DL-TPC-PowerOffsetPerRL-List,
- DPC-Mode,
- DPCH-CompressedModeStatusInfo,
- FrequencyInfo,
- FrequencyInfoFDD,
- FrequencyInfoTDD,
- HARQ-Preamble-Mode,
- HS-SICH-Power-Control-Info-TDD384,
- MaxAllowedUL-TX-Power,
- OpenLoopPowerControl-IPDL-TDD-r4,
- PDSCH-CapacityAllocationInfo,
- PDSCH-CapacityAllocationInfo-r4,
- PDSCH-Identity,
- PrimaryCPICH-Info,
- PrimaryCCPCH-TX-Power,
- PUSCH-CapacityAllocationInfo,
- PUSCH-CapacityAllocationInfo-r4,
- PUSCH-Identity,
- PUSCH-SysInfoList-HCR-r5,
- PDSCH-SysInfoList-HCR-r5,
- RL-AdditionInformationList,
- RL-AdditionInformationList-r6,
- RL-RemovalInformationList,
- SpecialBurstScheduling,
- SSDT-Information,
- SSDT-Information-r4,
- TFC-ControlDuration,
- SSDT-UL,
- TimeslotList,
- TimeslotList-r4,
- TX-DiversityMode,
- UL-ChannelRequirement,
- UL-ChannelRequirement-r4,
- UL-ChannelRequirement-r5,
- UL-ChannelRequirement-r6,
- UL-ChannelRequirementWithCPCH-SetID,
- UL-ChannelRequirementWithCPCH-SetID-r4,
- UL-ChannelRequirementWithCPCH-SetID-r5,
- UL-ChannelRequirementWithCPCH-SetID-r6,
- UL-DPCH-Info,
- UL-DPCH-Info-r4,
- UL-DPCH-Info-r5,
- UL-DPCH-Info-r6,
- UL-DPCH-InfoPostFDD,
- UL-DPCH-InfoPostTDD,
- UL-DPCH-InfoPostTDD-LCR-r4,
- UL-EDCH-Information-r6,
- UL-SynchronisationParameters-r4,
- UL-TimingAdvance,

```

    UL-TimingAdvanceControl ,
    UL-TimingAdvanceControl-r4,
-- Measurement IEs :
    AdditionalMeasurementID-List,
    DeltaRSCP,
    Frequency-Band,
    EventResults,
    Inter-FreqEventCriteriaList-v590ext,
    Intra-FreqEventCriteriaList-v590ext,
    IntraFreqReportingCriteria-lb-r5,
    IntraFreqEvent-lg-r5,
    InterFreqEventResults-LCR-r4-ext,
    InterRATCellInfoIndicator,
    InterRAT-TargetCellDescription,
    MeasuredResults,
    MeasuredResults-v390ext,
    MeasuredResults-v590ext,
    MeasuredResultsList,
    MeasuredResultsList-LCR-r4-ext,
    MeasuredResultsOnRACH,
    MeasurementCommand,
    MeasurementCommand-r4,
    MeasurementIdentity,
    MeasurementReportingMode,
    PrimaryCCPCH-RSCP,
    SFN-Offset-Validity,
    TimeslotListWithISCP,
    TrafficVolumeMeasuredResultsList,
    UE-Positioning-GPS-AssistanceData,
    UE-Positioning-Measurement-v390ext,
    UE-Positioning-OTDOA-AssistanceData,
    UE-Positioning-OTDOA-AssistanceData-r4ext,
    UE-Positioning-OTDOA-AssistanceData-UEB,
-- Other IEs :
    BCCH-ModificationInfo,
    CDMA2000-MessageList,
    GSM-TargetCellInfoList,
    GERANIu-MessageList,
    GERAN-SystemInformation,
    GSM-MessageList,
    InterRAT-ChangeFailureCause,
    InterRAT-HO-FailureCause,
    InterRAT-UE-RadioAccessCapabilityList,
    InterRAT-UE-RadioAccessCapability-v590ext,
    InterRAT-UE-SecurityCapList,
    IntraDomainNasNodeSelector,
    ProtocolErrorMoreInformation,
    Rplmn-Information,
    Rplmn-Information-r4,
    SegCount,
    SegmentIndex,
    SFN-Prime,
    SIB-Data-fixed,
    SIB-Data-variable,
    SIB-Type,
-- MBMS IEs:
    MBMS-CellGroupIdentity-r6,
    MBMS-CommonRBInformationList-r6,
    MBMS-CurrentCell-SCCPCHList-r6,
    MBMS-JoinedInformation-r6,
    MBMS-MICHConfigurationInfo-r6,
    MBMS-ModifedServiceList-r6,
    MBMS-MSCHConfigurationInfo-r6,
    MBMS-NeighbouringCellSCCPCHList-r6,
    MBMS-PhyChInformationList-r6,
    MBMS-PL-ServiceRestrictInfo-r6,
    MBMS-PreferredFreqRequest-r6,
    MBMS-PreferredFrequencyList-r6,
    MBMS-ServiceAccessInfoList-r6,
    MBMS-ServiceSchedulingInfoList-r6,
    MBMS-SIBType5-SCCPCHList-r6,
    MBMS-TimersAndCouneters-r6,
    MBMS-TranspChInfoForEachCCTrCh-r6,
    MBMS-TranspChInfoForEachTrCh-r6,
    MBMS-UnmodifiedServiceList-r6
FROM InformationElements

    maxSIBperMsg,
    maxURNTI-Group

```

FROM Constant-definitions;

```
-- *****  
--  
-- ACTIVE SET UPDATE (FDD only)  
--  
-- *****
```

```
ActiveSetUpdate ::= CHOICE {  
  r3  
    activeSetUpdate-r3          SEQUENCE {  
      laterNonCriticalExtensions  ActiveSetUpdate-r3-IEs,  
      activeSetUpdate-r3-add-ext  BIT STRING OPTIONAL,  
      v4b0NonCriticalExtensions  SEQUENCE {  
        activeSetUpdate-v4b0ext  ActiveSetUpdate-v4b0ext-IEs,  
        v590NonCriticalExtensions SEQUENCE {  
          activeSetUpdate-v590ext  ActiveSetUpdate-v590ext-IEs,  
          v6xyNonCriticalExtensions SEQUENCE {  
            activeSetUpdate-v6xyext  ActiveSetUpdate-v6xyext-IEs,  
            nonCriticalExtensions    SEQUENCE {} OPTIONAL  
          } OPTIONAL  
        } OPTIONAL  
      } OPTIONAL  
    },  
  later-than-r3  
    rrc-TransactionIdentifier  RRC-TransactionIdentifier,  
    criticalExtensions        CHOICE {  
      r6  
        activeSetUpdate-r6      ActiveSetUpdate-r6-IEs,  
        nonCriticalExtensions    SEQUENCE {} OPTIONAL  
      },  
    criticalExtensions        SEQUENCE {}  
  }  
}
```

```
ActiveSetUpdate-r3-IEs ::= SEQUENCE {  
  -- User equipment IEs  
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,  
  -- dummy and dummy2 are not used in this version of the specification, they should  
  -- not be sent and if received they should be ignored.  
  dummy                      IntegrityProtectionModeInfo    OPTIONAL,  
  dummy2                    CipheringModeInfo              OPTIONAL,  
  activationTime             ActivationTime                  OPTIONAL,  
  newU-RNTI                 U-RNTI                         OPTIONAL,  
  -- Core network IEs  
  cn-InformationInfo        CN-InformationInfo              OPTIONAL,  
  -- Radio bearer IEs  
  -- dummy3 is not used in this version of the specification, it should  
  -- not be sent and if received it should be ignored.  
  dummy3                    DL-CounterSynchronisationInfo  OPTIONAL,  
  -- Physical channel IEs  
  maxAllowedUL-TX-Power     MaxAllowedUL-TX-Power          OPTIONAL,  
  rl-AdditionInformationList  RL-AdditionInformationList  OPTIONAL,  
  rl-RemovalInformationList  RL-RemovalInformationList  OPTIONAL,  
  tx-DiversityMode          TX-DiversityMode              OPTIONAL,  
  ssdt-Information          SSDT-Information              OPTIONAL  
}
```

```
ActiveSetUpdate-v4b0ext-IEs ::= SEQUENCE {  
  -- Physical channel IEs  
  -- ssdt-UL extends SSDT-Information. FDD only.  
  ssdt-UL-r4                SSDT-UL                          OPTIONAL,  
  -- The order of the RLs in IE cell-id-PerRL-List is the same as  
  -- in IE RL-AdditionInformationList included in this message  
  cell-id-PerRL-List        CellIdentity-PerRL-List          OPTIONAL  
}
```

```
ActiveSetUpdate-v590ext-IEs ::= SEQUENCE {  
  -- Physical channel IEs  
  dpc-Mode                  DPC-Mode,  
  dl-TPC-PowerOffsetPerRL-List  DL-TPC-PowerOffsetPerRL-List  OPTIONAL  
}
```

```
ActiveSetUpdate-v6xyext-IEs ::= SEQUENCE {  
  -- Core network IEs
```



```

        primary-plmn-Identity                PLMN-Identity                OPTIONAL
    }

ActiveSetUpdate-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
        activationTime                        ActivationTime                OPTIONAL,
        newU-RNTI                             U-RNTI                       OPTIONAL,
    -- Core network IEs
        cn-InformationInfo                    CN-InformationInfo-r6        OPTIONAL,
    -- Physical channel IEs
        maxAllowedUL-TX-Power                MaxAllowedUL-TX-Power        OPTIONAL,
        rl-AdditionInformationList            RL-AdditionInformationList-r6 OPTIONAL,
        rl-RemovalInformationList             RL-RemovalInformationList    OPTIONAL,
        tx-DiversityMode                      TX-DiversityMode             OPTIONAL,
        ssdt-Information                      SSDT-Information-r4          OPTIONAL,
        dpc-Mode                              DPC-Mode                     OPTIONAL
    }

-- *****
--
-- ACTIVE SET UPDATE COMPLETE (FDD only)
--
-- *****

ActiveSetUpdateComplete ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier            RRC-TransactionIdentifier,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        dummy                                IntegrityProtActivationInfo    OPTIONAL,
    -- Radio bearer IEs
        -- dummy2 and dummy3 are not used in this version of the specification, they should
        -- not be sent and if received they should be ignored.
        dummy2                               RB-ActivationTimeInfoList      OPTIONAL,
        dummy3                               UL-CounterSynchronisationInfo  OPTIONAL,
        laterNonCriticalExtensions            SEQUENCE {
            -- Container for additional R99 extensions
            activeSetUpdateComplete-r3-add-ext BIT STRING    OPTIONAL,
            nonCriticalExtensions             SEQUENCE {} OPTIONAL
        } OPTIONAL
    }

-- *****
--
-- ACTIVE SET UPDATE FAILURE (FDD only)
--
-- *****

ActiveSetUpdateFailure ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier            RRC-TransactionIdentifier,
        failureCause                          FailureCauseWithProtErr,
        laterNonCriticalExtensions            SEQUENCE {
            -- Container for additional R99 extensions
            activeSetUpdateFailure-r3-add-ext BIT STRING    OPTIONAL,
            nonCriticalExtensions             SEQUENCE {} OPTIONAL
        } OPTIONAL
    }

-- *****
--
-- Assistance Data Delivery
--
-- *****

AssistanceDataDelivery ::= CHOICE {
    r3 SEQUENCE {
        assistanceDataDelivery-r3            AssistanceDataDelivery-r3-IEs,
        v3a0NonCriticalExtensions            SEQUENCE {
            assistanceDataDelivery-v3a0ext    AssistanceDataDelivery-v3a0ext,
            laterNonCriticalExtensions        SEQUENCE {
                -- Container for additional R99 extensions
                assistanceDataDelivery-r3-add-ext BIT STRING    OPTIONAL,
                v4b0NonCriticalExtensions    SEQUENCE {
                    assistanceDataDelivery-v4b0ext
                }
            }
            nonCriticalExtensions            SEQUENCE {} OPTIONAL
        } OPTIONAL
    }
}

```

```

    } OPTIONAL
  } OPTIONAL
},
later-than-r3          SEQUENCE {
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,
  criticalExtensions         SEQUENCE {}
}
}

AssistanceDataDelivery-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,
  -- Measurement Information Elements
  ue-positioning-GPS-AssistanceData  UE-Positioning-GPS-AssistanceData
  OPTIONAL,
  ue-positioning-OTDOA-AssistanceData-UEB  UE-Positioning-OTDOA-AssistanceData-UEB
  OPTIONAL
}

AssistanceDataDelivery-v3a0ext ::= SEQUENCE {
  sfm-Offset-Validity          SFM-Offset-Validity          OPTIONAL
}

AssistanceDataDelivery-v4b0ext-IEs ::= SEQUENCE {
  ue-Positioning-OTDOA-AssistanceData-r4ext  UE-Positioning-OTDOA-AssistanceData-r4ext  OPTIONAL
}

-- *****
--
-- CELL CHANGE ORDER FROM UTRAN
--
-- *****

CellChangeOrderFromUTRAN ::= CHOICE {
  r3          SEQUENCE {
    cellChangeOrderFromUTRAN-IEs  CellChangeOrderFromUTRAN-r3-IEs,
    laterNonCriticalExtensions      SEQUENCE {
      -- Container for additional R99 extensions
      cellChangeOrderFromUTRAN-r3-add-ext  BIT STRING          OPTIONAL,
      v590NonCriticalExtensions           SEQUENCE {
        cellChangeOrderFromUTRAN-v590ext  CellChangeOrderFromUTRAN-v590ext-IEs,
        nonCriticalExtensions             SEQUENCE {} OPTIONAL
      }
    } OPTIONAL
  } OPTIONAL
},
later-than-r3          SEQUENCE {
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,
  criticalExtensions         SEQUENCE {}
}
}

CellChangeOrderFromUTRAN-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,
  -- dummy is not used in this version of the specification, it should
  -- not be sent and if received it should be ignored.
  dummy                      IntegrityProtectionModeInfo          OPTIONAL,
  activationTime             ActivationTime                        OPTIONAL,
  -- the IE rab-InformationList is not used in this version of the specification, it should
  -- not be sent and if received it should be ignored. The IE may be used in a later
  -- version of the protocol and hence it is not changed into a dummy
  rab-InformationList        RAB-InformationList                  OPTIONAL,
  interRAT-TargetCellDescription  InterRAT-TargetCellDescription
}

CellChangeOrderFromUTRAN-v590ext-IEs ::= SEQUENCE {
  geran-SystemInfoType      CHOICE {
    sI                      GERAN-SystemInformation,
    pSI                     GERAN-SystemInformation
  }
  OPTIONAL
}

-- *****
--
-- CELL CHANGE ORDER FROM UTRAN FAILURE
--
-- *****

```

```

CellChangeOrderFromUTRANFailure ::= CHOICE {
  r3
    SEQUENCE {
      cellChangeOrderFromUTRANFailure-r3
      CellChangeOrderFromUTRANFailure-r3-IEs,
      laterNonCriticalExtensions
        SEQUENCE {
          -- Container for additional R99 extensions
          cellChangeOrderFromUTRANFailure-r3-add-ext
            BIT STRING OPTIONAL,
          nonCriticalExtensions
            SEQUENCE {} OPTIONAL
        }
      OPTIONAL
    },
  -- dummy is not used in this version of the specification and it
  -- should be ignored.
  dummy
    SEQUENCE {
      rrc-TransactionIdentifier
        RRC-TransactionIdentifier,
      criticalExtensions
        SEQUENCE {}
    }
}

CellChangeOrderFromUTRANFailure-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier
    RRC-TransactionIdentifier,
  -- dummy is not used in this version of the specification, it should
  -- not be sent and if received it should be ignored.
  dummy
    IntegrityProtectionModeInfo
      OPTIONAL,
  interRAT-ChangeFailureCause
    InterRAT-ChangeFailureCause
}

-- *****
--
-- CELL UPDATE
--
-- *****

CellUpdate ::= SEQUENCE {
  -- User equipment IEs
  u-RNTI
    U-RNTI,
  startList
    STARTList,
  am-RLC-ErrorIndicationRb2-3or4
    BOOLEAN,
  am-RLC-ErrorIndicationRb5orAbove
    BOOLEAN,
  cellUpdateCause
    CellUpdateCause,
  -- TABULAR: RRC transaction identifier is nested in FailureCauseWithProtErrTrId
  failureCause
    FailureCauseWithProtErrTrId
      OPTIONAL,
  rb-timer-indicator
    Rb-timer-indicator,
  -- Measurement IEs
  measuredResultsOnRACH
    MeasuredResultsOnRACH
      OPTIONAL,
  laterNonCriticalExtensions
    SEQUENCE {
      -- Container for additional R99 extensions
      cellUpdate-r3-add-ext
        BIT STRING OPTIONAL,
      v590NonCriticalExtensions
        SEQUENCE {
          cellUpdate-v590ext
            CellUpdate-v590ext,
          v6xyNonCriticalExtensions
            SEQUENCE {
              cellUpdate-v6xyext
                CellUpdate-v6xyext-IEs,
              nonCriticalExtensions
                SEQUENCE {} OPTIONAL
            }
          OPTIONAL
        }
      OPTIONAL
    }
  OPTIONAL
}

CellUpdate-v590ext ::= SEQUENCE {
  establishmentCause
    EstablishmentCause
      OPTIONAL
}

CellUpdate-v6xyext-IEs ::= SEQUENCE {
  -- User equipment IEs
  cellUpdateCause-ext
    CellUpdateCause-ext
      OPTIONAL
}

-- *****
--
-- CELL UPDATE CONFIRM
--
-- *****

CellUpdateConfirm ::= CHOICE {
  r3
    SEQUENCE {
      cellUpdateConfirm-r3
        CellUpdateConfirm-r3-IEs,
      v3a0NonCriticalExtensions
        SEQUENCE {
          cellUpdateConfirm-v3a0ext
            CellUpdateConfirm-v3a0ext,

```



```

-- Transport channel IEs
ul-CommonTransChInfo          UL-CommonTransChInfo          OPTIONAL,
ul-deletedTransChInfoList     UL-DeletedTransChInfoList     OPTIONAL,
ul-AddReconfTransChInfoList   UL-AddReconfTransChInfoList   OPTIONAL,
modeSpecificTransChInfo       CHOICE {
    fdd                         SEQUENCE {
        cpch-SetID              CPCH-SetID              OPTIONAL,
        addReconfTransChDRAC-Info DRAC-StaticInformationList OPTIONAL
    },
    tdd                         NULL
},
dl-CommonTransChInfo          DL-CommonTransChInfo          OPTIONAL,
dl-DeletedTransChInfoList     DL-DeletedTransChInfoList     OPTIONAL,
dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList   OPTIONAL,
-- Physical channel IEs
frequencyInfo                  FrequencyInfo                  OPTIONAL,
maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power         OPTIONAL,
ul-ChannelRequirement          UL-ChannelRequirement         OPTIONAL,
modeSpecificPhysChInfo        CHOICE {
    fdd                         SEQUENCE {
        dl-PDSCH-Information    DL-PDSCH-Information    OPTIONAL
    },
    tdd                         NULL
},
dl-CommonInformation          DL-CommonInformation          OPTIONAL,
dl-InformationPerRL-List      DL-InformationPerRL-List      OPTIONAL
}

CellUpdateConfirm-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI              DSCH-RNTI                      OPTIONAL
}

CellUpdateConfirm-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- ssdt-UL extends SSdT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL-r4                  SSdT-UL                          OPTIONAL,
    -- The order of the RLs in IE cell-id-PerRL-List is the same as
    -- in IE DL-InformationPerRL-List included in this message
    cell-id-PerRL-List          CellIdentity-PerRL-List         OPTIONAL
}

CellUpdateConfirm-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    dl-TPC-PowerOffsetPerRL-List DL-TPC-PowerOffsetPerRL-List    OPTIONAL
}

CellUpdateConfirm-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
    integrityProtectionModeInfo IntegrityProtectionModeInfo     OPTIONAL,
    cipheringModeInfo          CipheringModeInfo                OPTIONAL,
    activationTime              ActivationTime                      OPTIONAL,
    new-U-RNTI                  U-RNTI                          OPTIONAL,
    new-C-RNTI                  C-RNTI                          OPTIONAL,
    new-DSCH-RNTI              DSCH-RNTI                        OPTIONAL,
    rrc-StateIndicator          RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
    rlc-Re-establishIndicatorRb2-3or4 BOOLEAN,
    rlc-Re-establishIndicatorRb5orAbove BOOLEAN,
    -- CN information elements
    cn-InformationInfo          CN-InformationInfo                OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                URA-Identity                      OPTIONAL,
    -- Radio bearer IEs
    rb-InformationReleaseList    RB-InformationReleaseList      OPTIONAL,
    rb-InformationReconfigList   RB-InformationReconfigList-r4   OPTIONAL,
    rb-InformationAffectedList   RB-InformationAffectedList      OPTIONAL,
    dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo   OPTIONAL,
    -- Transport channel IEs
    ul-CommonTransChInfo        UL-CommonTransChInfo-r4        OPTIONAL,
    ul-deletedTransChInfoList    UL-DeletedTransChInfoList      OPTIONAL,
    ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList    OPTIONAL,
    modeSpecificTransChInfo      CHOICE {
        fdd                       SEQUENCE {
            cpch-SetID            CPCH-SetID            OPTIONAL,
            addReconfTransChDRAC-Info DRAC-StaticInformationList OPTIONAL
        },
        tdd                       NULL
    }
}

```

```

    },
    dl-CommonTransChInfo          DL-CommonTransChInfo-r4          OPTIONAL,
    dl-DeletedTransChInfoList     DL-DeletedTransChInfoList       OPTIONAL,
    dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r4  OPTIONAL,
-- Physical channel IEs
    frequencyInfo                 FrequencyInfo                     OPTIONAL,
    maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power           OPTIONAL,
    ul-ChannelRequirement         UL-ChannelRequirement-r4        OPTIONAL,
    modeSpecificPhysChInfo        CHOICE {
        fdd                       SEQUENCE {
            dl-PDSCH-Information   DL-PDSCH-Information           OPTIONAL
        },
        tdd                       NULL
    },
    dl-CommonInformation          DL-CommonInformation-r4         OPTIONAL,
    dl-InformationPerRL-List      DL-InformationPerRL-List-r4     OPTIONAL
}

```

CellUpdateConfirm-r5-IEs ::= SEQUENCE {

```

-- User equipment IEs
    integrityProtectionModeInfo   IntegrityProtectionModeInfo     OPTIONAL,
    cipheringModeInfo            CipheringModeInfo                OPTIONAL,
    activationTime                ActivationTime                    OPTIONAL,
    new-U-RNTI                    U-RNTI                          OPTIONAL,
    new-C-RNTI                    C-RNTI                          OPTIONAL,
    new-DSCH-RNTI                DSCH-RNTI                       OPTIONAL,
    new-H-RNTI                    H-RNTI                          OPTIONAL,
    rrc-StateIndicator            RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
    rlc-Re-establishIndicatorRb2-3or4 BOOLEAN,
    rlc-Re-establishIndicatorRb5orAbove BOOLEAN,
-- CN information elements
    cn-InformationInfo            CN-InformationInfo              OPTIONAL,
-- UTRAN mobility IEs
    ura-Identity                  URA-Identity                    OPTIONAL,
-- Radio bearer IEs
    rb-InformationReleaseList     RB-InformationReleaseList       OPTIONAL,
    rb-InformationReconfigList    RB-InformationReconfigList-r5   OPTIONAL,
    rb-InformationAffectedList    RB-InformationAffectedList-r5   OPTIONAL,
    dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5 OPTIONAL,
-- Transport channel IEs
    ul-CommonTransChInfo         UL-CommonTransChInfo-r4        OPTIONAL,
    ul-deletedTransChInfoList     UL-DeletedTransChInfoList       OPTIONAL,
    ul-AddReconfTransChInfoList   UL-AddReconfTransChInfoList    OPTIONAL,
    modeSpecificTransChInfo       CHOICE {
        fdd                       SEQUENCE {
            cpch-SetID            CPCH-SetID                     OPTIONAL,
            addReconfTransChDRAC-Info DRAC-StaticInformationList     OPTIONAL
        },
        tdd                       NULL
    },
    dl-CommonTransChInfo          DL-CommonTransChInfo-r4        OPTIONAL,
    dl-DeletedTransChInfoList     DL-DeletedTransChInfoList-r5   OPTIONAL,
    dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r5 OPTIONAL,
-- Physical channel IEs
    frequencyInfo                 FrequencyInfo                     OPTIONAL,
    maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power           OPTIONAL,
    ul-ChannelRequirement         UL-ChannelRequirement-r5        OPTIONAL,
    modeSpecificPhysChInfo        CHOICE {
        fdd                       SEQUENCE {
            dl-PDSCH-Information   DL-PDSCH-Information           OPTIONAL
        },
        tdd                       NULL
    },
    dl-HSPDSCH-Information        DL-HSPDSCH-Information          OPTIONAL,
    dl-CommonInformation          DL-CommonInformation-r5         OPTIONAL,
    dl-InformationPerRL-List      DL-InformationPerRL-List-r5     OPTIONAL
}

```

CellUpdateConfirm-r6-IEs ::= SEQUENCE {

```

-- User equipment IEs
    integrityProtectionModeInfo   IntegrityProtectionModeInfo     OPTIONAL,
    cipheringModeInfo            CipheringModeInfo                OPTIONAL,
    activationTime                ActivationTime                    OPTIONAL,
    new-U-RNTI                    U-RNTI                          OPTIONAL,
    new-C-RNTI                    C-RNTI                          OPTIONAL,
    new-DSCH-RNTI                DSCH-RNTI                       OPTIONAL,
    new-H-RNTI                    H-RNTI                          OPTIONAL,

```

```

new-E-RNTI                E-RNTI                OPTIONAL,
rrc-StateIndicator        RRC-StateIndicator,
utran-DRX-CycleLengthCoeff  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
rlc-Re-establishIndicatorRb2-3or4    BOOLEAN,
rlc-Re-establishIndicatorRb5orAbove   BOOLEAN,
-- CN information elements
cn-InformationInfo        CN-InformationInfo-r6        OPTIONAL,
-- UTRAN mobility IEs
ura-Identity              URA-Identity              OPTIONAL,
-- Radio bearer IEs
rb-InformationReleaseList  RB-InformationReleaseList  OPTIONAL,
rb-InformationReconfigList RB-InformationReconfigList-r6  OPTIONAL,
rb-InformationAffectedList RB-InformationAffectedList-r6  OPTIONAL,
dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5  OPTIONAL,
-- Transport channel IEs
ul-CommonTransChInfo      UL-CommonTransChInfo-r4      OPTIONAL,
ul-deletedTransChInfoList UL-DeletedTransChInfoList-r6  OPTIONAL,
ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList-r6  OPTIONAL,
modeSpecificTransChInfo   CHOICE {
  fdd                      SEQUENCE {
    cpch-SetID             CPCH-SetID             OPTIONAL,
    addReconfTransChDRAC-Info DRAC-StaticInformationList  OPTIONAL
  },
  tdd                      NULL
},
dl-CommonTransChInfo      DL-CommonTransChInfo-r4      OPTIONAL,
dl-DeletedTransChInfoList DL-DeletedTransChInfoList-r5  OPTIONAL,
dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5  OPTIONAL,
-- Physical channel IEs
frequencyInfo             FrequencyInfo             OPTIONAL,
maxAllowedUL-TX-Power     MaxAllowedUL-TX-Power     OPTIONAL,
ul-ChannelRequirement     UL-ChannelRequirement-r6  OPTIONAL,
ul-EDCH-Information       UL-EDCH-Information-r6    OPTIONAL,
modeSpecificPhysChInfo    CHOICE {
  fdd                      SEQUENCE {
    dl-PDSCH-Information   DL-PDSCH-Information   OPTIONAL
  },
  tdd                      NULL
},
dl-HSPDSCH-Information    DL-HSPDSCH-Information    OPTIONAL,
dl-CommonInformation       DL-CommonInformation-r6   OPTIONAL,
dl-InformationPerRL-List   DL-InformationPerRL-List-r6  OPTIONAL,
-- MBMS IEs
mbms-PL-ServiceRestrictInfo MBMS-PL-ServiceRestrictInfo-r6  OPTIONAL
}

CellUpdateConfirm-v6xyext-IEs ::= SEQUENCE {
-- Core network IEs
  primary-plmn-Identity    PLMN-Identity            OPTIONAL,
-- Physical channel IEs
  harq-Preamble-Mode      HARQ-Preamble-Mode          OPTIONAL,
  beaconPLEst             BEACON-PL-Est              OPTIONAL,
-- MBMS IEs
  mbms-PL-ServiceRestrictInfo MBMS-PL-ServiceRestrictInfo-r6  OPTIONAL
}

-- *****
--
-- CELL UPDATE CONFIRM for CCCH
--
-- *****

CellUpdateConfirm-CCCH ::= CHOICE {
  r3                      SEQUENCE {
-- User equipment IEs
    u-RNTI                U-RNTI,
-- The rest of the message is identical to the one sent on DCCH.
    cellUpdateConfirm-r3  CellUpdateConfirm-r3-IEs,
    laterNonCriticalExtensions SEQUENCE {
-- Container for additional R99 extensions
      cellUpdateConfirm-CCCH-r3-add-ext  BIT STRING  OPTIONAL,
      v4b0NonCriticalExtensions          SEQUENCE {
        cellUpdateConfirm-v4b0ext        CellUpdateConfirm-v4b0ext-IEs,
        v590NonCriticalExtensions        SEQUENCE {
          cellUpdateConfirm-v590ext      CellUpdateConfirm-v590ext-IEs,
          v6xyNonCriticalExtensions      SEQUENCE {
            cellUpdateConfirm-v6xyext    CellUpdateConfirm-v6xyext-IEs,
            nonCriticalExtensions        SEQUENCE {}  OPTIONAL
          }
        }
      }
    }
  }
}

```

```

        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3 SEQUENCE {
    u-RNTI U-RNTI,
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
    criticalExtensions CHOICE {
      r4 SEQUENCE {
        -- The rest of the message is identical to the one sent on DCCH.
        cellUpdateConfirm-r4 CellUpdateConfirm-r4-IEs,
        v4d0NonCriticalExtensions SEQUENCE {
          -- Container for adding non critical extensions after freezing REL-5
          cellUpdateConfirm-CCCH-r4-add-ext BIT STRING OPTIONAL,
          v590NonCriticalExtensions SEQUENCE {
            cellUpdateConfirm-v590ext CellUpdateConfirm-v590ext-IEs,
            v6xyNonCriticalExtensions SEQUENCE {
              cellUpdateConfirm-v6xyext CellUpdateConfirm-v6xyext-IEs,
              nonCriticalExtensions SEQUENCE {} OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
      }
    } OPTIONAL
  },
  criticalExtensions CHOICE {
    r5 SEQUENCE {
      cellUpdateConfirm-r5 CellUpdateConfirm-r5-IEs,
      cellUpdateConfirm-CCCH-r5-add-ext BIT STRING OPTIONAL,
      v6xyNonCriticalExtensions SEQUENCE {
        cellUpdateConfirm-v6xyext CellUpdateConfirm-v6xyext-IEs,
        nonCriticalExtensions SEQUENCE {} OPTIONAL
      }
    } OPTIONAL
  },
  criticalExtensions CHOICE {
    r6 SEQUENCE {
      cellUpdateConfirm-r6 CellUpdateConfirm-r6-IEs,
      cellUpdateConfirm-r6-add-ext BIT STRING OPTIONAL,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    }
  },
  criticalExtensions SEQUENCE {}
}
}
}
}
}

```

```

-- *****
--
-- COUNTER CHECK
--
-- *****

```

```

CounterCheck ::= CHOICE {
  r3 SEQUENCE {
    counterCheck-r3 CounterCheck-r3-IEs,
    laterNonCriticalExtensions SEQUENCE {
      -- Container for additional R99 extensions
      counterCheck-r3-add-ext BIT STRING OPTIONAL,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    }
  },
  later-than-r3 SEQUENCE {
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
    criticalExtensions SEQUENCE {}
  }
}

```

```

CounterCheck-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  -- Radio bearer IEs
  rb-COUNT-C-MSB-InformationList RB-COUNT-C-MSB-InformationList
}

```

```

-- *****
--
-- COUNTER CHECK RESPONSE
--

```



```

-- *****
CounterCheckResponse ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  -- Radio bearer IEs
  rb-COUNT-C-InformationList     RB-COUNT-C-InformationList      OPTIONAL,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    counterCheckResponse-r3-add-ext  BIT STRING OPTIONAL,
    nonCriticalExtensions            SEQUENCE {} OPTIONAL
  } OPTIONAL
}

-- *****
--
-- DOWNLINK DIRECT TRANSFER
--
-- *****

DownlinkDirectTransfer ::= CHOICE {
  r3
  downlinkDirectTransfer-r3      DownlinkDirectTransfer-r3-IEs,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    downlinkDirectTransfer-r3-add-ext  BIT STRING OPTIONAL,
    nonCriticalExtensions            SEQUENCE {} OPTIONAL
  } OPTIONAL
},
  later-than-r3                  SEQUENCE {
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    criticalExtensions            SEQUENCE {}
  }
}

DownlinkDirectTransfer-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  -- Core network IEs
  cn-DomainIdentity             CN-DomainIdentity,
  nas-Message                   NAS-Message
}

-- *****
--
-- HANDOVER TO UTRAN COMMAND
--
-- *****

HandoverToUTRANCommand ::= CHOICE {
  r3
  handoverToUTRANCommand-r3     HandoverToUTRANCommand-r3-IEs,
  nonCriticalExtensions         SEQUENCE {} OPTIONAL
},
  criticalExtensions            CHOICE {
    r4
    handoverToUTRANCommand-r4   HandoverToUTRANCommand-r4-IEs,
    nonCriticalExtensions       SEQUENCE {} OPTIONAL
  },
  criticalExtensions            CHOICE {
    r5
    handoverToUTRANCommand-r5   HandoverToUTRANCommand-r5-IEs,
    nonCriticalExtensions       SEQUENCE {} OPTIONAL
  },
  criticalExtensions            CHOICE {
    r6
    handoverToUTRANCommand-r6   HandoverToUTRANCommand-r6-IEs,
    nonCriticalExtensions       SEQUENCE {} OPTIONAL
  },
  criticalExtensions            SEQUENCE {}
}
}

HandoverToUTRANCommand-r3-IEs ::= SEQUENCE {
  -- User equipment IEs

```

```

new-U-RNTI                U-RNTI-Short,
-- dummy is not used in this version of specification, it should
-- not be sent and if received it should be ignored.
dummy                    ActivationTime                OPTIONAL,
cipheringAlgorithm       CipheringAlgorithm           OPTIONAL,
-- Radio bearer IEs
-- Specification mode information
specificationMode        CHOICE {
  complete                SEQUENCE {
    srb-InformationSetupList  SRB-InformationSetupList,
    rab-InformationSetupList  RAB-InformationSetupList    OPTIONAL,
    ul-CommonTransChInfo     UL-CommonTransChInfo,
    ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList,
    dl-CommonTransChInfo     DL-CommonTransChInfo,
    dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList,
    ul-DPCH-Info             UL-DPCH-Info,
    modeSpecificInfo         CHOICE {
      fdd                    SEQUENCE {
        dl-PDSCH-Information  DL-PDSCH-Information OPTIONAL,
        cpch-SetInfo         CPCH-SetInfo        OPTIONAL
      },
      tdd                    NULL
    },
    dl-CommonInformation     DL-CommonInformation,
    dl-InformationPerRL-List DL-InformationPerRL-List,
    frequencyInfo           FrequencyInfo
  },
  preconfiguration        SEQUENCE {
-- All IEs that include an FDD/TDD choice are split in two IEs for this message,
-- one for the FDD only elements and one for the TDD only elements, so that one
-- FDD/TDD choice in this level is sufficient.
    preConfigMode          CHOICE {
      predefinedConfigIdentity  PredefinedConfigIdentity,
      defaultConfig             SEQUENCE {
        defaultConfigMode      DefaultConfigMode,
        defaultConfigIdentity  DefaultConfigIdentity
      }
    },
    rab-Info                RAB-Info-Post          OPTIONAL,
    modeSpecificInfo        CHOICE {
      fdd                    SEQUENCE {
        ul-DPCH-Info          UL-DPCH-InfoPostFDD,
        dl-CommonInformationPost DL-CommonInformationPost,
        dl-InformationPerRL-List DL-InformationPerRL-ListPostFDD,
        frequencyInfo         FrequencyInfoFDD
      },
      tdd                    SEQUENCE {
        ul-DPCH-Info          UL-DPCH-InfoPostTDD,
        dl-CommonInformationPost DL-CommonInformationPost,
        dl-InformationPerRL-List DL-InformationPerRL-ListPostTDD,
        frequencyInfo         FrequencyInfoTDD,
        primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power
      }
    }
  },
},
-- Physical channel IEs
maxAllowedUL-TX-Power     MaxAllowedUL-TX-Power
}

HandoverToUTRANCommand-r4-IEs ::= SEQUENCE {
-- User equipment IEs
new-U-RNTI                U-RNTI-Short,
cipheringAlgorithm       CipheringAlgorithm           OPTIONAL,
-- Radio bearer IEs
-- Specification mode information
specificationMode        CHOICE {
  complete                SEQUENCE {
    srb-InformationSetupList  SRB-InformationSetupList,
    rab-InformationSetupList  RAB-InformationSetupList-r4    OPTIONAL,
    ul-CommonTransChInfo     UL-CommonTransChInfo-r4,
    ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList,
    dl-CommonTransChInfo     DL-CommonTransChInfo-r4,
    dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r4,
    ul-DPCH-Info             UL-DPCH-Info-r4,
    modeSpecificInfo         CHOICE {
      fdd                    SEQUENCE {
        dl-PDSCH-Information  DL-PDSCH-Information OPTIONAL,

```

```

        cpch-SetInfo                CPCH-SetInfo                OPTIONAL
    },
    tdd                                NULL
},
dl-CommonInformation                DL-CommonInformation-r4,
dl-InformationPerRL-List            DL-InformationPerRL-List-r4,
frequencyInfo                       FrequencyInfo
},
preconfiguration                    SEQUENCE {
-- All IEs that include an FDD/TDD choice are split in two IEs for this message,
-- one for the FDD only elements and one for the TDD only elements, so that one
-- FDD/TDD choice in this level is sufficient.
    preConfigMode                    CHOICE {
        predefinedConfigIdentity      PredefinedConfigIdentity,
        defaultConfig                  SEQUENCE {
            defaultConfigMode          DefaultConfigMode,
            defaultConfigIdentity      DefaultConfigIdentity-r4
        }
    },
    rab-Info                          RAB-Info-Post                OPTIONAL,
    modeSpecificInfo                  CHOICE {
        fdd                            SEQUENCE {
            ul-DPCH-Info                UL-DPCH-InfoPostFDD,
            dl-CommonInformationPost     DL-CommonInformationPost,
            dl-InformationPerRL-List     DL-InformationPerRL-ListPostFDD,
            frequencyInfo                FrequencyInfoFDD
        },
        tdd                            CHOICE {
            tdd384                      SEQUENCE {
                ul-DPCH-Info            UL-DPCH-InfoPostTDD,
                dl-InformationPerRL      DL-InformationPerRL-PostTDD,
                frequencyInfo            FrequencyInfoTDD,
                primaryCCPCH-TX-Power    PrimaryCCPCH-TX-Power
            },
            tdd128                      SEQUENCE {
                ul-DPCH-Info            UL-DPCH-InfoPostTDD-LCR-r4,
                dl-InformationPerRL      DL-InformationPerRL-PostTDD-LCR-r4,
                frequencyInfo            FrequencyInfoTDD,
                primaryCCPCH-TX-Power    PrimaryCCPCH-TX-Power
            }
        }
    }
},
},
-- Physical channel IEs
    maxAllowedUL-TX-Power            MaxAllowedUL-TX-Power
}

HandoverToUTRANCommand-r5-IEs ::= SEQUENCE {
-- User equipment IEs
    new-U-RNTI                       U-RNTI-Short,
    cipheringAlgorithm                CipheringAlgorithm                OPTIONAL,
-- Radio bearer IEs
-- Specification mode information
    specificationMode                CHOICE {
        complete                      SEQUENCE {
            srb-InformationSetupList    SRB-InformationSetupList-r5,
            rab-InformationSetupList     RAB-InformationSetupList-r5                OPTIONAL,
            ul-CommonTransChInfo        UL-CommonTransChInfo-r4,
            ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList,
            dl-CommonTransChInfo        DL-CommonTransChInfo-r4,
            dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5,
            ul-DPCH-Info                UL-DPCH-Info-r5,
            modeSpecificInfo            CHOICE {
                fdd                    SEQUENCE {
                    dl-PDSCH-Information DL-PDSCH-Information OPTIONAL,
                    cpch-SetInfo        CPCH-SetInfo                OPTIONAL
                },
                tdd                    NULL
            },
            dl-CommonInformation        DL-CommonInformation-r4,
            dl-InformationPerRL-List    DL-InformationPerRL-List-r5,
            frequencyInfo                FrequencyInfo
        },
        preconfiguration                SEQUENCE {
-- All IEs that include an FDD/TDD choice are split in two IEs for this message,
-- one for the FDD only elements and one for the TDD only elements, so that one
-- FDD/TDD choice in this level is sufficient.

```

```

        preConfigMode CHOICE {
            predefinedConfigIdentity PredefinedConfigIdentity,
            defaultConfig SEQUENCE {
                defaultConfigMode DefaultConfigMode,
                defaultConfigIdentity DefaultConfigIdentity-r5
            }
        },
        rab-Info RAB-Info-Post OPTIONAL,
        modeSpecificInfo CHOICE {
            fdd SEQUENCE {
                ul-DPCH-Info UL-DPCH-InfoPostFDD,
                dl-CommonInformationPost DL-CommonInformationPost,
                dl-InformationPerRL-List DL-InformationPerRL-ListPostFDD,
                frequencyInfo FrequencyInfoFDD
            },
            tdd CHOICE {
                tdd384 SEQUENCE {
                    ul-DPCH-Info UL-DPCH-InfoPostTDD,
                    dl-InformationPerRL DL-InformationPerRL-PostTDD,
                    frequencyInfo FrequencyInfoTDD,
                    primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power
                },
                tdd128 SEQUENCE {
                    ul-DPCH-Info UL-DPCH-InfoPostTDD-LCR-r4,
                    dl-InformationPerRL DL-InformationPerRL-PostTDD-LCR-r4,
                    frequencyInfo FrequencyInfoTDD,
                    primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power
                }
            }
        }
    },
    },
    -- Physical channel IEs
    maxAllowedUL-TX-Power MaxAllowedUL-TX-Power
}

HandoverToUTRANCommand-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
    new-U-RNTI U-RNTI-Short,
    cipheringAlgorithm CipheringAlgorithm OPTIONAL,
    -- Radio bearer IEs
    -- Specification mode information
    specificationMode CHOICE {
        complete SEQUENCE {
            srb-InformationSetupList SRB-InformationSetupList-r6,
            rab-InformationSetupList RAB-InformationSetupList-r6 OPTIONAL,
            ul-CommonTransChInfo UL-CommonTransChInfo-r4,
            ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList-r6,
            dl-CommonTransChInfo DL-CommonTransChInfo-r4,
            dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5,
            ul-DPCH-Info UL-DPCH-Info-r6,
            modeSpecificInfo CHOICE {
                fdd SEQUENCE {
                    dl-PDSCH-Information DL-PDSCH-Information OPTIONAL,
                    cpch-SetInfo CPCH-SetInfo OPTIONAL
                },
                tdd NULL
            },
            dl-CommonInformation DL-CommonInformation-r4,
            dl-InformationPerRL-List DL-InformationPerRL-List-r6,
            frequencyInfo FrequencyInfo
        }
        -- For the 'preconfiguration' specificationMode the r5 message is used.
    },
    -- Physical channel IEs
    maxAllowedUL-TX-Power MaxAllowedUL-TX-Power
}

-- *****
--
-- HANOVER TO UTRAN COMPLETE
--
-- *****

HandoverToUTRANComplete ::= SEQUENCE {
    --TABULAR: Integrity protection shall not be performed on this message.
    -- User equipment IEs
    -- TABULAR: startList is conditional on history.

```

```

    startList                                STARTList                                OPTIONAL,
-- Radio bearer IEs
count-C-ActivationTime                      ActivationTime                              OPTIONAL,
laterNonCriticalExtensions                   SEQUENCE {
    -- Container for additional R99 extensions
    handoverToUTRANComplete-r3-add-ext      BIT STRING OPTIONAL,
    nonCriticalExtensions                     SEQUENCE {} OPTIONAL
} OPTIONAL
}

-- *****
--
-- INITIAL DIRECT TRANSFER
--
-- *****

InitialDirectTransfer ::= SEQUENCE {
    -- Core network IEs
    cn-DomainIdentity                        CN-DomainIdentity,
    intraDomainNasNodeSelector              IntraDomainNasNodeSelector,
    nas-Message                              NAS-Message,
    -- Measurement IEs
    measuredResultsOnRACH                    MeasuredResultsOnRACH                      OPTIONAL,
    v3a0NonCriticalExtensions                SEQUENCE {
    initialDirectTransfer-v3a0ext           InitialDirectTransfer-v3a0ext,
    laterNonCriticalExtensions              SEQUENCE {
        -- Container for additional R99 extensions
        initialDirectTransfer-r3-add-ext    BIT STRING OPTIONAL,
        v590NonCriticalExtensions           SEQUENCE {
            initialDirectTransfer-v590ext   InitialDirectTransfer-v590ext,
            v6xyNonCriticalExtensions       SEQUENCE {
                initialDirectTransfer-v6xyext InitialDirectTransfer-v6xyext-IEs,
                nonCriticalExtensions        SEQUENCE {} OPTIONAL
            } OPTIONAL
        } OPTIONAL
    } OPTIONAL
} OPTIONAL
}

InitialDirectTransfer-v3a0ext ::= SEQUENCE {
    -- start-value shall always be included in this version of the protocol
    start-Value                              START-Value                                OPTIONAL
}
InitialDirectTransfer-v590ext ::= SEQUENCE {
    establishmentCause                       EstablishmentCause OPTIONAL
}

InitialDirectTransfer-v6xyext-IEs ::= SEQUENCE {
    -- Core network IEs
    plmn-Identity                            PLMN-Identity                              OPTIONAL,
    -- MBMS IEs
    mbms-JoinedInformation                   MBMS-JoinedInformation-r6                 OPTIONAL
}

-- *****
--
-- HANDOVER FROM UTRAN COMMAND
--
-- *****

HandoverFromUTRANCommand-GSM ::= CHOICE {
    r3                                        SEQUENCE {
        handoverFromUTRANCommand-GSM-r3
        HandoverFromUTRANCommand-GSM-r3-IEs,
        -- UTRAN should not include the IE laterNonCriticalExtensions when it sets the IE
        -- gsm-message included in handoverFromUTRANCommand-GSM-r3 to single-GSM-Message. The UE
        -- behaviour upon receiving a message with this combination of IE values is unspecified.
        laterNonCriticalExtensions           SEQUENCE {
            -- Container for additional R99 extensions
            handoverFromUTRANCommand-GSM-r3-add-ext BIT STRING OPTIONAL,
            nonCriticalExtensions             SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    later-than-r3                            SEQUENCE {
        rrc-TransactionIdentifier            RRC-TransactionIdentifier,
        criticalExtensions                   SEQUENCE {}
    }
}

```

```

HandoverFromUTRANCommand-GSM-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  activationTime                  ActivationTime                      OPTIONAL,
  -- Radio bearer IEs
  toHandoverRAB-Info             RAB-Info                          OPTIONAL,
  -- Measurement IEs
  frequency-band                 Frequency-Band,
  -- Other IEs
  gsm-message                     CHOICE {
    -- In the single-GSM-Message case the following rules apply:
    -- 1> the GSM message directly follows the basic production; the final padding that
    --    results when PER encoding the abstract syntax value is removed prior to appending
    --    the GSM message.
    -- 2> the RRC message excluding the GSM part, does not contain a length determinant;
    --    there is no explicit parameter indicating the size of the included GSM message.
    -- 3> depending on need, final padding (all "0"s) is added to ensure the final result
    --    comprises a full number of octets
    single-GSM-Message            SEQUENCE {},
    gsm-MessageList               SEQUENCE {
      gsm-Messages                GSM-MessageList
    }
  }
}

HandoverFromUTRANCommand-GERANIu ::= SEQUENCE {
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  handoverFromUTRANCommand-GERANIu CHOICE {
    r5                            SEQUENCE {
      handoverFromUTRANCommand-GERANIu-r5
      HandoverFromUTRANCommand-GERANIu-r5-IEs,
      -- UTRAN should not include the IE nonCriticalExtensions when it sets
      -- the IE geranIu-message included in handoverFromUTRANCommand-GERANIu-r5 to
      -- single-GERANIu-Message
      -- The UE behaviour upon receiving a message including this combination of IE values is
      -- not specified
      nonCriticalExtensions       SEQUENCE {} OPTIONAL
    },
    later-than-r5                 SEQUENCE {
      criticalExtensions          SEQUENCE {}
    }
  }
}

HandoverFromUTRANCommand-GERANIu-r5-IEs ::= SEQUENCE {
  -- User equipment IEs
  activationTime                  ActivationTime                      OPTIONAL,
  -- Measurement IEs
  frequency-Band                 Frequency-Band,
  -- Other IEs
  geranIu-Message                CHOICE {
    -- In the single-GERANIu-Message case the following rules apply:
    -- 1> the GERAN Iu message directly follows the basic production; the final padding that
    --    results when PER encoding the abstract syntax value is removed prior to appending
    --    the GERAN Iu message.
    -- 2> the RRC message excluding the GERAN Iu part does not contain a length determinant;
    --    there is no explicit parameter indicating the size of the included GERAN Iu
    --    message.
    -- 3> depending on need, final padding (all "0"s) is added to ensure the final result
    --    comprises a full number of octets.
    single-GERANIu-Message        SEQUENCE {},
    geranIu-MessageList           SEQUENCE {
      geranIu-Messages            GERANIu-MessageList
    }
  }
}

HandoverFromUTRANCommand-CDMA2000 ::= CHOICE {
  r3                              SEQUENCE {
    handoverFromUTRANCommand-CDMA2000-r3
    HandoverFromUTRANCommand-CDMA2000-r3-IEs,
    laterNonCriticalExtensions    SEQUENCE {
      -- Container for additional R99 extensions
      handoverFromUTRANCommand-CDMA2000-r3-add-ext
      BIT STRING                  OPTIONAL,
    }
    nonCriticalExtensions         SEQUENCE {} OPTIONAL
  } OPTIONAL
}

```

```

    },
    later-than-r3
        rrc-TransactionIdentifier      RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

HandoverFromUTRANCommand-CDMA2000-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    activationTime                  ActivationTime                  OPTIONAL,
    -- Radio bearer IEs
    toHandoverRAB-Info             RAB-Info                      OPTIONAL,
    -- Other IEs
    cdma2000-MessageList           CDMA2000-MessageList
}

-- *****
--
-- HANDOVER FROM UTRAN FAILURE
--
-- *****

HandoverFromUTRANFailure ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    -- Other IEs
    interRAT-HO-FailureCause       InterRAT-HO-FailureCause      OPTIONAL,
    -- In case the interRATMessage to be transferred is for GERAN Iu mode, the
    -- message should be placed in the HandoverFromUtranFailure-v590ext-IEs
    -- non-critical extension container.
    interRATMessage                 CHOICE {
        gsm                          SEQUENCE {
            gsm-MessageList           GSM-MessageList
        },
        cdma2000                     SEQUENCE {
            cdma2000-MessageList      CDMA2000-MessageList
        }
    } OPTIONAL,
    laterNonCriticalExtensions      SEQUENCE {
        -- Container for additional R99 extensions
        handoverFromUTRANFailure-r3-add-ext BIT STRING OPTIONAL,
        v590NonCriticalExtensions      SEQUENCE {
            handoverFromUTRANFailure-v590ext HandoverFromUtranFailure-v590ext-IEs,
            nonCriticalExtensions       SEQUENCE {} OPTIONAL
        } OPTIONAL
    } OPTIONAL
}

HandoverFromUtranFailure-v590ext-IEs ::= SEQUENCE {
    geranIu-MessageList             GERANIu-MessageList      OPTIONAL
}

-- *****
--
-- INTER RAT HANDOVER INFO
--
-- *****

InterRATHandoverInfo ::= SEQUENCE {
    -- This structure is defined for historical reasons, backward compatibility with 04.18
    predefinedConfigStatusList      CHOICE {
        absent                        NULL,
        present                        PredefinedConfigStatusList
    },
    uE-SecurityInformation           CHOICE {
        absent                        NULL,
        present                        UE-SecurityInformation
    },
    ue-CapabilityContainer           CHOICE {
        absent                        NULL,
        -- present is an octet aligned string containing IE UE-RadioAccessCapabilityInfo
        present                        OCTET STRING (SIZE (0..63))
    },
    -- Non critical extensions
    v390NonCriticalExtensions        CHOICE {
        absent                        NULL,
        present                        SEQUENCE {

```

```

interRATHandoverInfo-v390ext    InterRATHandoverInfo-v390ext-IEs,
v3a0NonCriticalExtensions      SEQUENCE {
    interRATHandoverInfo-v3a0ext    InterRATHandoverInfo-v3a0ext-IEs,
    laterNonCriticalExtensions      SEQUENCE {
        interRATHandoverInfo-v3d0ext    InterRATHandoverInfo-v3d0ext-IEs,
        -- Container for additional R99 extensions
        interRATHandoverInfo-r3-add-ext    BIT STRING OPTIONAL,
        v3g0NonCriticalExtensions      SEQUENCE {
            interRATHandoverInfo-v3g0ext    InterRATHandoverInfo-v3g0ext-IEs,
            v4b0NonCriticalExtensions      SEQUENCE {
                interRATHandoverInfo-v4b0ext    InterRATHandoverInfo-v4b0ext-IEs,
                v4d0NonCriticalExtensions      SEQUENCE {
                    interRATHandoverInfo-v4d0ext    InterRATHandoverInfo-v4d0ext-IEs,
                    -- Reserved for future non critical extension
                    v590NonCriticalExtensions      SEQUENCE {
                        interRATHandoverInfo-v590ext
                                InterRATHandoverInfo-v590ext-IEs,
                                SEQUENCE {} OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    } OPTIONAL
}
}
}
}
}

InterRATHandoverInfo-v390ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v380ext    UE-RadioAccessCapability-v380ext    OPTIONAL,
    dl-PhysChCapabilityFDD-v380ext    DL-PhysChCapabilityFDD-v380ext
}

InterRATHandoverInfo-v3a0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v3a0ext    UE-RadioAccessCapability-v3a0ext    OPTIONAL
}

InterRATHandoverInfo-v3d0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    uESpecificBehaviourInformationlinterRAT    UESpecificBehaviourInformationlinterRAT
    OPTIONAL
}

InterRATHandoverInfo-v3g0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v3g0ext    UE-RadioAccessCapability-v3g0ext    OPTIONAL
}

InterRATHandoverInfo-v4b0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    accessStratumReleaseIndicator    AccessStratumReleaseIndicator
}

InterRATHandoverInfo-v4d0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    tdd128-RF-Capability    RadioFrequencyBandTDDList    OPTIONAL
}

InterRATHandoverInfo-v590ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    predefinedConfigStatusListComp    PredefinedConfigStatusListComp    OPTIONAL,
    ue-RadioAccessCapabilityComp    UE-RadioAccessCapabilityComp    OPTIONAL
}

-- *****
--
-- MEASUREMENT CONTROL
--
-- *****

MeasurementControl ::= CHOICE {
    -- The Rel-4 functionality of UE Positioning OTDOA AssistanceData TDD is only available
    -- in the later-than-r3 branch of this message (i.e. through the use of the IE
    -- ue-Positioning-OTDOA-AssistanceData-r4)
    r3
        SEQUENCE {
            measurementControl-r3
                MeasurementControl-r3-IEs,

```



```

v390nonCriticalExtensions SEQUENCE {
  measurementControl-v390ext MeasurementControl-v390ext,
  v3a0NonCriticalExtensions SEQUENCE {
    measurementControl-v3a0ext MeasurementControl-v3a0ext,
    laterNonCriticalExtensions SEQUENCE {
      -- Container for additional R99 extensions
      measurementControl-r3-add-ext BIT STRING OPTIONAL,
      v4b0NonCriticalExtensions SEQUENCE{
        -- The content of the v4b0 non-critical extension has been removed. If sent
        -- to a UE of AS release 4, the UE behaviour is unspecified. A UE of AS
        -- release 5 onward shall comply with the v4b0 and later extensions in this
        -- branch of the message.
        v590NonCriticalExtensions SEQUENCE {
          measurementControl-v590ext MeasurementControl-v590ext-IEs,
          v5b0NonCriticalExtensions SEQUENCE {
            measurementControl-v5b0ext MeasurementControl-v5b0ext-IEs,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  } OPTIONAL
},
later-than-r3 SEQUENCE {
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  criticalExtensions CHOICE {
    r4 SEQUENCE {
      measurementControl-r4 MeasurementControl-r4-IEs,
      v4d0NonCriticalExtensions SEQUENCE {
        -- Container for adding non critical extensions after freezing REL-5
        measurementControl-r4-add-ext BIT STRING OPTIONAL,
        v590NonCriticalExtensions SEQUENCE{
          measurementControl-v590ext MeasurementControl-v590ext-IEs,
          v5b0NonCriticalExtensions SEQUENCE {
            measurementControl-v5b0ext MeasurementControl-v5b0ext-IEs,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  criticalExtensions SEQUENCE {}
}
}

MeasurementControl-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  -- Measurement IEs
  measurementIdentity MeasurementIdentity,
  -- TABULAR: The measurement type is included in MeasurementCommand.
  measurementCommand MeasurementCommand,
  measurementReportingMode MeasurementReportingMode OPTIONAL,
  additionalMeasurementList AdditionalMeasurementID-List OPTIONAL,
  -- Physical channel IEs
  dpch-CompressedModeStatusInfo DPCH-CompressedModeStatusInfo OPTIONAL
}

MeasurementControl-v390ext ::= SEQUENCE {
  ue-Positioning-Measurement-v390ext UE-Positioning-Measurement-v390ext OPTIONAL
}

MeasurementControl-v3a0ext ::= SEQUENCE {
  sfm-Offset-Validity SFN-Offset-Validity OPTIONAL
}

MeasurementControl-r4-IEs ::= SEQUENCE {
  -- Measurement IEs
  measurementIdentity MeasurementIdentity,
  -- TABULAR: The measurement type is included in measurementCommand.
  measurementCommand MeasurementCommand-r4,
  measurementReportingMode MeasurementReportingMode OPTIONAL,
  additionalMeasurementList AdditionalMeasurementID-List OPTIONAL,
  -- Physical channel IEs
  dpch-CompressedModeStatusInfo DPCH-CompressedModeStatusInfo OPTIONAL
}

```

```

MeasurementControl-v590ext-IEs ::= SEQUENCE {
    measurementCommand-v590ext      CHOICE {
        -- the choice "intra-frequency" shall be used for the case of intra-frequency measurement,
        -- as well as when intra-frequency events are configured for inter-frequency measurement
        intra-frequency              Intra-FreqEventCriteriaList-v590ext,
        inter-frequency              Inter-FreqEventCriteriaList-v590ext
    }
    OPTIONAL,
    intraFreqReportingCriteria-lb-r5  IntraFreqReportingCriteria-lb-r5      OPTIONAL,
    intraFreqEvent-lb-r5              IntraFreqEvent-lb-r5                OPTIONAL,
    -- most significant part of "RRC transaction identifier" (MSP),
    -- "RRC transaction identifier" = rrc-TransactionIdentifier-MSP-v590ext * 4 +
    -- rrc-TransactionIdentifier
    rrc-TransactionIdentifier-MSP-v590ext  RRC-TransactionIdentifier
}

MeasurementControl-v5b0ext-IEs ::= SEQUENCE {
    interRATCellInfoIndicator        InterRATCellInfoIndicator          OPTIONAL
}

-- *****
--
-- MEASUREMENT CONTROL FAILURE
--
-- *****

MeasurementControlFailure ::= SEQUENCE {
    -- User equipment IES
    rrc-TransactionIdentifier        RRC-TransactionIdentifier,
    failureCause                     FailureCauseWithProtErr,
    laterNonCriticalExtensions       SEQUENCE {
        -- Container for additional R99 extensions
        measurementControlFailure-r3-add-ext  BIT STRING          OPTIONAL,
        v590NonCriticalExtensions           SEQUENCE {
            measurementControlFailure-v590ext  MeasurementControlFailure-v590ext-IEs,
            nonCriticalExtensions             SEQUENCE {}          OPTIONAL
        }
    }
    OPTIONAL
}

MeasurementControlFailure-v590ext-IEs ::= SEQUENCE {
    -- most significant part of "RRC transaction identifier" (MSP),
    -- "RRC transaction identifier" = rrc-TransactionIdentifier-MSP-v590ext * 4 +
    -- rrc-TransactionIdentifier
    -- If the rrc-TransactionIdentifier-MSP-v590ext was not received in the MEASUREMENT CONTROL
    -- message, then the rrc-TransactionIdentifier-MSP-v590ext shall be set to zero
    rrc-TransactionIdentifier-MSP-v590ext  RRC-TransactionIdentifier
}

-- *****
--
-- MEASUREMENT REPORT
--
-- *****

MeasurementReport ::= SEQUENCE {
    -- Measurement IES
    measurementIdentity              MeasurementIdentity,
    measuredResults                   MeasuredResults                OPTIONAL,
    measuredResultsOnRACH             MeasuredResultsOnRACH        OPTIONAL,
    additionalMeasuredResults         MeasuredResultsList        OPTIONAL,
    eventResults                      EventResults                OPTIONAL,
    -- Non-critical extensions
    v390nonCriticalExtensions         SEQUENCE {
        measurementReport-v390ext      MeasurementReport-v390ext,
        laterNonCriticalExtensions     SEQUENCE {
            -- Container for additional R99 extensions
            measurementReport-r3-add-ext  BIT STRING          OPTIONAL,
            v4b0NonCriticalExtensions    SEQUENCE {
                measurementReport-v4b0ext  MeasurementReport-v4b0ext-IEs,
                -- Extension mechanism for non-Rel4 information
                v590NonCriticalExtensions SEQUENCE {
                    measurementReport-v590ext  MeasurementReport-v590ext-IEs,
                    v5b0NonCriticalExtensions SEQUENCE {
                        measurementReport-v5b0ext  MeasurementReport-v5b0ext-IEs,
                        nonCriticalExtensions     SEQUENCE {}          OPTIONAL
                    }
                }
            }
        }
    }
    OPTIONAL
}

```

```

    } OPTIONAL
  } OPTIONAL
}

MeasurementReport-v390ext ::= SEQUENCE {
  measuredResults-v390ext          MeasuredResults-v390ext          OPTIONAL
}

MeasurementReport-v4b0ext-IEs ::= SEQUENCE {
  interFreqEventResults-LCR          InterFreqEventResults-LCR-r4-ext          OPTIONAL,
  -- additionalMeasuredResults-LCR shall contain measurement results and additional measurement
  -- results list.
  additionalMeasuredResults-LCR      MeasuredResultsList-LCR-r4-ext          OPTIONAL,
  gsmOTDreferenceCell                PrimaryCPICH-Info                OPTIONAL
}

MeasurementReport-v590ext-IEs ::= SEQUENCE {
  measuredResults-v590ext          MeasuredResults-v590ext          OPTIONAL
}

MeasurementReport-v5b0ext-IEs ::= SEQUENCE {
  interRATCellInfoIndicator          InterRATCellInfoIndicator          OPTIONAL
}

-- *****
--
-- PAGING TYPE 1
--
-- *****

PagingType1 ::= SEQUENCE {
  -- User equipment IEs
  pagingRecordList                  PagingRecordList                  OPTIONAL,
  -- Other IEs
  bcch-ModificationInfo              BCCH-ModificationInfo              OPTIONAL,
  laterNonCriticalExtensions          SEQUENCE {
    -- Container for additional R99 extensions
    pagingType1-r3-add-ext            BIT STRING                          OPTIONAL,
    v590NonCriticalExtensions        SEQUENCE {
      pagingType1-v590ext            PagingType1-v590ext-IEs,
      nonCriticalExtensions          SEQUENCE {}                          OPTIONAL
    } OPTIONAL
  } OPTIONAL
}

PagingType1-v590ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  pagingRecord2List                  PagingRecord2List-r5                  OPTIONAL
}

-- *****
--
-- PAGING TYPE 2
--
-- *****

PagingType2 ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier            RRC-TransactionIdentifier,
  pagingCause                          PagingCause,
  -- Core network IEs
  cn-DomainIdentity                  CN-DomainIdentity,
  pagingRecordTypeID                  PagingRecordTypeID,
  laterNonCriticalExtensions          SEQUENCE {
    -- Container for additional R99 extensions
    pagingType2-r3-add-ext            BIT STRING                          OPTIONAL,
    nonCriticalExtensions            SEQUENCE {}                          OPTIONAL
  } OPTIONAL
}

-- *****
--
-- PHYSICAL CHANNEL RECONFIGURATION
--
-- *****

PhysicalChannelReconfiguration ::= CHOICE {
  r3                                  SEQUENCE {

```

```

physicalChannelReconfiguration-r3
    PhysicalChannelReconfiguration-r3-IEs,
v3a0NonCriticalExtensions      SEQUENCE {
    physicalChannelReconfiguration-v3a0ext      PhysicalChannelReconfiguration-v3a0ext,
    laterNonCriticalExtensions      SEQUENCE {
        -- Container for additional R99 extensions
        physicalChannelReconfiguration-r3-add-ext      BIT STRING      OPTIONAL,
v4b0NonCriticalExtensstions    SEQUENCE {
        physicalChannelReconfiguration-v4b0ext
            PhysicalChannelReconfiguration-v4b0ext-IEs,
v590NonCriticalExtensstions    SEQUENCE {
        physicalChannelReconfiguration-v590ext
            PhysicalChannelReconfiguration-v590ext-IEs,
v6xyNonCriticalExtensions      SEQUENCE {
        physicalChannelReconfiguration-v6xyext
            PhysicalChannelReconfiguration-v6xyext-IEs,
        nonCriticalExtensions      SEQUENCE {} OPTIONAL
    } OPTIONAL
    } OPTIONAL
} OPTIONAL
},
later-than-r3      SEQUENCE {
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    criticalExtensions      CHOICE {
        r4      SEQUENCE {
            physicalChannelReconfiguration-r4
                PhysicalChannelReconfiguration-r4-IEs,
v4d0NonCriticalExtensions      SEQUENCE {
            -- Container for adding non critical extensions after freezing REL-5
            physicalChannelReconfiguration-r4-add-ext      BIT STRING      OPTIONAL,
v590NonCriticalExtensstions    SEQUENCE {
            physicalChannelReconfiguration-v590ext
                PhysicalChannelReconfiguration-v590ext-IEs,
v6xyNonCriticalExtensions      SEQUENCE {
            physicalChannelReconfiguration-v6xyext
                PhysicalChannelReconfiguration-v6xyext-IEs,
            nonCriticalExtensions      SEQUENCE {} OPTIONAL
        } OPTIONAL
    } OPTIONAL
} OPTIONAL
},
    criticalExtensions      CHOICE {
        r5      SEQUENCE {
            physicalChannelReconfiguration-r5
                PhysicalChannelReconfiguration-r5-IEs,
            -- Container for adding non critical extensions after freezing REL-6
            physicalChannelReconfiguration-r5-add-ext      BIT STRING      OPTIONAL,
v6xyNonCriticalExtensions      SEQUENCE {
            physicalChannelReconfiguration-v6xyext
                PhysicalChannelReconfiguration-v6xyext-IEs,
            nonCriticalExtensions      SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    criticalExtensions      CHOICE {
        r6      SEQUENCE {
            physicalChannelReconfiguration-r6
                PhysicalChannelReconfiguration-r6-IEs,
            -- Container for adding non critical extensions after freezing REL-7
            physicalChannelReconfiguration-r6-add-ext      BIT STRING      OPTIONAL,
            nonCriticalExtensions      SEQUENCE {} OPTIONAL
        },
    },
    criticalExtensions      SEQUENCE {}
}
}
}
}
}
PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    integrityProtectionModeInfo    IntegrityProtectionModeInfo      OPTIONAL,
    cipheringModeInfo              CipheringModeInfo              OPTIONAL,
    activationTime                  ActivationTime                OPTIONAL,
    new-U-RNTI                      U-RNTI                    OPTIONAL,
    new-C-RNTI                      C-RNTI                    OPTIONAL,

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    rrc-StateIndicator          RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IES
  cn-InformationInfo           CN-InformationInfo           OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                  URA-Identity                  OPTIONAL,
-- Radio bearer IES
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo  OPTIONAL,
-- Physical channel IES
  frequencyInfo                 FrequencyInfo                 OPTIONAL,
  maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power          OPTIONAL,
  -- TABULAR: UL-ChannelRequirementWithCPCH-SetID contains the choice
  -- between UL DPCH info, CPCH SET info and CPCH set ID.
  ul-ChannelRequirement          UL-ChannelRequirementWithCPCH-SetID  OPTIONAL,
  modeSpecificInfo              CHOICE {
    fdd                          SEQUENCE {
      dl-PDSCH-Information        DL-PDSCH-Information        OPTIONAL
    },
    tdd                          NULL
  },
  dl-CommonInformation           DL-CommonInformation           OPTIONAL,
  dl-InformationPerRL-List       DL-InformationPerRL-List       OPTIONAL
}

PhysicalChannelReconfiguration-v3a0ext ::= SEQUENCE {
  new-DSCH-RNTI                  DSCH-RNTI                  OPTIONAL
}

PhysicalChannelReconfiguration-v4b0ext-IES ::= SEQUENCE {
-- Physical channel IES
  -- ssdt-UL extends SSDT-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL-r4                     SSDT-UL                     OPTIONAL,
  -- The order of the RLs in IE cell-id-PerRL-List is the same as
  -- in IE DL-InformationPerRL-List included in this message
  cell-id-PerRL-List              CellIdentity-PerRL-List      OPTIONAL
}

PhysicalChannelReconfiguration-v590ext-IES ::= SEQUENCE {
-- Physical channel IES
  dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List  OPTIONAL
}

PhysicalChannelReconfiguration-r4-IES ::= SEQUENCE {
-- User equipment IES
  integrityProtectionModeInfo      IntegrityProtectionModeInfo    OPTIONAL,
  cipheringModeInfo                CipheringModeInfo                OPTIONAL,
  activationTime                    ActivationTime                    OPTIONAL,
  new-U-RNTI                        U-RNTI                          OPTIONAL,
  new-C-RNTI                        C-RNTI                          OPTIONAL,
  new-DSCH-RNTI                    DSCH-RNTI                      OPTIONAL,
  rrc-StateIndicator                RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff        UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IES
  cn-InformationInfo                CN-InformationInfo                OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                      URA-Identity                      OPTIONAL,
-- Radio bearer IES
  dl-CounterSynchronisationInfo      DL-CounterSynchronisationInfo    OPTIONAL,
-- Physical channel IES
  frequencyInfo                      FrequencyInfo                      OPTIONAL,
  maxAllowedUL-TX-Power              MaxAllowedUL-TX-Power            OPTIONAL,
  -- TABULAR: UL-ChannelRequirementWithCPCH-SetID-r4 contains the choice
  -- between UL DPCH info, CPCH SET info and CPCH set ID.
  ul-ChannelRequirement              UL-ChannelRequirementWithCPCH-SetID-r4  OPTIONAL,
  modeSpecificInfo                   CHOICE {
    fdd                               SEQUENCE {
      dl-PDSCH-Information            DL-PDSCH-Information            OPTIONAL
    },
    tdd                               NULL
  },
  dl-CommonInformation                DL-CommonInformation-r4          OPTIONAL,
  dl-InformationPerRL-List            DL-InformationPerRL-List-r4      OPTIONAL
}

PhysicalChannelReconfiguration-r5-IES ::= SEQUENCE {
-- User equipment IES
  integrityProtectionModeInfo        IntegrityProtectionModeInfo      OPTIONAL,

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    cipheringModeInfo          CipheringModeInfo          OPTIONAL,
    activationTime              ActivationTime          OPTIONAL,
    new-U-RNTI                  U-RNTI              OPTIONAL,
    new-C-RNTI                  C-RNTI              OPTIONAL,
    new-DSCH-RNTI              DSCH-RNTI           OPTIONAL,
    new-H-RNTI                  H-RNTI              OPTIONAL,
    rrc-StateIndicator          RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- Core network IES
  cn-InformationInfo           CN-InformationInfo  OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                 URA-Identity        OPTIONAL,
-- Radio bearer IES
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5 OPTIONAL,
-- Physical channel IES
  frequencyInfo                FrequencyInfo         OPTIONAL,
  maxAllowedUL-TX-Power        MaxAllowedUL-TX-Power OPTIONAL,
  -- TABULAR: UL-ChannelRequirementWithCPCH-SetID-r5 contains the choice
  -- between UL DPCH info, CPCH SET info and CPCH set ID.
  ul-ChannelRequirement        UL-ChannelRequirementWithCPCH-SetID-r5 OPTIONAL,
  modeSpecificInfo             CHOICE {
    fdd                         SEQUENCE {
      dl-PDSCH-Information      DL-PDSCH-Information  OPTIONAL
    },
    tdd                         NULL
  },
  dl-HSPDSCH-Information        DL-HSPDSCH-Information OPTIONAL,
  dl-CommonInformation          DL-CommonInformation-r5 OPTIONAL,
  dl-InformationPerRL-List      DL-InformationPerRL-List-r5 OPTIONAL
}

```

```

PhysicalChannelReconfiguration-r6-IES ::= SEQUENCE {
-- User equipment IES
  integrityProtectionModeInfo  IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo            CipheringModeInfo          OPTIONAL,
  activationTime                ActivationTime              OPTIONAL,
  new-U-RNTI                    U-RNTI                    OPTIONAL,
  new-C-RNTI                    C-RNTI                    OPTIONAL,
  new-DSCH-RNTI                DSCH-RNTI                 OPTIONAL,
  new-H-RNTI                    H-RNTI                    OPTIONAL,
  new-E-RNTI                    E-RNTI                    OPTIONAL,
  rrc-StateIndicator            RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- Core network IES
  cn-InformationInfo            CN-InformationInfo-r6     OPTIONAL,
plmn-Identity                  PLMN-Identity             OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                  URA-Identity              OPTIONAL,
-- Radio bearer IES
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5 OPTIONAL,
-- Physical channel IES
  frequencyInfo                 FrequencyInfo               OPTIONAL,
  maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power     OPTIONAL,
  -- TABULAR: UL-ChannelRequirementWithCPCH-SetID-r6 contains the choice
  -- between UL DPCH info, CPCH SET info and CPCH set ID.
  ul-ChannelRequirement         UL-ChannelRequirementWithCPCH-SetID-r6 OPTIONAL,
  ul-EDCH-Information           UL-EDCH-Information-r6   OPTIONAL,
  modeSpecificInfo              CHOICE {
    fdd                         SEQUENCE {
      dl-PDSCH-Information      DL-PDSCH-Information  OPTIONAL
    },
    tdd                         NULL
  },
  dl-HSPDSCH-Information        DL-HSPDSCH-Information   OPTIONAL,
  dl-CommonInformation          DL-CommonInformation-r6  OPTIONAL,
  dl-InformationPerRL-List      DL-InformationPerRL-List-r6 OPTIONAL,
-- MBMS IES
  mbms-PL-ServiceRestrictInfo  MBMS-PL-ServiceRestrictInfo-r6 OPTIONAL
}

```

```

PhysicalChannelReconfiguration-v6xyext-IES ::= SEQUENCE {
-- Core network IES
  primary-plmn-Identity         PLMN-Identity             OPTIONAL,
-- Physical channel IES
  harq-Preamble-Mode           HARQ-Preamble-Mode       OPTIONAL,
  beaconPLEst                   BEACON-PL-Est            OPTIONAL,
-- MBMS IES
  mbms-PL-ServiceRestrictInfo  MBMS-PL-ServiceRestrictInfo-r6 OPTIONAL
}

```

```

}

-- *****
--
-- PHYSICAL CHANNEL RECONFIGURATION COMPLETE
--
-- *****

PhysicalChannelReconfigurationComplete ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    ul-IntegProtActivationInfo      IntegrityProtActivationInfo      OPTIONAL,
    -- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
    ul-TimingAdvance                UL-TimingAdvance                OPTIONAL,
    -- Radio bearer IEs
    count-C-ActivationTime          ActivationTime                OPTIONAL,
    -- dummy is not used in this version of the specification and
    -- it should be ignored by the receiver.
    dummy                            RB-ActivationTimeInfoList      OPTIONAL,
    ul-CounterSynchronisationInfo    UL-CounterSynchronisationInfo    OPTIONAL,
    laterNonCriticalExtensions        SEQUENCE {
        -- Container for additional R99 extensions
        physicalChannelReconfigurationComplete-r3-add-ext      BIT STRING      OPTIONAL,
        nonCriticalExtensions        SEQUENCE {}      OPTIONAL
    }      OPTIONAL
}

-- *****
--
-- PHYSICAL CHANNEL RECONFIGURATION FAILURE
--
-- *****

PhysicalChannelReconfigurationFailure ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier      OPTIONAL,
    failureCause                    FailureCauseWithProtErr,
    laterNonCriticalExtensions        SEQUENCE {
        -- Container for additional R99 extensions
        physicalChannelReconfigurationFailure-r3-add-ext      BIT STRING      OPTIONAL,
        nonCriticalExtensions        SEQUENCE {}      OPTIONAL
    }      OPTIONAL
}

-- *****
--
-- PHYSICAL SHARED CHANNEL ALLOCATION (TDD only)
--
-- *****

PhysicalSharedChannelAllocation ::= CHOICE {
    r3                                SEQUENCE {
        physicalSharedChannelAllocation-r3
        PhysicalSharedChannelAllocation-r3-IEs,
        laterNonCriticalExtensions        SEQUENCE {
            -- Container for additional R99 extensions
            physicalSharedChannelAllocation-r3-add-ext      BIT STRING      OPTIONAL,
            nonCriticalExtensions        SEQUENCE {}      OPTIONAL
        }      OPTIONAL
    },
    later-than-r3                    SEQUENCE {
        dsch-RNTI                        DSCH-RNTI                        OPTIONAL,
        rrc-TransactionIdentifier        RRC-TransactionIdentifier,
        criticalExtensions                CHOICE {
            r4                            SEQUENCE {
                physicalSharedChannelAllocation-r4
                PhysicalSharedChannelAllocation-r4-IEs,
                v4d0NonCriticalExtensions        SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    physicalSharedChannelAllocation-r4-add-ext      BIT STRING      OPTIONAL,
                    v6xyNonCriticalExtensions        SEQUENCE {
                        physicalSharedChannelAllocation-v6xyext
                        PhysicalSharedChannelAllocation-v6xyext-IEs,
                        nonCriticalExtensions        SEQUENCE {}      OPTIONAL
                    }      OPTIONAL
                }      OPTIONAL
            }      OPTIONAL
        },
        criticalExtensions                SEQUENCE {}
    }
}

```

```

    }
}

PhysicalSharedChannelAllocation-r3-IEs ::= SEQUENCE {
-- TABULAR: Integrity protection shall not be performed on this message.
-- User equipment IEs
    dsch-RNTI                DSCH-RNTI                OPTIONAL,
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
-- Physical channel IEs
    ul-TimingAdvance         UL-TimingAdvanceControl    OPTIONAL,
    pusch-CapacityAllocationInfo PUSCH-CapacityAllocationInfo OPTIONAL,
    pdsch-CapacityAllocationInfo PDSCH-CapacityAllocationInfo OPTIONAL,
-- TABULAR: If confirmRequest is not present, the default value "No Confirm"
-- shall be used as specified in 10.2.25.
    confirmRequest           ENUMERATED {
                                confirmPDSCH, confirmPUSCH } OPTIONAL,
    trafficVolumeReportRequest INTEGER (0..255)          OPTIONAL,
    iscpTimeslotList         TimeslotList              OPTIONAL,
    requestPCCPCHRSCP        BOOLEAN
}

PhysicalSharedChannelAllocation-r4-IEs ::= SEQUENCE {
-- TABULAR: Integrity protection shall not be performed on this message.
-- Physical channel IEs
    ul-TimingAdvance         UL-TimingAdvanceControl-r4    OPTIONAL,
    pusch-CapacityAllocationInfo PUSCH-CapacityAllocationInfo-r4 OPTIONAL,
    pdsch-CapacityAllocationInfo PDSCH-CapacityAllocationInfo-r4 OPTIONAL,
-- TABULAR: If confirmRequest is not present, the default value "No Confirm"
-- shall be used as specified in 10.2.25.
    confirmRequest           ENUMERATED {
                                confirmPDSCH, confirmPUSCH } OPTIONAL,
    trafficVolumeReportRequest INTEGER (0..255)          OPTIONAL,
    iscpTimeslotList         TimeslotList-r4             OPTIONAL,
    requestPCCPCHRSCP        BOOLEAN
}

PhysicalSharedChannelAllocation-v6xyext-IEs ::= SEQUENCE {
-- Physical Channel IEs
    beaconPLEst              BEACON-PL-Est              OPTIONAL
}

-- *****
--
-- PUSCH CAPACITY REQUEST (TDD only)
--
-- *****

PUSCHCapacityRequest ::= SEQUENCE {
-- User equipment IEs
    dsch-RNTI                DSCH-RNTI                OPTIONAL,
-- Measurement IEs
    trafficVolume             TrafficVolumeMeasuredResultsList OPTIONAL,
    timeslotListWithISCP     TimeslotListWithISCP    OPTIONAL,
    primaryCCPCH-RSCP        PrimaryCCPCH-RSCP          OPTIONAL,
    allocationConfirmation    CHOICE {
        pdschConfirmation     PDSCH-Identity,
        puschConfirmation     PUSCH-Identity
    } OPTIONAL,
    protocolErrorIndicator    ProtocolErrorIndicatorWithMoreInfo,
    laterNonCriticalExtensions SEQUENCE {
-- Container for additional R99 extensions
        puschCapacityRequest-r3-add-ext BIT STRING    OPTIONAL,
        v590NonCriticalExtensions SEQUENCE {
            puschCapacityRequest-v590ext PUSCHCapacityRequest-v590ext,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    } OPTIONAL
}

PUSCHCapacityRequest-v590ext ::= SEQUENCE {
    primaryCCPCH-RSCP-delta   DeltaRSCP                OPTIONAL
}

-- *****
--
-- RADIO BEARER RECONFIGURATION
--
-- *****

```



```

RadioBearerReconfiguration ::= CHOICE {
  r3
    SEQUENCE {
      radioBearerReconfiguration-r3 RadioBearerReconfiguration-r3-IEs,
      -- Prefix "v3ao" is used (in one instance) to keep alignment with R99
      v3aoNonCriticalExtensions SEQUENCE {
        radioBearerReconfiguration-v3a0ext RadioBearerReconfiguration-v3a0ext,
        laterNonCriticalExtensions SEQUENCE {
          -- Container for additional R99 extensions
          radioBearerReconfiguration-r3-add-ext BIT STRING OPTIONAL,
          v4b0NonCriticalExtensions SEQUENCE {
            radioBearerReconfiguration-v4b0ext
              RadioBearerReconfiguration-v4b0ext-IEs,
            v590NonCriticalExtensions SEQUENCE {
              radioBearerReconfiguration-v590ext
                RadioBearerReconfiguration-v590ext-IEs,
            v6xyNonCriticalExtensions SEQUENCE {
              radioBearerReconfiguration-v6xyext
                RadioBearerReconfiguration-v6xyext-IEs,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3
    SEQUENCE {
      rrc-TransactionIdentifier RRC-TransactionIdentifier,
      criticalExtensions CHOICE {
        r4
          SEQUENCE {
            radioBearerReconfiguration-r4 RadioBearerReconfiguration-r4-IEs,
            v4d0NonCriticalExtensions SEQUENCE {
              -- Container for adding non critical extensions after freezing REL-5
              radioBearerReconfiguration-r4-add-ext BIT STRING OPTIONAL,
              v590NonCriticalExtensions SEQUENCE {
                radioBearerReconfiguration-v590ext
                  RadioBearerReconfiguration-v590ext-IEs,
              v6xyNonCriticalExtensions SEQUENCE {
                radioBearerReconfiguration-v6xyext
                  RadioBearerReconfiguration-v6xyext-IEs,
              nonCriticalExtensions SEQUENCE {} OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    },
  criticalExtensions CHOICE {
    r5
      SEQUENCE {
        radioBearerReconfiguration-r5 RadioBearerReconfiguration-r5-IEs,
        -- Container for adding non critical extensions after freezing REL-6
        radioBearerReconfiguration-r5-add-ext BIT STRING OPTIONAL,
        v6xyNonCriticalExtensions SEQUENCE {
          radioBearerReconfiguration-v6xyext
            RadioBearerReconfiguration-v6xyext-IEs,
          nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
      },
    criticalExtensions CHOICE {
      r6
        SEQUENCE {
          radioBearerReconfiguration-r6 RadioBearerReconfiguration-r6-IEs,
          -- Container for adding non critical extensions after freezing REL-7
          radioBearerReconfiguration-r6-add-ext BIT STRING OPTIONAL,
          nonCriticalExtensions SEQUENCE {} OPTIONAL
        },
      criticalExtensions SEQUENCE {}
    }
  }
}

```

```

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  integrityProtectionModeInfo IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo CipheringModeInfo OPTIONAL,
  activationTime ActivationTime OPTIONAL,
  new-U-RNTI U-RNTI OPTIONAL,
  new-C-RNTI C-RNTI OPTIONAL,
}

```

```

rrc-StateIndicator          RRC-StateIndicator,
utran-DRX-CycleLengthCoeff  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IES
  cn-InformationInfo        CN-InformationInfo          OPTIONAL,
-- UTRAN mobility IES
  ura-Identity              URA-Identity                OPTIONAL,
-- Radio bearer IES
  rab-InformationReconfigList  RAB-InformationReconfigList      OPTIONAL,
  -- NOTE: IE rb-InformationReconfigList should be optional in later versions
  -- of this message
  rb-InformationReconfigList  RB-InformationReconfigList,
  rb-InformationAffectedList  RB-InformationAffectedList      OPTIONAL,
-- Transport channel IES
  ul-CommonTransChInfo       UL-CommonTransChInfo            OPTIONAL,
  ul-deletedTransChInfoList  UL-DeletedTransChInfoList      OPTIONAL,
  ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList    OPTIONAL,
  modeSpecificTransChInfo     CHOICE {
    fdd                       SEQUENCE {
      cpch-SetID              CPCH-SetID                OPTIONAL,
      addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
    },
    tdd                       NULL
  }
  dl-CommonTransChInfo       DL-CommonTransChInfo            OPTIONAL,
  dl-DeletedTransChInfoList  DL-DeletedTransChInfoList      OPTIONAL,
  dl-AddReconfTransChInfoList  DL-AddReconfTransChInfo2List   OPTIONAL,
-- Physical channel IES
  frequencyInfo              FrequencyInfo                OPTIONAL,
  maxAllowedUL-TX-Power      MaxAllowedUL-TX-Power          OPTIONAL,
  ul-ChannelRequirement      UL-ChannelRequirement          OPTIONAL,
  modeSpecificPhysChInfo     CHOICE {
    fdd                       SEQUENCE {
      dl-PDSCH-Information     DL-PDSCH-Information      OPTIONAL
    },
    tdd                       NULL
  },
  dl-CommonInformation       DL-CommonInformation          OPTIONAL,
  -- NOTE: IE dl-InformationPerRL-List should be optional in later versions
  -- of this message
  dl-InformationPerRL-List    DL-InformationPerRL-List
}

RadioBearerReconfiguration-v3a0ext ::= SEQUENCE {
  new-DSCH-RNTI              DSCH-RNTI                OPTIONAL
}

RadioBearerReconfiguration-v4b0ext-IES ::= SEQUENCE {
  -- Physical channel IES
  -- ssdt-UL extends SSdT-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL-r4                  SSdT-UL                    OPTIONAL,
  -- The order of the RLs in IE cell-id-PerRL-List is the same as
  -- in IE DL-InformationPerRL-List included in this message
  cell-id-PerRL-List          CellIdentity-PerRL-List      OPTIONAL
}

RadioBearerReconfiguration-v590ext-IES ::= SEQUENCE {
  -- Physical channel IES
  dl-TPC-PowerOffsetPerRL-List  DL-TPC-PowerOffsetPerRL-List  OPTIONAL
}

RadioBearerReconfiguration-r4-IES ::= SEQUENCE {
  -- User equipment IES
  integrityProtectionModeInfo  IntegrityProtectionModeInfo    OPTIONAL,
  cipheringModeInfo            CipheringModeInfo                OPTIONAL,
  activationTime                ActivationTime                    OPTIONAL,
  new-U-RNTI                    U-RNTI                          OPTIONAL,
  new-C-RNTI                    C-RNTI                          OPTIONAL,
  new-DSCH-RNTI                DSCH-RNTI                        OPTIONAL,
  rrc-StateIndicator            RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IES
  cn-InformationInfo            CN-InformationInfo              OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                  URA-Identity                    OPTIONAL,
-- Radio bearer IES
  rab-InformationReconfigList    RAB-InformationReconfigList      OPTIONAL,
  rb-InformationReconfigList     RB-InformationReconfigList-r4    OPTIONAL,

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    rb-InformationAffectedList      RB-InformationAffectedList      OPTIONAL,
-- Transport channel IEs
    ul-CommonTransChInfo           UL-CommonTransChInfo-r4           OPTIONAL,
    ul-deletedTransChInfoList      UL-DeletedTransChInfoList        OPTIONAL,
    ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList      OPTIONAL,
    modeSpecificTransChInfo        CHOICE {
        fdd                         SEQUENCE {
            cpch-SetID              CPCH-SetID                       OPTIONAL,
            addReconfTransChDRAC-Info DRAC-StaticInformationList     OPTIONAL
        },
        tdd                         NULL
    }
    dl-CommonTransChInfo           DL-CommonTransChInfo-r4           OPTIONAL,
    dl-DeletedTransChInfoList      DL-DeletedTransChInfoList        OPTIONAL,
    dl-AddReconfTransChInfoList    DL-AddReconfTransChInfoList-r4   OPTIONAL,
-- Physical channel IEs
    frequencyInfo                  FrequencyInfo                      OPTIONAL,
    maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power            OPTIONAL,
    ul-ChannelRequirement          UL-ChannelRequirement-r4         OPTIONAL,
    modeSpecificPhysChInfo        CHOICE {
        fdd                         SEQUENCE {
            dl-PDSCH-Information    DL-PDSCH-Information            OPTIONAL
        },
        tdd                         NULL
    },
    dl-CommonInformation           DL-CommonInformation-r4          OPTIONAL,
    dl-InformationPerRL-List       DL-InformationPerRL-List-r4      OPTIONAL
}

RadioBearerReconfiguration-r5-IEs ::= SEQUENCE {
-- User equipment IEs
    integrityProtectionModeInfo    IntegrityProtectionModeInfo      OPTIONAL,
    cipheringModeInfo              CipheringModeInfo                OPTIONAL,
    activationTime                  ActivationTime                    OPTIONAL,
    new-U-RNTI                     U-RNTI                          OPTIONAL,
    new-C-RNTI                     C-RNTI                          OPTIONAL,
    new-DSCH-RNTI                  DSCH-RNTI                       OPTIONAL,
    new-H-RNTI                     H-RNTI                          OPTIONAL,
    rrc-StateIndicator             RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff     UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- Core network IEs
    cn-InformationInfo             CN-InformationInfo              OPTIONAL,
-- UTRAN mobility IEs
    ura-Identity                   URA-Identity                    OPTIONAL,
-- Specification mode information
    specificationMode              CHOICE {
        complete                   SEQUENCE {
-- Radio bearer IEs
            rab-InformationReconfigList RAB-InformationReconfigList     OPTIONAL,
            rb-InformationReconfigList RB-InformationReconfigList-r5   OPTIONAL,
            rb-InformationAffectedList RB-InformationAffectedList-r5   OPTIONAL,
            rb-PDCPContextRelocationList RB-PDCPContextRelocationList   OPTIONAL,
-- Transport channel IEs
            ul-CommonTransChInfo     UL-CommonTransChInfo-r4         OPTIONAL,
            ul-deletedTransChInfoList UL-DeletedTransChInfoList      OPTIONAL,
            ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList    OPTIONAL,
            modeSpecificTransChInfo   CHOICE {
                fdd                   SEQUENCE {
                    cpch-SetID        CPCH-SetID                     OPTIONAL,
                    addReconfTransChDRAC-Info DRAC-StaticInformationList OPTIONAL
                },
                tdd                   NULL
            }
            dl-CommonTransChInfo     DL-CommonTransChInfo-r4         OPTIONAL,
            dl-DeletedTransChInfoList DL-DeletedTransChInfoList-r5   OPTIONAL,
            dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5 OPTIONAL
        },
        preconfiguration            SEQUENCE {
-- All IEs that include an FDD/TDD choice are split in two IEs for this message,
-- one for the FDD only elements and one for the TDD only elements, so that one
-- FDD/TDD choice in this level is sufficient.
            preConfigMode           CHOICE {
                predefinedConfigIdentity PredefinedConfigIdentity,
                defaultConfig        SEQUENCE {
                    defaultConfigMode DefaultConfigMode,
                    defaultConfigIdentity DefaultConfigIdentity-r5
                }
            }
        }
    }
}

```

```

    },
-- Physical channel IEs
frequencyInfo          FrequencyInfo          OPTIONAL,
maxAllowedUL-TX-Power  MaxAllowedUL-TX-Power  OPTIONAL,
ul-ChannelRequirement  UL-ChannelRequirement-r5  OPTIONAL,
modeSpecificPhysChInfo CHOICE {
    fdd                 SEQUENCE {
        dl-PDSCH-Information  DL-PDSCH-Information  OPTIONAL
    },
    tdd                 NULL
},
dl-HSPDSCH-Information DL-HSPDSCH-Information  OPTIONAL,
dl-CommonInformation   DL-CommonInformation-r5  OPTIONAL,
dl-InformationPerRL-List DL-InformationPerRL-List-r5  OPTIONAL
}

RadioBearerReconfiguration-r6-IEs ::= SEQUENCE {
-- User equipment IEs
integrityProtectionModeInfo IntegrityProtectionModeInfo  OPTIONAL,
cipheringModeInfo          CipheringModeInfo            OPTIONAL,
activationTime             ActivationTime                OPTIONAL,
new-U-RNTI                 U-RNTI                      OPTIONAL,
new-C-RNTI                 C-RNTI                      OPTIONAL,
new-DSCH-RNTI             DSCH-RNTI                   OPTIONAL,
new-H-RNTI                 H-RNTI                      OPTIONAL,
new-E-RNTI                 E-RNTI                      OPTIONAL,
rrc-StateIndicator        RRC-StateIndicator,
utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IEs
cn-InformationInfo        CN-InformationInfo-r6      OPTIONAL,
plmn-Identity            PLMN-Identity            OPTIONAL,
-- UTRAN mobility IEs
ura-Identity              URA-Identity                OPTIONAL,
-- Specification mode information
specificationMode        CHOICE {
    complete              SEQUENCE {
-- Radio bearer IEs
rab-InformationReconfigList RAB-InformationReconfigList  OPTIONAL,
rb-InformationReconfigList  RB-InformationReconfigList-r6  OPTIONAL,
rb-InformationAffectedList  RB-InformationAffectedList-r6  OPTIONAL,
rb-PDCPContextRelocationList RB-PDCPContextRelocationList  OPTIONAL,
-- Transport channel IEs
ul-CommonTransChInfo      UL-CommonTransChInfo-r4      OPTIONAL,
ul-deletedTransChInfoList  UL-DeletedTransChInfoList-r6  OPTIONAL,
ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList-r6  OPTIONAL,
modeSpecificTransChInfo   CHOICE {
    fdd                 SEQUENCE {
        cpch-SetID      CPCH-SetID                OPTIONAL,
        addReconfTransChDRAC-Info DRAC-StaticInformationList  OPTIONAL
    },
    tdd                 NULL
    },
dl-CommonTransChInfo      DL-CommonTransChInfo-r4      OPTIONAL,
dl-DeletedTransChInfoList DL-DeletedTransChInfoList-r5  OPTIONAL,
dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5  OPTIONAL
},
preconfiguration          SEQUENCE {
-- All IEs that include an FDD/TDD choice are split in two IEs for this message,
-- one for the FDD only elements and one for the TDD only elements, so that one
-- FDD/TDD choice in this level is sufficient.
preConfigMode            CHOICE {
    predefinedConfigIdentity PredefinedConfigIdentity,
    defaultConfig          SEQUENCE {
        defaultConfigMode  DefaultConfigMode,
        defaultConfigIdentity DefaultConfigIdentity-r5
    }
}
}
},
-- Physical channel IEs
frequencyInfo          FrequencyInfo          OPTIONAL,
maxAllowedUL-TX-Power  MaxAllowedUL-TX-Power  OPTIONAL,
ul-ChannelRequirement  UL-ChannelRequirement-r6  OPTIONAL,
ul-EDCH-Information    UL-EDCH-Information-r6  OPTIONAL,
modeSpecificPhysChInfo CHOICE {
    fdd                 SEQUENCE {
        dl-PDSCH-Information  DL-PDSCH-Information  OPTIONAL
    }
}

```

```

    },
    tdd                                NULL
  },
  dl-HSPDSCH-Information                DL-HSPDSCH-Information                OPTIONAL,
  dl-CommonInformation                  DL-CommonInformation-r6              OPTIONAL,
  dl-InformationPerRL-List              DL-InformationPerRL-List-r6          OPTIONAL,
-- MBMS IEs
  mbms-PL-ServiceRestrictInfo          MBMS-PL-ServiceRestrictInfo-r6      OPTIONAL
}

RadioBearerReconfiguration-v6xyext-IEs ::= SEQUENCE {
-- Core network IEs
  primary-plmn-Identity                 PLMN-Identity                        OPTIONAL,
-- Physical channel IEs
  harq-Preamble-Mode                   HARQ-Preamble-Mode                  OPTIONAL,
  beaconPLEst                           BEACON-PL-Est                       OPTIONAL,
-- MBMS IEs
  mbms-PL-ServiceRestrictInfo          MBMS-PL-ServiceRestrictInfo-r6      OPTIONAL
}

-- *****
--
-- RADIO BEARER RECONFIGURATION COMPLETE
--
-- *****

RadioBearerReconfigurationComplete ::= SEQUENCE {
-- User equipment IEs
  rrc-TransactionIdentifier             RRC-TransactionIdentifier,
  ul-IntegProtActivationInfo           IntegrityProtActivationInfo          OPTIONAL,
-- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
  ul-TimingAdvance                     UL-TimingAdvance                    OPTIONAL,
-- Radio bearer IEs
  count-C-ActivationTime               ActivationTime                        OPTIONAL,
-- dummy is not used in this version of the specification and
-- it should be ignored by the receiver.
  dummy                                RB-ActivationTimeInfoList           OPTIONAL,
  ul-CounterSynchronisationInfo        UL-CounterSynchronisationInfo        OPTIONAL,
  laterNonCriticalExtensions            SEQUENCE {
-- Container for additional R99 extensions
    radioBearerReconfigurationComplete-r3-add-ext    BIT STRING    OPTIONAL,
    nonCriticalExtensions                            SEQUENCE {} OPTIONAL
  } OPTIONAL
}

-- *****
--
-- RADIO BEARER RECONFIGURATION FAILURE
--
-- *****

RadioBearerReconfigurationFailure ::= SEQUENCE {
-- User equipment IEs
  rrc-TransactionIdentifier             RRC-TransactionIdentifier,
  failureCause                          FailureCauseWithProtErr,
-- Radio bearer IEs
  potentiallySuccessfulBearerList       RB-IdentityList                      OPTIONAL,
  laterNonCriticalExtensions            SEQUENCE {
-- Container for additional R99 extensions
    radioBearerReconfigurationFailure-r3-add-ext    BIT STRING    OPTIONAL,
    nonCriticalExtensions                            SEQUENCE {} OPTIONAL
  } OPTIONAL
}

-- *****
--
-- RADIO BEARER RELEASE
--
-- *****

RadioBearerRelease ::= CHOICE {
  r3                                     SEQUENCE {
    radioBearerRelease-r3                RadioBearerRelease-r3-IEs,
    v3a0NonCriticalExtensions            SEQUENCE {
      radioBearerRelease-v3a0ext         RadioBearerRelease-v3a0ext,
      laterNonCriticalExtensions          SEQUENCE {
-- Container for additional R99 extensions
        radioBearerRelease-r3-add-ext    BIT STRING    OPTIONAL,

```

```

v4b0NonCriticalExtensions      SEQUENCE {
  radioBearerRelease-v4b0ext    RadioBearerRelease-v4b0ext-IEs,
  v590NonCriticalExtensions     SEQUENCE {
    radioBearerRelease-v590ext  RadioBearerRelease-v590ext-IEs,
    v6xyNonCriticalExtensions   SEQUENCE {
      radioBearerRelease-v6xyext RadioBearerRelease-v6xyext-IEs,
      nonCriticalExtensions     SEQUENCE {} OPTIONAL
    } OPTIONAL
  } OPTIONAL
} OPTIONAL
},
later-than-r3                  SEQUENCE {
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  criticalExtensions             CHOICE {
    r4                            SEQUENCE {
      radioBearerRelease-r4      RadioBearerRelease-r4-IEs,
      v4d0NonCriticalExtensions SEQUENCE {
        -- Container for adding non critical extensions after freezing REL-5
        radioBearerRelease-r4-add-ext BIT STRING OPTIONAL,
        v590NonCriticalExtensions SEQUENCE {
          radioBearerRelease-v590ext RadioBearerRelease-v590ext-IEs,
          v6xyNonCriticalExtensions SEQUENCE {
            radioBearerRelease-v6xyext RadioBearerRelease-v6xyext-IEs,
            nonCriticalExtensions SEQUENCE {} OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  } OPTIONAL
},
criticalExtensions            CHOICE {
  r5                            SEQUENCE {
    radioBearerRelease-r5        RadioBearerRelease-r5-IEs,
    -- Container for adding non critical extensions after freezing REL-6
    radioBearerRelease-r5-add-ext BIT STRING OPTIONAL,
    v6xyNonCriticalExtensions SEQUENCE {
      radioBearerRelease-v6xyext  RadioBearerRelease-v6xyext-IEs,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    } OPTIONAL
  },
  criticalExtensions            CHOICE {
    r6                            SEQUENCE {
      radioBearerRelease-r6        RadioBearerRelease-r6-IEs,
      -- Container for adding non critical extensions after freezing REL-7
      radioBearerRelease-r6-add-ext BIT STRING OPTIONAL,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    criticalExtensions            SEQUENCE {}
  }
}
}
}
}
}

```

```

RadioBearerRelease-r3-IEs ::= SEQUENCE {
-- User equipment IES
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  integrityProtectionModeInfo    IntegrityProtectionModeInfo      OPTIONAL,
  cipheringModeInfo             CipheringModeInfo                  OPTIONAL,
  activationTime                 ActivationTime                    OPTIONAL,
  new-U-RNTI                     U-RNTI                         OPTIONAL,
  new-C-RNTI                     C-RNTI                         OPTIONAL,
  rrc-StateIndicator             RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff     UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IES
  cn-InformationInfo             CN-InformationInfo            OPTIONAL,
  signallingConnectionRelIndication CN-DomainIdentity            OPTIONAL,
-- UTRAN mobility IES
  ura-Identity                   URA-Identity                    OPTIONAL,
-- Radio bearer IES
  rab-InformationReconfigList     RAB-InformationReconfigList     OPTIONAL,
  rb-InformationReleaseList       RB-InformationReleaseList,
  rb-InformationAffectedList      RB-InformationAffectedList      OPTIONAL,
  dl-CounterSynchronisationInfo  DL-CounterSynchronisationInfo  OPTIONAL,
-- Transport channel IES
  ul-CommonTransChInfo           UL-CommonTransChInfo           OPTIONAL,
  ul-deletedTransChInfoList      UL-DeletedTransChInfoList      OPTIONAL,
  ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList    OPTIONAL,

```

```

modeSpecificTransChInfo      CHOICE {
  fdd      SEQUENCE {
    cpch-SetID          CPCH-SetID          OPTIONAL,
    addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
  },
  tdd      NULL
}
dl-CommonTransChInfo        DL-CommonTransChInfo        OPTIONAL,
dl-DeletedTransChInfoList   DL-DeletedTransChInfoList   OPTIONAL,
dl-AddReconfTransChInfoList DL-AddReconfTransChInfo2List OPTIONAL,
-- Physical channel IEs
frequencyInfo               FrequencyInfo               OPTIONAL,
maxAllowedUL-TX-Power       MaxAllowedUL-TX-Power       OPTIONAL,
ul-ChannelRequirement       UL-ChannelRequirement       OPTIONAL,
modeSpecificPhysChInfo      CHOICE {
  fdd      SEQUENCE {
    dl-PDSCH-Information    DL-PDSCH-Information    OPTIONAL
  },
  tdd      NULL
},
dl-CommonInformation        DL-CommonInformation        OPTIONAL,
dl-InformationPerRL-List    DL-InformationPerRL-List    OPTIONAL
}

RadioBearerRelease-v3a0ext ::= SEQUENCE {
  new-DSCH-RNTI             DSCH-RNTI             OPTIONAL
}

RadioBearerRelease-v4b0ext-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- IE ssdt-UL extends SSdT-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL-r4                SSdT-UL                OPTIONAL,
  -- The order of the RLs in IE cell-id-PerRL-List is the same as
  -- in IE DL-InformationPerRL-List included in this message
  cell-id-PerRL-List        CellIdentity-PerRL-List        OPTIONAL
}

RadioBearerRelease-v590ext-IEs ::= SEQUENCE {
  -- Physical channel IEs
  dl-TPC-PowerOffsetPerRL-List  DL-TPC-PowerOffsetPerRL-List  OPTIONAL
}

RadioBearerRelease-r4-IEs ::= SEQUENCE {
  -- User equipment IEs
  integrityProtectionModeInfo    IntegrityProtectionModeInfo    OPTIONAL,
  cipheringModeInfo              CipheringModeInfo                OPTIONAL,
  activationTime                  ActivationTime                    OPTIONAL,
  new-U-RNTI                      U-RNTI                          OPTIONAL,
  new-C-RNTI                      C-RNTI                          OPTIONAL,
  new-DSCH-RNTI                  DSCH-RNTI                       OPTIONAL,
  rrc-StateIndicator              RRC-StateIndicator              OPTIONAL,
  utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
  -- Core network IEs
  cn-InformationInfo              CN-InformationInfo              OPTIONAL,
  signallingConnectionRelIndication  CN-DomainIdentity              OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity                    URA-Identity                    OPTIONAL,
  -- Radio bearer IEs
  rab-InformationReconfigList      RAB-InformationReconfigList      OPTIONAL,
  rb-InformationReleaseList        RB-InformationReleaseList        OPTIONAL,
  rb-InformationAffectedList       RB-InformationAffectedList       OPTIONAL,
  dl-CounterSynchronisationInfo    DL-CounterSynchronisationInfo    OPTIONAL,
  -- Transport channel IEs
  ul-CommonTransChInfo            UL-CommonTransChInfo-r4         OPTIONAL,
  ul-deletedTransChInfoList        UL-DeletedTransChInfoList        OPTIONAL,
  ul-AddReconfTransChInfoList      UL-AddReconfTransChInfoList      OPTIONAL,
  modeSpecificTransChInfo          CHOICE {
    fdd      SEQUENCE {
      cpch-SetID          CPCH-SetID          OPTIONAL,
      addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
    },
    tdd      NULL
  }
  dl-CommonTransChInfo            DL-CommonTransChInfo-r4         OPTIONAL,
  dl-DeletedTransChInfoList        DL-DeletedTransChInfoList        OPTIONAL,
  dl-AddReconfTransChInfoList      DL-AddReconfTransChInfoList-r4   OPTIONAL,
  -- Physical channel IEs

```

```

frequencyInfo          FrequencyInfo          OPTIONAL,
maxAllowedUL-TX-Power  MaxAllowedUL-TX-Power  OPTIONAL,
ul-ChannelRequirement UL-ChannelRequirement-r4  OPTIONAL,
modeSpecificPhysChInfo CHOICE {
    fdd                 SEQUENCE {
        dl-PDSCH-Information  DL-PDSCH-Information  OPTIONAL
    },
    tdd                 NULL
},
dl-CommonInformation  DL-CommonInformation-r4  OPTIONAL,
dl-InformationPerRL-List  DL-InformationPerRL-List-r4  OPTIONAL
}

```

```

RadioBearerRelease-r5-IEs ::= SEQUENCE {
-- User equipment IEs
    integrityProtectionModeInfo  IntegrityProtectionModeInfo  OPTIONAL,
    cipheringModeInfo            CipheringModeInfo            OPTIONAL,
    activationTime                ActivationTime                OPTIONAL,
    new-U-RNTI                    U-RNTI                      OPTIONAL,
    new-C-RNTI                    C-RNTI                      OPTIONAL,
    new-DSCH-RNTI                DSCH-RNTI                  OPTIONAL,
    new-H-RNTI                    H-RNTI                      OPTIONAL,
    rrc-StateIndicator            RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IEs
    cn-InformationInfo            CN-InformationInfo          OPTIONAL,
    signallingConnectionRelIndication  CN-DomainIdentity          OPTIONAL,
-- UTRAN mobility IEs
    ura-Identity                  URA-Identity                OPTIONAL,
-- Radio bearer IEs
    rab-InformationReconfigList    RAB-InformationReconfigList  OPTIONAL,
    rb-InformationReleaseList      RB-InformationReleaseList,
    rb-InformationAffectedList     RB-InformationAffectedList-r5  OPTIONAL,
    dl-CounterSynchronisationInfo  DL-CounterSynchronisationInfo-r5  OPTIONAL,
-- Transport channel IEs
    ul-CommonTransChInfo          UL-CommonTransChInfo-r4      OPTIONAL,
    ul-deletedTransChInfoList     UL-DeletedTransChInfoList    OPTIONAL,
    ul-AddReconfTransChInfoList   UL-AddReconfTransChInfoList  OPTIONAL,
    modeSpecificTransChInfo       CHOICE {
        fdd                 SEQUENCE {
            cpch-SetID      CPCH-SetID          OPTIONAL,
            addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
        },
        tdd                 NULL
    }
    dl-CommonTransChInfo          DL-CommonTransChInfo-r4      OPTIONAL,
    dl-DeletedTransChInfoList     DL-DeletedTransChInfoList-r5  OPTIONAL,
    dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r5  OPTIONAL,
-- Physical channel IEs
    frequencyInfo                FrequencyInfo                OPTIONAL,
    maxAllowedUL-TX-Power        MaxAllowedUL-TX-Power      OPTIONAL,
    ul-ChannelRequirement        UL-ChannelRequirement-r5    OPTIONAL,
    modeSpecificPhysChInfo       CHOICE {
        fdd                 SEQUENCE {
            dl-PDSCH-Information  DL-PDSCH-Information  OPTIONAL
        },
        tdd                 NULL
    },
    dl-HSPDSCH-Information        DL-HSPDSCH-Information      OPTIONAL,
    dl-CommonInformation          DL-CommonInformation-r5     OPTIONAL,
    dl-InformationPerRL-List      DL-InformationPerRL-List-r5  OPTIONAL
}

```

```

RadioBearerRelease-v6xyext-IEs ::= SEQUENCE {
-- Core network IEs
    primary-plmn-Identity          PLMN-Identity                OPTIONAL,
-- Physical channel IEs
    harq-Preamble-Mode            HARQ-Preamble-Mode          OPTIONAL,
    beaconPLEst                   BEACON-PL-Est                OPTIONAL,
-- MBMS IEs
    mbms-PL-ServiceRestrictInfo    MBMS-PL-ServiceRestrictInfo-r6  OPTIONAL,
    mbms-RB-ListReleasedToChangeTransferMode  RB-InformationReleaseList  OPTIONAL
}

```

```

RadioBearerRelease-r6-IEs ::= SEQUENCE {
-- User equipment IEs
    integrityProtectionModeInfo  IntegrityProtectionModeInfo  OPTIONAL,

```



```

    cipheringModeInfo          CipheringModeInfo          OPTIONAL,
    activationTime              ActivationTime          OPTIONAL,
    new-U-RNTI                  U-RNTI          OPTIONAL,
    new-C-RNTI                  C-RNTI          OPTIONAL,
    new-DSCH-RNTI              DSCH-RNTI       OPTIONAL,
    new-H-RNTI                  H-RNTI          OPTIONAL,
    new-E-RNTI                  E-RNTI          OPTIONAL,
    rrc-StateIndicator          RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IEs
    cn-InformationInfo          CN-InformationInfo-r6          OPTIONAL,
plmn-Identity                PLMN-Identity                OPTIONAL,
    signallingConnectionRelIndication  CN-DomainIdentity  OPTIONAL,
-- UTRAN mobility IEs
    ura-Identity                URA-Identity          OPTIONAL,
-- Radio bearer IEs
    rab-InformationReconfigList  RAB-InformationReconfigList  OPTIONAL,
    rb-InformationReleaseList    RB-InformationReleaseList,
    rb-InformationAffectedList    RB-InformationAffectedList-r6  OPTIONAL,
    dl-CounterSynchronisationInfo  DL-CounterSynchronisationInfo-r5  OPTIONAL,
-- Transport channel IEs
    ul-CommonTransChInfo        UL-CommonTransChInfo-r4        OPTIONAL,
    ul-deletedTransChInfoList    UL-DeletedTransChInfoList-r6   OPTIONAL,
    ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList-r6  OPTIONAL,
    modeSpecificTransChInfo      CHOICE {
        fdd                      SEQUENCE {
            cpch-SetID            CPCH-SetID          OPTIONAL,
            addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
        },
        tdd                      NULL
    }
    dl-CommonTransChInfo        DL-CommonTransChInfo-r4        OPTIONAL,
    dl-DeletedTransChInfoList    DL-DeletedTransChInfoList-r5   OPTIONAL,
    dl-AddReconfTransChInfoList  DL-AddReconfTransChInfoList-r5  OPTIONAL,
-- Physical channel IEs
    frequencyInfo                FrequencyInfo          OPTIONAL,
    maxAllowedUL-TX-Power        MaxAllowedUL-TX-Power  OPTIONAL,
    ul-ChannelRequirement        UL-ChannelRequirement-r6   OPTIONAL,
    ul-EDCH-Information          UL-EDCH-Information-r6   OPTIONAL,
    modeSpecificPhysChInfo      CHOICE {
        fdd                      SEQUENCE {
            dl-PDSCH-Information    DL-PDSCH-Information  OPTIONAL
        },
        tdd                      NULL
    },
    dl-HSPDSCH-Information        DL-HSPDSCH-Information  OPTIONAL,
    dl-CommonInformation          DL-CommonInformation-r5   OPTIONAL,
    dl-InformationPerRL-List      DL-InformationPerRL-List-r6  OPTIONAL,
-- MBMS IEs
    mbms-PL-ServiceRestrictInfo  MBMS-PL-ServiceRestrictInfo-r6  OPTIONAL,
    mbms-RB-ListReleasedToChangeTransferMode  RB-InformationReleaseList  OPTIONAL
}

-- *****
--
-- RADIO BEARER RELEASE COMPLETE
--
-- *****

RadioBearerReleaseComplete ::= SEQUENCE {
-- User equipment IEs
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    ul-IntegProtActivationInfo      IntegrityProtActivationInfo  OPTIONAL,
-- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
    ul-TimingAdvance                UL-TimingAdvance          OPTIONAL,
-- Radio bearer IEs
    count-C-ActivationTime          ActivationTime          OPTIONAL,
-- dummy is not used in this version of the specification and
-- it should be ignored by the receiver.
    dummy                            RB-ActivationTimeInfoList  OPTIONAL,
    ul-CounterSynchronisationInfo    UL-CounterSynchronisationInfo  OPTIONAL,
    laterNonCriticalExtensions      SEQUENCE {
-- Container for additional R99 extensions
        radioBearerReleaseComplete-r3-add-ext  BIT STRING  OPTIONAL,
        nonCriticalExtensions                SEQUENCE {}  OPTIONAL
    }  OPTIONAL
}

```

```

-- *****
--
-- RADIO BEARER RELEASE FAILURE
--
-- *****

RadioBearerReleaseFailure ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  failureCause                   FailureCauseWithProtErr,
  -- Radio bearer IEs
  potentiallySuccessfulBearerList RB-IdentityList              OPTIONAL,
  laterNonCriticalExtensions      SEQUENCE {
    -- Container for additional R99 extensions
    radioBearerReleaseFailure-r3-add-ext BIT STRING          OPTIONAL,
    nonCriticalExtensions            SEQUENCE {}              OPTIONAL
  } OPTIONAL
}

-- *****
--
-- RADIO BEARER SETUP
--
-- *****

RadioBearerSetup ::= CHOICE {
  r3
    SEQUENCE {
      radioBearerSetup-r3          RadioBearerSetup-r3-IEs,
      v3a0NonCriticalExtensions    SEQUENCE {
        radioBearerSetup-v3a0ext  RadioBearerSetup-v3a0ext,
        laterNonCriticalExtensions SEQUENCE {
          -- Container for additional R99 extensions
          radioBearerSetup-r3-add-ext BIT STRING          OPTIONAL,
          v4b0NonCriticalExtensions SEQUENCE {
            radioBearerSetup-v4b0ext RadioBearerSetup-v4b0ext-IEs,
            v590NonCriticalExtensions SEQUENCE {
              radioBearerSetup-v590ext RadioBearerSetup-v590ext-IEs,
              v6xyNonCriticalExtensions SEQUENCE {
                radioBearerSetup-v6xyext RadioBearerSetup-v6xyext-IEs,
                nonCriticalExtensions SEQUENCE {}          OPTIONAL
              } OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    },
  later-than-r3
    SEQUENCE {
      rrc-TransactionIdentifier      RRC-TransactionIdentifier,
      criticalExtensions             CHOICE {
        r4
          SEQUENCE {
            radioBearerSetup-r4      RadioBearerSetup-r4-IEs,
            v4d0NonCriticalExtensions SEQUENCE {
              -- Container for adding non critical extensions after freezing REL-5
              radioBearerSetup-r4-add-ext BIT STRING          OPTIONAL,
              v590NonCriticalExtensions SEQUENCE {
                radioBearerSetup-v590ext RadioBearerSetup-v590ext-IEs,
                v6xyNonCriticalExtensions SEQUENCE {
                  radioBearerSetup-v6xyext RadioBearerSetup-v6xyext-IEs,
                  nonCriticalExtensions SEQUENCE {}          OPTIONAL
                } OPTIONAL
              } OPTIONAL
            } OPTIONAL
          } OPTIONAL
        },
      criticalExtensions             CHOICE {
        r5
          SEQUENCE {
            radioBearerSetup-r5      RadioBearerSetup-r5-IEs,
            -- Container for adding non critical extensions after freezing REL-6
            radioBearerSetup-r5-add-ext BIT STRING          OPTIONAL,
            v6xyNonCriticalExtensions SEQUENCE {
              radioBearerSetup-v6xyext RadioBearerSetup-v6xyext-IEs,
              nonCriticalExtensions SEQUENCE {}          OPTIONAL
            } OPTIONAL
          },
        criticalExtensions             CHOICE {
          r6
            SEQUENCE {
              radioBearerSetup-r6      RadioBearerSetup-r6-IEs,
              -- Container for adding non critical extensions after freezing REL-7

```

```

                radioBearerSetup-r6-add-ext        BIT STRING        OPTIONAL,
                nonCriticalExtensions              SEQUENCE {}        OPTIONAL
            },
            criticalExtensions                      SEQUENCE {}
        }
    }
}

RadioBearerSetup-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier                    RRC-TransactionIdentifier,
    integrityProtectionModeInfo                  IntegrityProtectionModeInfo        OPTIONAL,
    cipheringModeInfo                            CipheringModeInfo                  OPTIONAL,
    activationTime                               ActivationTime                      OPTIONAL,
    new-U-RNTI                                  U-RNTI                           OPTIONAL,
    new-C-RNTI                                  C-RNTI                           OPTIONAL,
    rrc-StateIndicator                          RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff                  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                                URA-Identity                      OPTIONAL,
    -- Core network IEs
    cn-InformationInfo                          CN-InformationInfo                OPTIONAL,
    -- Radio bearer IEs
    srb-InformationSetupList                    SRB-InformationSetupList          OPTIONAL,
    rab-InformationSetupList                    RAB-InformationSetupList          OPTIONAL,
    rb-InformationAffectedList                  RB-InformationAffectedList         OPTIONAL,
    dl-CounterSynchronisationInfo              DL-CounterSynchronisationInfo     OPTIONAL,
    -- Transport channel IEs
    ul-CommonTransChInfo                       UL-CommonTransChInfo              OPTIONAL,
    ul-deletedTransChInfoList                  UL-DeletedTransChInfoList         OPTIONAL,
    ul-AddReconfTransChInfoList                UL-AddReconfTransChInfoList       OPTIONAL,
    modeSpecificTransChInfo                    CHOICE {
        fdd                                     SEQUENCE {
            cpch-SetID                          CPCH-SetID                        OPTIONAL,
            addReconfTransChDRAC-Info           DRAC-StaticInformationList        OPTIONAL
        },
        tdd                                     NULL
    }
    dl-CommonTransChInfo                       DL-CommonTransChInfo              OPTIONAL,
    dl-DeletedTransChInfoList                  DL-DeletedTransChInfoList         OPTIONAL,
    dl-AddReconfTransChInfoList                DL-AddReconfTransChInfoList       OPTIONAL,
    -- Physical channel IEs
    frequencyInfo                              FrequencyInfo                      OPTIONAL,
    maxAllowedUL-TX-Power                       MaxAllowedUL-TX-Power             OPTIONAL,
    ul-ChannelRequirement                       UL-ChannelRequirement             OPTIONAL,
    modeSpecificPhysChInfo                      CHOICE {
        fdd                                     SEQUENCE {
            dl-PDSCH-Information                 DL-PDSCH-Information              OPTIONAL
        },
        tdd                                     NULL
    },
    dl-CommonInformation                       DL-CommonInformation              OPTIONAL,
    dl-InformationPerRL-List                    DL-InformationPerRL-List          OPTIONAL
}

RadioBearerSetup-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                              DSCH-RNTI                         OPTIONAL
}

RadioBearerSetup-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- ssdt-UL extends SSdT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL-r4                                  SSdT-UL                           OPTIONAL,
    -- The order of the RLs in IE cell-id-PerRL-List is the same as
    -- in IE DL-InformationPerRL-List included in this message
    cell-id-PerRL-List                          CellIdentity-PerRL-List           OPTIONAL
}

RadioBearerSetup-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    dl-TPC-PowerOffsetPerRL-List                DL-TPC-PowerOffsetPerRL-List      OPTIONAL
}

RadioBearerSetup-r4-IEs ::= SEQUENCE {
    -- User equipment IEs

```

```

integrityProtectionModeInfo      IntegrityProtectionModeInfo      OPTIONAL,
cipheringModeInfo                CipheringModeInfo                OPTIONAL,
activationTime                   ActivationTime                    OPTIONAL,
new-U-RNTI                       U-RNTI                          OPTIONAL,
new-C-RNTI                       C-RNTI                          OPTIONAL,
new-DSCH-RNTI                   DSCH-RNTI                       OPTIONAL,
rrc-StateIndicator               RRC-StateIndicator,
utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- UTRAN mobility IEs
ura-Identity                     URA-Identity                    OPTIONAL,
-- Core network IEs
cn-InformationInfo              CN-InformationInfo              OPTIONAL,
-- Radio bearer IEs
srb-InformationSetupList        SRB-InformationSetupList        OPTIONAL,
rab-InformationSetupList        RAB-InformationSetupList-r4     OPTIONAL,
rb-InformationAffectedList      RB-InformationAffectedList      OPTIONAL,
dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo   OPTIONAL,
-- Transport channel IEs
ul-CommonTransChInfo           UL-CommonTransChInfo-r4        OPTIONAL,
ul-deletedTransChInfoList      UL-DeletedTransChInfoList      OPTIONAL,
ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList    OPTIONAL,
modeSpecificTransChInfo        CHOICE {
    fdd                          SEQUENCE {
        cpch-SetID              CPCH-SetID                    OPTIONAL,
        addReconfTransChDRAC-Info DRAC-StaticInformationList    OPTIONAL
    },
    tdd                          NULL
}
dl-CommonTransChInfo           DL-CommonTransChInfo-r4        OPTIONAL,
dl-DeletedTransChInfoList      DL-DeletedTransChInfoList      OPTIONAL,
dl-AddReconfTransChInfoList    DL-AddReconfTransChInfoList-r4 OPTIONAL,
-- Physical channel IEs
frequencyInfo                   FrequencyInfo                    OPTIONAL,
maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power          OPTIONAL,
ul-ChannelRequirement           UL-ChannelRequirement-r4       OPTIONAL,
modeSpecificPhysChInfo         CHOICE {
    fdd                          SEQUENCE {
        dl-PDSCH-Information    DL-PDSCH-Information         OPTIONAL
    },
    tdd                          NULL
},
dl-CommonInformation           DL-CommonInformation-r4        OPTIONAL,
dl-InformationPerRL-List       DL-InformationPerRL-List-r4    OPTIONAL
}

RadioBearerSetup-r5-IEs ::= SEQUENCE {
-- User equipment IEs
integrityProtectionModeInfo      IntegrityProtectionModeInfo      OPTIONAL,
cipheringModeInfo                CipheringModeInfo                OPTIONAL,
activationTime                   ActivationTime                    OPTIONAL,
new-U-RNTI                       U-RNTI                          OPTIONAL,
new-C-RNTI                       C-RNTI                          OPTIONAL,
new-DSCH-RNTI                   DSCH-RNTI                       OPTIONAL,
new-H-RNTI                       H-RNTI                          OPTIONAL,
rrc-StateIndicator               RRC-StateIndicator,
utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- UTRAN mobility IEs
ura-Identity                     URA-Identity                    OPTIONAL,
-- Core network IEs
cn-InformationInfo              CN-InformationInfo              OPTIONAL,
-- Radio bearer IEs
srb-InformationSetupList        SRB-InformationSetupList-r5     OPTIONAL,
rab-InformationSetupList        RAB-InformationSetupList-r5     OPTIONAL,
rb-InformationAffectedList      RB-InformationAffectedList-r5   OPTIONAL,
dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo-r5 OPTIONAL,
-- Transport channel IEs
ul-CommonTransChInfo           UL-CommonTransChInfo-r4        OPTIONAL,
ul-deletedTransChInfoList      UL-DeletedTransChInfoList      OPTIONAL,
ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList    OPTIONAL,
modeSpecificTransChInfo        CHOICE {
    fdd                          SEQUENCE {
        cpch-SetID              CPCH-SetID                    OPTIONAL,
        addReconfTransChDRAC-Info DRAC-StaticInformationList    OPTIONAL
    },
    tdd                          NULL
}
dl-CommonTransChInfo           DL-CommonTransChInfo-r4        OPTIONAL,
dl-DeletedTransChInfoList      DL-DeletedTransChInfoList-r5   OPTIONAL,

```

```

    dl-AddReconfTransChInfoList      DL-AddReconfTransChInfoList-r5      OPTIONAL,
-- Physical channel IEs
  frequencyInfo                      FrequencyInfo                          OPTIONAL,
  maxAllowedUL-TX-Power              MaxAllowedUL-TX-Power                OPTIONAL,
  ul-ChannelRequirement              UL-ChannelRequirement-r5            OPTIONAL,
  modeSpecificPhysChInfo             CHOICE {
    fdd                               SEQUENCE {
      dl-PDSCH-Information            DL-PDSCH-Information                OPTIONAL
    },
    tdd                               NULL
  },
  dl-HSPDSCH-Information             DL-HSPDSCH-Information              OPTIONAL,
  dl-CommonInformation               DL-CommonInformation-r5             OPTIONAL,
  dl-InformationPerRL-List           DL-InformationPerRL-List-r5         OPTIONAL
}

RadioBearerSetup-v6xyext-IEs ::= SEQUENCE {
-- Core network IEs
  primary-plmn-Identity              PLMN-Identity                        OPTIONAL,
-- Physical channel IEs
  harq-Preamble-Mode                HARQ-Preamble-Mode                  OPTIONAL,
  beaconPLEst                        BEACON-PL-Est                       OPTIONAL,
-- Radio bearer IEs
  rab-InformationSetupList           RAB-InformationSetupList-r6-ext     OPTIONAL,
-- MBMS IEs
  mbms-PL-ServiceRestrictInfo       MBMS-PL-ServiceRestrictInfo-r6     OPTIONAL
}

RadioBearerSetup-r6-IEs ::= SEQUENCE {
-- User equipment IEs
  integrityProtectionModeInfo        IntegrityProtectionModeInfo          OPTIONAL,
  cipheringModeInfo                  CipheringModeInfo                    OPTIONAL,
  activationTime                      ActivationTime                        OPTIONAL,
  new-U-RNTI                          U-RNTI                               OPTIONAL,
  new-C-RNTI                          C-RNTI                               OPTIONAL,
  new-DSCH-RNTI                       DSCH-RNTI                            OPTIONAL,
  new-H-RNTI                          H-RNTI                               OPTIONAL,
  new-E-RNTI                          E-RNTI                               OPTIONAL,
  rrc-StateIndicator                 RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff         UTRAN-DRX-CycleLengthCoefficient     OPTIONAL,
-- UTRAN mobility IEs
  ura-Identity                        URA-Identity                         OPTIONAL,
-- Core network IEs
  cn-InformationInfo                 CN-InformationInfo-r6                OPTIONAL,
plmn-Identity                       PLMN-Identity                        OPTIONAL,
-- Radio bearer IEs
  srb-InformationSetupList           SRB-InformationSetupList-r6         OPTIONAL,
  rab-InformationSetupList           RAB-InformationSetupList-r6         OPTIONAL,
  rb-InformationAffectedList         RB-InformationAffectedList-r6        OPTIONAL,
  dl-CounterSynchronisationInfo      DL-CounterSynchronisationInfo-r5    OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo               UL-CommonTransChInfo-r4             OPTIONAL,
  ul-deletedTransChInfoList          UL-DeletedTransChInfoList-r6        OPTIONAL,
  ul-AddReconfTransChInfoList        UL-AddReconfTransChInfoList-r6     OPTIONAL,
  modeSpecificTransChInfo            CHOICE {
    fdd                               SEQUENCE {
      cpch-SetID                      CPCH-SetID                          OPTIONAL,
      addReconfTransChDRAC-Info       DRAC-StaticInformationList          OPTIONAL
    },
    tdd                               NULL
  }
  dl-CommonTransChInfo               DL-CommonTransChInfo-r4             OPTIONAL,
  dl-DeletedTransChInfoList          DL-DeletedTransChInfoList-r5        OPTIONAL,
  dl-AddReconfTransChInfoList        DL-AddReconfTransChInfoList-r5     OPTIONAL,
-- Physical channel IEs
  frequencyInfo                      FrequencyInfo                          OPTIONAL,
  maxAllowedUL-TX-Power              MaxAllowedUL-TX-Power                OPTIONAL,
  ul-ChannelRequirement              UL-ChannelRequirement-r6            OPTIONAL,
  ul-EDCH-Information                UL-EDCH-Information-r6              OPTIONAL,
  modeSpecificPhysChInfo             CHOICE {
    fdd                               SEQUENCE {
      dl-PDSCH-Information            DL-PDSCH-Information                OPTIONAL
    },
    tdd                               NULL
  },
  dl-HSPDSCH-Information             DL-HSPDSCH-Information              OPTIONAL,
  dl-CommonInformation               DL-CommonInformation-r6             OPTIONAL,
  dl-InformationPerRL-List           DL-InformationPerRL-List-r6         OPTIONAL
}

```

```

-- MBMS IES
|   mbms-PL-ServiceRestrictInfo      MBMS-PL-ServiceRestrictInfo-r6 OPTIONAL
}

-- *****
--
-- RADIO BEARER SETUP COMPLETE
--
-- *****

RadioBearerSetupComplete ::= SEQUENCE {
-- User equipment IES
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  ul-IntegProtActivationInfo     IntegrityProtActivationInfo      OPTIONAL,
  -- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
  ul-TimingAdvance              UL-TimingAdvance                OPTIONAL,
  start-Value                   START-Value                    OPTIONAL,
-- Radio bearer IES
  count-C-ActivationTime        ActivationTime                OPTIONAL,
  -- dummy is not used in this version of the specification and
  -- it should be ignored by the receiver.
  dummy                         RB-ActivationTimeInfoList     OPTIONAL,
  ul-CounterSynchronisationInfo UL-CounterSynchronisationInfo  OPTIONAL,
  laterNonCriticalExtensions    SEQUENCE {
    -- Container for additional R99 extensions
    radioBearerSetupComplete-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions                SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- RADIO BEARER SETUP FAILURE
--
-- *****

RadioBearerSetupFailure ::= SEQUENCE {
-- User equipment IES
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  failureCause                   FailureCauseWithProtErr,
-- Radio bearer IES
  potentiallySuccessfulBearerList RB-IdentityList                OPTIONAL,
  laterNonCriticalExtensions    SEQUENCE {
    -- Container for additional R99 extensions
    radioBearerSetupFailure-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions                SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- RRC CONNECTION REJECT
--
-- *****

RRCConnectionReject ::= CHOICE {
  r3                             SEQUENCE {
    rrcConnectionReject-r3        RRCConnectionReject-r3-IEs,
    laterNonCriticalExtensions    SEQUENCE {
      -- Container for additional R99 extensions
      rrcConnectionReject-r3-add-ext  BIT STRING      OPTIONAL,
      v6xyNonCriticalExtensions      SEQUENCE {
        rrcConnectionReject-v6xyext  RRCConnectionReject-v6xyext-IEs,
        nonCriticalExtensions        SEQUENCE {}      OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3                  SEQUENCE {
    initialUE-Identity            InitialUE-Identity,
    rrc-TransactionIdentifier     RRC-TransactionIdentifier,
    criticalExtensions            SEQUENCE {}
  }
}

RRCConnectionReject-r3-IEs ::= SEQUENCE {
-- TABULAR: Integrity protection shall not be performed on this message.
-- User equipment IES
  initialUE-Identity            InitialUE-Identity,

```

```

rrc-TransactionIdentifier      RRC-TransactionIdentifier,
rejectionCause                 RejectionCause,
waitTime                       WaitTime,
redirectionInfo                RedirectionInfo                OPTIONAL
}

RRCConnectionReject-v6xyext-IEs ::= SEQUENCE {
  redirectionInfo-v6xyext      GSM-TargetCellInfoList        OPTIONAL
}

-- *****
--
-- RRC CONNECTION RELEASE
--
-- *****

RRCConnectionRelease ::= CHOICE {
  r3                           SEQUENCE {
    rrcConnectionRelease-r3    RRCConnectionRelease-r3-IEs,
    laterNonCriticalExtensions SEQUENCE {
      -- Container for additional R99 extensions
      rrcConnectionRelease-r3-add-ext  BIT STRING    OPTIONAL,
      v6xyNonCriticalExtensions        SEQUENCE {
        rrcConnectionRelease-v6xyext  RRCConnectionRelease-v6xyext-IEs,
        nonCriticalExtensions          SEQUENCE {}    OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3                SEQUENCE {
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    criticalExtensions            CHOICE {
      r4                           SEQUENCE {
        rrcConnectionRelease-r4    RRCConnectionRelease-r4-IEs,
        v4d0NonCriticalExtensions  SEQUENCE {
          -- Container for adding non critical extensions after freezing REL-6
          rrcConnectionRelease-r4-add-ext  BIT STRING    OPTIONAL,
          v6xyNonCriticalExtensions        SEQUENCE {
            rrcConnectionRelease-v6xyext  RRCConnectionRelease-v6xyext-IEs,
            nonCriticalExtensions          SEQUENCE {}    OPTIONAL
          } OPTIONAL
        } OPTIONAL
      }
    } OPTIONAL
  },
  criticalExtensions            SEQUENCE {}
}

}

RRCConnectionRelease-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  -- n-308 is conditional on the UE state
  n-308                          N-308                OPTIONAL,
  releaseCause                   ReleaseCause,
  rplmn-information              Rplmn-Information        OPTIONAL
}

RRCConnectionRelease-r4-IEs ::= SEQUENCE {
  -- User equipment IEs
  -- n-308 is conditional on the UE state.
  n-308                          N-308                OPTIONAL,
  releaseCause                   ReleaseCause,
  rplmn-information              Rplmn-Information-r4    OPTIONAL
}

RRCConnectionRelease-v6xyext-IEs ::= SEQUENCE {
  redirectionInfo-v6xyext        RedirectionInfo-r6    OPTIONAL
}

-- *****
--
-- RRC CONNECTION RELEASE for CCCH
--
-- *****

RRCConnectionRelease-CCCH ::= CHOICE {
  r3                             SEQUENCE {
    rrcConnectionRelease-CCCH-r3  RRCConnectionRelease-CCCH-r3-IEs,

```



```

-- TABULAR: Integrity protection shall not be performed on this message.
-- User equipment IEs
  initialUE-Identity          InitialUE-Identity,
  establishmentCause          EstablishmentCause,
  -- protocolErrorIndicator is MD, but for compactness reasons no default value
  -- has been assigned to it.
  protocolErrorIndicator      ProtocolErrorIndicator,
-- Measurement IEs
  measuredResultsOnRACH        MeasuredResultsOnRACH          OPTIONAL,
-- Non critical Extensions
  v3d0NonCriticalExtensions    SEQUENCE {
    rrcConnectionRequest-v3d0ext  RRCConnectionRequest-v3d0ext-IEs,
  -- Reserved for future non critical extension
    v4b0NonCriticalExtensions      SEQUENCE {
      rrcConnectionRequest-v4b0ext  RRCConnectionRequest-v4b0ext-IEs,
      v590NonCriticalExtensions      SEQUENCE {
        rrcConnectionRequest-v590ext  RRCConnectionRequest-v590ext-IEs,
        -- Reserved for future non critical extension
        nonCriticalExtensions          SEQUENCE {}          OPTIONAL
      } OPTIONAL
    } OPTIONAL
  } OPTIONAL
}

RRCConnectionRequest-v3d0ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  ueSpecificBehaviourInformationIdle  UESpecificBehaviourInformationIdle  OPTIONAL
}

RRCConnectionRequest-v4b0ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  accessStratumReleaseIndicator        AccessStratumReleaseIndicator
}

RRCConnectionRequest-v590ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  predefinedConfigStatusInfo            BOOLEAN
}

-- *****
--
-- RRC CONNECTION SETUP
--
-- *****

RRCConnectionSetup ::= CHOICE {
  r3
    SEQUENCE {
      rrcConnectionSetup-r3              RRCConnectionSetup-r3-IEs,
      laterNonCriticalExtensions          SEQUENCE {
        -- Container for additional R99 extensions
        rrcConnectionSetup-r3-add-ext     BIT STRING          OPTIONAL,
        v4b0NonCriticalExtensions          SEQUENCE {
          rrcConnectionSetup-v4b0ext      RRCConnectionSetup-v4b0ext-IEs,
          v590NonCriticalExtensions        SEQUENCE {
            rrcConnectionSetup-v590ext    RRCConnectionSetup-v590ext-IEs,
            nonCriticalExtensions          SEQUENCE {}          OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3
    SEQUENCE {
      initialUE-Identity                  InitialUE-Identity,
      rrc-TransactionIdentifier            RRC-TransactionIdentifier,
      criticalExtensions                   CHOICE {
        r4
          SEQUENCE {
            rrcConnectionSetup-r4          RRCConnectionSetup-r4-IEs,
            v4d0NonCriticalExtensions        SEQUENCE {
              -- Container for adding non critical extensions after freezing REL-5
              rrcConnectionSetup-r4-add-ext  BIT STRING          OPTIONAL,
              v590NonCriticalExtensions        SEQUENCE {
                rrcConnectionSetup-v590ext  RRCConnectionSetup-v590ext-IEs,
                v6xyNonCriticalExtensions      SEQUENCE {
                  rrcConnectionSetup-v6xyext  RRCConnectionSetup-v6xyext-IEs,
                  nonCriticalExtensions          SEQUENCE {}          OPTIONAL
                } OPTIONAL
              } OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
    } OPTIONAL
  },
}

```

```

        criticalExtensions CHOICE {
            r5 SEQUENCE {
                rrcConnectionSetup-r5 RRCConnectionSetup-r5-IEs,
                -- Container for adding non critical extensions after freezing REL-6
                rrcConnectionSetup-r5-add-ext BIT STRING OPTIONAL,
                v6xyNonCriticalExtensions SEQUENCE {
                    rrcConnectionSetup-v6xyext RRCConnectionSetup-v6xyext-IEs,
                    nonCriticalExtensions SEQUENCE {} OPTIONAL
                } OPTIONAL
            },
            criticalExtensions SEQUENCE {}
        }
    }
}

```

```

RRCConnectionSetup-r3-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    -- User equipment IEs
    initialUE-Identity InitialUE-Identity,
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
    activationTime ActivationTime OPTIONAL,
    new-U-RNTI U-RNTI,
    new-c-RNTI C-RNTI OPTIONAL,
    rrc-StateIndicator RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient,
    -- TABULAR: If capabilityUpdateRequirement is not present, the default value
    -- defined in 10.3.3.2 shall be used.
    capabilityUpdateRequirement CapabilityUpdateRequirement OPTIONAL,
    -- Radio bearer IEs
    srb-InformationSetupList SRB-InformationSetupList2,
    -- Transport channel IEs
    ul-CommonTransChInfo UL-CommonTransChInfo OPTIONAL,
    -- NOTE: ul-AddReconfTransChInfoList should be optional in later versions of
    -- this message
    ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList,
    dl-CommonTransChInfo DL-CommonTransChInfo OPTIONAL,
    -- NOTE: dl-AddReconfTransChInfoList should be optional in later versions
    -- of this message
    dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList,
    -- Physical channel IEs
    frequencyInfo FrequencyInfo OPTIONAL,
    maxAllowedUL-TX-Power MaxAllowedUL-TX-Power OPTIONAL,
    ul-ChannelRequirement UL-ChannelRequirement OPTIONAL,
    dl-CommonInformation DL-CommonInformation OPTIONAL,
    dl-InformationPerRL-List DL-InformationPerRL-List OPTIONAL
}

```

```

RRCConnectionSetup-v4b0ext-IEs ::= SEQUENCE {
    capabilityUpdateRequirement-r4-ext CapabilityUpdateRequirement-r4-ext OPTIONAL,
    -- Physical channel IEs
    -- ssdt-UL extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL-r4 SSDT-UL OPTIONAL,
    -- The order of the RLs in IE cell-id-PerRL-List is the same as
    -- in IE DL-InformationPerRL-List included in this message
    cell-id-PerRL-List CellIdentity-PerRL-List OPTIONAL
}

```

```

RRCConnectionSetup-v590ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    systemSpecificCapUpdateReq SystemSpecificCapUpdateReq-v590ext OPTIONAL,
    -- Physical channel IEs
    dl-TPC-PowerOffsetPerRL-List DL-TPC-PowerOffsetPerRL-List OPTIONAL
}

```

```

RRCConnectionSetup-r4-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    activationTime ActivationTime OPTIONAL,
    new-U-RNTI U-RNTI,
    new-c-RNTI C-RNTI OPTIONAL,
    rrc-StateIndicator RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient,
    -- TABULAR: If capabilityUpdateRequirement is not present, the default value
    -- defined in 10.3.3.2 shall be used.
    capabilityUpdateRequirement CapabilityUpdateRequirement-r4 OPTIONAL,
    -- Radio bearer IEs
    srb-InformationSetupList SRB-InformationSetupList2,
}

```

```

-- Transport channel IEs
  ul-CommonTransChInfo          UL-CommonTransChInfo-r4          OPTIONAL,
  ul-AddReconfTransChInfoList   UL-AddReconfTransChInfoList   OPTIONAL,
  dl-CommonTransChInfo          DL-CommonTransChInfo-r4          OPTIONAL,
  dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r4  OPTIONAL,
-- Physical channel IEs
  frequencyInfo                 FrequencyInfo                 OPTIONAL,
  maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power         OPTIONAL,
  ul-ChannelRequirement         UL-ChannelRequirement-r4     OPTIONAL,
  dl-CommonInformation          DL-CommonInformation-r4     OPTIONAL,
  dl-InformationPerRL-List      DL-InformationPerRL-List-r4  OPTIONAL
}

RRCConnectionSetup-r5-IEs ::= SEQUENCE {
  -- TABULAR: Integrity protection shall not be performed on this message.
  activationTime                 ActivationTime                 OPTIONAL,
  new-U-RNTI                     U-RNTI,
  new-c-RNTI                     C-RNTI                       OPTIONAL,
  rrc-StateIndicator             RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff     UTRAN-DRX-CycleLengthCoefficient,
  -- TABULAR: If capabilityUpdateRequirement is not present, the default value
  -- defined in 10.3.3.2 shall be used.
  capabilityUpdateRequirement     CapabilityUpdateRequirement-r5  OPTIONAL,
-- Specification mode information
  specificationMode              CHOICE {
    complete                      SEQUENCE {
      -- Radio bearer IEs
      srb-InformationSetupList     SRB-InformationSetupList2,
      -- Transport channel IEs
      ul-CommonTransChInfo         UL-CommonTransChInfo-r4          OPTIONAL,
      ul-AddReconfTransChInfoList   UL-AddReconfTransChInfoList   OPTIONAL,
      dl-CommonTransChInfo         DL-CommonTransChInfo-r4          OPTIONAL,
      dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r4  OPTIONAL
    },
    preconfiguration              SEQUENCE {
      -- All IEs that include an FDD/TDD choice are split in two IEs for this message,
      -- one for the FDD only elements and one for the TDD only elements, so that one
      -- FDD/TDD choice in this level is sufficient.
      preConfigMode               CHOICE {
        predefinedConfigIdentity    PredefinedConfigIdentity,
        defaultConfig              SEQUENCE {
          defaultConfigMode         DefaultConfigMode,
          defaultConfigIdentity     DefaultConfigIdentity-r5
        }
      }
    }
  },
-- Physical channel IEs
  frequencyInfo                 FrequencyInfo                 OPTIONAL,
  maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power         OPTIONAL,
  ul-ChannelRequirement         UL-ChannelRequirement-r4     OPTIONAL,
  dl-CommonInformation          DL-CommonInformation-r4     OPTIONAL,
  dl-InformationPerRL-List      DL-InformationPerRL-List-r5bis  OPTIONAL
}

RRCConnectionSetup-v6xyext-IEs ::= SEQUENCE {
  -- Physical Channel IEs
  beaconPLEst                   BEACON-PL-Est                 OPTIONAL
}

-- *****
--
-- RRC CONNECTION SETUP COMPLETE
--
-- *****

RRCConnectionSetupComplete ::= SEQUENCE {
  -- TABULAR: Integrity protection shall not be performed on this message.
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  startList                     STARTList,
  ue-RadioAccessCapability       UE-RadioAccessCapability       OPTIONAL,
-- Other IEs
  ue-RATSpecificCapability       InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
-- Non critical extensions
  v370NonCriticalExtensions      SEQUENCE {
    rrcConnectionSetupComplete-v370ext  RRCConnectionSetupComplete-v370ext,
    v380NonCriticalExtensions          SEQUENCE {

```

```

rrcConnectionSetupComplete-v380ext RRCConnectionSetupComplete-v380ext-IEs,
-- Reserved for future non critical extension
v3a0NonCriticalExtensions SEQUENCE {
    rrcConnectionSetupComplete-v3a0ext RRCConnectionSetupComplete-v3a0ext-IEs,
    laterNonCriticalExtensions SEQUENCE {
        -- Container for additional R99 extensions
        rrcConnectionSetupComplete-r3-add-ext BIT STRING
            (CONTAINING RRCConnectionSetupComplete-r3-add-ext-IEs) OPTIONAL,
        v3g0NonCriticalExtensions SEQUENCE {
            rrcConnectionSetupComplete-v3g0ext RRCConnectionSetupComplete-v3g0ext-IEs,
            v4b0NonCriticalExtensions SEQUENCE {
                rrcConnectionSetupComplete-v4b0ext
                    RRCConnectionSetupComplete-v4b0ext-IEs,
                v590NonCriticalExtensions SEQUENCE {
                    rrcConnectionSetupComplete-v590ext
                        RRCConnectionSetupComplete-v590ext-IEs,
                    v5c0NonCriticalExtensions SEQUENCE {
                        rrcConnectionSetupComplete-v5c0ext
                            RRCConnectionSetupComplete-v5c0ext-IEs,
                        nonCriticalExtensions SEQUENCE {} OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    } OPTIONAL
} OPTIONAL
}

RRCConnectionSetupComplete-v370ext ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext OPTIONAL
}

RRCConnectionSetupComplete-v380ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v380ext UE-RadioAccessCapability-v380ext OPTIONAL,
    dl-PhysChCapabilityFDD-v380ext DL-PhysChCapabilityFDD-v380ext
}

RRCConnectionSetupComplete-v3a0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v3a0ext UE-RadioAccessCapability-v3a0ext OPTIONAL
}

RRCConnectionSetupComplete-v3g0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v3g0ext UE-RadioAccessCapability-v3g0ext OPTIONAL
}

RRCConnectionSetupComplete-r3-add-ext-IEs ::= SEQUENCE {
    rrcConnectionSetupComplete-v650ext RRCConnectionSetupComplete-v650ext-IEs OPTIONAL,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
}

RRCConnectionSetupComplete-v4b0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v4b0ext UE-RadioAccessCapability-v4b0ext OPTIONAL
}

RRCConnectionSetupComplete-v590ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v590ext UE-RadioAccessCapability-v590ext OPTIONAL,
    -- Other IEs
    ue-RATSpecificCapability-v590ext InterRAT-UE-RadioAccessCapability-v590ext OPTIONAL
}

RRCConnectionSetupComplete-v5c0ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v5c0ext UE-RadioAccessCapability-v5c0ext OPTIONAL
}

RRCConnectionSetupComplete-v650ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    ue-RadioAccessCapability-v650ext UE-RadioAccessCapability-v650ext
}

```

```

-- *****
--
-- RRC FAILURE INFO
--
-- *****

RRC-FailureInfo ::= CHOICE {
    r3                               SEQUENCE {
        rrc-FailureInfo-r3           RRC-FailureInfo-r3-IEs,
        laterNonCriticalExtensions    SEQUENCE {
            -- Container for additional R99 extensions
            rrc-FailureInfo-r3-add-ext BIT STRING OPTIONAL,
            nonCriticalExtensions      SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    criticalExtensions                SEQUENCE {}
}

RRC-FailureInfo-r3-IEs ::= SEQUENCE {
    -- Non-RRC IEs
    failureCauseWithProtErr          FailureCauseWithProtErr
}

-- *****
--
-- RRC STATUS
--
-- *****

RRCStatus ::= SEQUENCE {
    -- Other IEs
    -- TABULAR: Identification of received message is nested in
    -- ProtocolErrorMoreInformation
    protocolErrorInformation         ProtocolErrorMoreInformation,
    laterNonCriticalExtensions        SEQUENCE {
        -- Container for additional R99 extensions
        rrcStatus-r3-add-ext          BIT STRING OPTIONAL,
        nonCriticalExtensions          SEQUENCE {} OPTIONAL
    } OPTIONAL
}

-- *****
--
-- SECURITY MODE COMMAND
--
-- *****

SecurityModeCommand ::= CHOICE {
    r3                               SEQUENCE {
        securityModeCommand-r3       SecurityModeCommand-r3-IEs,
        laterNonCriticalExtensions    SEQUENCE {
            -- Container for additional R99 extensions
            securityModeCommand-r3-add-ext BIT STRING OPTIONAL,
            nonCriticalExtensions      SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    later-than-r3                     SEQUENCE {
        rrc-TransactionIdentifier     RRC-TransactionIdentifier,
        criticalExtensions             SEQUENCE {}
    }
}

SecurityModeCommand-r3-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall always be performed on this message.
    -- User equipment IEs
    rrc-TransactionIdentifier         RRC-TransactionIdentifier,
    securityCapability                 SecurityCapability,
    cipheringModeInfo                 CipheringModeInfo OPTIONAL,
    integrityProtectionModeInfo       IntegrityProtectionModeInfo OPTIONAL,
    -- Core network IEs
    cn-DomainIdentity                 CN-DomainIdentity,
    -- Other IEs
    ue-SystemSpecificSecurityCap      InterRAT-UE-SecurityCapList OPTIONAL
}

-- *****
--
-- SECURITY MODE COMPLETE

```

```

--
-- *****
SecurityModeComplete ::= SEQUENCE {
-- TABULAR: Integrity protection shall always be performed on this message.

-- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  ul-IntegProtActivationInfo     IntegrityProtActivationInfo      OPTIONAL,
-- Radio bearer IEs
  rb-UL-CiphActivationTimeInfo  RB-ActivationTimeInfoList      OPTIONAL,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    securityModeComplete-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions           SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- SECURITY MODE FAILURE
--
-- *****

SecurityModeFailure ::= SEQUENCE {
-- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  failureCause                   FailureCauseWithProtErr,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    securityModeFailure-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions           SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- SIGNALLING CONNECTION RELEASE
--
-- *****

SignallingConnectionRelease ::= CHOICE {
  r3                               SEQUENCE {
    signallingConnectionRelease-r3  SignallingConnectionRelease-r3-IEs,
    laterNonCriticalExtensions     SEQUENCE {
      -- Container for additional R99 extensions
      signallingConnectionRelease-r3-add-ext  BIT STRING      OPTIONAL,
      nonCriticalExtensions           SEQUENCE {}      OPTIONAL
    } OPTIONAL
  },
  later-than-r3                    SEQUENCE {
    rrc-TransactionIdentifier      RRC-TransactionIdentifier,
    criticalExtensions             SEQUENCE {}
  }
}

SignallingConnectionRelease-r3-IEs ::= SEQUENCE {
-- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
-- Core network IEs
  cn-DomainIdentity              CN-DomainIdentity
}

-- *****
--
-- SIGNALLING CONNECTION RELEASE INDICATION
--
-- *****

SignallingConnectionReleaseIndication ::= SEQUENCE {
-- Core network IEs
  cn-DomainIdentity              CN-DomainIdentity,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    signallingConnectionReleaseIndication-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions           SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

```

```

-- *****
--
-- SYSTEM INFORMATION for BCH
--
-- *****

SystemInformation-BCH ::= SEQUENCE {
  -- Other information elements
  sfn-Prime
  payload
    noSegment
    firstSegment
    subsequentSegment
    lastSegmentShort
    lastAndFirst
      lastSegmentShort
      firstSegment
    },
    lastAndComplete
      lastSegmentShort
      completeSIB-List
    },
    lastAndCompleteAndFirst
      lastSegmentShort
      completeSIB-List
      firstSegment
    },
    completeSIB-List
    completeAndFirst
      completeSIB-List
      firstSegment
    },
    completeSIB
    lastSegment
    spare5
    spare4
    spare3
    spare2
    spare1
  }
}

```

```

-- *****
--
-- SYSTEM INFORMATION for FACH
--
-- *****

SystemInformation-FACH ::= SEQUENCE {
  -- Other information elements
  payload
    noSegment
    firstSegment
    subsequentSegment
    lastSegmentShort
    lastAndFirst
      lastSegmentShort
      firstSegment
    },
    lastAndComplete
      lastSegmentShort
      completeSIB-List
    },
    lastAndCompleteAndFirst
      lastSegmentShort
      completeSIB-List
      firstSegment
    },
    completeSIB-List
    completeAndFirst
      completeSIB-List
      firstSegment
    },
    completeSIB
    lastSegment
    spare5
    spare4
  }
}

```

```

        spare3                NULL,
        spare2                NULL,
        spare1                NULL
    }
}

-- *****
--
-- First segment
--
-- *****

FirstSegment ::=
    SEQUENCE {
        -- Other information elements
        sib-Type                SIB-Type,
        seg-Count              SegCount,
        sib-Data-fixed         SIB-Data-fixed
    }

-- *****
--
-- First segment (short)
--
-- *****

FirstSegmentShort ::=
    SEQUENCE {
        -- Other information elements
        sib-Type                SIB-Type,
        seg-Count              SegCount,
        sib-Data-variable      SIB-Data-variable
    }

-- *****
--
-- Subsequent segment
--
-- *****

SubsequentSegment ::=
    SEQUENCE {
        -- Other information elements
        sib-Type                SIB-Type,
        segmentIndex          SegmentIndex,
        sib-Data-fixed         SIB-Data-fixed
    }

-- *****
--
-- Last segment
--
-- *****

LastSegment ::=
    SEQUENCE {
        -- Other information elements
        sib-Type                SIB-Type,
        segmentIndex          SegmentIndex,
        -- For sib-Data-fixed, in case the SIB data is less than 222 bits, padding
        -- shall be used. The same padding bits shall be used as defined in clause 12.1
        sib-Data-fixed         SIB-Data-fixed
    }

LastSegmentShort ::=
    SEQUENCE {
        -- Other information elements
        sib-Type                SIB-Type,
        segmentIndex          SegmentIndex,
        sib-Data-variable      SIB-Data-variable
    }

-- *****
--
-- Complete SIB
--
-- *****

CompleteSIB-List ::=
    SEQUENCE (SIZE (1..maxSIBperMsg)) OF
        CompleteSIBshort

CompleteSIB ::=
    SEQUENCE {
        -- Other information elements

```



```

        sib-Type                SIB-Type,
        -- For sib-Data-fixed, in case the SIB data is less than 226 bits, padding
        -- shall be used. The same padding bits shall be used as defined in clause 12.1
        sib-Data-fixed          BIT STRING (SIZE (226))
    }

CompleteSIBshort ::=          SEQUENCE {
    -- Other information elements
    sib-Type                SIB-Type,
    sib-Data-variable        SIB-Data-variable
}

-- *****
--
-- SYSTEM INFORMATION CHANGE INDICATION
--
-- *****

SystemInformationChangeIndication ::= SEQUENCE {
    -- Other IEs
    bcch-ModificationInfo    BCCH-ModificationInfo,
    laterNonCriticalExtensions SEQUENCE {
        -- Container for additional R99 extensions
        systemInformationChangeIndication-r3-add-ext    BIT STRING    OPTIONAL,
        nonCriticalExtensions    SEQUENCE {}    OPTIONAL
    }    OPTIONAL
}

-- *****
--
-- TRANSPORT CHANNEL RECONFIGURATION
--
-- *****

TransportChannelReconfiguration ::= CHOICE {
    r3                SEQUENCE {
        transportChannelReconfiguration-r3
        TransportChannelReconfiguration-r3-IEs,
        v3a0NonCriticalExtensions    SEQUENCE {
            transportChannelReconfiguration-v3a0ext
            TransportChannelReconfiguration-v3a0ext,
            laterNonCriticalExtensions SEQUENCE {
                -- Container for additional R99 extensions
                transportChannelReconfiguration-r3-add-ext    BIT STRING    OPTIONAL,
                v4b0NonCriticalExtensions SEQUENCE {
                    transportChannelReconfiguration-v4b0ext
                    TransportChannelReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtensions SEQUENCE {
                        transportChannelReconfiguration-v590ext
                        TransportChannelReconfiguration-v590ext-IEs,
                        v6xyNonCriticalExtensions SEQUENCE {
                            transportChannelReconfiguration-v6xyext
                            TransportChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions SEQUENCE {}    OPTIONAL
                        }    OPTIONAL
                    }    OPTIONAL
                }    OPTIONAL
            }    OPTIONAL
        }    OPTIONAL
    }    OPTIONAL
},
    later-than-r3    SEQUENCE {
        rrc-TransactionIdentifier    RRC-TransactionIdentifier,
        criticalExtensions    CHOICE {
            r4                SEQUENCE {
                transportChannelReconfiguration-r4
                TransportChannelReconfiguration-r4-IEs,
                v4d0NonCriticalExtensions SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    transportChannelReconfiguration-r4-add-ext    BIT STRING    OPTIONAL,
                    v590NonCriticalExtensions SEQUENCE {
                        transportChannelReconfiguration-v590ext
                        TransportChannelReconfiguration-v590ext-IEs,
                        v6xyNonCriticalExtensions SEQUENCE {
                            transportChannelReconfiguration-v6xyext
                            TransportChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions SEQUENCE {}    OPTIONAL
                        }    OPTIONAL
                    }    OPTIONAL
                }    OPTIONAL
            }    OPTIONAL
        }    OPTIONAL
    }    OPTIONAL
}

```

```

    } OPTIONAL
},
criticalExtensions CHOICE {
  r5 SEQUENCE {
    transportChannelReconfiguration-r5
    TransportChannelReconfiguration-r5-IEs,
    -- Container for adding non critical extensions after freezing REL-6
    transportChannelReconfiguration-r5-add-ext BIT STRING OPTIONAL,
    v6xyNonCriticalExtensions SEQUENCE {
      transportChannelReconfiguration-v6xyext
      TransportChannelReconfiguration-v6xyext-IEs,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    } OPTIONAL
  },
criticalExtensions CHOICE {
  r6 SEQUENCE {
    transportChannelReconfiguration-r6
    TransportChannelReconfiguration-r6-IEs,
    -- Container for adding non critical extensions after freezing REL-7
    transportChannelReconfiguration-r6-add-ext BIT STRING OPTIONAL,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
  },
criticalExtensions SEQUENCE {}
}
}
}
}
}
}
}
}
}
}
}

```

```

TransportChannelReconfiguration-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  integrityProtectionModeInfo IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo CipheringModeInfo OPTIONAL,
  activationTime ActivationTime OPTIONAL,
  new-U-RNTI U-RNTI OPTIONAL,
  new-C-RNTI C-RNTI OPTIONAL,
  rrc-StateIndicator RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
  -- Core network IEs
  cn-InformationInfo CN-InformationInfo OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity URA-Identity OPTIONAL,
  -- Radio bearer IEs
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo OPTIONAL,
  -- Transport channel IEs
  ul-CommonTransChInfo UL-CommonTransChInfo OPTIONAL,
  ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList OPTIONAL,
  modeSpecificTransChInfo CHOICE {
    fdd SEQUENCE {
      cpch-SetID CPCH-SetID OPTIONAL,
      addReconfTransChDRAC-Info DRAC-StaticInformationList OPTIONAL
    },
    tdd NULL
  },
  dl-CommonTransChInfo DL-CommonTransChInfo OPTIONAL,
  dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList OPTIONAL,
  -- Physical channel IEs
  frequencyInfo FrequencyInfo OPTIONAL,
  maxAllowedUL-TX-Power MaxAllowedUL-TX-Power OPTIONAL,
  ul-ChannelRequirement UL-ChannelRequirement OPTIONAL,
  modeSpecificPhysChInfo CHOICE {
    fdd SEQUENCE {
      dl-PDSCH-Information DL-PDSCH-Information OPTIONAL
    },
    tdd NULL
  },
  dl-CommonInformation DL-CommonInformation OPTIONAL,
  dl-InformationPerRL-List DL-InformationPerRL-List OPTIONAL
}

```

```

TransportChannelReconfiguration-v3a0ext ::= SEQUENCE {
  new-DSCH-RNTI DSCH-RNTI OPTIONAL
}

```

```

TransportChannelReconfiguration-v4b0ext-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- ssdt-UL extends SSdT-Information, which is included in

```

```

-- DL-CommonInformation. FDD only.
ssdt-UL-r4          SSdT-UL          OPTIONAL,
-- The order of the RLs in IE cell-id-PerRL-List is the same as
-- in IE DL-InformationPerRL-List included in this message
cell-id-PerRL-List CellIdentity-PerRL-List  OPTIONAL
}

TransportChannelReconfiguration-v590ext-IEs ::= SEQUENCE {
-- Physical channel IEs
  dl-TPC-PowerOffsetPerRL-List  DL-TPC-PowerOffsetPerRL-List  OPTIONAL
}

TransportChannelReconfiguration-r4-IEs ::= SEQUENCE {
-- User equipment IEs
  integrityProtectionModeInfo  IntegrityProtectionModeInfo  OPTIONAL,
  cipheringModeInfo            CipheringModeInfo            OPTIONAL,
  activationTime                ActivationTime                OPTIONAL,
  new-U-RNTI                    U-RNTI                      OPTIONAL,
  new-C-RNTI                    C-RNTI                      OPTIONAL,
  new-DSCH-RNTI                DSCH-RNTI                  OPTIONAL,
  rrc-StateIndicator            RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IEs
  cn-InformationInfo            CN-InformationInfo          OPTIONAL,
-- UTRAN mobility IEs
  ura-Identity                  URA-Identity                OPTIONAL,
-- Radio bearer IEs
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo  OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo          UL-CommonTransChInfo-r4     OPTIONAL,
  ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList  OPTIONAL,
  modeSpecificTransChInfo      CHOICE {
    fdd                          SEQUENCE {
      cpch-SetID                 CPCH-SetID                 OPTIONAL,
      addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
    },
    tdd                          NULL
  }
  dl-CommonTransChInfo          DL-CommonTransChInfo-r4     OPTIONAL,
  dl-AddReconfTransChInfoList  DL-AddReconfTransChInfoList-r4  OPTIONAL,
-- Physical channel IEs
  frequencyInfo                 FrequencyInfo                 OPTIONAL,
  maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power        OPTIONAL,
  ul-ChannelRequirement          UL-ChannelRequirement-r4     OPTIONAL,
  modeSpecificPhysChInfo        CHOICE {
    fdd                          SEQUENCE {
      dl-PDSCH-Information        DL-PDSCH-Information        OPTIONAL
    },
    tdd                          NULL
  },
  dl-CommonInformation          DL-CommonInformation-r4     OPTIONAL,
  dl-InformationPerRL-List      DL-InformationPerRL-List-r4  OPTIONAL
}

TransportChannelReconfiguration-r5-IEs ::= SEQUENCE {
-- User equipment IEs
  integrityProtectionModeInfo  IntegrityProtectionModeInfo  OPTIONAL,
  cipheringModeInfo            CipheringModeInfo            OPTIONAL,
  activationTime                ActivationTime                OPTIONAL,
  new-U-RNTI                    U-RNTI                      OPTIONAL,
  new-C-RNTI                    C-RNTI                      OPTIONAL,
  new-DSCH-RNTI                DSCH-RNTI                  OPTIONAL,
  new-H-RNTI                    H-RNTI                      OPTIONAL,
  rrc-StateIndicator            RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff    UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
-- Core network IEs
  cn-InformationInfo            CN-InformationInfo          OPTIONAL,
-- UTRAN mobility IEs
  ura-Identity                  URA-Identity                OPTIONAL,
-- Radio bearer IEs
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5  OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo          UL-CommonTransChInfo-r4     OPTIONAL,
  ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList  OPTIONAL,
  modeSpecificTransChInfo      CHOICE {
    fdd                          SEQUENCE {
      cpch-SetID                 CPCH-SetID                 OPTIONAL,
      addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
    }
  }
}

```

```

    },
    tdd
        NULL
    }
    dl-CommonTransChInfo DL-CommonTransChInfo-r4 OPTIONAL,
    dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5 OPTIONAL,
-- Physical channel IES
    frequencyInfo FrequencyInfo OPTIONAL,
    maxAllowedUL-TX-Power MaxAllowedUL-TX-Power OPTIONAL,
    ul-ChannelRequirement UL-ChannelRequirement-r5 OPTIONAL,
    modeSpecificPhysChInfo CHOICE {
        fdd SEQUENCE {
            dl-PDSCH-Information DL-PDSCH-Information OPTIONAL
        },
        tdd
            NULL
    },
    dl-HSPDSCH-Information DL-HSPDSCH-Information OPTIONAL,
    dl-CommonInformation DL-CommonInformation-r5 OPTIONAL,
    dl-InformationPerRL-List DL-InformationPerRL-List-r5 OPTIONAL
}

TransportChannelReconfiguration-v6xyext-IES ::= SEQUENCE {
-- Core network IES
    primary-plmn-Identity PLMN-Identity OPTIONAL,
-- Physical channel IES
    harq-Preamble-Mode HARQ-Preamble-Mode OPTIONAL,
    beaconPLEst BEACON-PL-Est OPTIONAL,
-- MBMS IES
    mbms-PL-ServiceRestrictInfo MBMS-PL-ServiceRestrictInfo-r6 OPTIONAL
}

TransportChannelReconfiguration-r6-IES ::= SEQUENCE {
-- User equipment IES
    integrityProtectionModeInfo IntegrityProtectionModeInfo OPTIONAL,
    cipheringModeInfo CipheringModeInfo OPTIONAL,
    activationTime ActivationTime OPTIONAL,
    new-U-RNTI U-RNTI OPTIONAL,
    new-C-RNTI C-RNTI OPTIONAL,
    new-DSCH-RNTI DSCH-RNTI OPTIONAL,
    new-H-RNTI H-RNTI OPTIONAL,
    new-E-RNTI E-RNTI OPTIONAL,
    rrc-StateIndicator RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
-- Core network IES
    cn-InformationInfo CN-InformationInfo-r6 OPTIONAL,
plmn-Identity PLMN-Identity OPTIONAL,
-- UTRAN mobility IES
    ura-Identity URA-Identity OPTIONAL,
-- Radio bearer IES
    dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5 OPTIONAL,
-- Transport channel IES
    ul-CommonTransChInfo UL-CommonTransChInfo-r4 OPTIONAL,
    ul-AddReconfTransChInfoList UL-AddReconfTransChInfoList-r6 OPTIONAL,
    modeSpecificTransChInfo CHOICE {
        fdd SEQUENCE {
            cpch-SetID CPCH-SetID OPTIONAL,
            addReconfTransChDRAC-Info DRAC-StaticInformationList OPTIONAL
        },
        tdd
            NULL
    }
    dl-CommonTransChInfo DL-CommonTransChInfo-r4 OPTIONAL,
    dl-AddReconfTransChInfoList DL-AddReconfTransChInfoList-r5 OPTIONAL,
-- Physical channel IES
    frequencyInfo FrequencyInfo OPTIONAL,
    maxAllowedUL-TX-Power MaxAllowedUL-TX-Power OPTIONAL,
    ul-ChannelRequirement UL-ChannelRequirement-r6 OPTIONAL,
    ul-EDCH-Information UL-EDCH-Information-r6 OPTIONAL,
    modeSpecificPhysChInfo CHOICE {
        fdd SEQUENCE {
            dl-PDSCH-Information DL-PDSCH-Information OPTIONAL
        },
        tdd
            NULL
    },
    dl-HSPDSCH-Information DL-HSPDSCH-Information OPTIONAL,
    dl-CommonInformation DL-CommonInformation-r6 OPTIONAL,
    dl-InformationPerRL-List DL-InformationPerRL-List-r6 OPTIONAL,
-- MBMS IES
    mbms-PL-ServiceRestrictInfo MBMS-PL-ServiceRestrictInfo-r6 OPTIONAL
}

```

```

-- *****
--
-- TRANSPORT CHANNEL RECONFIGURATION COMPLETE
--
-- *****

TransportChannelReconfigurationComplete ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  ul-IntegProtActivationInfo     IntegrityProtActivationInfo      OPTIONAL,
  -- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
  ul-TimingAdvance              UL-TimingAdvance                OPTIONAL,
  -- Radio bearer IEs
  count-C-ActivationTime        ActivationTime                OPTIONAL,
  -- dummy is not used in this version of the specification and
  -- it should be ignored by the receiver.
  dummy                          RB-ActivationTimeInfoList    OPTIONAL,
  ul-CounterSynchronisationInfo UL-CounterSynchronisationInfo  OPTIONAL,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    transportChannelReconfigurationComplete-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions     SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- TRANSPORT CHANNEL RECONFIGURATION FAILURE
--
-- *****

TransportChannelReconfigurationFailure ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  failureCause                  FailureCauseWithProtErr,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    transportChannelReconfigurationFailure-r3-add-ext  BIT STRING      OPTIONAL,
    nonCriticalExtensions     SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- TRANSPORT FORMAT COMBINATION CONTROL in AM or UM RLC mode
--
-- *****

TransportFormatCombinationControl ::= SEQUENCE {
  -- rrc-TransactionIdentifier is always included in this version of the specification
  rrc-TransactionIdentifier      RRC-TransactionIdentifier      OPTIONAL,
  modeSpecificInfo              CHOICE {
    fdd                          NULL,
    tdd                          SEQUENCE {
      tfcs-ID                    TFCS-Identity      OPTIONAL
    }
  },
  dpch-TFCS-InUplink            TFC-Subset,
  activationTimeForTFCSubset     ActivationTime                OPTIONAL,
  tfc-ControlDuration            TFC-ControlDuration          OPTIONAL,
  laterNonCriticalExtensions     SEQUENCE {
    -- Container for additional R99 extensions
    transportFormatCombinationControl-r3-add-ext      BIT STRING      OPTIONAL,
    nonCriticalExtensions     SEQUENCE {}      OPTIONAL
  } OPTIONAL
}

-- *****
--
-- TRANSPORT FORMAT COMBINATION CONTROL FAILURE
--
-- *****

TransportFormatCombinationControlFailure ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier      RRC-TransactionIdentifier,
  failureCause                  FailureCauseWithProtErr,

```

```

        laterNonCriticalExtensions          SEQUENCE {
            -- Container for additional R99 extensions
            transportFormatCombinationControlFailure-r3-add-ext    BIT STRING    OPTIONAL,
            nonCriticalExtensions          SEQUENCE {}    OPTIONAL
        }    OPTIONAL
    }

-- *****
--
-- UE CAPABILITY ENQUIRY
--
-- *****

UECapabilityEnquiry ::= CHOICE {
    r3          SEQUENCE {
        ueCapabilityEnquiry-r3          UECapabilityEnquiry-r3-IEs,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            ueCapabilityEnquiry-r3-add-ext    BIT STRING    OPTIONAL,
            v4b0NonCriticalExtensions      SEQUENCE {
                ueCapabilityEnquiry-v4b0ext    UECapabilityEnquiry-v4b0ext-IEs,
                v590NonCriticalExtensions      SEQUENCE {
                    ueCapabilityEnquiry-v590ext    UECapabilityEnquiry-v590ext-IEs,
                    nonCriticalExtensions      SEQUENCE {}    OPTIONAL
                }    OPTIONAL
            }    OPTIONAL
        }    OPTIONAL
    },
    later-than-r3          SEQUENCE {
        rrc-TransactionIdentifier          RRC-TransactionIdentifier,
        criticalExtensions                  SEQUENCE {}
    }
}

UECapabilityEnquiry-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier          RRC-TransactionIdentifier,
    capabilityUpdateRequirement        CapabilityUpdateRequirement
}

UECapabilityEnquiry-v4b0ext-IEs ::= SEQUENCE {
    capabilityUpdateRequirement-r4-ext    CapabilityUpdateRequirement-r4-ext
}

UECapabilityEnquiry-v590ext-IEs ::= SEQUENCE {
    systemSpecificCapUpdateReq          SystemSpecificCapUpdateReq-v590ext
}

-- *****
--
-- UE CAPABILITY INFORMATION
--
-- *****

UECapabilityInformation ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier          RRC-TransactionIdentifier    OPTIONAL,
    ue-RadioAccessCapability          UE-RadioAccessCapability    OPTIONAL,
    -- Other IEs
    ue-RATSpecificCapability          InterRAT-UE-RadioAccessCapabilityList
OPTIONAL,
    v370NonCriticalExtensions          SEQUENCE {
        ueCapabilityInformation-v370ext    UECapabilityInformation-v370ext,
        v380NonCriticalExtensions          SEQUENCE {
            ueCapabilityInformation-v380ext    UECapabilityInformation-v380ext-IEs,
            v3a0NonCriticalExtensions          SEQUENCE {
                ueCapabilityInformation-v3a0ext    UECapabilityInformation-v3a0ext-IEs,
                laterNonCriticalExtensions          SEQUENCE {
                    -- Container for additional R99 extensions
                    ueCapabilityInformation-r3-add-ext    BIT STRING
                    (CONTAINING UECapabilityInformation-r3-add-ext-IEs) OPTIONAL,
                    -- Reserved for future non critical extension
                    v4b0NonCriticalExtensions          SEQUENCE {
                        ueCapabilityInformation-v4b0ext    UECapabilityInformation-v4b0ext,
                        v590NonCriticalExtensions          SEQUENCE {
                            ueCapabilityInformation-v590ext    UECapabilityInformation-v590ext,
                            v5c0NonCriticalExtensions          SEQUENCE {
                                ueCapabilityInformation-v5c0ext

```

```

nonCriticalExtensions        UECapabilityInformation-v5c0ext,
        SEQUENCE {}        OPTIONAL
    }        OPTIONAL
  }        OPTIONAL
}        OPTIONAL
}        OPTIONAL
}

UECapabilityInformation-v370ext ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v370ext        UE-RadioAccessCapability-v370ext        OPTIONAL
}

UECapabilityInformation-v380ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v380ext        UE-RadioAccessCapability-v380ext        OPTIONAL,
  dl-PhysChCapabilityFDD-v380ext        DL-PhysChCapabilityFDD-v380ext
}

UECapabilityInformation-v3a0ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v3a0ext        UE-RadioAccessCapability-v3a0ext        OPTIONAL
}

UECapabilityInformation-r3-add-ext-IEs ::= SEQUENCE {
  ueCapabilityInformation-v650ext        UECapabilityInformation-v650ext-IEs        OPTIONAL,
  nonCriticalExtensions        SEQUENCE {}        OPTIONAL
}

UECapabilityInformation-v4b0ext ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v4b0ext        UE-RadioAccessCapability-v4b0ext        OPTIONAL
}

UECapabilityInformation-v590ext ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v3g0ext        UE-RadioAccessCapability-v3g0ext        OPTIONAL,
  ue-RadioAccessCapability-v590ext        UE-RadioAccessCapability-v590ext        OPTIONAL,
  -- Other IEs
  ue-RATSpecificCapability-v590ext        InterRAT-UE-RadioAccessCapability-v590ext        OPTIONAL
}

UECapabilityInformation-v5c0ext ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v5c0ext        UE-RadioAccessCapability-v5c0ext        OPTIONAL
}

UECapabilityInformation-v650ext-IEs ::= SEQUENCE {
  ue-RadioAccessCapability-v650ext        UE-RadioAccessCapability-v650ext
}

-- *****
--
-- UE CAPABILITY INFORMATION CONFIRM
--
-- *****

UECapabilityInformationConfirm ::= CHOICE {
  r3        SEQUENCE {
    ueCapabilityInformationConfirm-r3
    laterNonCriticalExtensions        UECapabilityInformationConfirm-r3-IEs,
    SEQUENCE {
      -- Container for additional R99 extensions
      ueCapabilityInformationConfirm-r3-add-ext        BIT STRING        OPTIONAL,
      nonCriticalExtensions        SEQUENCE {}        OPTIONAL
    }        OPTIONAL
  },
  later-than-r3        SEQUENCE {
    rrc-TransactionIdentifier        RRC-TransactionIdentifier,
    criticalExtensions        SEQUENCE {}
  }
}

UECapabilityInformationConfirm-r3-IEs ::= SEQUENCE {
  -- User equipment IEs

```

```

        rrc-TransactionIdentifier      RRC-TransactionIdentifier
    }
-- *****
--
-- UPLINK DIRECT TRANSFER
--
-- *****

UplinkDirectTransfer ::= SEQUENCE {
    -- Core network IEs
    cn-DomainIdentity      CN-DomainIdentity,
    nas-Message            NAS-Message,
    -- Measurement IEs
    measuredResultsOnRACH  MeasuredResultsOnRACH          OPTIONAL,
    laterNonCriticalExtensions SEQUENCE {
        -- Container for additional R99 extensions
        uplinkDirectTransfer-r3-add-ext BIT STRING          OPTIONAL,
        nonCriticalExtensions SEQUENCE {}                  OPTIONAL
    } OPTIONAL
}

-- *****
--
-- UPLINK PHYSICAL CHANNEL CONTROL
--
-- *****

UplinkPhysicalChannelControl ::= CHOICE {
    r3 SEQUENCE {
        uplinkPhysicalChannelControl-r3 UplinkPhysicalChannelControl-r3-IEs,
        laterNonCriticalExtensions SEQUENCE {
            -- Container for additional R99 extensions
            uplinkPhysicalChannelControl-r3-add-ext BIT STRING          OPTIONAL,
            v4b0NonCriticalExtensions SEQUENCE {
                uplinkPhysicalChannelControl-v4b0ext UplinkPhysicalChannelControl-v4b0ext-IEs,
                -- Extension mechanism for non-release 4 information
                noncriticalExtensions SEQUENCE {}                  OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3 SEQUENCE {
        rrc-TransactionIdentifier RRC-TransactionIdentifier,
        criticalExtensions CHOICE {
            r4 SEQUENCE {
                uplinkPhysicalChannelControl-r4 UplinkPhysicalChannelControl-r4-IEs,
                v4d0NonCriticalExtensions SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    uplinkPhysicalChannelControl-r4-add-ext BIT STRING          OPTIONAL,
                    v6xyNonCriticalExtensions SEQUENCE {
                        uplinkPhysicalChannelControl-v6xyext UplinkPhysicalChannelControl-v6xyext-IEs,
                        nonCriticalExtensions SEQUENCE {}                  OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            r5 SEQUENCE {
                uplinkPhysicalChannelControl-r5 UplinkPhysicalChannelControl-r5-IEs,
                -- Container for adding non critical extensions after freezing REL-6
                uplinkPhysicalChannelControl-r5-add-ext BIT STRING          OPTIONAL,
                v6xyNonCriticalExtensions SEQUENCE {
                    uplinkPhysicalChannelControl-v6xyext UplinkPhysicalChannelControl-v6xyext-IEs,
                    nonCriticalExtensions SEQUENCE {}                  OPTIONAL
                } OPTIONAL
            },
            criticalExtensions SEQUENCE {}
        }
    }
}

UplinkPhysicalChannelControl-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
    -- Physical channel IEs
    ccTrCH-PowerControlInfo CCTrCH-PowerControlInfo          OPTIONAL,
    timingAdvance            UL-TimingAdvanceControl          OPTIONAL,
    alpha                    Alpha                            OPTIONAL,
}

```



```

        specialBurstScheduling          SpecialBurstScheduling          OPTIONAL,
        prach-ConstantValue            ConstantValueTdd                OPTIONAL,
        pusch-ConstantValue            ConstantValueTdd                OPTIONAL
    }

UplinkPhysicalChannelControl-v4b0ext-IEs ::= SEQUENCE {
    -- In case of TDD, openLoopPowerControl-IPDL-TDD is included instead of IE
    -- up-IPDL-Parameters in up-OTDOA-AssistanceData
    openLoopPowerControl-IPDL-TDD      OpenLoopPowerControl-IPDL-TDD-r4    OPTIONAL
}

UplinkPhysicalChannelControl-r4-IEs ::= SEQUENCE {
    -- Physical channel IEs
    ccTrCH-PowerControlInfo            CCTrCH-PowerControlInfo-r4          OPTIONAL,
    specialBurstScheduling              SpecialBurstScheduling              OPTIONAL,
    tddOption                           CHOICE {
        tdd384                          SEQUENCE {
            timingAdvance                UL-TimingAdvanceControl-r4        OPTIONAL,
            alpha                         Alpha                              OPTIONAL,
            prach-ConstantValue           ConstantValueTdd                  OPTIONAL,
            pusch-ConstantValue           ConstantValueTdd                  OPTIONAL,
            openLoopPowerControl-IPDL-TDD OpenLoopPowerControl-IPDL-TDD-r4    OPTIONAL
        },
        tdd128                          SEQUENCE {
            ul-SynchronisationParameters UL-SynchronisationParameters-r4    OPTIONAL
        }
    }
}

UplinkPhysicalChannelControl-r5-IEs ::= SEQUENCE {
    -- Physical channel IEs
    ccTrCH-PowerControlInfo            CCTrCH-PowerControlInfo-r5          OPTIONAL,
    specialBurstScheduling              SpecialBurstScheduling              OPTIONAL,
    tddOption                           CHOICE {
        tdd384                          SEQUENCE {
            timingAdvance                UL-TimingAdvanceControl-r4        OPTIONAL,
            alpha                         Alpha                              OPTIONAL,
            prach-ConstantValue           ConstantValueTdd                  OPTIONAL,
            pusch-ConstantValue           ConstantValueTdd                  OPTIONAL,
            openLoopPowerControl-IPDL-TDD OpenLoopPowerControl-IPDL-TDD-r4    OPTIONAL,
            hs-SICH-PowerControl          HS-SICH-Power-Control-Info-TDD384  OPTIONAL
        },
        tdd128                          SEQUENCE {
            ul-SynchronisationParameters UL-SynchronisationParameters-r4    OPTIONAL
        }
    }
}

UplinkPhysicalChannelControl-v6xyext-IEs ::= SEQUENCE {
    -- Physical Channel IEs
    beaconPLEst                        BEACON-PL-Est                     OPTIONAL
}

-- *****
--
-- URA UPDATE
--
-- *****

URAUUpdate ::= SEQUENCE {
    -- User equipment IEs
    u-RNTI                             U-RNTI,
    ura-UpdateCause                     URA-UpdateCause,
    protocolErrorIndicator               ProtocolErrorIndicatorWithMoreInfo,
    laterNonCriticalExtensions           SEQUENCE {
        -- Container for additional R99 extensions
        uraUpdate-r3-add-ext             BIT STRING OPTIONAL,
        nonCriticalExtensions            SEQUENCE {} OPTIONAL
    } OPTIONAL
}

-- *****
--
-- URA UPDATE CONFIRM
--
-- *****

URAUUpdateConfirm ::= CHOICE {

```

```

r3                               SEQUENCE {
  uraUpdateConfirm-r3           URAUpdateConfirm-r3-IEs,
  laterNonCriticalExtensions    SEQUENCE {
    -- Container for additional R99 extensions
    uraUpdateConfirm-r3-add-ext BIT STRING OPTIONAL,
    v6xyNonCriticalExtensions   SEQUENCE {
      uraUpdateConfirm-v6xyext URAUpdateConfirm-v6xyext-IEs,
      nonCriticalExtensions     SEQUENCE {} OPTIONAL
    } OPTIONAL
  } OPTIONAL
},
later-than-r3                   SEQUENCE {
  rrc-TransactionIdentifier     RRC-TransactionIdentifier,
  criticalExtensions            CHOICE {
    r5                           SEQUENCE {
      uraUpdateConfirm-r5       URAUpdateConfirm-r5-IEs,
      v6xyNonCriticalExtensions SEQUENCE {
        uraUpdateConfirm-v6xyext URAUpdateConfirm-v6xyext-IEs,
        nonCriticalExtensions     SEQUENCE {} OPTIONAL
      } OPTIONAL
    },
    criticalExtensions           SEQUENCE {}
  }
}
}

```

```

URAUpdateConfirm-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier     RRC-TransactionIdentifier,
  integrityProtectionModeInfo   IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo            CipheringModeInfo OPTIONAL,
  new-U-RNTI                   U-RNTI OPTIONAL,
  new-C-RNTI                   C-RNTI OPTIONAL,
  rrc-StateIndicator           RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff   UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
  -- CN information elements
  cn-InformationInfo           CN-InformationInfo OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity                 URA-Identity OPTIONAL,
  -- Radio bearer IEs
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo OPTIONAL
}

```

```

URAUpdateConfirm-r5-IEs ::= SEQUENCE {
  -- User equipment IEs
  integrityProtectionModeInfo   IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo            CipheringModeInfo OPTIONAL,
  new-U-RNTI                   U-RNTI OPTIONAL,
  new-C-RNTI                   C-RNTI OPTIONAL,
  rrc-StateIndicator           RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff   UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
  -- CN information elements
  cn-InformationInfo           CN-InformationInfo OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity                 URA-Identity OPTIONAL,
  -- Radio bearer IEs
  dl-CounterSynchronisationInfo DL-CounterSynchronisationInfo-r5 OPTIONAL
}

```

```

URAUpdateConfirm-v6xyext-IEs ::= SEQUENCE {
  -- Core network IEs
  primary-plmn-Identity         PLMN-Identity OPTIONAL
}

```

```

-- *****
--
-- URA UPDATE CONFIRM for CCCH
--
-- *****

```

```

URAUpdateConfirm-CCCH ::= CHOICE {
  r3                               SEQUENCE {
    uraUpdateConfirm-CCCH-r3     URAUpdateConfirm-CCCH-r3-IEs,
    laterNonCriticalExtensions    SEQUENCE {
      -- Container for additional R99 extensions
      uraUpdateConfirm-CCCH-r3-add-ext BIT STRING OPTIONAL,
      v6xyNonCriticalExtensions   SEQUENCE {
        uraUpdateConfirm-v6xyext URAUpdateConfirm-v6xyext-IEs,

```

```

        nonCriticalExtensions          SEQUENCE {}          OPTIONAL
    } OPTIONAL
},
later-than-r3                          SEQUENCE {
    u-RNTI                              U-RNTI,
    rrc-TransactionIdentifier            RRC-TransactionIdentifier,
    criticalExtensions                   SEQUENCE {}
}
}

URUpdateConfirm-CCCH-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    u-RNTI                              U-RNTI,
    -- The rest of the message is identical to the one sent on DCCH.
    uraUpdateConfirm                     URUpdateConfirm-r3-IEs
}

-- *****
--
-- UTRAN MOBILITY INFORMATION
--
-- *****

UTRANMobilityInformation ::= CHOICE {
    r3                                     SEQUENCE {
        utranMobilityInformation-r3      UTRANMobilityInformation-r3-IEs,
        v3a0NonCriticalExtensions        SEQUENCE {
            utranMobilityInformation-v3a0ext  UTRANMobilityInformation-v3a0ext-IEs,
            laterNonCriticalExtensions       SEQUENCE {
                -- Container for additional R99 extensions
                utranMobilityInformation-r3-add-ext  BIT STRING          OPTIONAL,
                v6xyNonCriticalExtensions          SEQUENCE {
                    utranMobilityInformation-v6xyext  UtranMobilityInformation-v6xyext-IEs,
                    nonCriticalExtensions            SEQUENCE {}          OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                          SEQUENCE {
        rrc-TransactionIdentifier          RRC-TransactionIdentifier,
        criticalExtensions                 CHOICE {
            r5                             SEQUENCE {
                utranMobilityInformation-r5      UTRANMobilityInformation-r5-IEs,
                v6xyNonCriticalExtensions        SEQUENCE {
                    utranMobilityInformation-v6xyext  UtranMobilityInformation-v6xyext-IEs,
                    nonCriticalExtensions          SEQUENCE {}          OPTIONAL
                } OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

UTRANMobilityInformation-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier            RRC-TransactionIdentifier,
    integrityProtectionModeInfo          IntegrityProtectionModeInfo          OPTIONAL,
    cipheringModeInfo                    CipheringModeInfo                      OPTIONAL,
    new-U-RNTI                            U-RNTI                                OPTIONAL,
    new-C-RNTI                            C-RNTI                                OPTIONAL,
    ue-ConnTimersAndConstants             UE-ConnTimersAndConstants            OPTIONAL,
    -- CN information elements
    cn-InformationInfo                    CN-InformationInfoFull                OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                          URA-Identity                          OPTIONAL,
    -- Radio bearer IEs
    dl-CounterSynchronisationInfo         DL-CounterSynchronisationInfo         OPTIONAL,
    -- Extension mechanism for non- release99 information
    nonCriticalExtensions                  SEQUENCE {}          OPTIONAL
}

UTRANMobilityInformation-v3a0ext-IEs ::= SEQUENCE {
    ue-ConnTimersAndConstants-v3a0ext     UE-ConnTimersAndConstants-v3a0ext
}

UTRANMobilityInformation-r5-IEs ::= SEQUENCE {
    -- User equipment IEs

```

```

        integrityProtectionModeInfo      IntegrityProtectionModeInfo      OPTIONAL,
        cipheringModeInfo                CipheringModeInfo                OPTIONAL,
        new-U-RNTI                        U-RNTI                          OPTIONAL,
        new-C-RNTI                        C-RNTI                          OPTIONAL,
        ue-ConnTimersAndConstants        UE-ConnTimersAndConstants-r5    OPTIONAL,
    -- CN information elements
        cn-InformationInfo                CN-InformationInfoFull          OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                      URA-Identity                    OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo    DL-CounterSynchronisationInfo-r5  OPTIONAL
    }

UtranMobilityInformation-v6xyext-IEs ::= SEQUENCE {
    -- Core network IEs
        primary-plmn-Identity            PLMN-Identity                    OPTIONAL
    }

-- *****
--
-- UTRAN MOBILITY INFORMATION CONFIRM
--
-- *****

UTRANMobilityInformationConfirm ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier        RRC-TransactionIdentifier,
        ul-IntegProtActivationInfo       IntegrityProtActivationInfo      OPTIONAL,
    -- Radio bearer IEs
        count-C-ActivationTime           ActivationTime                    OPTIONAL,
    -- dummy is not used in this version of the specification and
    -- it should be ignored by the receiver.
        dummy                            RB-ActivationTimeInfoList       OPTIONAL,
        ul-CounterSynchronisationInfo    UL-CounterSynchronisationInfo   OPTIONAL,
        laterNonCriticalExtensions        SEQUENCE {
            -- Container for additional R99 extensions
            uranMobilityInformationConfirm-r3-add-ext    BIT STRING      OPTIONAL,
            nonCriticalExtensions                      SEQUENCE {}    OPTIONAL
        }
    }

-- *****
--
-- UTRAN MOBILITY INFORMATION FAILURE
--
-- *****

UTRANMobilityInformationFailure ::= SEQUENCE {
    -- UE information elements
        rrc-TransactionIdentifier        RRC-TransactionIdentifier,
        failureCause                     FailureCauseWithProtErr,
        laterNonCriticalExtensions        SEQUENCE {
            -- Container for additional R99 extensions
            uranMobilityInformationFailure-r3-add-ext    BIT STRING      OPTIONAL,
            nonCriticalExtensions                      SEQUENCE {}    OPTIONAL
        }
    }

-- *****
--
-- MBMS ACCESS INFORMATION
--
-- *****

MBMSAccessInformation ::= SEQUENCE {
    -- Access Information IEs
        mbms-ServiceAccessInfoList      MBMS-ServiceAccessInfoList-r6,
    -- Non critical extensions
        nonCriticalExtensions            SEQUENCE {}    OPTIONAL
    }

-- *****
--
-- MBMS COMMON PTM RB INFORMATION
--
-- *****

MBMSCommonPTMRBInformation ::= SEQUENCE {

```

```

-- Common PTM RB Information IEs
  mbms-CommonRBInformationList      MBMS-CommonRBInformationList-r6,
  mbms-TranspChInfoForEachTrCh      MBMS-TranspChInfoForEachTrCh-r6,
  mbms-TranspChInfoForEachCCTrCh    MBMS-TranspChInfoForEachCCTrCh-r6,
  mbms-PhyChInformationList          MBMS-PhyChInformationList-r6,
-- Non critical extensions
  nonCriticalExtensions              SEQUENCE {}      OPTIONAL
}

-- *****
--
-- MBMS CURRENT CELL PTM RB INFORMATION
--
-- *****

MBMSCurrentCellPTMRBInformation ::= SEQUENCE {
  -- Current Cell PTM RB Information IEs
  mbms-CurrentCell-SCCPCHList      MBMS-CurrentCell-SCCPCHList-r6      OPTIONAL,
  mbms-SIBType5-SCCPCHList        MBMS-SIBType5-SCCPCHList-r6      OPTIONAL,
  -- Non critical extensions
  nonCriticalExtensions            SEQUENCE {}      OPTIONAL
}

-- *****
--
-- MBMS GENERAL INFORMATION
--
-- *****

MBMSGeneralInformation ::= SEQUENCE {
  -- MBMS General Information IEs
  mbms-PreferredFrequencyInfo      MBMS-PreferredFrequencyList-r6      OPTIONAL,
  mbms-TimersAndCounters           MBMS-TimersAndCounters-r6,
  michConfigurationInfo            MBMS-MICHConfigurationInfo-r6,
  cellGroupIdentity                MBMS-CellGroupIdentity-r6,
  mschDefaultConfigurationInfo     MBMS-MSCHConfigurationInfo-r6      OPTIONAL,
  -- Non critical extensions
  nonCriticalExtensions            SEQUENCE {}      OPTIONAL
}

-- *****
--
-- MBMS MODIFICATION REQUEST
--
-- *****

MBMSModificationRequest ::= SEQUENCE {
  -- MBMS Modification Request IEs
  mbms-PreferredFreqRequest        MBMS-PreferredFreqRequest-r6      OPTIONAL,
  rb-InformationReleaseList        RB-InformationReleaseList        OPTIONAL,
  -- Non critical extensions
  nonCriticalExtensions            SEQUENCE {}      OPTIONAL
}

-- *****
--
-- MBMS MODIFIED SERVICES INFORMATION
--
-- *****

MBMSModifiedServicesInformation ::= SEQUENCE {
  -- MBMS Modified Services Information IEs
  modifedServiceList               MBMS-ModifedServiceList-r6      OPTIONAL,
  mbms-ReacquireMCCH               BOOLEAN,
  endOfModifiedMCCHInformation     INTEGER (1..15)                  OPTIONAL,
  -- Non critical extensions
  nonCriticalExtensions            SEQUENCE {}      OPTIONAL
}

-- *****
--
-- MBMS NEIGHBOURING CELL PTM RB INFORMATION
--
-- *****

MBMSNeighbouringCellPTMRBInformation ::= SEQUENCE {
  -- MBMS Neighbouring Cell PTM RB Information IEs
  neighbouringCellIdentity         INTEGER (1),      -- FFS

```

```

        neighbouringCellSCCPCHList      MBMS-NeighbouringCellSCCPCHList-r6,
-- Non critical extensions
        nonCriticalExtensions           SEQUENCE {}      OPTIONAL
    }
-- *****
--
-- MBMS SCHEDULING INFORMATION
--
-- *****

MBMSSchedulingInformation ::= SEQUENCE {
    -- MBMS Scheduling Information IEs
    serviceSchedulingInfoList          MBMS-ServiceSchedulingInfoList-r6,
    -- Non critical extensions
    nonCriticalExtensions               SEQUENCE {}      OPTIONAL
}
-- *****
--
-- MBMS UNMODIFIED SERVICES INFORMATION
--
-- *****

MBMSUnmodifiedServicesInformation ::= SEQUENCE {
    -- IEs
    unmodifiedServiceList              MBMS-UnmodifiedServiceList-r6      OPTIONAL,
    -- Non critical extensions
    nonCriticalExtensions               SEQUENCE {}      OPTIONAL
}
}
END

```

11.3 Information element definitions

```
InformationElements DEFINITIONS AUTOMATIC TAGS ::=
```

```

-- *****
--
-- CORE NETWORK INFORMATION ELEMENTS (10.3.1)
--
-- *****

```

```
BEGIN
```

```
IMPORTS
```

```

    hiPDSCHidentities,
    hiPUSCHidentities,
    hiRM,
    maxAC,
    maxAdditionalMeas,
    maxASC,
    maxASCmap,
    maxASCpersist,
    maxCCTrCH,
    maxCellMeas,
    maxCellMeas-1,
    maxCNdomains,
    maxCPCHsets,
    maxDPCH-DLchan,
    maxDPDCH-UL,
    maxDRACclasses,
    maxE-DCHMACdFlow,
    maxE-DCHMACdFlow-1,
    maxFACHPCH,
    maxFreq,
    maxFreqBandsFDD,
    maxFreqBandsTDD,
    maxFreqBandsGSM,
    maxGERAN-SI,
    maxHarqRTT,
    maxHProcesses,
    maxHSDSCHTBIndex,
    maxHSDSCHTBIndex-tdd384,
    maxHSSCCHs,
    maxInterSysMessages,

```

```

maxLoChperRLC,
maxMAC-d-PDUsizes,
maxMBMS-CommonCCTrCh,
maxMBMS-CommonPhyCh,
maxMBMS-CommonRB,
maxMBMS-CommonTrCh,
maxMBMS-Freq,
maxMBMS-L1CP,
maxMBMSservCount,
maxMBMSservDedic,
maxMBMSservModif,
maxMBMSservSched,
maxMBMSservUnmodif,
maxMBMStransmis,
maxMeasEvent,
maxMeasIntervals,
maxMeasParEvent,
maxNumCDMA2000Freqs,
maxNumFDDFreqs,
maxNumGSMFreqRanges,
maxGSMTargetCells,
maxNumTDDFreqs,
maxOtherRAT,
maxOtherRAT-16,
maxPagel,
maxPCPCH-Apsig,
maxPCPCH-ApsubCh,
maxPCPCH-CDsig,
maxPCPCH-CDsubCh,
maxPCPCH-SF,
maxPCPCHs,
maxPDCPAlgoType,
maxPDSCH,
maxPDSCH-TFCIgroups,
maxPRACH,
maxPRACH-FPACH,
maxPredefConfig,
maxPUSCH,
maxQueueIDs,
maxRABsetup,
maxRAT,
maxRB,
maxRBallRABs,
maxRBperTrCh,
maxRBMuxOptions,
maxRBperRAB,
maxReportedGSMCells,
maxRLCPDUsizePerLogChan,
maxSRBsetup,
maxRL,
maxRL-1,
maxROHC-PacketSizes-r4,
maxROHC-Profile-r4,
maxSCCPCH,
maxSat,
maxSIB,
maxSIB-FACH,
maxSystemCapability,
maxTF,
maxTF-CPCH,
maxTFC,
maxTFCsub,
maxTFCI-2-Combs,
maxTGPS,
maxTrCH,
maxTrChperSCCPCH,
maxTrCHpreconf,
maxTS,
maxTS-1,
maxTS-2,
maxTS-LCR,
maxTS-LCR-1,
maxURA,
maxURNTI-Group
FROM Constant-definitions;

```

```

Ansi-41-IDNNS ::= BIT STRING (SIZE (14))

```

```

CN-DomainIdentity ::= ENUMERATED {

```

```

        cs-domain,
        ps-domain }

CN-DomainInformation ::=
    cn-DomainIdentity
    cn-DomainSpecificNAS-Info
}
SEQUENCE {
    CN-DomainIdentity,
    NAS-SystemInformationGSM-MAP
}

CN-DomainInformationFull ::=
    cn-DomainIdentity
    cn-DomainSpecificNAS-Info
    cn-DRX-CycleLengthCoeff
}
SEQUENCE {
    CN-DomainIdentity,
    NAS-SystemInformationGSM-MAP,
    CN-DRX-CycleLengthCoefficient
}

CN-DomainInformationList ::=
SEQUENCE (SIZE (1..maxCNdomains)) OF
    CN-DomainInformation

CN-DomainInformationListFull ::=
SEQUENCE (SIZE (1..maxCNdomains)) OF
    CN-DomainInformationFull

CN-DomainSysInfo ::=
    cn-DomainIdentity
    cn-Type
        gsm-MAP
        ansi-41
    },
    cn-DRX-CycleLengthCoeff
}
SEQUENCE {
    CN-DomainIdentity,
    CHOICE {
        NAS-SystemInformationGSM-MAP,
        NAS-SystemInformationANSI-41
    },
    CN-DRX-CycleLengthCoefficient
}

CN-DomainSysInfoList ::=
SEQUENCE (SIZE (1..maxCNdomains)) OF
    CN-DomainSysInfo

CN-InformationInfo ::=
    plmn-Identity
    cn-CommonGSM-MAP-NAS-SysInfo
    cn-DomainInformationList
}
SEQUENCE {
    PLMN-Identity
    NAS-SystemInformationGSM-MAP
    CN-DomainInformationList
}
OPTIONAL,
OPTIONAL,
OPTIONAL

CN-InformationInfo-r6 ::=
    plmn-Identity
    cn-CommonGSM-MAP-NAS-SysInfo
    cn-DomainInformationList
    primary-plmn-Identity
}
SEQUENCE {
    PLMN-Identity
    NAS-SystemInformationGSM-MAP
    CN-DomainInformationList
    PLMN-Identity
}
OPTIONAL,
OPTIONAL,
OPTIONAL,
OPTIONAL

CN-InformationInfoFull ::=
    plmn-Identity
    cn-CommonGSM-MAP-NAS-SysInfo
    cn-DomainInformationListFull
}
SEQUENCE {
    PLMN-Identity
    NAS-SystemInformationGSM-MAP
    CN-DomainInformationListFull
}
OPTIONAL,
OPTIONAL,
OPTIONAL

Digit ::=
INTEGER (0..9)

Gsm-map-IDNNS ::=
    routingbasis
        localPTMSI
            routingparameter
        },
        tMSIofsamePLMN
            routingparameter
        },
        tMSIofdifferentPLMN
            routingparameter
        },
        iMSIresponsetopaging
            routingparameter
        },
        iMSIcauseUEinitiatedEvent
            routingparameter
        },
        iMEI
            routingparameter
        },
        spare2
            routingparameter
        },
        spare1
            routingparameter
}
SEQUENCE {
    CHOICE {
        SEQUENCE {
            RoutingParameter
        },
        SEQUENCE {
            RoutingParameter
        },
        SEQUENCE {
            RoutingParameter
        },
        SEQUENCE {
            RoutingParameter
        },
        SEQUENCE {
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        },
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            RoutingParameter
        },
        SEQUENCE {
            RoutingParameter
        }
    }
}
SEQUENCE {
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SEQUENCE {
    RoutingParameter
}
SEQUENCE {
    RoutingParameter
}
SEQUENCE {
    RoutingParameter
}

```



```

    },
    -- dummy is not used in this version of the specification and
    -- it should be ignored by the receiver.
    dummy                                BOOLEAN
}

IMEI ::=                                SEQUENCE (SIZE (15)) OF
                                        IMEI-Digit

IMEI-Digit ::=                          INTEGER (0..15)

IMSI-GSM-MAP ::=                        SEQUENCE (SIZE (6..21)) OF
                                        Digit

IntraDomainNasNodeSelector ::=          SEQUENCE {
    version                               CHOICE {
        release99                         SEQUENCE {
            cn-Type                       CHOICE {
                gsm-Map-IDNNS             Gsm-map-IDNNS,
                ansi-41-IDNNS             Ansi-41-IDNNS
            }
        },
        later                              SEQUENCE {
            futurecoding                   BIT STRING (SIZE (15))
        }
    }
}

LAI ::=                                  SEQUENCE {
    plmn-Identity                          PLMN-Identity,
    lac                                    BIT STRING (SIZE (16))
}

MCC ::=                                  SEQUENCE (SIZE (3)) OF
                                        Digit

MNC ::=                                  SEQUENCE (SIZE (2..3)) OF
                                        Digit

MultiplePLMN-List-r6 ::=                SEQUENCE {
    mibPLMN-Identity                      BOOLEAN,
    multiplePLMNs                         SEQUENCE (SIZE (1..5)) OF
                                        PLMN-IdentityWithOptionalMCC-r6
}

NAS-Message ::=                         OCTET STRING (SIZE (1..4095))

NAS-Synchronisation-Indicator ::=        BIT STRING(SIZE(4))

NAS-SystemInformationGSM-MAP ::=         OCTET STRING (SIZE (1..8))

P-TMSI-GSM-MAP ::=                      BIT STRING (SIZE (32))

PagingRecordTypeID ::=                  ENUMERATED {
    imsi-GSM-MAP,
    tmsi-GSM-MAP-P-TMSI,
    imsi-DS-41,
    tmsi-DS-41 }

PLMN-Identity ::=                       SEQUENCE {
    mcc                                    MCC,
    mnc                                    MNC
}

PLMN-IdentityWithOptionalMCC-r6 ::=      SEQUENCE {
    mcc                                    MCC                                OPTIONAL,
    mnc                                    MNC
}

PLMN-Type ::=                           CHOICE {
    gsm-MAP                               SEQUENCE {
        plmn-Identity                    PLMN-Identity
    },
    ansi-41                               SEQUENCE {
        p-REV                             P-REV,
        min-P-REV                         Min-P-REV,
        sid                                SID,

```

```

        nid                NID
    },
    gsm-MAP-and-ANSI-41    SEQUENCE {
        plmn-Identity      PLMN-Identity,
        p-REV              P-REV,
        min-P-REV          Min-P-REV,
        sid                SID,
        nid                NID
    },
    spare                  NULL
}

RAB-Identity ::=          CHOICE {
    gsm-MAP-RAB-Identity  BIT STRING (SIZE (8)),
    ansi-4l-RAB-Identity  BIT STRING (SIZE (8))
}

RAI ::=                   SEQUENCE {
    lai                   LAI,
    rac                   RoutingAreaCode
}

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

RoutingParameter ::=     BIT STRING (SIZE (10))

TMSI-GSM-MAP ::=         BIT STRING (SIZE (32))

-- *****
--
--     UTRAN MOBILITY INFORMATION ELEMENTS (10.3.2)
--
-- *****

AccessClassBarred ::=    ENUMERATED {
                            barred, notBarred }

AccessClassBarredList ::= SEQUENCE (SIZE (maxAC)) OF
                            AccessClassBarred

AllowedIndicator ::=     ENUMERATED {
                            allowed, notAllowed }

CellAccessRestriction ::= SEQUENCE {
    cellBarred            CellBarred,
    cellReservedForOperatorUse ReservedIndicator,
    cellReservationExtension ReservedIndicator,
    -- NOTE: IE accessClassBarredList should not be included if the IE CellAccessRestriction
    -- is included in the IE SysInfoType4
    accessClassBarredList AccessClassBarredList          OPTIONAL
}

CellBarred ::=           CHOICE {
    barred                 SEQUENCE {
        intraFreqCellReselectionInd AllowedIndicator,
        t-Barred                  T-Barred
    },
    notBarred             NULL
}

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

CellIdentity-PerRL-List ::= SEQUENCE (SIZE (1..maxRL)) OF CellIdentity

CellSelectReselectInfoSIB-3-4 ::= SEQUENCE {
    mappingInfo           MappingInfo          OPTIONAL,
    cellSelectQualityMeasure CHOICE {
        cpich-Ec-N0       SEQUENCE {
            -- Default value for q-HYST-2-S is q-HYST-1-S
            q-HYST-2-S     Q-Hyst-S          OPTIONAL
            -- Default value for q-HYST-2-S is q-HYST-1-S
        },
        cpich-RSCP        NULL
    },
    modeSpecificInfo      CHOICE {
        fdd               SEQUENCE {
            s-Intrasearch  S-SearchQual          OPTIONAL,
            s-Intersearch  S-SearchQual          OPTIONAL,

```

```

        s-SearchHCS                S-SearchRXLEV                OPTIONAL,
        rat-List                    RAT-FDD-InfoList            OPTIONAL,
        q-QualMin                    Q-QualMin,
        q-RxlevMin                    Q-RxlevMin
    },
    tdd                                SEQUENCE {
        s-Intrasearch                S-SearchRXLEV                OPTIONAL,
        s-Intersearch                S-SearchRXLEV                OPTIONAL,
        s-SearchHCS                  S-SearchRXLEV                OPTIONAL,
        rat-List                      RAT-TDD-InfoList            OPTIONAL,
        q-RxlevMin                    Q-RxlevMin
    }
},
q-Hyst-l-S                          Q-Hyst-S,
t-Reselection-S                    T-Reselection-S,
hcs-ServingCellInformation          HCS-ServingCellInformation    OPTIONAL,
maxAllowedUL-TX-Power              MaxAllowedUL-TX-Power
}

DomainSpecificAccessRestrictionForSharedNetwork-v6xyext ::= CHOICE {
    domainSpecificAccessRestrictionList    DomainSpecificAccessRestrictionList-v6xyext,
    domainSpecificAccessRestrictionParametersForAll    DomainSpecificAccessRestrictionParam-v6xyext
}

DomainSpecificAccessRestrictionList-v6xyext ::= SEQUENCE {
    domainSpecificAccessRestrictionParametersForOperator1
        DomainSpecificAccessRestrictionParam-v6xyext    OPTIONAL,
    domainSpecificAccessRestrictionParametersForOperator2
        DomainSpecificAccessRestrictionParam-v6xyext    OPTIONAL,
    domainSpecificAccessRestrictionParametersForOperator3
        DomainSpecificAccessRestrictionParam-v6xyext    OPTIONAL,
    domainSpecificAccessRestrictionParametersForOperator4
        DomainSpecificAccessRestrictionParam-v6xyext    OPTIONAL,
    domainSpecificAccessRestrictionParametersForOperator5
        DomainSpecificAccessRestrictionParam-v6xyext    OPTIONAL
}

DomainSpecificAccessRestrictionParam-v6xyext ::= SEQUENCE {
    cSDomainSpecificAccessRestriction    DomainSpecificAccessRestriction-v6xyext,
    pSDomainSpecificAccessRestriction    DomainSpecificAccessRestriction-v6xyext
}

DomainSpecificAccessRestriction-v6xyext ::= CHOICE {
    noRestriction        NULL,
    restriction          SEQUENCE {
        domainSpecficAccessClassBarredList    AccessClassBarredList    OPTIONAL
    }
}

MapParameter ::=
    INTEGER (0..99)

Mapping ::=
    SEQUENCE {
        rat                RAT,
        mappingFunctionParameterList    MappingFunctionParameterList
    }

Mapping-LCR-r4 ::=
    SEQUENCE {
        mappingFunctionParameterList    MappingFunctionParameterList
    }

MappingFunctionParameter ::=
    SEQUENCE {
        functionType        MappingFunctionType,
        mapParameter1        MapParameter                OPTIONAL,
        mapParameter2        MapParameter,
        -- The presence of upperLimit is conditional on the number of repetition
        upperLimit            UpperLimit                OPTIONAL
    }

MappingFunctionParameterList ::=
    SEQUENCE (SIZE (1..maxMeasIntervals)) OF
        MappingFunctionParameter

MappingFunctionType ::=
    ENUMERATED {
        linear,
        functionType2,
        functionType3,
        functionType4 }

```

-- In MappingInfo list, mapping for FDD and 3.84Mcps TDD is defined.

```

-- For 1.28Mcps TDD, Mapping-LCR-r4 is used instead.
MappingInfo ::= SEQUENCE (SIZE (1..maxRAT)) OF
                  Mapping

-- Actual value Q-Hyst-S = IE value * 2
Q-Hyst-S ::= INTEGER (0..20)

Q-Hyst-S-Fine ::= INTEGER (0..40)

RAT ::= ENUMERATED {
          ultra-FDD,
          ultra-TDD,
          gsm,
          cdma2000 }

RAT-FDD-Info ::= SEQUENCE {
  rat-Identifier RAT-Identifier,
  s-SearchRAT S-SearchQual,
  s-HCS-RAT S-SearchRXLEV OPTIONAL,
  s-Limit-SearchRAT S-SearchQual
}

RAT-FDD-InfoList ::= SEQUENCE (SIZE (1..maxOtherRAT)) OF
  RAT-FDD-Info

RAT-Identifier ::= ENUMERATED {
  gsm, cdma2000 }

RAT-TDD-Info ::= SEQUENCE {
  rat-Identifier RAT-Identifier,
  s-SearchRAT S-SearchRXLEV,
  s-HCS-RAT S-SearchRXLEV OPTIONAL,
  s-Limit-SearchRAT S-SearchRXLEV
}

RAT-TDD-InfoList ::= SEQUENCE (SIZE (1..maxOtherRAT)) OF
  RAT-TDD-Info

ReservedIndicator ::= ENUMERATED {
  reserved,
  notReserved }

-- Actual value S-SearchQual = IE value * 2
S-SearchQual ::= INTEGER (-16..10)

-- Actual value S-SearchRXLEV = (IE value * 2) + 1
S-SearchRXLEV ::= INTEGER (-53..45)

-- Actual value ScalingFactor = IE value * 0.1
SpeedDependentScalingFactor ::= INTEGER (0..10)

T-Barred ::= ENUMERATED {
  s10, s20, s40, s80,
  s160, s320, s640, s1280 }

T-Reselection-S ::= INTEGER (0..31)

-- Actual value T-Reselection-S-Fine = IE value * 0.2
T-Reselection-S-Fine ::= INTEGER (0..31)

-- Actual value ScalingFactor = IE value * 0.25
TreseselectionScalingFactor ::= INTEGER (4..19)

-- For UpperLimit, the used range depends on the RAT used.
UpperLimit ::= INTEGER (1..91)

URA-Identity ::= BIT STRING (SIZE (16))

URA-IdentityList ::= SEQUENCE (SIZE (1..maxURA)) OF
  URA-Identity

-- *****
--
-- USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- *****

AccessStratumReleaseIndicator ::= ENUMERATED {

```

```

        rel-4, rel-5, rel-6, spare13,
        spare12, spare11, spare10, spare9, spare8,
        spare7, spare6, spare5, spare4, spare3,
        spare2, spare1 }

-- TABULAR : for ActivationTime, value 'now' always appear as default, and is encoded
-- by absence of the field
ActivationTime ::=                INTEGER (0..255)

BackoffControlParams ::=          SEQUENCE {
    n-AP-RetransMax                N-AP-RetransMax,
    n-AccessFails                  N-AccessFails,
    nf-BO-NoAICH                   NF-BO-NoAICH,
    ns-BO-Busy                     NS-BO-Busy,
    nf-BO-AllBusy                  NF-BO-AllBusy,
    nf-BO-Mismatch                 NF-BO-Mismatch,
    t-CPCH                         T-CPCH
}

C-RNTI ::=                        BIT STRING (SIZE (16))

CapabilityUpdateRequirement ::=   SEQUENCE {
    ue-RadioCapabilityFDDUpdateRequirement BOOLEAN,
    -- ue-RadioCapabilityTDDUpdateRequirement is for 3.84Mcps TDD update requirement
    ue-RadioCapabilityTDDUpdateRequirement BOOLEAN,
    systemSpecificCapUpdateReqList SystemSpecificCapUpdateReqList    OPTIONAL
}

CapabilityUpdateRequirement-r4-ext ::= SEQUENCE {
}

CapabilityUpdateRequirement-r4 ::= SEQUENCE {
    ue-RadioCapabilityFDDUpdateRequirement-FDD BOOLEAN,
    ue-RadioCapabilityTDDUpdateRequirement-TDD384    BOOLEAN,
    ue-RadioCapabilityTDDUpdateRequirement-TDD128    BOOLEAN,
    systemSpecificCapUpdateReqList                    SystemSpecificCapUpdateReqList    OPTIONAL
}

-- If the IE CellUpdateCause has the value 'cellUpdateCause-ext', the actual value is
-- defined in the IE CellUpdateCause-ext.
CellUpdateCause ::=              ENUMERATED {
    cellReselection,
    periodicalCellUpdate,
    uplinkDataTransmission,
    utran-pagingResponse,
    re-enteredServiceArea,
    radiolinkFailure,
    rlc-unrecoverableError,
    cellUpdateCause-ext }

-- The IE CellUpdateCause-ext shall be present, if the IE CellUpdateCause has the
-- value 'cellUpdateCause-ext'.
CellUpdateCause-ext ::=          ENUMERATED {
    mbms-Reception,
    spare3, spare2, spare1 }

ChipRateCapability ::=            ENUMERATED {
    mcps3-84, mcps1-28 }

CipheringAlgorithm ::=            ENUMERATED {
    uea0, uea1 }

CipheringModeCommand ::=         CHOICE {
    startRestart                    CipheringAlgorithm,
    dummy                            NULL
}

CipheringModeInfo ::=            SEQUENCE {
    -- TABULAR: The ciphering algorithm is included in the CipheringModeCommand.
    cipheringModeCommand            CipheringModeCommand,
    activationTimeForDPCH           ActivationTime                            OPTIONAL,
    rb-DL-CiphActivationTimeInfo    RB-ActivationTimeInfoList            OPTIONAL
}

CN-DRX-CycleLengthCoefficient ::= INTEGER (6..9)

CN-PagedUE-Identity ::=          CHOICE {

```

```

imsi-GSM-MAP                IMSI-GSM-MAP,
tmsi-GSM-MAP                TMSI-GSM-MAP,
p-TMSI-GSM-MAP              P-TMSI-GSM-MAP,
imsi-DS-41                  IMSI-DS-41,
tmsi-DS-41                  TMSI-DS-41,
spare3                       NULL,
spare2                       NULL,
spare1                       NULL
}

CompressedModeMeasCapability ::= SEQUENCE {
    fdd-Measurements          BOOLEAN,
    -- TABULAR: The IEs tdd-Measurements, gsm-Measurements and multiCarrierMeasurements
    -- are made optional since they are conditional based on another information element.
    -- Their absence corresponds to the case where the condition is not true.
    tdd-Measurements          BOOLEAN OPTIONAL,
    gsm-Measurements          GSM-Measurements OPTIONAL,
    multiCarrierMeasurements  BOOLEAN OPTIONAL
}

CompressedModeMeasCapability-LCR-r4 ::= SEQUENCE {
    tdd128-Measurements       BOOLEAN OPTIONAL
}

CompressedModeMeasCapabFDDList ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
    CompressedModeMeasCapabFDD

CompressedModeMeasCapabFDDList2 ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
    CompressedModeMeasCapabFDD2

CompressedModeMeasCapabFDDList-ext ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
    CompressedModeMeasCapabFDD-ext

CompressedModeMeasCapabFDD ::= SEQUENCE {
    radioFrequencyBandFDD     RadioFrequencyBandFDD OPTIONAL,
    dl-MeasurementsFDD        BOOLEAN,
    ul-MeasurementsFDD        BOOLEAN
}

CompressedModeMeasCapabFDD2 ::= SEQUENCE {
    -- UE may omit both IEs if this IE indicates the compressed mode capability within the same
    -- frequency band. Otherwise, the UE shall include either one of the following OPTIONAL IEs.
    radioFrequencyBandFDD     RadioFrequencyBandFDD OPTIONAL,
    radioFrequencyBandFDD2    RadioFrequencyBandFDD2 OPTIONAL,
    dl-MeasurementsFDD        BOOLEAN,
    ul-MeasurementsFDD        BOOLEAN
}

CompressedModeMeasCapabFDD-ext ::= SEQUENCE {
    radioFrequencyBandFDD2    RadioFrequencyBandFDD2,
    dl-MeasurementsFDD        BOOLEAN,
    ul-MeasurementsFDD        BOOLEAN
}

CompressedModeMeasCapabTDDList ::= SEQUENCE (SIZE (1..maxFreqBandsTDD)) OF
    CompressedModeMeasCapabTDD

CompressedModeMeasCapabTDD ::= SEQUENCE {
    radioFrequencyBandTDD     RadioFrequencyBandTDD,
    dl-MeasurementsTDD        BOOLEAN,
    ul-MeasurementsTDD        BOOLEAN
}

CompressedModeMeasCapabGSMList ::= SEQUENCE (SIZE (1..maxFreqBandsGSM)) OF
    CompressedModeMeasCapabGSM

CompressedModeMeasCapabGSM ::= SEQUENCE {
    radioFrequencyBandGSM     RadioFrequencyBandGSM,
    dl-MeasurementsGSM        BOOLEAN,
    ul-MeasurementsGSM        BOOLEAN
}

CompressedModeMeasCapabMC ::= SEQUENCE {
    dl-MeasurementsMC         BOOLEAN,
    ul-MeasurementsMC         BOOLEAN
}

CPCH-Parameters ::= SEQUENCE {

```

```

    initialPriorityDelayList      InitialPriorityDelayList      OPTIONAL,
    backoffControlParams         BackoffControlParams,
    -- TABULAR: TPC step size nested inside PowerControlAlgorithm
    powerControlAlgorithm        PowerControlAlgorithm,
    dl-DPCCH-BER                 DL-DPCCH-BER
}

DL-CapabilityWithSimultaneousHS-DSCHConfig ::= ENUMERATED{kbps32, kbps64, kbps128, kbps384}

DL-DPCCH-BER ::= INTEGER (0..63)

DL-PhysChCapabilityFDD ::= SEQUENCE {
    maxNoDPCH-PDSCH-Codes        INTEGER (1..8),
    maxNoPhysChBitsReceived      MaxNoPhysChBitsReceived,
    supportForSF-512              BOOLEAN,
    supportOfPDSCH                BOOLEAN,
    simultaneousSCCPCH-DPCH-Reception SimultaneousSCCPCH-DPCH-Reception
}

DL-PhysChCapabilityFDD-v380ext ::= SEQUENCE {
    supportOfDedicatedPilotsForChEstimation SupportOfDedicatedPilotsForChEstimation OPTIONAL
}

SupportOfDedicatedPilotsForChEstimation ::= ENUMERATED { true }

DL-PhysChCapabilityTDD ::= SEQUENCE {
    maxTS-PerFrame               MaxTS-PerFrame,
    maxPhysChPerFrame            MaxPhysChPerFrame,
    minimumSF                     MinimumSF-DL,
    supportOfPDSCH                BOOLEAN,
    maxPhysChPerTS                MaxPhysChPerTS
}

DL-PhysChCapabilityTDD-LCR-r4 ::= SEQUENCE {
    maxTS-PerSubFrame            MaxTS-PerSubFrame-r4,
    maxPhysChPerSubFrame-r4      MaxPhysChPerSubFrame-r4,
    minimumSF                     MinimumSF-DL,
    supportOfPDSCH                BOOLEAN,
    maxPhysChPerTS                MaxPhysChPerTS,
    supportOf8PSK                 BOOLEAN
}

DL-TransChCapability ::= SEQUENCE {
    maxNoBitsReceived             MaxNoBits,
    maxConvCodeBitsReceived       MaxNoBits,
    turboDecodingSupport          TurboSupport,
    maxSimultaneousTransChs       MaxSimultaneousTransChsDL,
    maxSimultaneousCCTrCH-Count   MaxSimultaneousCCTrCH-Count,
    maxReceivedTransportBlocks    MaxTransportBlocksDL,
    maxNumberOfTFC                 MaxNumberOfTFC-DL,
    maxNumberOfTF                   MaxNumberOfTF
}

DRAC-SysInfo ::= SEQUENCE {
    transmissionProbability        TransmissionProbability,
    maximumBitRate                 MaximumBitRate
}

DRAC-SysInfoList ::= SEQUENCE (SIZE (1..maxDRACclasses)) OF
    DRAC-SysInfo

DSCH-RNTI ::= BIT STRING (SIZE (16))

E-RNTI ::= BIT STRING (SIZE (16))

ESN-DS-41 ::= BIT STRING (SIZE (32))

EstablishmentCause ::= ENUMERATED {
    originatingConversationalCall,
    originatingStreamingCall,
    originatingInteractiveCall,
    originatingBackgroundCall,
    originatingSubscribedTrafficCall,
    terminatingConversationalCall,
    terminatingStreamingCall,
    terminatingInteractiveCall,
    terminatingBackgroundCall,
    emergencyCall,
}

```

```

interRAT-CellReselection,
interRAT-CellChangeOrder,
registration,
detach,
originatingHighPrioritySignalling,
originatingLowPrioritySignalling,
callRe-establishment,
terminatingHighPrioritySignalling,
terminatingLowPrioritySignalling,
terminatingCauseUnknown,
mbms-Reception,
spare11,
spare10,
spare9,
spare8,
spare7,
spare6,
spare5,
spare4,
spare3,
spare2,
spare1 }

FailureCauseWithProtErr ::= CHOICE {
    configurationUnsupported          NULL,
    physicalChannelFailure           NULL,
    incompatibleSimultaneousReconfiguration
                                     NULL,
    compressedModeRuntimeError       TGPSI,
    protocolError                    ProtocolErrorInformation,
    cellUpdateOccurred               NULL,
    invalidConfiguration              NULL,
    configurationIncomplete           NULL,
    unsupportedMeasurement            NULL,
    mbmsSessionAlreadyReceivedCorrectly NULL,
    lowerPriorityMBMSService          NULL,
    spare5                            NULL,
    spare4                            NULL,
    spare3                            NULL,
    spare2                            NULL,
    spare1                            NULL
}

FailureCauseWithProtErrTrId ::= SEQUENCE {
    rrc-TransactionIdentifier         RRC-TransactionIdentifier,
    failureCause                     FailureCauseWithProtErr
}

GroupIdentityWithReleaseInformation ::= SEQUENCE {
    rrc-ConnectionReleaseInformation RRC-ConnectionReleaseInformation,
    groupReleaseInformation           GroupReleaseInformation
}

GroupReleaseInformation ::= SEQUENCE {
    uRNTI-Group                      U-RNTI-Group
}

GSM-Measurements ::= SEQUENCE {
    gsm900                           BOOLEAN,
    dcs1800                          BOOLEAN,
    gsm1900                          BOOLEAN
}

H-RNTI ::= BIT STRING (SIZE (16))

HSDSCH-physical-layer-category ::= INTEGER (1..64)

UESpecificBehaviourInformationIdle ::= BIT STRING (SIZE (4))

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

IMSI-and-ESN-DS-41 ::= SEQUENCE {
    imsi-DS-41                       IMSI-DS-41,
    esn-DS-41                         ESN-DS-41
}

IMSI-DS-41 ::= OCTET STRING (SIZE (5..7))

```



```

InitialPriorityDelayList ::=          SEQUENCE (SIZE (1..maxASC)) OF
                                      NS-IP

InitialUE-Identity ::=              CHOICE {
  imsi                               IMSI-GSM-MAP,
  tmsi-and-LAI                       TMSI-and-LAI-GSM-MAP,
  p-TMSI-and-RAI                     P-TMSI-and-RAI-GSM-MAP,
  imei                                IMEI,
  esn-DS-41                          ESN-DS-41,
  imsi-DS-41                         IMSI-DS-41,
  imsi-and-ESN-DS-41                IMSI-and-ESN-DS-41,
  tmsi-DS-41                         TMSI-DS-41
}

IntegrityCheckInfo ::=              SEQUENCE {
  messageAuthenticationCode          MessageAuthenticationCode,
  rrc-MessageSequenceNumber          RRC-MessageSequenceNumber
}

IntegrityProtActivationInfo ::=     SEQUENCE {
  rrc-MessageSequenceNumberList      RRC-MessageSequenceNumberList
}

IntegrityProtectionAlgorithm ::=    ENUMERATED {
  uial }

IntegrityProtectionModeCommand ::= CHOICE {
  startIntegrityProtection           SEQUENCE {
    integrityProtInitNumber          IntegrityProtInitNumber
  },
  modify                             SEQUENCE {
    dl-IntegrityProtActivationInfo   IntegrityProtActivationInfo
  }
}

IntegrityProtectionModeInfo ::=     SEQUENCE {
  -- TABULAR: DL integrity protection activation info and Integrity
  -- protection intialisation number have been nested inside
  -- IntegrityProtectionModeCommand.
  integrityProtectionModeCommand     IntegrityProtectionModeCommand,
  integrityProtectionAlgorithm        IntegrityProtectionAlgorithm      OPTIONAL
}

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

-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
MaxHcContextSpace ::=              ENUMERATED {
  dummy, by1024, by2048, by4096,
  by8192 }

MaxHcContextSpace-r5-ext ::=        ENUMERATED {
  by16384, by32768, by65536, by131072 }

MaxROHC-ContextSessions-r4 ::=      ENUMERATED {
  s2, s4, s8, s12, s16, s24, s32, s48,
  s64, s128, s256, s512, s1024, s16384 }

MaximumAM-EntityNumberRLC-Cap ::=  ENUMERATED {
  dummy, am4, am5, am6,
  am8, am16, am30 }

-- Actual value MaximumBitRate = IE value * 16
MaximumBitRate ::=                 INTEGER (0..32)

MaximumRLC-WindowSize ::=           ENUMERATED { mws2047, mws4095 }

MaxNoDPDCH-BitsTransmitted ::=      ENUMERATED {
  b600, b1200, b2400, b4800,
  b9600, b19200, b28800, b38400,
  b48000, b57600 }

MaxNoBits ::=                       ENUMERATED {
  b640, b1280, b2560, b3840, b5120,
  b6400, b7680, b8960, b10240,

```

```

        b20480, b40960, b81920, b163840 }

MaxNoPhysChBitsReceived ::=      ENUMERATED {
        dummy, b1200, b2400, b3600,
        b4800, b7200, b9600, b14400,
        b19200, b28800, b38400, b48000,
        b57600, b67200, b76800 }

MaxNoSCCPCH-RL ::=              ENUMERATED {
        r11 }

MaxNumberOfTF ::=               ENUMERATED {
        tf32, tf64, tf128, tf256,
        tf512, tf1024 }

MaxNumberOfTFC-DL ::=          ENUMERATED {
        tfc16, tfc32, tfc48, tfc64, tfc96,
        tfc128, tfc256, tfc512, tfc1024 }

MaxNumberOfTFC-UL ::=          ENUMERATED {
        dummy1, dummy2, tfc16, tfc32, tfc48, tfc64,
        tfc96, tfc128, tfc256, tfc512, tfc1024 }

-- the values 1 ...4 for MaxPhysChPerFrame are not used in this version of the protocol
MaxPhysChPerFrame ::=          INTEGER (1..224)

MaxPhysChPerSubFrame-r4 ::=    INTEGER (1..96)

MaxPhysChPerTimeslot ::=       ENUMERATED {
        ts1, ts2 }

-- the values 1 ...4 for MaxPhysChPerTS are not used in this version of the protocol
MaxPhysChPerTS ::=             INTEGER (1..16)

MaxSimultaneousCCTrCH-Count ::= INTEGER (1..8)

MaxSimultaneousTransChsDL ::=  ENUMERATED {
        e4, e8, e16, e32 }

MaxSimultaneousTransChsUL ::=  ENUMERATED {
        dummy, e4, e8, e16, e32 }

MaxTransportBlocksDL ::=       ENUMERATED {
        tb4, tb8, tb16, tb32, tb48,
        tb64, tb96, tb128, tb256, tb512 }

MaxTransportBlocksUL ::=       ENUMERATED {
        dummy, tb4, tb8, tb16, tb32, tb48,
        tb64, tb96, tb128, tb256, tb512 }

MaxTS-PerFrame ::=             INTEGER (1..14)

MaxTS-PerSubFrame-r4 ::=       INTEGER (1..6)

-- TABULAR: MeasurementCapability contains dependencies to UE-MultiModeRAT-Capability,
-- the conditional fields have been left mandatory for now.
MeasurementCapability ::=       SEQUENCE {
        downlinkCompressedMode      CompressedModeMeasCapability,
        uplinkCompressedMode        CompressedModeMeasCapability
}

MeasurementCapabilityExt ::=    SEQUENCE{
        compressedModeMeasCapabFDDList      CompressedModeMeasCapabFDDList,
        compressedModeMeasCapabTDDList      CompressedModeMeasCapabTDDList OPTIONAL,
        compressedModeMeasCapabGSMLList     CompressedModeMeasCapabGSMLList OPTIONAL,
        compressedModeMeasCapabMC           CompressedModeMeasCapabMC           OPTIONAL
}

MeasurementCapabilityExt2 ::=  SEQUENCE{
        compressedModeMeasCapabFDDList2     CompressedModeMeasCapabFDDList2,
        compressedModeMeasCapabTDDList      CompressedModeMeasCapabTDDList OPTIONAL,
        compressedModeMeasCapabGSMLList     CompressedModeMeasCapabGSMLList OPTIONAL,
        compressedModeMeasCapabMC           CompressedModeMeasCapabMC           OPTIONAL
}

MeasurementCapability-r4-ext ::= SEQUENCE {
        downlinkCompressedMode-LCR          CompressedModeMeasCapability-LCR-r4,

```

```

    uplinkCompressedMode-LCR          CompressedModeMeasCapability-LCR-r4
}

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

MinimumSF-DL ::=                    ENUMERATED {
    sf1, sf16 }

MinimumSF-UL ::=                    ENUMERATED {
    sf1, sf2, sf4, sf8, dummy }

MultiModeCapability ::=             ENUMERATED {
    tdd, fdd, fdd-tdd }

MultiRAT-Capability ::=             SEQUENCE {
    supportOfGSM                     BOOLEAN,
    supportOfMulticarrier            BOOLEAN
}

MultiModeRAT-Capability-v590ext ::= SEQUENCE {
    supportOfUTRAN-ToGERAN-NACC      BOOLEAN
}

N-300 ::=                           INTEGER (0..7)

N-301 ::=                           INTEGER (0..7)

N-302 ::=                           INTEGER (0..7)

N-304 ::=                           INTEGER (0..7)

N-308 ::=                           INTEGER (1..8)

N-310 ::=                           INTEGER (0..7)

N-312 ::=                           ENUMERATED {
    s1, s50, s100, s200, s400,
    s600, s800, s1000 }

N-312ext ::=                        ENUMERATED {
    s2, s4, s10, s20 }

N-312-r5 ::=                        ENUMERATED {
    s1, s2, s4, s10, s20,
    s50, s100, s200, s400,
    s600, s800, s1000 }

N-313 ::=                           ENUMERATED {
    s1, s2, s4, s10, s20,
    s50, s100, s200 }

N-315 ::=                           ENUMERATED {
    s1, s50, s100, s200, s400,
    s600, s800, s1000 }

N-315ext ::=                        ENUMERATED {
    s2, s4, s10, s20 }

N-315-r5 ::=                        ENUMERATED {
    s1, s2, s4, s10, s20,
    s50, s100, s200, s400,
    s600, s800, s1000 }

N-AccessFails ::=                  INTEGER (1..64)

N-AP-RetransMax ::=                INTEGER (1..64)

NetworkAssistedGPS-Supported ::=   ENUMERATED {
    networkBased,
    ue-Based,
    bothNetworkAndUE-Based,
    noNetworkAssistedGPS }

NF-BO-AllBusy ::=                  INTEGER (0..31)

NF-BO-NoAICH ::=                   INTEGER (0..31)

```

```

NF-BO-Mismatch ::= INTEGER (0..127)

NS-BO-Busy ::= INTEGER (0..63)

NS-IP ::= INTEGER (0..28)

P-TMSI-and-RAI-GSM-MAP ::= SEQUENCE {
    p-TMSI P-TMSI-GSM-MAP,
    rai RAI
}

PagingCause ::= ENUMERATED {
    terminatingConversationalCall,
    terminatingStreamingCall,
    terminatingInteractiveCall,
    terminatingBackgroundCall,
    terminatingHighPrioritySignalling,
    terminatingLowPrioritySignalling,
    terminatingCauseUnknown,
    spare
}

PagingRecord ::= CHOICE {
    cn-Identity SEQUENCE {
        pagingCause PagingCause,
        cn-DomainIdentity CN-DomainIdentity,
        cn-pagedUE-Identity CN-PagedUE-Identity
    },
    utran-Identity SEQUENCE {
        u-RNTI U-RNTI,
        cn-OriginatedPage-connectedMode-UE SEQUENCE {
            pagingCause PagingCause,
            cn-DomainIdentity CN-DomainIdentity,
            pagingRecordTypeID PagingRecordTypeID
        }
    }
} OPTIONAL

PagingRecord2-r5 ::= CHOICE {
    utran-SingleUE-Identity SEQUENCE {
        u-RNTI U-RNTI,
        cn-OriginatedPage-connectedMode-UE SEQUENCE {
            pagingCause PagingCause,
            cn-DomainIdentity CN-DomainIdentity,
            pagingRecordTypeID PagingRecordTypeID
        }
    } OPTIONAL,
    rrc-ConnectionReleaseInformation RRC-ConnectionReleaseInformation
},
    utran-GroupIdentity SEQUENCE ( SIZE (1 .. maxURNTI-Group) ) OF
        GroupIdentityWithReleaseInformation
}

PagingRecordList ::= SEQUENCE (SIZE (1..maxPage1)) OF
    PagingRecord

PagingRecord2List-r5 ::= SEQUENCE (SIZE (1..maxPage1)) OF
    PagingRecord2-r5

PDCP-Capability ::= SEQUENCE {
    losslessSRNS-RelocationSupport BOOLEAN,
    -- If present, the "maxHcContextSpace" in the IE "PDCP-Capability-r5-ext" overrides the
    -- "supported" value in this IE. The value in this IE may be used by a pre-REL-5 UTRAN.
    supportForRfc2507 CHOICE {
        notSupported NULL,
        supported MaxHcContextSpace
    }
}

PDCP-Capability-r4-ext ::= SEQUENCE {
    supportForRfc3095 CHOICE {
        notSupported NULL,
        supported SEQUENCE {
            maxROHC-ContextSessions MaxROHC-ContextSessions-r4 DEFAULT s16,
            reverseCompressionDepth INTEGER (0..65535) DEFAULT 0
        }
    }
}

```

```

PDCP-Capability-r5-ext ::=          SEQUENCE {
    supportForRfc3095ContextRelocation    BOOLEAN,
    maxHcContextSpace                    MaxHcContextSpace-r5-ext    OPTIONAL
}

PDCP-Capability-r5-ext2 ::=          SEQUENCE {
    losslessDLRLC-PDUSizeChange          ENUMERATED { true }          OPTIONAL
}

PhysicalChannelCapability ::=          SEQUENCE {
    fddPhysChCapability                  SEQUENCE {
        downlinkPhysChCapability          DL-PhysChCapabilityFDD,
        uplinkPhysChCapability            UL-PhysChCapabilityFDD
    }
    -- tddPhysChCapability describes the 3.84Mcps TDD physical channel capability
    tddPhysChCapability                  SEQUENCE {
        downlinkPhysChCapability          DL-PhysChCapabilityTDD,
        uplinkPhysChCapability            UL-PhysChCapabilityTDD
    }
}

-- PhysicalChannelCapability-LCR-r4 describes the 1.28Mcps TDD physical channel capability
PhysicalChannelCapability-LCR-r4 ::=    SEQUENCE {
    tdd128-PhysChCapability              SEQUENCE {
        downlinkPhysChCapability          DL-PhysChCapabilityTDD-LCR-r4,
        uplinkPhysChCapability            UL-PhysChCapabilityTDD-LCR-r4
    }
}

-- PhysicalChannelCapability-hspdsch-r5 describes the HS-PDSCH physical channel capability
PhysicalChannelCapability-hspdsch-r5 ::= SEQUENCE {
    fdd-hspdsch                          CHOICE {
        supported                          SEQUENCE {
            hsdSCH-physical-layer-category    HSDSCH-physical-layer-category,
            supportOfDedicatedPilotsForChannelEstimationOfHSDSCH    BOOLEAN,
            -- simultaneousSCCPCH-DPCH-HSDSCH-Reception shall be true only if the
            -- IE SimultaneousSCCPCH-DPCH-Reception indicates support of simultaneous
            -- reception of S-CCPCH and DPCH
            simultaneousSCCPCH-DPCH-HSDSCH-Reception    BOOLEAN
        },
        unsupported                          NULL
    },
    tdd384-hspdsch                        CHOICE {
        supported                            HSDSCH-physical-layer-category,
        unsupported                          NULL
    },
    tdd128-hspdsch                        CHOICE {
        supported                            HSDSCH-physical-layer-category,
        unsupported                          NULL
    }
}

PNBSCH-Allocation-r4 ::=              SEQUENCE {
    numberOfRepetitionsPerSFNPeriod    ENUMERATED {
        c2, c3, c4, c5, c6, c7, c8, c9, c10,
        c12, c14, c16, c18, c20, c24, c28, c32,
        c36, c40, c48, c56, c64, c72, c80 }
}

ProtocolErrorCause ::=                ENUMERATED {
    asnl-ViolationOrEncodingError,
    messageTypeNonexistent,
    messageNotCompatibleWithReceiverState,
    ie-ValueNotComprehended,
    informationElementMissing,
    messageExtensionNotComprehended,
    spare2, spare1 }

ProtocolErrorIndicator ::=            ENUMERATED {
    noError, errorOccurred }

ProtocolErrorIndicatorWithMoreInfo ::= CHOICE {
    noError                                NULL,
    errorOccurred                          SEQUENCE {
        rrc-TransactionIdentifier          RRC-TransactionIdentifier,
        protocolErrorInformation          ProtocolErrorInformation
    }
}

```

```

}

ProtocolErrorMoreInformation ::= SEQUENCE {
    diagnosticsType CHOICE {
        type1 CHOICE {
            asnl-ViolationOrEncodingError NULL,
            messageTypeNonexistent NULL,
            messageNotCompatibleWithReceiverState
                IdentificationOfReceivedMessage,
            ie-ValueNotComprehended IdentificationOfReceivedMessage,
            conditionalInformationElementError IdentificationOfReceivedMessage,
            messageExtensionNotComprehended IdentificationOfReceivedMessage,
            spare1 NULL,
            spare2 NULL
        },
        spare NULL
    }
}

RadioFrequencyBandFDD ::= ENUMERATED {
    -- fdd2100, fdd1900, fdd1800 correspond to Band I, Band II and Band III respectively
    fdd2100,
    fdd1900,
    fdd1800,
    bandVI,
    bandIV,
    bandV,
    bandVII,
    extension-indicator }

RadioFrequencyBandFDD2 ::= ENUMERATED {
    bandVIII,
    bandIX,
    bandX,
    bandXI,
    bandXII,
    bandXIII,
    bandXIV,
    bandXV,
    bandXVI,
    bandXVII,
    bandXVIII,
    bandXIX,
    bandXX,
    bandXXI,
    bandXXII,
    extension-indicator }

RadioFrequencyBandTDDList ::= ENUMERATED {
    a, b, c, ab, ac, bc, abc, spare }

RadioFrequencyBandTDD ::= ENUMERATED {a, b, c, spare}

RadioFrequencyBandGSM ::= ENUMERATED {
    gsm450,
    gsm480,
    gsm850,
    gsm900P,
    gsm900E,
    gsm1800,
    gsm1900,
    spare9, spare8, spare7, spare6, spare5,
    spare4, spare3, spare2, spare1}

Rb-timer-indicator ::= SEQUENCE {
    t314-expired BOOLEAN,
    t315-expired BOOLEAN }

Re-EstablishmentTimer ::= ENUMERATED {
    useT314, useT315
}

RedirectionInfo ::= CHOICE {
    frequencyInfo FrequencyInfo,
    interRATInfo InterRATInfo
}

RedirectionInfo-r6 ::= CHOICE {

```

```

    frequencyInfo                FrequencyInfo,
    interRATInfo                  InterRATInfo-r6
}

RejectionCause ::=               ENUMERATED {
    congestion,
    unspecified }

ReleaseCause ::=                 ENUMERATED {
    normalEvent,
    unspecified,
    pre-emptiveRelease,
    congestion,
    re-establishmentReject,
    directedsignallingconnectionre-establishment,
    userInactivity,
    spare }

RF-Capability ::=               SEQUENCE {
    fddRF-Capability             SEQUENCE {
        ue-PowerClass            UE-PowerClass,
        txRxFrequencySeparation TxRxFrequencySeparation
    }
    tddRF-Capability             SEQUENCE {
        ue-PowerClass            UE-PowerClass,
        radioFrequencyTDDBandList RadioFrequencyBandTDDList,
        chipRateCapability       ChipRateCapability
    }
}

RF-Capability-r4-ext ::=        SEQUENCE {
    tddRF-Capability             SEQUENCE {
        ue-PowerClass            UE-PowerClass,
        radioFrequencyBandTDDList RadioFrequencyBandTDDList,
        chipRateCapability       ChipRateCapability
    }
}

RLC-Capability ::=              SEQUENCE {
    -- If present, the "totalRLC-AM-BufferSize" in the IE "RLC-Capability-r5-ext" overrides the
    -- corresponding value in this IE. The value in this IE may be used by a pre-REL-5 UTRAN.
    totalRLC-AM-BufferSize       TotalRLC-AM-BufferSize,
    maximumRLC-WindowSize        MaximumRLC-WindowSize,
    maximumAM-EntityNumber       MaximumAM-EntityNumberRLC-Cap
}

RLC-Capability-r5-ext ::=        SEQUENCE {
    totalRLC-AM-BufferSize       TotalRLC-AM-BufferSize-r5-ext    OPTIONAL
}

RRC-ConnectionReleaseInformation ::= CHOICE {
    noRelease                     NULL,
    release                       SEQUENCE {
        releaseCause              ReleaseCause
    }
}

RRC-MessageSequenceNumber ::=   INTEGER (0..15)

RRC-MessageSequenceNumberList ::= SEQUENCE (SIZE (4..5)) OF
    RRC-MessageSequenceNumber

RRC-StateIndicator ::=          ENUMERATED {
    cell-DCH, cell-FACH, cell-PCH, ura-PCH }

RRC-TransactionIdentifier ::=   INTEGER (0..3)

S-RNTI ::=                      BIT STRING (SIZE (20))

S-RNTI-2 ::=                    BIT STRING (SIZE (10))

SecurityCapability ::=           SEQUENCE {
    cipheringAlgorithmCap        BIT STRING {
        -- For each bit value "0" means false/ not supported
        spare15(0),
        spare14(1),
        spare13(2),
    }
}

```

```

        spare12(3),
        spare11(4),
        spare10(5),
        spare9(6),
        spare8(7),
        spare7(8),
        spare6(9),
        spare5(10),
        spare4(11),
        spare3(12),
        spare2(13),
        ueal(14),
        uea0(15)
    } (SIZE (16)),
integrityProtectionAlgorithmCap BIT STRING {
    -- For each bit value "0" means false/ not supported
    spare15(0),
    spare14(1),
    spare13(2),
    spare12(3),
    spare11(4),
    spare10(5),
    spare9(6),
    spare8(7),
    spare7(8),
    spare6(9),
    spare5(10),
    spare4(11),
    spare3(12),
    spare2(13),
    uial(14),
    spare0(15)
} (SIZE (16))
}

SimultaneousSCCPCH-DPCH-Reception ::= CHOICE {
    notSupported NULL,
    supported SEQUENCE {
        maxNoSCCPCH-RL MaxNoSCCPCH-RL,
        -- simultaneousSCCPCH-DPCH-DPDCH-Reception is applicable only if
        -- the IE Support of PDSCH = TRUE
        -- Note: the reference to DPDCH in the element name below is incorrect (see tabular). The
        -- name is not changed, to keep it aligned with R99.
        simultaneousSCCPCH-DPCH-DPDCH-Reception BOOLEAN
    }
}

SRNC-Identity ::= BIT STRING (SIZE (12))

START-Value ::= BIT STRING (SIZE (20))

STARTList ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
    STARTSingle

STARTSingle ::= SEQUENCE {
    cn-DomainIdentity CN-DomainIdentity,
    start-Value START-Value
}

CapabilityUpdateRequirement-r5 ::= SEQUENCE {
    ue-RadioCapabilityFDDUpdateRequirement-FDD BOOLEAN,
    ue-RadioCapabilityTDDUpdateRequirement-TDD384 BOOLEAN,
    ue-RadioCapabilityTDDUpdateRequirement-TDD128 BOOLEAN,
    systemSpecificCapUpdateReqList SystemSpecificCapUpdateReqList-r5 OPTIONAL
}

SystemSpecificCapUpdateReq ::= ENUMERATED {
    gsm }

SystemSpecificCapUpdateReq-v590ext ::= ENUMERATED {
    geranIu }

SystemSpecificCapUpdateReq-r5 ::= ENUMERATED {
    gsm, geranIu }

SystemSpecificCapUpdateReqList ::= SEQUENCE (SIZE (1..maxSystemCapability)) OF
    SystemSpecificCapUpdateReq

```



```

SystemSpecificCapUpdateReqList-r5 ::= SEQUENCE (SIZE (1..maxSystemCapability)) OF
    SystemSpecificCapUpdateReq-r5

T-300 ::=
    ENUMERATED {
        ms100, ms200, ms400, ms600, ms800,
        ms1000, ms1200, ms1400, ms1600,
        ms1800, ms2000, ms3000, ms4000,
        ms6000, ms8000 }

T-301 ::=
    ENUMERATED {
        ms100, ms200, ms400, ms600, ms800,
        ms1000, ms1200, ms1400, ms1600,
        ms1800, ms2000, ms3000, ms4000,
        ms6000, ms8000, spare }

T-302 ::=
    ENUMERATED {
        ms100, ms200, ms400, ms600, ms800,
        ms1000, ms1200, ms1400, ms1600,
        ms1800, ms2000, ms3000, ms4000,
        ms6000, ms8000, spare }

T-304 ::=
    ENUMERATED {
        ms100, ms200, ms400,
        ms1000, ms2000, spare3, spare2, spare1 }

T-305 ::=
    ENUMERATED {
        noUpdate, m5, m10, m30,
        m60, m120, m360, m720 }

T-307 ::=
    ENUMERATED {
        s5, s10, s15, s20,
        s30, s40, s50, spare }

T-308 ::=
    ENUMERATED {
        ms40, ms80, ms160, ms320 }

T-309 ::=
    INTEGER (1..8)

T-310 ::=
    ENUMERATED {
        ms40, ms80, ms120, ms160,
        ms200, ms240, ms280, ms320 }

T-311 ::=
    ENUMERATED {
        ms250, ms500, ms750, ms1000,
        ms1250, ms1500, ms1750, ms2000 }

-- The value 0 for T-312 is not used in this version of the specification
T-312 ::=
    INTEGER (0..15)

T-313 ::=
    INTEGER (0..15)

T-314 ::=
    ENUMERATED {
        s0, s2, s4, s6, s8,
        s12, s16, s20 }

T-315 ::=
    ENUMERATED {
        s0, s10, s30, s60, s180,
        s600, s1200, s1800 }

T-316 ::=
    ENUMERATED {
        s0, s10, s20, s30, s40,
        s50, s-inf, spare }

-- All the values are changed to "infinity" in Rel-5
T-317 ::=
    ENUMERATED {
        infinity0, infinity1, infinity2, infinity3, infinity4,
        infinity5, infinity6, infinity7}

T-318 ::=
    ENUMERATED {
        ms250, ms500, ms750, ms1000, ms1250, ms1500,
        ms1750, ms2000, ms3000, ms4000, ms6000, ms8000,
        ms10000, ms12000, ms16000 }

T-CPCH ::=
    ENUMERATED {
        ct0, ct1 }

TMSI-and-LAI-GSM-MAP ::=
    SEQUENCE {

```

```

    tmsi                TMSI-GSM-MAP,
    lai                LAI
}

TMSI-DS-41 ::=          OCTET STRING (SIZE (2..17))

TotalRLC-AM-BufferSize ::= ENUMERATED {
    dummy, kb10, kb50, kb100,
    kb150, kb500, kb1000, spare }

TotalRLC-AM-BufferSize-r5-ext ::= ENUMERATED {
    kb200, kb300, kb400, kb750 }

-- Actual value TransmissionProbability = IE value * 0.125
TransmissionProbability ::= INTEGER (1..8)

TransportChannelCapability ::= SEQUENCE {
    dl-TransChCapability    DL-TransChCapability,
    ul-TransChCapability    UL-TransChCapability
}

TurboSupport ::= CHOICE {
    notSupported
    supported
    MaxNoBits
}

TxRxFrequencySeparation ::= ENUMERATED {
    mhz190, mhz174-8-205-2,
    mhz134-8-245-2 }

U-RNTI ::= SEQUENCE {
    srnc-Identity
    s-RNTI
}

U-RNTI-Group ::= CHOICE {
-- TABULAR: not following the tabular strictly, but this will most likely save bits
    all
    u-RNTI-BitMaskIndex-b1    BIT STRING (SIZE (31)),
    u-RNTI-BitMaskIndex-b2    BIT STRING (SIZE (30)),
    u-RNTI-BitMaskIndex-b3    BIT STRING (SIZE (29)),
    u-RNTI-BitMaskIndex-b4    BIT STRING (SIZE (28)),
    u-RNTI-BitMaskIndex-b5    BIT STRING (SIZE (27)),
    u-RNTI-BitMaskIndex-b6    BIT STRING (SIZE (26)),
    u-RNTI-BitMaskIndex-b7    BIT STRING (SIZE (25)),
    u-RNTI-BitMaskIndex-b8    BIT STRING (SIZE (24)),
    u-RNTI-BitMaskIndex-b9    BIT STRING (SIZE (23)),
    u-RNTI-BitMaskIndex-b10   BIT STRING (SIZE (22)),
    u-RNTI-BitMaskIndex-b11   BIT STRING (SIZE (21)),
    u-RNTI-BitMaskIndex-b12   BIT STRING (SIZE (20)),
    u-RNTI-BitMaskIndex-b13   BIT STRING (SIZE (19)),
    u-RNTI-BitMaskIndex-b14   BIT STRING (SIZE (18)),
    u-RNTI-BitMaskIndex-b15   BIT STRING (SIZE (17)),
    u-RNTI-BitMaskIndex-b16   BIT STRING (SIZE (16)),
    u-RNTI-BitMaskIndex-b17   BIT STRING (SIZE (15)),
    u-RNTI-BitMaskIndex-b18   BIT STRING (SIZE (14)),
    u-RNTI-BitMaskIndex-b19   BIT STRING (SIZE (13)),
    u-RNTI-BitMaskIndex-b20   BIT STRING (SIZE (12)),
    u-RNTI-BitMaskIndex-b21   BIT STRING (SIZE (11)),
    u-RNTI-BitMaskIndex-b22   BIT STRING (SIZE (10)),
    u-RNTI-BitMaskIndex-b23   BIT STRING (SIZE (9)),
    u-RNTI-BitMaskIndex-b24   BIT STRING (SIZE (8)),
    u-RNTI-BitMaskIndex-b25   BIT STRING (SIZE (7)),
    u-RNTI-BitMaskIndex-b26   BIT STRING (SIZE (6)),
    u-RNTI-BitMaskIndex-b27   BIT STRING (SIZE (5)),
    u-RNTI-BitMaskIndex-b28   BIT STRING (SIZE (4)),
    u-RNTI-BitMaskIndex-b29   BIT STRING (SIZE (3)),
    u-RNTI-BitMaskIndex-b30   BIT STRING (SIZE (2)),
    u-RNTI-BitMaskIndex-b31   BIT STRING (SIZE (1))
}

U-RNTI-Short ::= SEQUENCE {
    srnc-Identity
    s-RNTI-2
}

UE-ConnTimersAndConstants ::= SEQUENCE {
-- Optional is used also for parameters for which the default value is the last one read in SIB1

```

```

-- t-301 and n-301 should not be used by the UE in this version of the specification
t-301          T-301          DEFAULT ms2000,
n-301          N-301          DEFAULT 2,
t-302          T-302          DEFAULT ms4000,
n-302          N-302          DEFAULT 3,
t-304          T-304          DEFAULT ms2000,
n-304          N-304          DEFAULT 2,
t-305          T-305          DEFAULT m30,
t-307          T-307          DEFAULT s30,
t-308          T-308          DEFAULT ms160,
t-309          T-309          DEFAULT 5,
t-310          T-310          DEFAULT ms160,
n-310          N-310          DEFAULT 4,
t-311          T-311          DEFAULT ms2000,
t-312          T-312          DEFAULT 1,
-- n-312 shall be ignored if n-312 in UE-ConnTimersAndConstants-v3a0ext is present, and the
-- value of that element shall be used instead.
n-312          N-312          DEFAULT s1,
t-313          T-313          DEFAULT 3,
n-313          N-313          DEFAULT s20,
t-314          T-314          DEFAULT s12,
t-315          T-315          DEFAULT s180,
-- n-315 shall be ignored if n-315 in UE-ConnTimersAndConstants-v3a0ext is present, and the
-- value of that element shall be used instead.
n-315          N-315          DEFAULT s1,
t-316          T-316          DEFAULT s30,
t-317          T-317          DEFAULT infinity4
}

UE-ConnTimersAndConstants-v3a0ext ::=          SEQUENCE {
n-312          N-312ext          OPTIONAL,
n-315          N-315ext          OPTIONAL
}

UE-ConnTimersAndConstants-r5 ::=          SEQUENCE {
-- Optional is used also for parameters for which the default value is the last one read in SIB1
-- t-301 and n-301 should not be used by the UE in this version of the specification
t-301          T-301          DEFAULT ms2000,
n-301          N-301          DEFAULT 2,
t-302          T-302          DEFAULT ms4000,
n-302          N-302          DEFAULT 3,
t-304          T-304          DEFAULT ms2000,
n-304          N-304          DEFAULT 2,
t-305          T-305          DEFAULT m30,
t-307          T-307          DEFAULT s30,
t-308          T-308          DEFAULT ms160,
t-309          T-309          DEFAULT 5,
t-310          T-310          DEFAULT ms160,
n-310          N-310          DEFAULT 4,
t-311          T-311          DEFAULT ms2000,
t-312          T-312          DEFAULT 1,
n-312          N-312-r5          DEFAULT s1,
t-313          T-313          DEFAULT 3,
n-313          N-313          DEFAULT s20,
t-314          T-314          DEFAULT s12,
t-315          T-315          DEFAULT s180,
n-315          N-315-r5          DEFAULT s1,
t-316          T-316          DEFAULT s30,
t-317          T-317          DEFAULT infinity4
}

UE-IdleTimersAndConstants ::=          SEQUENCE {
t-300          T-300,
n-300          N-300,
t-312          T-312,
-- n-312 shall be ignored if n-312 in UE-IdleTimersAndConstants-v3a0ext is present, and the
-- value of that element shall be used instead.
n-312          N-312
}

UE-IdleTimersAndConstants-v3a0ext ::=          SEQUENCE {
n-312          N-312ext          OPTIONAL
}

UE-MultiModeRAT-Capability ::=          SEQUENCE {
multiRAT-CapabilityList          MultiRAT-Capability,
multiModeCapability          MultiModeCapability
}

```

```

UE-PowerClass ::=                               INTEGER (1..4)

UE-PowerClassExt ::=                             ENUMERATED {class1, class2, class3, class4,
                                                             spare4, spare3, spare2, spare1 }

UE-RadioAccessCapability ::=                     SEQUENCE {
  -- UE-RadioAccessCapability is compatible with R99, although accessStratumReleaseIndicator
  -- is removed from this IE, since its encoding did not does in bits. The
  -- accessStratumReleaseIndicator is provided in the relevant REL-4 extension IEs.
  pdcp-Capability                               PDCP-Capability,
  rlc-Capability                                 RLC-Capability,
  transportChannelCapability                     TransportChannelCapability,
  rf-Capability                                  RF-Capability,
  physicalChannelCapability                       PhysicalChannelCapability,
  ue-MultiModeRAT-Capability                     UE-MultiModeRAT-Capability,
  securityCapability                             SecurityCapability,
  ue-positioning-Capability                       UE-Positioning-Capability,
  measurementCapability                           MeasurementCapability          OPTIONAL
}

UE-RadioAccessCapabilityInfo ::=                 SEQUENCE {
  ue-RadioAccessCapability                       UE-RadioAccessCapability,
  ue-RadioAccessCapability-v370ext               UE-RadioAccessCapability-v370ext
}

UE-RadioAccessCapability-v370ext ::=             SEQUENCE {
  ue-RadioAccessCapabBandFDDList                UE-RadioAccessCapabBandFDDList
}

UE-RadioAccessCapability-v380ext ::=             SEQUENCE {
  ue-PositioningCapabilityExt-v380               UE-PositioningCapabilityExt-v380
}

UE-RadioAccessCapability-v3a0ext ::=             SEQUENCE {
  ue-PositioningCapabilityExt-v3a0               UE-PositioningCapabilityExt-v3a0
}

UE-RadioAccessCapability-v3g0ext ::=             SEQUENCE {
  ue-PositioningCapabilityExt-v3g0               UE-PositioningCapabilityExt-v3g0
}

UE-RadioAccessCapability-v650ext ::=             SEQUENCE {
  ue-RadioAccessCapabBandFDDList2                UE-RadioAccessCapabBandFDDList2,
  -- This IE shall be included if the UE also supports Band I-VII
  ue-RadioAccessCapabBandFDDList-ext            UE-RadioAccessCapabBandFDDList-ext  OPTIONAL
}

UE-RadioAccessCapabBandFDDList2 ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
  UE-RadioAccessCapabBandFDD2

UE-RadioAccessCapabBandFDD2 ::= SEQUENCE {
  radioFrequencyBandFDD2                         RadioFrequencyBandFDD2,
  fddRF-Capability                               SEQUENCE {
    ue-PowerClass                               UE-PowerClassExt,
    txRxFrequencySeparation                     TxRxFrequencySeparation
  }
  OPTIONAL,
  measurementCapability2                          MeasurementCapabilityExt2
}

UE-PositioningCapabilityExt-v380 ::=             SEQUENCE {
  rx-tx-TimeDifferenceType2Capable                BOOLEAN
}

UE-PositioningCapabilityExt-v3a0 ::=             SEQUENCE {
  validity-CellPCH-UraPCH                       ENUMERATED { true }
}

UE-PositioningCapabilityExt-v3g0 ::=             SEQUENCE {
  sfn-sfnType2Capability                         ENUMERATED { true }
}

UE-RadioAccessCapabBandFDDList ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
  UE-RadioAccessCapabBandFDD

UE-RadioAccessCapabBandFDDList-ext ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
  UE-RadioAccessCapabBandFDD-ext

```

```

UE-RadioAccessCapabBandFDD ::= SEQUENCE{
    radioFrequencyBandFDD          RadioFrequencyBandFDD,
    fddRF-Capability                SEQUENCE {
        ue-PowerClass              UE-PowerClassExt,
        txRxFrequencySeparation    TxRxFrequencySeparation
    }
    measurementCapability           MeasurementCapabilityExt
}
OPTIONAL,

UE-RadioAccessCapabBandFDD-ext ::= SEQUENCE {
    radioFrequencyBandFDD          RadioFrequencyBandFDD,
    compressedModeMeasCapabFDDList-ext CompressedModeMeasCapabFDDList-ext
}

UE-RadioAccessCapability-v4b0ext ::= SEQUENCE {
    pdcp-Capability-r4-ext         PDCP-Capability-r4-ext,
    tdd-CapabilityExt              SEQUENCE {
        rf-Capability              RF-Capability-r4-ext,
        physicalChannelCapability-LCR PhysicalChannelCapability-LCR-r4,
        measurementCapability-r4-ext MeasurementCapability-r4-ext
    }
    -- IE " AccessStratumReleaseIndicator" is not needed in RRC CONNECTION SETUP COMPLETE
    accessStratumReleaseIndicator AccessStratumReleaseIndicator OPTIONAL
}

UE-RadioAccessCapabilityComp ::= SEQUENCE {
    totalAM-RLCMemoryExceeds10kB   BOOLEAN,
    rf-CapabilityComp              RF-CapabilityComp
}

RF-CapabilityComp ::= SEQUENCE {
    fdd                             CHOICE {
        notSupported                NULL,
        supported                    RF-CapabBandListFDDComp
    },
    tdd384-RF-Capability            CHOICE {
        notSupported                NULL,
        supported                    RadioFrequencyBandTDDList
    },
    tdd128-RF-Capability            CHOICE {
        notSupported                NULL,
        supported                    RadioFrequencyBandTDDList
    }
}

-- NOTE: This IE is the frequency separation in MHz
RF-CapabBandFDDComp ::= ENUMERATED { notSupported, mhz190,
    mhz174-8-205-2, mhz134-8-245-2 }

RF-CapabBandListFDDComp ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
    -- the first entry corresponds with the first value of IE RadioFrequencyBandFDD,
    -- fdd2100, and so on
    RF-CapabBandFDDComp

UE-RadioAccessCapability-v590ext ::= SEQUENCE {
    dl-CapabilityWithSimultaneousHS-DSCHConfig DL-CapabilityWithSimultaneousHS-DSCHConfig
    OPTIONAL,
    pdcp-Capability-r5-ext                PDCP-Capability-r5-ext,
    rlc-Capability-r5-ext                  RLC-Capability-r5-ext,
    physicalChannelCapability              PhysicalChannelCapability-hspdsch-r5,
    multiModerAT-Capability-v590ext       MultiModerAT-Capability-v590ext
}

UE-RadioAccessCapability-v5c0ext ::= SEQUENCE {
    pdcp-Capability-r5-ext2                PDCP-Capability-r5-ext2
}

UL-PhysChCapabilityFDD ::= SEQUENCE {
    maxNoDPDCH-BitsTransmitted            MaxNoDPDCH-BitsTransmitted,
    supportOfPCPCH                        BOOLEAN
}

UL-PhysChCapabilityTDD ::= SEQUENCE {
    maxTS-PerFrame                        MaxTS-PerFrame,
    maxPhysChPerTimeslot                  MaxPhysChPerTimeslot,
    minimumSF                              MinimumSF-UL,
    supportOfPUSCH                        BOOLEAN
}

```

```

}

UL-PhysChCapabilityTDD-LCR-r4 ::= SEQUENCE {
    maxTS-PerSubFrame           MaxTS-PerSubFrame-r4,
    maxPhysChPerTimeslot        MaxPhysChPerTimeslot,
    minimumSF                    MinimumSF-UL,
    supportOfPUSCH                BOOLEAN,
    supportOf8PSK                BOOLEAN
}

UL-TransChCapability ::= SEQUENCE {
    maxNoBitsTransmitted         MaxNoBits,
    maxConvCodeBitsTransmitted   MaxNoBits,
    turboEncodingSupport         TurboSupport,
    maxSimultaneousTransChs      MaxSimultaneousTransChsUL,
    modeSpecificInfo             CHOICE {
        fdd                       NULL,
        tdd                       SEQUENCE {
            maxSimultaneousCCTrCH-Count  MaxSimultaneousCCTrCH-Count
        }
    },
    maxTransmittedBlocks         MaxTransportBlocksUL,
    maxNumberOfTFC               MaxNumberOfTFC-UL,
    maxNumberOfTF                MaxNumberOfTF
}

UE-Positioning-Capability ::= SEQUENCE {
    standaloneLocMethodsSupported  BOOLEAN,
    ue-BasedOTDOA-Supported        BOOLEAN,
    networkAssistedGPS-Supported   NetworkAssistedGPS-Supported,
    supportForUE-GPS-TimingOfCellFrames  BOOLEAN,
    supportForIPDL                 BOOLEAN
}

UE-SecurityInformation ::= SEQUENCE {
    start-CS                       START-Value
}

URA-UpdateCause ::= ENUMERATED {
    changeOfURA,
    periodicURAUpdate,
    dummy,
    spare1 }

UTRAN-DRX-CycleLengthCoefficient ::= INTEGER (3..9)

WaitTime ::= INTEGER (0..15)

-- *****
--
-- RADIO BEARER INFORMATION ELEMENTS (10.3.4)
--
-- *****

AlgorithmSpecificInfo ::= CHOICE {
    rfc2507-Info          RFC2507-Info
}

AlgorithmSpecificInfo-r4 ::= CHOICE {
    rfc2507-Info          RFC2507-Info,
    rfc3095-Info          RFC3095-Info-r4
}

CID-InclusionInfo-r4 ::= ENUMERATED {
    pdcp-Header,
    rfc3095-PacketFormat }

-- Upper limit of COUNT-C is 2^32 - 1
COUNT-C ::= INTEGER (0..4294967295)

-- Upper limit of COUNT-C-MSB is 2^25 - 1
COUNT-C-MSB ::= INTEGER (0..33554431)

DefaultConfigIdentity ::= INTEGER (0..10)

DefaultConfigIdentity-r4 ::= INTEGER (0..12)

DefaultConfigIdentity-r5 ::= INTEGER (0..13)

```

```

DefaultConfigMode ::=          ENUMERATED {
                                fdd,
                                tdd }

DDI ::=                        INTEGER (0..62)

DL-AM-RLC-Mode ::=            SEQUENCE {
    inSequenceDelivery          BOOLEAN,
    receivingWindowSize         DL-RLC-StatusInfo,
    dl-RLC-StatusInfo
}

DL-AM-RLC-Mode-r5 ::=         SEQUENCE {
    dl-RLC-PDU-size             OctetModeRLC-SizeInfoType1,
    inSequenceDelivery          BOOLEAN,
    receivingWindowSize         DL-RLC-StatusInfo,
    dl-RLC-StatusInfo
}

DL-CounterSynchronisationInfo ::= SEQUENCE {
    rB-WithPDCP-InfoList       RB-WithPDCP-InfoList     OPTIONAL
}

DL-CounterSynchronisationInfo-r5 ::= SEQUENCE {
    rb-WithPDCP-InfoList       RB-WithPDCP-InfoList     OPTIONAL,
    rb-PDCPContextRelocationList RB-PDCPContextRelocationList OPTIONAL
}

DL-LogicalChannelMapping ::= SEQUENCE {
    -- TABULAR: DL-TransportChannelType contains TransportChannelIdentity as well.
    dl-TransportChannelType    DL-TransportChannelType,
    logicalChannelIdentity     LogicalChannelIdentity     OPTIONAL
}

DL-LogicalChannelMapping-r5 ::= SEQUENCE {
    -- TABULAR: DL-TransportChannelType contains TransportChannelIdentity as well.
    dl-TransportChannelType    DL-TransportChannelType-r5,
    logicalChannelIdentity     LogicalChannelIdentity     OPTIONAL
}

DL-LogicalChannelMappingList ::= SEQUENCE (SIZE (1..maxLoCHperRLC)) OF
    DL-LogicalChannelMapping

DL-LogicalChannelMappingList-r5 ::= SEQUENCE (SIZE (1..maxLoCHperRLC)) OF
    DL-LogicalChannelMapping-r5

DL-RFC3095-r4 ::=            SEQUENCE {
    cid-InclusionInfo           CID-InclusionInfo-r4,
    max-CID                    INTEGER (1..16383)           DEFAULT 15,
    reverseDecompressionDepth   INTEGER (0..65535)           DEFAULT 0
}

DL-RLC-Mode ::=              CHOICE {
    dl-AM-RLC-Mode             DL-AM-RLC-Mode,
    dl-UM-RLC-Mode             NULL,
    dl-TM-RLC-Mode             DL-TM-RLC-Mode
}

DL-RLC-Mode-r5 ::=           CHOICE {
    dl-AM-RLC-Mode-r5         DL-AM-RLC-Mode-r5,
    dl-UM-RLC-Mode-r5         DL-UM-RLC-Mode-r5,
    dl-TM-RLC-Mode            DL-TM-RLC-Mode
}

DL-RLC-Mode-r6 ::=           CHOICE {
    dl-AM-RLC-Mode-r5         DL-AM-RLC-Mode-r5,
    dl-UM-RLC-Mode-r5         DL-UM-RLC-Mode-r6,
    dl-TM-RLC-Mode            DL-TM-RLC-Mode
}

DL-RLC-StatusInfo ::=        SEQUENCE {
    timerStatusProhibit        TimerStatusProhibit           OPTIONAL,
    -- dummy is not used in this version of the specification, it should not be sent
    -- and if received they should be ignored.
    dummy                      TimerEPC                       OPTIONAL,
    missingPDU-Indicator       BOOLEAN,
    timerStatusPeriodic        TimerStatusPeriodic           OPTIONAL
}

```

```

}

DL-TM-RLC-Mode ::=
    segmentationIndication
}

DL-TransportChannelType ::=
    dch
    fach
    dsch
    dch-and-dsch
}

DL-TransportChannelType-r5 ::=
    dch
    fach
    dsch
    dch-and-dsch
    hsdSCH
    dch-and-hsdSCH
}

DL-UM-RLC-LI-size ::=
    ENUMERATED {
        size7, size15 }

DL-UM-RLC-Mode-r5 ::=
    dl-UM-RLC-LI-size
}

DL-UM-RLC-Mode-r6 ::=
    dl-UM-RLC-LI-size
    dl-UM-RLC-DuplAvoid-Reord-Info
    dl-UM-RLC-OutOSeqDelivery-Info
}

ExpectReordering ::=
    ENUMERATED {
        reorderingNotExpected,
        reorderingExpected }

ExplicitDiscard ::=
    timerMRW
    timerDiscard
    maxMRW
}

HeaderCompressionInfo ::=
    algorithmSpecificInfo
}

HeaderCompressionInfoList ::=
    SEQUENCE (SIZE (1..maxPDCPALgoType)) OF
        HeaderCompressionInfo

HeaderCompressionInfo-r4 ::=
    algorithmSpecificInfo-r4
}

HeaderCompressionInfoList-r4 ::=
    SEQUENCE (SIZE (1..maxPDCPALgoType)) OF
        HeaderCompressionInfo-r4

LogicalChannelIdentity ::=
    INTEGER (1..15)

LosslessSRNS-RelocSupport ::=
    supported
    notSupported
}

MAC-d-HFN-initial-value ::=
    BIT STRING (SIZE (24))

MAC-LogicalChannelPriority ::=
    INTEGER (1..8)

MaxDAT ::=
    ENUMERATED {
        dat1, dat2, dat3, dat4, dat5, dat6,
        dat7, dat8, dat9, dat10, dat15, dat20,
        dat25, dat30, dat35, dat40 }

MaxDAT-Retransmissions ::=
    maxDAT
    timerMRW
}

```



```

    maxMRW                                MaxMRW
}

MaxMRW ::=                               ENUMERATED {
    mm1, mm4, mm6, mm8, mm12, mm16,
    mm24, mm32 }

MaxPDCP-SN-WindowSize ::=               ENUMERATED {
    sn255, sn65535 }

MaxRST ::=                               ENUMERATED {
    rst1, rst4, rst6, rst8, rst12,
    rst16, rst24, rst32 }

NoExplicitDiscard ::=                   ENUMERATED {
    dt10, dt20, dt30, dt40, dt50,
    dt60, dt70, dt80, dt90, dt100 }

PDCP-Info ::=                           SEQUENCE {
    losslessSRNS-RelocSupport             LosslessSRNS-RelocSupport             OPTIONAL,
    -- TABULAR: pdcP-PDU-Header is MD in the tabular format and it can be encoded
    -- in one bit, so the OPTIONAL is removed for compactness.
    pdcP-PDU-Header                       PDCP-PDU-Header,
    headerCompressionInfoList              HeaderCompressionInfoList             OPTIONAL
}

PDCP-Info-r4 ::=                        SEQUENCE {
    losslessSRNS-RelocSupport             LosslessSRNS-RelocSupport             OPTIONAL,
    -- TABULAR: pdcP-PDU-Header is MD in the tabular format and it can be encoded
    -- in one bit, so the OPTIONAL is removed for compactness.
    pdcP-PDU-Header                       PDCP-PDU-Header,
    headerCompressionInfoList-r4           HeaderCompressionInfoList-r4          OPTIONAL
}

PDCP-InfoReconfig ::=                   SEQUENCE {
    pdcP-Info                              PDCP-Info,
    -- dummy is not used in this version of the specification and
    -- it should be ignored.
    dummy                                  INTEGER (0..65535)
}

PDCP-InfoReconfig-r4 ::=                 SEQUENCE {
    pdcP-Info                              PDCP-Info-r4
}

PDCP-PDU-Header ::=                     ENUMERATED {
    present, absent }

PDCP-SN-Info ::=                         INTEGER (0..65535)

Poll-PDU ::=                             ENUMERATED {
    pdu1, pdu2, pdu4, pdu8, pdu16,
    pdu32, pdu64, pdu128 }

Poll-SDU ::=                             ENUMERATED {
    sdu1, sdu4, sdu16, sdu64 }

PollingInfo ::=                          SEQUENCE {
    timerPollProhibit                      TimerPollProhibit                     OPTIONAL,
    timerPoll                              TimerPoll                              OPTIONAL,
    poll-PDU                               Poll-PDU                              OPTIONAL,
    poll-SDU                               Poll-SDU                              OPTIONAL,
    lastTransmissionPDU-Poll               BOOLEAN,
    lastRetransmissionPDU-Poll             BOOLEAN,
    pollWindow                             PollWindow                             OPTIONAL,
    timerPollPeriodic                      TimerPollPeriodic                     OPTIONAL
}

PollWindow ::=                           ENUMERATED {
    pw50, pw60, pw70, pw80, pw85,
    pw90, pw95, pw99 }

PredefinedConfigIdentity ::=             INTEGER (0..15)

PredefinedConfigValueTag ::=             INTEGER (0..15)

PredefinedRB-Configuration ::=           SEQUENCE {
    re-EstablishmentTimer                  Re-EstablishmentTimer,

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```

    srb-InformationList          SRB-InformationSetupList,
    rb-InformationList          RB-InformationSetupList
}

PreDefRadioConfiguration ::= SEQUENCE {
    -- Radio bearer IEs
    predefinedRB-Configuration    PredefinedRB-Configuration,
    -- Transport channel IEs
    preDefTransChConfiguration    PreDefTransChConfiguration,
    -- Physical channel IEs
    preDefPhyChConfiguration      PreDefPhyChConfiguration
}

PredefinedConfigStatusList ::= SEQUENCE (SIZE (maxPredefConfig)) OF
    PredefinedConfigStatusInfo

PredefinedConfigStatusInfo ::= CHOICE {
    storedWithValueTagSameAsPrevious    NULL,
    other                                CHOICE {
        notStored                        NULL,
        storedWithDifferentValueTag      PredefinedConfigValueTag
    }
}

PredefinedConfigStatusListComp ::= SEQUENCE {
    setsWithDifferentValueTag          PredefinedConfigSetsWithDifferentValueTag,
    otherEntries                       PredefinedConfigStatusListVarSz          OPTIONAL
}

PredefinedConfigSetsWithDifferentValueTag ::= SEQUENCE (SIZE (1..2)) OF
    PredefinedConfigSetWithDifferentValueTag

PredefinedConfigSetWithDifferentValueTag ::= SEQUENCE {
    startPosition                    INTEGER (0..10)    DEFAULT 0,
    -- numberOfEntries                INTEGER (6..16),
    -- numberOfEntries is covered by the size of the list in IE PredefinedConfigValueTagList
    valueTagList                    PredefinedConfigValueTagList
}

PredefinedConfigValueTagList ::= SEQUENCE (SIZE (1..maxPredefConfig)) OF
    PredefinedConfigValueTag

PredefinedConfigStatusListVarSz ::= SEQUENCE (SIZE (1..maxPredefConfig)) OF
    PredefinedConfigStatusInfo

RAB-Info ::= SEQUENCE {
    rab-Identity                    RAB-Identity,
    cn-DomainIdentity                CN-DomainIdentity,
    nas-Synchronisation-Indicator    NAS-Synchronisation-Indicator    OPTIONAL,
    re-EstablishmentTimer            Re-EstablishmentTimer
}

RAB-Info-r6-ext ::= SEQUENCE {
    mbms-SessionIdentity            MBMS-SessionIdentity            OPTIONAL
}

RAB-Info-r6 ::= SEQUENCE {
    rab-Identity                    RAB-Identity,
    mbms-SessionIdentity            MBMS-SessionIdentity            OPTIONAL,
    cn-DomainIdentity                CN-DomainIdentity,
    nas-Synchronisation-Indicator    NAS-Synchronisation-Indicator    OPTIONAL,
    re-EstablishmentTimer            Re-EstablishmentTimer
}

RAB-InformationList ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-Info

RAB-InformationReconfigList ::= SEQUENCE (SIZE (1.. maxRABsetup)) OF
    RAB-InformationReconfig

RAB-InformationReconfig ::= SEQUENCE {
    rab-Identity                    RAB-Identity,
    cn-DomainIdentity                CN-DomainIdentity,
    nas-Synchronisation-Indicator    NAS-Synchronisation-Indicator
}

RAB-Info-Post ::= SEQUENCE {

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```

    rab-Identity                RAB-Identity,
    cn-DomainIdentity           CN-DomainIdentity,
    nas-Synchronisation-Indicator NAS-Synchronisation-Indicator OPTIONAL
}

RAB-InformationSetup ::=      SEQUENCE {
    rab-Info                    RAB-Info,
    rb-InformationSetupList     RB-InformationSetupList
}

RAB-InformationSetup-r4 ::=  SEQUENCE {
    rab-Info                    RAB-Info,
    rb-InformationSetupList-r4  RB-InformationSetupList-r4
}

RAB-InformationSetup-r5 ::=  SEQUENCE {
    rab-Info                    RAB-Info,
    rb-InformationSetupList-r5  RB-InformationSetupList-r5
}

RAB-InformationSetup-r6-ext ::= SEQUENCE {
    rab-Info-r6-ext            RAB-Info-r6-ext
}

RAB-InformationSetup-r6 ::=  SEQUENCE {
    rab-Info                    RAB-Info-r6,
    rb-InformationSetupList-r6  RB-InformationSetupList-r6
}

RAB-InformationSetupList ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-InformationSetup

RAB-InformationSetupList-r4 ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-InformationSetup-r4

RAB-InformationSetupList-r5 ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-InformationSetup-r5

RAB-InformationSetupList-r6 ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-InformationSetup-r6

-- The IE 'RAB-InformationSetupList-r6-ext' provides elements of extension information, which
-- are added to the corresponding elements of the IE 'RAB-InformationSetupList/-r4/-r5'.
RAB-InformationSetupList-r6-ext ::= SEQUENCE (SIZE (1..maxRABsetup)) OF
    RAB-InformationSetup-r6-ext

RB-ActivationTimeInfo ::=    SEQUENCE {
    rb-Identity                RB-Identity,
    rlc-SequenceNumber         RLC-SequenceNumber
}

RB-ActivationTimeInfoList ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-ActivationTimeInfo

RB-COUNT-C-Information ::=   SEQUENCE {
    rb-Identity                RB-Identity,
    count-C-UL                 COUNT-C,
    count-C-DL                 COUNT-C
}

RB-COUNT-C-InformationList ::= SEQUENCE (SIZE (1..maxRBallRABs)) OF
    RB-COUNT-C-Information

RB-COUNT-C-MSB-Information ::= SEQUENCE {
    rb-Identity                RB-Identity,
    count-C-MSB-UL             COUNT-C-MSB,
    count-C-MSB-DL             COUNT-C-MSB
}

RB-COUNT-C-MSB-InformationList ::= SEQUENCE (SIZE (1..maxRBallRABs)) OF
    RB-COUNT-C-MSB-Information

RB-Identity ::=              INTEGER (1..32)

RB-IdentityList ::=          SEQUENCE (SIZE (1..maxRB)) OF
    RB-Identity

RB-InformationAffected ::=    SEQUENCE {

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```

    rb-Identity          RB-Identity,
    rb-MappingInfo      RB-MappingInfo
}

RB-InformationAffected-r5 ::= SEQUENCE {
    rb-Identity          RB-Identity,
    rb-MappingInfo      RB-MappingInfo-r5
}

RB-InformationAffected-r6 ::= SEQUENCE {
    rb-Identity          RB-Identity,
    rb-MappingInfo      RB-MappingInfo-r6
}

RB-InformationAffectedList ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationAffected

RB-InformationAffectedList-r5 ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationAffected-r5

RB-InformationAffectedList-r6 ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationAffected-r6

RB-InformationReconfig ::= SEQUENCE {
    rb-Identity          RB-Identity,
    pdcp-Info           PDCP-InfoReconfig          OPTIONAL,
    pdcp-SN-Info        PDCP-SN-Info           OPTIONAL,
    rlc-Info            RLC-Info              OPTIONAL,
    rb-MappingInfo      RB-MappingInfo        OPTIONAL,
    rb-StopContinue     RB-StopContinue       OPTIONAL
}

RB-InformationReconfig-r4 ::= SEQUENCE {
    rb-Identity          RB-Identity,
    pdcp-Info           PDCP-InfoReconfig-r4  OPTIONAL,
    pdcp-SN-Info        PDCP-SN-Info          OPTIONAL,
    rlc-Info            RLC-Info              OPTIONAL,
    rb-MappingInfo      RB-MappingInfo        OPTIONAL,
    rb-StopContinue     RB-StopContinue       OPTIONAL
}

RB-InformationReconfig-r5 ::= SEQUENCE {
    rb-Identity          RB-Identity,
    pdcp-Info           PDCP-InfoReconfig-r4  OPTIONAL,
    pdcp-SN-Info        PDCP-SN-Info          OPTIONAL,
    rlc-Info            RLC-Info-r5          OPTIONAL,
    rb-MappingInfo      RB-MappingInfo-r5    OPTIONAL,
    rb-StopContinue     RB-StopContinue       OPTIONAL
}

RB-InformationReconfig-r6 ::= SEQUENCE {
    rb-Identity          RB-Identity,
    pdcp-Info           PDCP-InfoReconfig-r4  OPTIONAL,
    pdcp-SN-Info        PDCP-SN-Info          OPTIONAL,
    rlc-Info            RLC-Info-r5          OPTIONAL,
    rb-MappingInfo      RB-MappingInfo-r6    OPTIONAL,
    rb-StopContinue     RB-StopContinue       OPTIONAL
}

RB-InformationReconfigList ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationReconfig

RB-InformationReconfigList-r4 ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationReconfig-r4

RB-InformationReconfigList-r5 ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationReconfig-r5

RB-InformationReconfigList-r6 ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-InformationReconfig-r6

RB-InformationReleaseList ::= SEQUENCE (SIZE (1..maxRB)) OF
    RB-Identity

RB-InformationSetup ::= SEQUENCE {
    rb-Identity          RB-Identity,
    pdcp-Info           PDCP-Info              OPTIONAL,
    rlc-InfoChoice      RLC-InfoChoice,

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```

    rb-MappingInfo                RB-MappingInfo
}

RB-InformationSetup-r4 ::=        SEQUENCE {
    rb-Identity                    RB-Identity,
    pdcp-Info                      PDCP-Info-r4                OPTIONAL,
    rlc-InfoChoice                 RLC-InfoChoice,
    rb-MappingInfo                 RB-MappingInfo
}

RB-InformationSetup-r5 ::=        SEQUENCE {
    rb-Identity                    RB-Identity,
    pdcp-Info                      PDCP-Info-r4                OPTIONAL,
    rlc-InfoChoice                 RLC-InfoChoice-r5,
    rb-MappingInfo                 RB-MappingInfo-r5
}

RB-InformationSetup-r6 ::=        SEQUENCE {
    rb-Identity                    RB-Identity,
    pdcp-Info                      PDCP-Info-r4                OPTIONAL,
    rlc-InfoChoice                 RLC-InfoChoice-r5,
    rb-MappingInfo                 RB-MappingInfo-r6
}

RB-InformationSetupList ::=       SEQUENCE (SIZE (1..maxRBperRAB)) OF
    RB-InformationSetup

RB-InformationSetupList-r4 ::=    SEQUENCE (SIZE (1..maxRBperRAB)) OF
    RB-InformationSetup-r4

RB-InformationSetupList-r5 ::=    SEQUENCE (SIZE (1..maxRBperRAB)) OF
    RB-InformationSetup-r5

RB-InformationSetupList-r6 ::=    SEQUENCE (SIZE (1..maxRBperRAB)) OF
    RB-InformationSetup-r6

RB-MappingInfo ::=               SEQUENCE (SIZE (1..maxRBMuxOptions)) OF
    RB-MappingOption

RB-MappingInfo-r5 ::=            SEQUENCE (SIZE (1..maxRBMuxOptions)) OF
    RB-MappingOption-r5

RB-MappingInfo-r6 ::=            SEQUENCE (SIZE (1..maxRBMuxOptions)) OF
    RB-MappingOption-r6

RB-MappingOption ::=             SEQUENCE {
    ul-LogicalChannelMappings      UL-LogicalChannelMappings    OPTIONAL,
    dl-LogicalChannelMappingList    DL-LogicalChannelMappingList  OPTIONAL
}

RB-MappingOption-r5 ::=          SEQUENCE {
    ul-LogicalChannelMappings      UL-LogicalChannelMappings    OPTIONAL,
    dl-LogicalChannelMappingList    DL-LogicalChannelMappingList-r5  OPTIONAL
}

RB-MappingOption-r6 ::=          SEQUENCE {
    ul-LogicalChannelMappings      UL-LogicalChannelMappings-r6  OPTIONAL,
    dl-LogicalChannelMappingList    DL-LogicalChannelMappingList-r5  OPTIONAL
}

RB-PDCPContextRelocation ::=     SEQUENCE {
    rb-Identity                    RB-Identity,
    dl-RFC3095-Context-Relocation    BOOLEAN,
    ul-RFC3095-Context-Relocation    BOOLEAN
}

RB-PDCPContextRelocationList ::= SEQUENCE (SIZE (1..maxRBallRABs)) OF
    RB-PDCPContextRelocation

RB-StopContinue ::=              ENUMERATED {
    stopRB, continueRB }

RB-WithPDCP-Info ::=             SEQUENCE {
    rb-Identity                    RB-Identity,
    pdcp-SN-Info                   PDCP-SN-Info
}

RB-WithPDCP-InfoList ::=         SEQUENCE (SIZE (1..maxRBallRABs)) OF

```

RB-WithPDCP-Info

```

ReceivingWindowSize ::=
    ENUMERATED {
        rw1, rw8, rw16, rw32, rw64, rw128, rw256,
        rw512, rw768, rw1024, rw1536, rw2047,
        rw2560, rw3072, rw3584, rw4095 }

RFC2507-Info ::=
    SEQUENCE {
        f-MAX-PERIOD          INTEGER (1..65535)          DEFAULT 256,
        f-MAX-TIME            INTEGER (1..255)          DEFAULT 5,
        max-HEADER            INTEGER (60..65535)       DEFAULT 168,
        tcp-SPACE             INTEGER (3..255)          DEFAULT 15,
        non-TCP-SPACE         INTEGER (3..65535)        DEFAULT 15,
        -- TABULAR: expectReordering has only two possible values, so using Optional or Default
        -- would be wasteful
        expectReordering      ExpectReordering
    }

RFC3095-Info-r4 ::=
    SEQUENCE {
        rohcProfileList       ROHC-ProfileList-r4,
        ul-RFC3095            UL-RFC3095-r4            OPTIONAL,
        dl-RFC3095            DL-RFC3095-r4            OPTIONAL
    }

RLC-Info ::=
    SEQUENCE {
        ul-RLC-Mode           UL-RLC-Mode             OPTIONAL,
        dl-RLC-Mode           DL-RLC-Mode             OPTIONAL
    }

RLC-Info-r5 ::=
    SEQUENCE {
        ul-RLC-Mode           UL-RLC-Mode             OPTIONAL,
        dl-RLC-Mode-r5        DL-RLC-Mode-r5          OPTIONAL,
        rlc-OneSidedReEst     BOOLEAN
    }

RLC-Info-r6 ::=
    SEQUENCE {
        ul-RLC-Mode           UL-RLC-Mode             OPTIONAL,
        dl-RLC-Mode-r5        DL-RLC-Mode-r6          OPTIONAL,
        rlc-OneSidedReEst     BOOLEAN
    }

RLC-InfoChoice ::=
    CHOICE {
        rlc-Info              RLC-Info,
        same-as-RB            RB-Identity
    }

RLC-InfoChoice-r5 ::=
    CHOICE {
        rlc-Info-r5          RLC-Info-r5,
        same-as-RB            RB-Identity
    }

RLC-PDU-Size ::=
    OctetModeRLC-SizeInfoType1

RLC-PDU-SizeList ::=
    SEQUENCE (SIZE (1..maxRLCPDUsizePerLogChan)) OF
        RLC-PDU-Size

RLC-SequenceNumber ::=
    INTEGER (0..4095)

RLC-SizeInfo ::=
    SEQUENCE {
        rlc-SizeIndex        INTEGER (1..maxTF)
    }

RLC-SizeExplicitList ::=
    SEQUENCE (SIZE (1..maxTF)) OF
        RLC-SizeInfo

ROHC-Profile-r4 ::=
    INTEGER (1..3)

ROHC-ProfileList-r4 ::=
    SEQUENCE (SIZE (1..maxROHC-Profile-r4)) OF
        ROHC-Profile-r4

ROHC-PacketSize-r4 ::=
    INTEGER (2..1500)

ROHC-PacketSizeList-r4 ::=
    SEQUENCE (SIZE (1..maxROHC-PacketSizes-r4)) OF
        ROHC-PacketSize-r4

SRB-InformationSetup ::=
    SEQUENCE {
        -- The default value for rb-Identity is the smallest value not used yet.
        rb-Identity          RB-Identity              OPTIONAL,
    }

```

```

    rlc-InfoChoice          RLC-InfoChoice,
    rb-MappingInfo         RB-MappingInfo
}

SRB-InformationSetup-r5 ::=          SEQUENCE {
    -- The default value for rb-Identity is the smallest value not used yet.
    rb-Identity             RB-Identity          OPTIONAL,
    rlc-InfoChoice         RLC-InfoChoice-r5,
    rb-MappingInfo         RB-MappingInfo-r5
}

SRB-InformationSetup-r6 ::=          SEQUENCE {
    -- The default value for rb-Identity is the smallest value not used yet.
    rb-Identity             RB-Identity          OPTIONAL,
    rlc-InfoChoice         RLC-InfoChoice-r5,
    rb-MappingInfo         RB-MappingInfo-r6
}

SRB-InformationSetupList ::=        SEQUENCE (SIZE (1..maxSRBsetup)) OF
    SRB-InformationSetup

SRB-InformationSetupList-r5 ::=     SEQUENCE (SIZE (1..maxSRBsetup)) OF
    SRB-InformationSetup-r5

SRB-InformationSetupList-r6 ::=     SEQUENCE (SIZE (1..maxSRBsetup)) OF
    SRB-InformationSetup-r6

SRB-InformationSetupList2 ::=       SEQUENCE (SIZE (3..4)) OF
    SRB-InformationSetup

TimerDAR-r6 ::=                   ENUMERATED {
    ms40, ms80, ms120, ms160, ms240, ms320, ms480, ms640,
    ms960, ms1280, ms1920, ms2560, ms3840, ms5120 }

TimerDiscard ::=                  ENUMERATED {
    td0-1, td0-25, td0-5, td0-75,
    td1, td1-25, td1-5, td1-75,
    td2, td2-5, td3, td3-5, td4,
    td4-5, td5, td7-5 }

TimerEPC ::=                       ENUMERATED {
    te50, te60, te70, te80, te90,
    te100, te120, te140, te160, te180,
    te200, te300, te400, te500, te700,
    te900 }

TimerMRW ::=                       ENUMERATED {
    te50, te60, te70, te80, te90, te100,
    te120, te140, te160, te180, te200,
    te300, te400, te500, te700, te900 }

TimerOSD-r6 ::=                   ENUMERATED {
    ms40, ms80, ms120, ms160, ms240, ms320, ms480, ms640,
    ms960, ms1280, ms1920, ms2560, ms3840, ms5120 }

TimerPoll ::=                     ENUMERATED {
    tp10, tp20, tp30, tp40, tp50,
    tp60, tp70, tp80, tp90, tp100,
    tp110, tp120, tp130, tp140, tp150,
    tp160, tp170, tp180, tp190, tp200,
    tp210, tp220, tp230, tp240, tp250,
    tp260, tp270, tp280, tp290, tp300,
    tp310, tp320, tp330, tp340, tp350,
    tp360, tp370, tp380, tp390, tp400,
    tp410, tp420, tp430, tp440, tp450,
    tp460, tp470, tp480, tp490, tp500,
    tp510, tp520, tp530, tp540, tp550,
    tp600, tp650, tp700, tp750, tp800,
    tp850, tp900, tp950, tp1000 }

TimerPollPeriodic ::=             ENUMERATED {
    tper100, tper200, tper300, tper400,
    tper500, tper750, tper1000, tper2000 }

TimerPollProhibit ::=             ENUMERATED {
    tpp10, tpp20, tpp30, tpp40, tpp50,
    tpp60, tpp70, tpp80, tpp90, tpp100,
    tpp110, tpp120, tpp130, tpp140, tpp150,

```

```

tpp160, tpp170, tpp180, tpp190, tpp200,
tpp210, tpp220, tpp230, tpp240, tpp250,
tpp260, tpp270, tpp280, tpp290, tpp300,
tpp310, tpp320, tpp330, tpp340, tpp350,
tpp360, tpp370, tpp380, tpp390, tpp400,
tpp410, tpp420, tpp430, tpp440, tpp450,
tpp460, tpp470, tpp480, tpp490, tpp500,
tpp510, tpp520, tpp530, tpp540, tpp550,
tpp600, tpp650, tpp700, tpp750, tpp800,
tpp850, tpp900, tpp950, tpp1000 }

TimerRST ::= ENUMERATED {
    tr50, tr100, tr150, tr200, tr250, tr300,
    tr350, tr400, tr450, tr500, tr550,
    tr600, tr700, tr800, tr900, tr1000 }

TimerStatusPeriodic ::= ENUMERATED {
    tsp100, tsp200, tsp300, tsp400, tsp500,
    tsp750, tsp1000, tsp2000 }

TimerStatusProhibit ::= ENUMERATED {
    tsp10, tsp20, tsp30, tsp40, tsp50,
    tsp60, tsp70, tsp80, tsp90, tsp100,
    tsp110, tsp120, tsp130, tsp140, tsp150,
    tsp160, tsp170, tsp180, tsp190, tsp200,
    tsp210, tsp220, tsp230, tsp240, tsp250,
    tsp260, tsp270, tsp280, tsp290, tsp300,
    tsp310, tsp320, tsp330, tsp340, tsp350,
    tsp360, tsp370, tsp380, tsp390, tsp400,
    tsp410, tsp420, tsp430, tsp440, tsp450,
    tsp460, tsp470, tsp480, tsp490, tsp500,
    tsp510, tsp520, tsp530, tsp540, tsp550,
    tsp600, tsp650, tsp700, tsp750, tsp800,
    tsp850, tsp900, tsp950, tsp1000 }

TransmissionRLC-Discard ::= CHOICE {
    timerBasedExplicit      ExplicitDiscard,
    timerBasedNoExplicit    NoExplicitDiscard,
    maxDAT-Retransmissions MaxDAT-Retransmissions,
    noDiscard               MaxDAT
}

TransmissionWindowSize ::= ENUMERATED {
    tw1, tw8, tw16, tw32, tw64, tw128, tw256,
    tw512, tw768, tw1024, tw1536, tw2047,
    tw2560, tw3072, tw3584, tw4095 }

UL-AM-RLC-Mode ::= SEQUENCE {
    transmissionRLC-Discard      TransmissionRLC-Discard,
    transmissionWindowSize      TransmissionWindowSize,
    timerRST                    TimerRST,
    max-RST                    MaxRST,
    pollingInfo                 PollingInfo OPTIONAL
}

UL-CounterSynchronisationInfo ::= SEQUENCE {
    rB-WithPDCP-InfoList      RB-WithPDCP-InfoList OPTIONAL,
    startList                 STARTList
}

UL-LogicalChannelMapping ::= SEQUENCE {
    -- TABULAR: UL-TransportChannelType contains TransportChannelIdentity as well.
    ul-TransportChannelType    UL-TransportChannelType,
    logicalChannelIdentity      LogicalChannelIdentity OPTIONAL,
    rlc-SizeList               CHOICE {
        allSizes                NULL,
        configured              NULL,
        explicitList            RLC-SizeExplicitList
    },
    mac-LogicalChannelPriority  MAC-LogicalChannelPriority
}

UL-LogicalChannelMapping-r6 ::= SEQUENCE {
    ul-TrCH-Type              CHOICE {
        dch-rach-cpch-usch      SEQUENCE {
            -- TABULAR: UL-TransportChannelType contains TransportChannelIdentity as well.
            ul-TransportChannelType    UL-TransportChannelType,
            logicalChannelIdentity      LogicalChannelIdentity OPTIONAL,

```



```

        rlc-SizeList                CHOICE {
            allSizes                 NULL,
            configured                NULL,
            explicitList              RLC-SizeExplicitList
        }
    },
    e-dch                            SEQUENCE {
        e-DCH-MAC-d-FlowIdentity    E-DCH-MAC-d-FlowIdentity,
        ddi                         DDI,
        rlc-PDU-SizeList            RLC-PDU-SizeList
    },
    mac-LogicalChannelPriority        MAC-LogicalChannelPriority
}

UL-LogicalChannelMappingList ::= SEQUENCE {
    -- rlc-LogicalChannelMappingIndicator shall be set to TRUE in this version
    -- of the specification
    rlc-LogicalChannelMappingIndicator    BOOLEAN,
    ul-LogicalChannelMapping              SEQUENCE (SIZE (maxLoCHperRLC)) OF
                                         UL-LogicalChannelMapping
}

UL-LogicalChannelMappingList-r6 ::= SEQUENCE {
    -- rlc-LogicalChannelMappingIndicator shall be set to TRUE in this version
    -- of the specification
    rlc-LogicalChannelMappingIndicator    BOOLEAN,
    ul-LogicalChannelMapping              SEQUENCE (SIZE (maxLoCHperRLC)) OF
                                         UL-LogicalChannelMapping-r6
}

UL-LogicalChannelMappings ::= CHOICE {
    oneLogicalChannel                  UL-LogicalChannelMapping,
    twoLogicalChannels                 UL-LogicalChannelMappingList
}

UL-LogicalChannelMappings-r6 ::= CHOICE {
    oneLogicalChannel                  UL-LogicalChannelMapping-r6,
    twoLogicalChannels                 UL-LogicalChannelMappingList-r6
}

UL-RFC3095-r4 ::= SEQUENCE {
    cid-InclusionInfo                  CID-InclusionInfo-r4,
    max-CID                           INTEGER (1..16383)                DEFAULT 15,
    rohcPacketSizeList                ROHC-PacketSizeList-r4
}

UL-RLC-Mode ::= CHOICE {
    ul-AM-RLC-Mode                    UL-AM-RLC-Mode,
    ul-UM-RLC-Mode                    UL-UM-RLC-Mode,
    ul-TM-RLC-Mode                    UL-TM-RLC-Mode,
    spare                              NULL
}

UL-TM-RLC-Mode ::= SEQUENCE {
    transmissionRLC-Discard            TransmissionRLC-Discard        OPTIONAL,
    segmentationIndication            BOOLEAN
}

UL-UM-RLC-Mode ::= SEQUENCE {
    transmissionRLC-Discard            TransmissionRLC-Discard        OPTIONAL
}

UL-TransportChannelType ::= CHOICE {
    dch                                TransportChannelIdentity,
    rach                               NULL,
    cpch                               NULL,
    usch                               TransportChannelIdentity
}

UM-RLC-DuplAvoid-Reord-Info-r6 ::= SEQUENCE {
    timer-DAR                          TimerDAR-r6,
    widowSize-DAR                      WindowSizeDAR-r6
}

UM-RLC-OutOSeqDelivery-Info-r6 ::= SEQUENCE {
    timer-OSD                          TimerOSD-r6                OPTIONAL,
    windowSize-OSD                     WindowSizeOSD-r6
}

```

```

}

WindowSizeDAR-r6 ::=                               ENUMERATED {
                                                    ws4, ws8, ws16, ws32, ws40, ws48,
                                                    ws56, ws64, spare1 }

WindowSizeOSD-r6 ::=                               ENUMERATED {
                                                    ws8, ws16, ws32, ws40, ws48,
                                                    ws56, ws64, spare1 }

-- *****
--
--     TRANSPORT CHANNEL INFORMATION ELEMENTS (10.3.5)
--
-- *****

AddOrReconfMAC-dFlow ::=                          SEQUENCE {
    mac-hs-AddReconfQueue-List                    MAC-hs-AddReconfQueue-List  OPTIONAL,
    mac-hs-DelQueue-List                          MAC-hs-DelQueue-List       OPTIONAL
}

AllowedTFC-List ::=                                SEQUENCE (SIZE (1..maxTFC)) OF
                                                    TFC-Value

AllowedTFI-List ::=                                SEQUENCE (SIZE (1..maxTF)) OF
                                                    INTEGER (0..31)

BitModeRLC-SizeInfo ::=                           CHOICE {
    sizeType1                                     INTEGER (0..127),
    -- Actual value sizeType2 = (part1 * 8) + 128 + part2
    sizeType2                                     SEQUENCE {
        part1                                     INTEGER (0..15),
        part2                                     INTEGER (1..7)                                OPTIONAL
    },
    -- Actual value sizeType3 = (part1 * 16) + 256 + part2
    sizeType3                                     SEQUENCE {
        part1                                     INTEGER (0..47),
        part2                                     INTEGER (1..15)                                OPTIONAL
    },
    -- Actual value sizeType4 = (part1 * 64) + 1024 + part2
    sizeType4                                     SEQUENCE {
        part1                                     INTEGER (0..62),
        part2                                     INTEGER (1..63)                                OPTIONAL
    }
}

-- Actual value BLER-QualityValue = IE value * 0.1
BLER-QualityValue ::=                             INTEGER (-63..0)

ChannelCodingType ::=                              CHOICE {
    -- noCoding is only used for TDD in this version of the specification,
    -- otherwise it should be ignored
    noCoding                                       NULL,
    convolutional                                 CodingRate,
    turbo                                          NULL
}

CodingRate ::=                                     ENUMERATED {
                                                    half,
                                                    third }

CommonDynamicTF-Info ::=                          SEQUENCE {
    rlc-Size                                       CHOICE {
        fdd                                       SEQUENCE {
            octetModeRLC-SizeInfoType2            OctetModeRLC-SizeInfoType2
        },
        tdd                                       SEQUENCE {
            commonTDD-Choice                       CHOICE {
                bitModeRLC-SizeInfo               BitModeRLC-SizeInfo,
                octetModeRLC-SizeInfoType1         OctetModeRLC-SizeInfoType1
            }
        }
    },
    numberOfTbSizeList                             SEQUENCE (SIZE (1..maxTF)) OF
                                                    NumberOfTransportBlocks,
    logicalChannelList                             LogicalChannelList
}

```

```

CommonDynamicTF-Info-DynamicTTI ::= SEQUENCE {
    commonTDD-Choice          CHOICE {
        bitModeRLC-SizeInfo      BitModeRLC-SizeInfo,
        octetModeRLC-SizeInfoType1 OctetModeRLC-SizeInfoType1
    },
    numberOfTbSizeAndTTIList    NumberOfTbSizeAndTTIList,
    logicalChannelList          LogicalChannelList
}

CommonDynamicTF-InfoList ::= SEQUENCE (SIZE (1..maxTF)) OF
    CommonDynamicTF-Info

CommonDynamicTF-InfoList-DynamicTTI ::= SEQUENCE (SIZE (1..maxTF)) OF
    CommonDynamicTF-Info-DynamicTTI

CommonTransChTFS ::= SEQUENCE {
    tti          CHOICE {
        tti10      CommonDynamicTF-InfoList,
        tti20      CommonDynamicTF-InfoList,
        tti40      CommonDynamicTF-InfoList,
        tti80      CommonDynamicTF-InfoList,
        dynamic    CommonDynamicTF-InfoList-DynamicTTI
    },
    semistaticTF-Information    SemistaticTF-Information
}

CommonTransChTFS-LCR ::= SEQUENCE {
    tti          CHOICE {
        tti5       CommonDynamicTF-InfoList,
        tti10      CommonDynamicTF-InfoList,
        tti20      CommonDynamicTF-InfoList,
        tti40      CommonDynamicTF-InfoList,
        tti80      CommonDynamicTF-InfoList,
        dynamic    CommonDynamicTF-InfoList-DynamicTTI
    },
    semistaticTF-Information    SemistaticTF-Information
}

CPCH-SetID ::= INTEGER (1..maxCPCHsets)

CRC-Size ::= ENUMERATED {
    crc0, crc8, crc12, crc16, crc24 }

DedicatedDynamicTF-Info ::= SEQUENCE {
    rlc-Size          CHOICE {
        bitMode      BitModeRLC-SizeInfo,
        octetModeType1 OctetModeRLC-SizeInfoType1
    },
    numberOfTbSizeList    SEQUENCE (SIZE (1..maxTF)) OF
    NumberOfTransportBlocks,
    logicalChannelList    LogicalChannelList
}

DedicatedDynamicTF-Info-DynamicTTI ::= SEQUENCE {
    rlc-Size          CHOICE {
        bitMode      BitModeRLC-SizeInfo,
        octetModeType1 OctetModeRLC-SizeInfoType1
    },
    numberOfTbSizeAndTTIList    NumberOfTbSizeAndTTIList,
    logicalChannelList          LogicalChannelList
}

DedicatedDynamicTF-InfoList ::= SEQUENCE (SIZE (1..maxTF)) OF
    DedicatedDynamicTF-Info

DedicatedDynamicTF-InfoList-DynamicTTI ::= SEQUENCE (SIZE (1..maxTF)) OF
    DedicatedDynamicTF-Info-DynamicTTI

DedicatedTransChTFS ::= SEQUENCE {
    tti          CHOICE {
        tti10      DedicatedDynamicTF-InfoList,
        tti20      DedicatedDynamicTF-InfoList,
        tti40      DedicatedDynamicTF-InfoList,
        tti80      DedicatedDynamicTF-InfoList,
        dynamic    DedicatedDynamicTF-InfoList-DynamicTTI
    },
    semistaticTF-Information    SemistaticTF-Information
}

```

```

-- The maximum allowed size of DL-AddReconfTransChInfo2List sequence is 16
DL-AddReconfTransChInfo2List ::= SEQUENCE (SIZE (1..maxTrCHpreconf)) OF
    DL-AddReconfTransChInformation2

-- The maximum allowed size of DL-AddReconfTransChInfoList sequence is 16
DL-AddReconfTransChInfoList ::= SEQUENCE (SIZE (1..maxTrCHpreconf)) OF
    DL-AddReconfTransChInformation

-- The maximum allowed size of DL-AddReconfTransChInfoList-r4 sequence is 16
DL-AddReconfTransChInfoList-r4 ::= SEQUENCE (SIZE (1..maxTrCHpreconf)) OF
    DL-AddReconfTransChInformation-r4

-- The maximum allowed size of DL-AddReconfTransChInfoList-r5 sequence is 16
DL-AddReconfTransChInfoList-r5 ::= SEQUENCE (SIZE (1..maxTrCHpreconf)) OF
    DL-AddReconfTransChInformation-r5

-- ASN.1 for IE "Added or Reconfigured DL TrCH information"
-- in case of messages other than: Radio Bearer Release message and
-- Radio Bearer Reconfiguration message
DL-AddReconfTransChInformation ::= SEQUENCE {
    dl-TransportChannelType          DL-TrCH-Type,
    dl-transportChannelIdentity      TransportChannelIdentity,
    tfs-SignallingMode              CHOICE {
        explicit-config              TransportFormatSet,
        sameAsULTrCH                 UL-TransportChannelIdentity
    },
    dch-QualityTarget                QualityTarget                OPTIONAL,
    -- dummy is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    dummy                            TM-SignallingInfo            OPTIONAL
}

DL-AddReconfTransChInformation-r4 ::= SEQUENCE {
    dl-TransportChannelType          DL-TrCH-Type,
    dl-transportChannelIdentity      TransportChannelIdentity,
    tfs-SignallingMode              CHOICE {
        explicit-config              TransportFormatSet,
        sameAsULTrCH                 UL-TransportChannelIdentity
    },
    dch-QualityTarget                QualityTarget                OPTIONAL
}

DL-AddReconfTransChInformation-r5 ::= SEQUENCE {
    dl-TransportChannelType          DL-TrCH-TypeId1-r5,
    tfs-SignallingMode              CHOICE {
        explicit-config              TransportFormatSet,
        sameAsULTrCH                 UL-TransportChannelIdentity,
        hsdSCH                       HSDSCH-Info
    },
    dch-QualityTarget                QualityTarget                OPTIONAL
}

-- ASN.1 for IE "Added or Reconfigured DL TrCH information"
-- in case of Radio Bearer Release message and
-- Radio Bearer Reconfiguration message
DL-AddReconfTransChInformation2 ::= SEQUENCE {
    dl-TransportChannelType          DL-TrCH-Type,
    transportChannelIdentity        TransportChannelIdentity,
    tfs-SignallingMode              CHOICE {
        explicit-config              TransportFormatSet,
        sameAsULTrCH                 UL-TransportChannelIdentity
    },
    qualityTarget                    QualityTarget                OPTIONAL
}

DL-CommonTransChInfo ::= SEQUENCE {
    sccpch-TFCS                      TFCS                      OPTIONAL,
    -- modeSpecificInfo should be optional. A new version of this IE should be defined
    -- to be used in later versions of messages using this IE
    modeSpecificInfo                 CHOICE {
        fdd                           SEQUENCE {
            dl-Parameters              CHOICE {
                dl-DCH-TFCS            TFCS,
                sameAsUL                NULL
            }
        },
        tdd                           SEQUENCE {

```

```

        individualDL-CCTrCH-InfoList      IndividualDL-CCTrCH-InfoList
    }                                     }
}                                         OPTIONAL
}
DL-CommonTransChInfo-r4 ::=             SEQUENCE {
    sccpch-TFCS                           TFCS                               OPTIONAL,
    modeSpecificInfo                       CHOICE {
        fdd                                 SEQUENCE {
            dl-Parameters                   CHOICE {
                dl-DCH-TFCS                 SEQUENCE {
                    tfcs                     TFCS                               OPTIONAL
                },
                sameAsUL                     NULL                               OPTIONAL
            }
        },
        tdd                                 SEQUENCE {
            individualDL-CCTrCH-InfoList    IndividualDL-CCTrCH-InfoList
        }
    }
}
DL-DeletedTransChInfoList ::=            SEQUENCE (SIZE (1..maxTrCH)) OF
                                          DL-TransportChannelIdentity
DL-DeletedTransChInfoList-r5 ::=         SEQUENCE (SIZE (1..maxTrCH)) OF
                                          DL-TransportChannelIdentity-r5
DL-TransportChannelIdentity ::=          SEQUENCE {
    dl-TransportChannelType                DL-TrCH-Type,
    dl-TransportChannelIdentity            TransportChannelIdentity
}
DL-TransportChannelIdentity-r5 ::=       SEQUENCE {
    dl-TransportChannelType                DL-TrCH-TypeId2-r5
}
DL-TrCH-Type ::=                         ENUMERATED {dch, dsch}
DL-TrCH-TypeId1-r5 ::=                   CHOICE {
    dch                                     TransportChannelIdentity,
    dsch                                    TransportChannelIdentity,
    hsdSCH                                  NULL
}
DL-TrCH-TypeId2-r5 ::=                   CHOICE {
    dch                                     TransportChannelIdentity,
    dsch                                    TransportChannelIdentity,
    hsdSCH                                  MAC-d-FlowIdentity
}
DRAC-ClassIdentity ::=                   INTEGER (1..maxDRACclasses)
DRAC-StaticInformation ::=                SEQUENCE {
    transmissionTimeValidity               TransmissionTimeValidity,
    timeDurationBeforeRetry                TimeDurationBeforeRetry,
    drac-ClassIdentity                     DRAC-ClassIdentity
}
DRAC-StaticInformationList ::=            SEQUENCE (SIZE (1..maxTrCH)) OF
                                          DRAC-StaticInformation
E-DCH-AddReconf-MAC-d-Flow ::=           SEQUENCE {
    mac-d-FlowIdentity                     E-DCH-MAC-d-FlowIdentity,
    mac-d-FlowPowerOffset                  E-DCH-MAC-d-FlowPowerOffset        OPTIONAL,
    mac-d-FlowMaxRetrans                   E-DCH-MAC-d-FlowMaxRetrans         OPTIONAL,
    mac-d-FlowMultiplexingList             E-DCH-MAC-d-FlowMultiplexingList   OPTIONAL
}
E-DCH-Harq-Info ::=                      INTEGER (1..maxHarqRTT)
E-DCH-MAC-d-FlowIdentity ::=              INTEGER (0..maxE-DCHMACdFlow)
E-DCH-MAC-d-FlowMaxRetrans ::=            INTEGER (0)                          -- FFS
E-DCH-MAC-d-FlowMultiplexingList ::=      BIT STRING (SIZE (maxE-DCHMACdFlow-1))

```

```

E-DCH-MAC-d-FlowPowerOffset ::=      INTEGER (0)                -- FFS

E-DCH-TTI ::=                          ENUMERATED { tti2, tti10 }

ExplicitTFCS-Configuration ::=        CHOICE {
    complete                            TFCS-ReconfAdd,
    addition                            TFCS-ReconfAdd,
    removal                             TFCS-RemovalList,
    replacement                         SEQUENCE {
        tfcsRemoval                    TFCS-RemovalList,
        tfcsAdd                        TFCS-ReconfAdd
    }
}

GainFactor ::=                          INTEGER (0..15)

GainFactorInformation ::=              CHOICE {
    signalledGainFactors                SignalledGainFactors,
    computedGainFactors                 ReferenceTFC-ID
}

HSDSCH-Info ::=                        SEQUENCE {
    harqInfo                            HARQ-Info                OPTIONAL,
    addOrReconfMAC-dFlow               AddOrReconfMAC-dFlow    OPTIONAL
}

HARQ-Info ::=                          SEQUENCE {
    numberOfProcesses                   INTEGER (1..8),
    memoryPartitioning                  CHOICE {
        implicit                        NULL,
        explicit                        SEQUENCE (SIZE (1..maxHProcesses)) OF
            HARQMemorySize
    }
}

HARQMemorySize ::=                     ENUMERATED {
    hms800, hms1600, hms2400, hms3200, hms4000,
    hms4800, hms5600, hms6400, hms7200, hms8000,
    hms8800, hms9600, hms10400, hms11200, hms12000,
    hms12800, hms13600, hms14400, hms15200, hms16000,
    hms17600, hms19200, hms20800, hms22400, hms24000,
    hms25600, hms27200, hms28800, hms30400, hms32000,
    hms36000, hms40000, hms44000, hms48000, hms52000,
    hms56000, hms60000, hms64000, hms68000, hms72000,
    hms76000, hms80000, hms88000, hms96000, hms104000,
    hms112000, hms120000, hms128000, hms136000, hms144000,
    hms152000, hms160000, hms176000, hms192000, hms208000,
    hms224000, hms240000, hms256000, hms272000, hms288000,
    hms304000 }

IndividualDL-CCTrCH-Info ::=            SEQUENCE {
    dl-TFCS-Identity                    TFCS-Identity,
    tfcs-SignallingMode                  CHOICE {
        explicit-config                 TFCS,
        sameAsUL                        TFCS-Identity
    }
}

IndividualDL-CCTrCH-InfoList ::=         SEQUENCE (SIZE (1..maxCCTrCH)) OF
    IndividualDL-CCTrCH-Info

IndividualUL-CCTrCH-Info ::=             SEQUENCE {
    ul-TFCS-Identity                    TFCS-Identity,
    ul-TFCS                              TFCS,
    tfc-Subset                           TFC-Subset
}

IndividualUL-CCTrCH-InfoList ::=         SEQUENCE (SIZE (1..maxCCTrCH)) OF
    IndividualUL-CCTrCH-Info

LogicalChannelByRB ::=                  SEQUENCE {
    rb-Identity                          RB-Identity,
    logChOfRb                            INTEGER (0..1)                OPTIONAL
}

LogicalChannelList ::=                  CHOICE {
    allSizes                              NULL,
}

```

```

        configured                NULL,
        explicitList              SEQUENCE (SIZE (1..15)) OF
                                  LogicalChannelByRB
    }

MAC-d-FlowIdentityDCHandHSDSCH ::= SEQUENCE {
    dch-transport-ch-id          TransportChannelIdentity,
    hsdsch-mac-d-flow-id        MAC-d-FlowIdentity
}

MAC-d-FlowIdentity ::=          INTEGER (0..7)

MAC-d-PDU-SizeInfo-List ::=    SEQUENCE (SIZE(1.. maxMAC-d-PDUsizes)) OF
                                  MAC-d-PDUsizeInfo

--MAC-d-Pdu sizes need to be defined
MAC-d-PDUsizeInfo ::=         SEQUENCE {
    mac-d-PDU-Size              INTEGER (1..5000),
    mac-d-PDU-Index            INTEGER(0..7)
}

MAC-hs-AddReconfQueue-List ::= SEQUENCE (SIZE(1..maxQueueIDs)) OF
                                  MAC-hs-AddReconfQueue

MAC-hs-AddReconfQueue ::=     SEQUENCE {
    mac-hsQueueId              INTEGER(0..7),
    mac-dFlowId                MAC-d-FlowIdentity,
    reorderingReleaseTimer     T1-ReleaseTimer,
    mac-hsWindowSize           MAC-hs-WindowSize,
    mac-d-PDU-SizeInfo-List    MAC-d-PDU-SizeInfo-List           OPTIONAL
}

MAC-hs-DelQueue-List ::=      SEQUENCE (SIZE(1..maxQueueIDs)) OF
                                  MAC-hs-DelQueue

MAC-hs-DelQueue ::=          SEQUENCE {
    mac-hsQueueId              INTEGER(0..7)
}

MAC-hs-WindowSize ::=        ENUMERATED {
    mws4, mws6, mws8, mws12, mws16, mws24, mws32 }

NumberOfTbSizeAndTTIList ::= SEQUENCE (SIZE (1..maxTF)) OF SEQUENCE {
    numberOfTransportBlocks    NumberOfTransportBlocks,
    transmissionTimeInterval    TransmissionTimeInterval
}

MessType ::=                 ENUMERATED {
    transportFormatCombinationControl }

Non-allowedTFC-List ::=      SEQUENCE (SIZE (1..maxTFC)) OF
                                  TFC-Value

NumberOfTransportBlocks ::=   CHOICE {
    zero                       NULL,
    one                        NULL,
    small                      INTEGER (2..17),
    large                      INTEGER (18..512)
}

OctetModeRLC-SizeInfoType1 ::= CHOICE {
    -- Actual size = (8 * sizeType1) + 16
    sizeType1                  INTEGER (0..31),
    sizeType2                  SEQUENCE {
        -- Actual size = (32 * part1) + 272 + (part2 * 8)
        part1                  INTEGER (0..23),
        part2                  INTEGER (1..3)           OPTIONAL
    },
    sizeType3                  SEQUENCE {
        -- Actual size = (64 * part1) + 1040 + (part2 * 8)
        part1                  INTEGER (0..61),
        part2                  INTEGER (1..7)           OPTIONAL
    }
}

OctetModeRLC-SizeInfoType2 ::= CHOICE {
    -- Actual size = (sizeType1 * 8) + 48
    sizeType1                  INTEGER (0..31),

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-- Actual size = (sizeType2 * 16) + 312
sizeType2          INTEGER (0..63),
-- Actual size = (sizeType3 *64) + 1384
sizeType3          INTEGER (0..56)
}

PowerOffsetInformation ::=          SEQUENCE {
    gainFactorInformation          GainFactorInformation,
    -- PowerOffsetPp-m is always absent in TDD
    powerOffsetPp-m              PowerOffsetPp-m          OPTIONAL
}

PowerOffsetPp-m ::=                INTEGER (-5..10)

PreDefTransChConfiguration ::=     SEQUENCE {
    ul-CommonTransChInfo          UL-CommonTransChInfo,
    ul-AddReconfTrChInfoList      UL-AddReconfTransChInfoList,
    dl-CommonTransChInfo          DL-CommonTransChInfo,
    dl-TrChInfoList              DL-AddReconfTransChInfoList
}

QualityTarget ::=                  SEQUENCE {
    bler-QualityValue            BLER-QualityValue
}

RateMatchingAttribute ::=          INTEGER (1..hiRM)

ReferenceTFC-ID ::=                INTEGER (0..3)

RestrictedTrChInfo ::=              SEQUENCE {
    ul-TransportChannelType        UL-TrCH-Type,
    restrictedTrChIdentity          TransportChannelIdentity,
    allowedTFI-List                AllowedTFI-List          OPTIONAL
}

RestrictedTrChInfoList ::=          SEQUENCE (SIZE (1..maxTrCH)) OF
    RestrictedTrChInfo

SemistaticTF-Information ::=        SEQUENCE {
    -- TABULAR: Transmission time interval has been included in the IE CommonTransChTFS.
    channelCodingType              ChannelCodingType,
    rateMatchingAttribute          RateMatchingAttribute,
    crc-Size                       CRC-Size
}

SignalledGainFactors ::=            SEQUENCE {
    modeSpecificInfo              CHOICE {
        fdd                        SEQUENCE {
            gainFactorBetaC        GainFactor
        },
        tdd                        NULL
    },
    gainFactorBetaD                GainFactor,
    referenceTFC-ID                ReferenceTFC-ID          OPTIONAL
}

SplitTFCI-Signalling ::=            SEQUENCE {
    splitType                      SplitType          OPTIONAL,
    tfci-Field2-Length             INTEGER (1..10)    OPTIONAL,
    tfci-Field1-Information         ExplicitTFCS-Configuration OPTIONAL,
    tfci-Field2-Information         TFCI-Field2-Information OPTIONAL
}

SplitType ::=                       ENUMERATED {
    hardSplit, logicalSplit }

T1-ReleaseTimer ::=                 ENUMERATED {
    rt10, rt20, rt30, rt40, rt50,
    rt60, rt70, rt80, rt90, rt100,
    rt120, rt140, rt160, rt200, rt300,
    rt400 }

TFC-Subset ::=                      CHOICE {
    minimumAllowedTFC-Number       TFC-Value,
    allowedTFC-List                 AllowedTFC-List,
    non-allowedTFC-List             Non-allowedTFC-List,
    restrictedTrChInfoList          RestrictedTrChInfoList,
}

```



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    fullTFCS                NULL
}

TFC-Subset-ID-With3b ::=    INTEGER (0..7)

TFC-Subset-ID-With5b ::=    INTEGER (0..31)

TFC-Subset-ID-With10b ::=   INTEGER (0..1023)

TFC-SubsetList ::=          SEQUENCE (SIZE (1.. maxTFCsub)) OF SEQUENCE {
    modeSpecificInfo        CHOICE {
        fdd                  NULL,
        tdd                  SEQUENCE {
            tfcs-ID          TFCs-Identity          OPTIONAL
        }
    },
    tfc-Subset               TFC-Subset
}

TFC-Value ::=               INTEGER (0..1023)

TFCI-Field2-Information ::= CHOICE {
    tfci-Range               TFCI-RangeList,
    explicit-config          ExplicitTFCS-Configuration
}

TFCI-Range ::=              SEQUENCE {
    maxTFCIField2Value       INTEGER (1..1023),
    tfcs-InfoForDSCH         TFCs-InfoForDSCH
}

TFCI-RangeList ::=         SEQUENCE (SIZE (1..maxPDSCH-TFCIgroups)) OF
    TFCI-Range

TFCS ::=                    CHOICE {
    normalTFCI-Signalling    ExplicitTFCS-Configuration,
    splitTFCI-Signalling     SplitTFCI-Signalling
}

TFCs-Identity ::=          SEQUENCE {
    tfcs-ID                  TFCs-IdentityPlain          DEFAULT 1,
    sharedChannelIndicator   BOOLEAN
}

TFCs-IdentityPlain ::=     INTEGER (1..8)

TFCs-InfoForDSCH ::=       CHOICE {
    ctfc2bit                 INTEGER (0..3),
    ctfc4bit                 INTEGER (0..15),
    ctfc6bit                 INTEGER (0..63),
    ctfc8bit                 INTEGER (0..255),
    ctfc12bit                INTEGER (0..4095),
    ctfc16bit                INTEGER (0..65535),
    ctfc24bit                INTEGER (0..16777215)
}

TFCs-ReconfAdd ::=        SEQUENCE{
    ctfcSize                 CHOICE{
        ctfc2Bit             SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc2             INTEGER (0..3),
            powerOffsetInformation PowerOffsetInformation          OPTIONAL
        },
        ctfc4Bit             SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc4             INTEGER (0..15),
            powerOffsetInformation PowerOffsetInformation          OPTIONAL
        },
        ctfc6Bit             SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc6             INTEGER (0..63),
            powerOffsetInformation PowerOffsetInformation          OPTIONAL
        },
        ctfc8Bit             SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc8             INTEGER (0..255),
            powerOffsetInformation PowerOffsetInformation          OPTIONAL
        },
        ctfc12Bit            SEQUENCE (SIZE(1..maxTFC)) OF SEQUENCE {
            ctfc12            INTEGER (0..4095),
            powerOffsetInformation PowerOffsetInformation          OPTIONAL
        },
    },
}

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        ctfc16Bit                SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc16                INTEGER(0..65535),
            powerOffsetInformation PowerOffsetInformation           OPTIONAL
        },
        ctfc24Bit                SEQUENCE (SIZE (1..maxTFC)) OF SEQUENCE {
            ctfc24                INTEGER(0..16777215),
            powerOffsetInformation PowerOffsetInformation           OPTIONAL
        }
    }
}

TFCS-Removal ::=                SEQUENCE {
    tfci                        INTEGER (0..1023)
}

TFCS-RemovalList ::=           SEQUENCE (SIZE (1..maxTFC)) OF
    TFCS-Removal

TimeDurationBeforeRetry ::=    INTEGER (1..256)

TM-SignallingInfo ::=          SEQUENCE {
    messType                    MessType,
    tm-SignallingMode           CHOICE {
        model                   NULL,
        mode2                   SEQUENCE {
            -- in ul-controlledTrChList, TrCH-Type is always DCH
            ul-controlledTrChList UL-ControlledTrChList
        }
    }
}

TransmissionTimeInterval ::=    ENUMERATED {
    tti10, tti20, tti40, tti80 }

TransmissionTimeValidity ::=   INTEGER (1..256)

TransportChannelIdentity ::=    INTEGER (1..32)

TransportChannelIdentityDCHandDSCH ::= SEQUENCE {
    dch-transport-ch-id         TransportChannelIdentity,
    dsch-transport-ch-id        TransportChannelIdentity
}

TransportFormatSet ::=          CHOICE {
    dedicatedTransChTFS         DedicatedTransChTFS,
    commonTransChTFS            CommonTransChTFS
}

TransportFormatSet-LCR ::=      CHOICE {
    dedicatedTransChTFS         DedicatedTransChTFS,
    commonTransChTFS-LCR        CommonTransChTFS-LCR
}

-- The maximum allowed size of UL-AddReconfTransChInfoList sequence is 16
UL-AddReconfTransChInfoList ::= SEQUENCE (SIZE (1..maxTrCHpreconf)) OF
    UL-AddReconfTransChInformation

-- The maximum allowed size of UL-AddReconfTransChInfoList-r6 sequence is 32
UL-AddReconfTransChInfoList-r6 ::= SEQUENCE (SIZE (1..maxTrCH)) OF
    UL-AddReconfTransChInformation-r6

UL-AddReconfTransChInformation ::= SEQUENCE {
    ul-TransportChannelType     UL-TrCH-Type,
    transportChannelIdentity     TransportChannelIdentity,
    transportFormatSet           TransportFormatSet
}

UL-AddReconfTransChInformation-r6 ::= CHOICE {
    dch-usch                    SEQUENCE {
        ul-TransportChannelType     UL-TrCH-Type,
        transportChannelIdentity     TransportChannelIdentity,
        transportFormatSet           TransportFormatSet
    },
    e-dch                        SEQUENCE {
        tti                        E-DCH-TTI,
        harq-Info                  E-DCH-Harq-Info,
        addReconf-MAC-d-Flow       E-DCH-AddReconf-MAC-d-Flow
    }
}

```

```

}
}
UL-CommonTransChInfo ::=          SEQUENCE {
-- TABULAR: tfc-subset is applicable to FDD only, TDD specifies tfc-subset in individual
-- CCH Info.
tfc-Subset          TFC-Subset          OPTIONAL,
prach-TFCS          TFCS                OPTIONAL,
modeSpecificInfo   CHOICE {
fdd                SEQUENCE {
ul-TFCS            TFCS
},
tdd                SEQUENCE {
individualUL-CCH-InfoList  IndividualUL-CCH-InfoList  OPTIONAL
}
}
}
}
UL-CommonTransChInfo-r4 ::=        SEQUENCE {
-- TABULAR: tfc-subset is applicable to FDD only, TDD specifies tfc-subset in individual
-- CCH Info.
tfc-Subset          TFC-Subset          OPTIONAL,
prach-TFCS          TFCS                OPTIONAL,
modeSpecificInfo   CHOICE {
fdd                SEQUENCE {
ul-TFCS            TFCS
},
tdd                SEQUENCE {
individualUL-CCH-InfoList  IndividualUL-CCH-InfoList  OPTIONAL
}
}
}
tfc-SubsetList     TFC-SubsetList      OPTIONAL,
}
}
-- In UL-ControlledTrChList, TrCH-Type is always DCH
UL-ControlledTrChList ::=          SEQUENCE (SIZE (1..maxTrCH)) OF
TransportChannelIdentity

UL-DeletedTransChInfoList ::=      SEQUENCE (SIZE (1..maxTrCH)) OF
UL-TransportChannelIdentity

UL-DeletedTransChInfoList-r6 ::=   SEQUENCE (SIZE (1..maxTrCH)) OF
UL-TransportChannelIdentity-r6

UL-TransportChannelIdentity ::=    SEQUENCE {
ul-TransportChannelType          UL-TrCH-Type,
ul-TransportChannelIdentity      TransportChannelIdentity
}

UL-TransportChannelIdentity-r6 ::= CHOICE {
dch-usch          SEQUENCE {
ul-TransportChannelType          UL-TrCH-Type,
ul-TransportChannelIdentity      TransportChannelIdentity
},
e-dch            E-DCH-MAC-d-FlowIdentity
}

UL-TrCH-Type ::=                  ENUMERATED {dch, usch}

USCH-TransportChannelsInfo ::=     SEQUENCE (SIZE (1..maxTrCH)) OF
SEQUENCE {
usch-TransportChannelIdentity    TransportChannelIdentity,
usch-TFS                         TransportFormatSet
}
-- *****
--
-- PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- *****

ACK-NACK-repetitionFactor ::=      INTEGER(1..4)

AC-To-ASC-Mapping ::=              INTEGER (0..7)

AC-To-ASC-MappingTable ::=         SEQUENCE (SIZE (maxASCmap)) OF
AC-To-ASC-Mapping

```

```

AccessServiceClass-FDD ::= SEQUENCE {
    availableSignatureStartIndex    INTEGER (0..15),
    availableSignatureEndIndex      INTEGER (0..15),

    assignedSubChannelNumber       BIT STRING {
        b3(0),
        b2(1),
        b1(2),
        b0(3)
    } (SIZE(4))
}

AccessServiceClass-TDD ::= SEQUENCE {
    channelisationCodeIndices      BIT STRING {
        chCodeIndex7(0),
        chCodeIndex6(1),
        chCodeIndex5(2),
        chCodeIndex4(3),
        chCodeIndex3(4),
        chCodeIndex2(5),
        chCodeIndex1(6),
        chCodeIndex0(7)
    } (SIZE(8)) OPTIONAL,

    subchannelSize                 CHOICE {
        size1                       NULL,
        size2                       SEQUENCE {
            -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'
            subchannels              ENUMERATED { subch0, subch1 } OPTIONAL
        },
        size4                       SEQUENCE {
            subchannels              BIT STRING {
                subCh3(0),
                subCh2(1),
                subCh1(2),
                subCh0(3)
            } (SIZE(4)) OPTIONAL
        },
        size8                       SEQUENCE {
            subchannels              BIT STRING {
                subCh7(0),
                subCh6(1),
                subCh5(2),
                subCh4(3),
                subCh3(4),
                subCh2(5),
                subCh1(6),
                subCh0(7)
            } (SIZE(8)) OPTIONAL
        }
    }
}

AccessServiceClass-TDD-LCR-r4 ::= SEQUENCE {
    availableSYNC-UlCodesIndics    BIT STRING {
        sulCodeIndex7(0),
        sulCodeIndex6(1),
        sulCodeIndex5(2),
        sulCodeIndex4(3),
        sulCodeIndex3(4),
        sulCodeIndex2(5),
        sulCodeIndex1(6),
        sulCodeIndex0(7)
    } (SIZE(8)) OPTIONAL,

    subchannelSize                 CHOICE {
        size1                       NULL,
        size2                       SEQUENCE {
            -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'.
            subchannels              ENUMERATED { subch0, subch1 } OPTIONAL
        },
        size4                       SEQUENCE {
            subchannels              BIT STRING {
                subCh3(0),
                subCh2(1),
                subCh1(2),
                subCh0(3)
            } (SIZE(4)) OPTIONAL
        },
    }
}

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        size8
        subchannels
    }
}

AICH-Info ::=
    channelisationCode256
    sttd-Indicator
    aich-TransmissionTiming
}

AICH-PowerOffset ::=
    INTEGER (-22..5)

AICH-TransmissionTiming ::=
    ENUMERATED {
        e0, e1
    }

AllocationPeriodInfo ::=
    allocationActivationTime
    allocationDuration
}

-- Actual value Alpha = IE value * 0.125
Alpha ::=
    INTEGER (0..8)

AP-AICH-ChannelisationCode ::=
    INTEGER (0..255)

AP-PreambleScramblingCode ::=
    INTEGER (0..79)

AP-Signature ::=
    INTEGER (0..15)

AP-Signature-VCAM ::=
    ap-Signature
    availableAP-SubchannelList
}

AP-Subchannel ::=
    INTEGER (0..11)

ASCSetting-FDD ::=
    SEQUENCE {
        -- TABULAR: accessServiceClass-FDD is MD in tabular description
        -- Default value is previous ASC
        -- If this is the first ASC, the default value is all available signature and sub-channels
        accessServiceClass-FDD
        AccessServiceClass-FDD OPTIONAL
    }

ASCSetting-TDD ::=
    SEQUENCE {
        -- TABULAR: accessServiceClass-TDD is MD in tabular description
        -- Default value is previous ASC
        -- If this is the first ASC, the default value is all available channelisation codes and
        -- all available sub-channels with subchannelSize=size1.
        accessServiceClass-TDD
        AccessServiceClass-TDD OPTIONAL
    }

ASCSetting-TDD-LCR-r4 ::=
    SEQUENCE {
        -- TABULAR: accessServiceClass-TDD-LCR is MD in tabular description
        -- Default value is previous ASC
        -- If this is the first ASC, the default value is all available SYNC_UL codes and
        -- all available sub-channels with subchannelSize=size1.
        accessServiceClass-TDD-LCR
        AccessServiceClass-TDD-LCR-r4 OPTIONAL
    }

AvailableAP-Signature-VCAMList ::= SEQUENCE (SIZE (1..maxPCPCH-APsig)) OF
    AP-Signature-VCAM

AvailableAP-SignatureList ::= SEQUENCE (SIZE (1..maxPCPCH-APsig)) OF
    AP-Signature

AvailableAP-SubchannelList ::= SEQUENCE (SIZE (1..maxPCPCH-APsubCh)) OF

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AP-Subchannel

AvailableMinimumSF-ListVCAM ::= SEQUENCE (SIZE (1..maxPCPCH-SF)) OF
    AvailableMinimumSF-VCAM

AvailableMinimumSF-VCAM ::= SEQUENCE {
    minimumSpreadingFactor MinimumSpreadingFactor,
    nf-Max NF-Max,
    maxAvailablePCPCH-Number MaxAvailablePCPCH-Number,
    availableAP-Signature-VCAMList AvailableAP-Signature-VCAMList
}

AvailableSignatures ::= BIT STRING {
    signature15(0),
    signature14(1),
    signature13(2),
    signature12(3),
    signature11(4),
    signature10(5),
    signature9(6),
    signature8(7),
    signature7(8),
    signature6(9),
    signature5(10),
    signature4(11),
    signature3(12),
    signature2(13),
    signature1(14),
    signature0(15)
} (SIZE(16))

AvailableSubChannelNumbers ::= BIT STRING {
    subCh11(0),
    subCh10(1),
    subCh9(2),
    subCh8(3),
    subCh7(4),
    subCh6(5),
    subCh5(6),
    subCh4(7),
    subCh3(8),
    subCh2(9),
    subCh1(10),
    subCh0(11)
} (SIZE(12))

BEACON-PL-Est ::= ENUMERATED { true }

BurstType ::= ENUMERATED {
    type1, type2 }

-- Actual value Bler-Target = IE value * 0.05
Bler-Target ::= INTEGER (-63..0)

CCTrCH-PowerControlInfo ::= SEQUENCE {
    tfcs-Identity TFCS-Identity OPTIONAL,
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo
}

CCTrCH-PowerControlInfo-r4 ::= SEQUENCE {
    tfcs-Identity TFCS-Identity OPTIONAL,
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo-r4
}

CCTrCH-PowerControlInfo-r5 ::= SEQUENCE {
    tfcs-Identity TFCS-Identity OPTIONAL,
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo-r5
}

CD-AccessSlotSubchannel ::= INTEGER (0..11)

CD-AccessSlotSubchannelList ::= SEQUENCE (SIZE (1..maxPCPCH-CDsubCh)) OF
    CD-AccessSlotSubchannel

CD-CA-ICH-ChannelisationCode ::= INTEGER (0..255)

CD-PreambleScramblingCode ::= INTEGER (0..79)

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CD-SignatureCode ::=                INTEGER (0..15)

CD-SignatureCodeList ::=            SEQUENCE (SIZE (1..maxPCPCH-CDsig)) OF
                                     CD-SignatureCode

CellAndChannelIdentity ::=          SEQUENCE {
    -- burstType may be set to either value and should be ignored by the receiver for 1.28 Mcps TDD.
    burstType                        BurstType,
    midambleShift                    MidambleShiftLong,
    timeslot                         TimeslotNumber,
    cellParametersID                CellParametersID
}

CellParametersID ::=                INTEGER (0..127)

Cfntargetsfnframeoffset ::=         INTEGER(0..255)

ChannelAssignmentActive ::=          CHOICE {
    notActive                        NULL,
    isActive                         AvailableMinimumSF-ListVCAM
}

ChannelisationCode256 ::=           INTEGER (0..255)

ChannelReqParamsForUCSM ::=          SEQUENCE {
    availableAP-SignatureList        AvailableAP-SignatureList,
    availableAP-SubchannelList      AvailableAP-SubchannelList           OPTIONAL
}

ClosedLoopTimingAdjMode ::=         ENUMERATED {
    slot1, slot2 }

CodeNumberDSCH ::=                  INTEGER (0..255)

CodeRange ::=                        SEQUENCE {
    pdsch-CodeMapList               PDSCH-CodeMapList
}

CodeWordSet ::=                      ENUMERATED {
    longCWS,
    mediumCWS,
    shortCWS,
    ssdtOff }

CommonTimeslotInfo ::=               SEQUENCE {
    -- TABULAR: secondInterleavingMode is MD, but since it can be encoded in a single
    -- bit it is not defined as OPTIONAL.
    secondInterleavingMode          SecondInterleavingMode,
    tfci-Coding                     TFCI-Coding                       OPTIONAL,
    puncturingLimit                 PuncturingLimit,
    repetitionPeriodAndLength       RepetitionPeriodAndLength           OPTIONAL
}

CommonTimeslotInfoSCCPCH ::=         SEQUENCE {
    -- TABULAR: secondInterleavingMode is MD, but since it can be encoded in a single
    -- bit it is not defined as OPTIONAL.
    secondInterleavingMode          SecondInterleavingMode,
    tfci-Coding                     TFCI-Coding                       OPTIONAL,
    puncturingLimit                 PuncturingLimit,
    repetitionPeriodLengthAndOffset  RepetitionPeriodLengthAndOffset   OPTIONAL
}

ConstantValue ::=                    INTEGER (-35..-10)

ConstantValueTdd ::=                 INTEGER (-35..10)

CPCH-PersistenceLevels ::=           SEQUENCE {
    cpch-SetID                      CPCH-SetID,
    dynamicPersistenceLevelTF-List   DynamicPersistenceLevelTF-List
}

CPCH-PersistenceLevelsList ::=       SEQUENCE (SIZE (1..maxCPCHsets)) OF
                                     CPCH-PersistenceLevels

CPCH-SetInfo ::=                     SEQUENCE {
    cpch-SetID                      CPCH-SetID,
    transportFormatSet              TransportFormatSet,
    tfcs                             TFCS,
}

```

```

ap-PreambleScramblingCode      AP-PreambleScramblingCode,
ap-AICH-ChannelisationCode     AP-AICH-ChannelisationCode,
cd-PreambleScramblingCode      CD-PreambleScramblingCode,
cd-CA-ICH-ChannelisationCode   CD-CA-ICH-ChannelisationCode,
cd-AccessSlotSubchannellist   CD-AccessSlotSubchannellist   OPTIONAL,
cd-SignatureCodeList          CD-SignatureCodeList          OPTIONAL,
deltaPp-m                      DeltaPp-m,
ul-DPCCH-SlotFormat           UL-DPCCH-SlotFormat,
n-StartMessage                N-StartMessage,
n-EOT                          N-EOT,
-- TABULAR: VCAM info has been nested inside ChannelAssignmentActive,
-- which in turn is mandatory since it's only a binary choice.
channelAssignmentActive        ChannelAssignmentActive,
cpch-StatusIndicationMode     CPCH-StatusIndicationMode,
pcpch-ChannelInfoList         PCPCH-ChannelInfoList
}

CPCH-SetInfoList ::=          SEQUENCE (SIZE (1..maxCPCHsets)) OF
                               CPCH-SetInfo

CPCH-StatusIndicationMode ::= ENUMERATED {
                               pa-mode,
                               pamsf-mode }

CQI-RepetitionFactor ::=      INTEGER(1..4)

CSICH-PowerOffset ::=         INTEGER (-10..5)

-- DefaultDPCH-OffsetValueFDD and DefaultDPCH-OffsetValueTDD corresponds to
-- IE "Default DPCH Offset Value" depending on the mode.
-- Actual value DefaultDPCH-OffsetValueFDD = IE value * 512
DefaultDPCH-OffsetValueFDD ::= INTEGER (0..599)

DefaultDPCH-OffsetValueTDD ::= INTEGER (0..7)

DeltaPp-m ::=                  INTEGER (-10..10)

DeltaCQI ::=                   INTEGER (0..8)

DeltaNACK ::=                  INTEGER (0..8)

DeltaACK ::=                   INTEGER (0..8)

-- Actual value DeltaSIR = IE value * 0.1
DeltaSIR ::=                   INTEGER (0..30)

DL-CCTrCh ::=                  SEQUENCE {
    tfcs-ID                     TFCS-IdentityPlain           DEFAULT 1,
    timeInfo                     TimeInfo,
    commonTimeslotInfo           CommonTimeslotInfo           OPTIONAL,
    dl-CCTrCH-TimeslotsCodes     DownlinkTimeslotsCodes     OPTIONAL,
    ul-CCTrChTPCList            UL-CCTrChTPCList             OPTIONAL
}

DL-CCTrCh-r4 ::=               SEQUENCE {
    tfcs-ID                     TFCS-IdentityPlain           DEFAULT 1,
    timeInfo                     TimeInfo,
    commonTimeslotInfo           CommonTimeslotInfo           OPTIONAL,
    tddOption                    CHOICE {
        tdd384                   SEQUENCE {
            dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes OPTIONAL
        },
        tdd128                    SEQUENCE {
            dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    },
    ul-CCTrChTPCList            UL-CCTrChTPCList             OPTIONAL
}

DL-CCTrChList ::=              SEQUENCE (SIZE (1..maxCCTrCH)) OF
                               DL-CCTrCh

DL-CCTrChList-r4 ::=           SEQUENCE (SIZE (1..maxCCTrCH)) OF
                               DL-CCTrCh-r4

DL-CCTrChListToRemove ::=      SEQUENCE (SIZE (1..maxCCTrCH)) OF
                               TFCS-IdentityPlain

```



```

DL-CCTrChTPCList ::= SEQUENCE (SIZE (0..maxCCTrCH)) OF
                    TFCS-Identity

DL-ChannelisationCode ::= SEQUENCE {
    secondaryScramblingCode SecondaryScramblingCode OPTIONAL,
    sf-AndCodeNumber SF512-AndCodeNumber,
    scramblingCodeChange ScramblingCodeChange OPTIONAL
}

DL-ChannelisationCodeList ::= SEQUENCE (SIZE (1..maxDPCH-DLchan)) OF
                             DL-ChannelisationCode

DL-CommonInformation ::= SEQUENCE {
    dl-DPCH-InfoCommon DL-DPCH-InfoCommon OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueFDD OPTIONAL,
            dpch-CompressedModeInfo DPCH-CompressedModeInfo OPTIONAL,
            tx-DiversityMode TX-DiversityMode OPTIONAL,
            ssdt-Information SSDT-Information OPTIONAL
        },
        tdd SEQUENCE {
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueTDD OPTIONAL
        }
    }
}

DL-CommonInformation-r4 ::= SEQUENCE {
    dl-DPCH-InfoCommon DL-DPCH-InfoCommon-r4 OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueFDD OPTIONAL,
            dpch-CompressedModeInfo DPCH-CompressedModeInfo OPTIONAL,
            tx-DiversityMode TX-DiversityMode OPTIONAL,
            ssdt-Information SSDT-Information-r4 OPTIONAL
        },
        tdd SEQUENCE {
            tddOption CHOICE {
                tdd384 NULL,
                tdd128 SEQUENCE {
                    tstd-Indicator BOOLEAN
                }
            },
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueTDD OPTIONAL
        }
    }
}

DL-CommonInformation-r5 ::= SEQUENCE {
    dl-DPCH-InfoCommon DL-DPCH-InfoCommon-r4 OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueFDD OPTIONAL,
            dpch-CompressedModeInfo DPCH-CompressedModeInfo OPTIONAL,
            tx-DiversityMode TX-DiversityMode OPTIONAL,
            ssdt-Information SSDT-Information-r4 OPTIONAL
        },
        tdd SEQUENCE {
            tddOption CHOICE {
                tdd384 NULL,
                tdd128 SEQUENCE {
                    tstd-Indicator BOOLEAN
                }
            },
            defaultDPCH-OffsetValue DefaultDPCH-OffsetValueTDD OPTIONAL
        }
    },
    mac-hsResetIndicator ENUMERATED { true } OPTIONAL
}

DL-CommonInformation-r6 ::= SEQUENCE {
    dl-dpchInfoCommon CHOICE {
        dl-DPCH-InfoCommon DL-DPCH-InfoCommon-r4,
        dl-FDPCH-InfoCommon DL-FDPCH-InfoCommon-r6
    } OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {

```

```

        defaultDPCH-OffsetValue          DefaultDPCH-OffsetValueFDD  OPTIONAL,
        dpch-CompressedModeInfo          DPCH-CompressedModeInfo    OPTIONAL,
        tx-DiversityMode                 TX-DiversityMode          OPTIONAL,
        ssdt-Information                  SSDT-Information-r4      OPTIONAL
    },
    tdd                                   SEQUENCE {
        tddOption                         CHOICE {
            tdd384                         NULL,
            tddl28                         SEQUENCE {
                tstd-Indicator              BOOLEAN
            }
        }
    },
    defaultDPCH-OffsetValue              DefaultDPCH-OffsetValueTDD  OPTIONAL
}
},
mac-hsResetIndicator                   ENUMERATED { true }        OPTIONAL
}

DL-CommonInformationPost ::=           SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommonPost
}

DL-CommonInformationPredef ::=         SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommonPredef  OPTIONAL
}

DL-CompressedModeMethod ::=            ENUMERATED {
    puncturing, sf-2,
    higherLayerScheduling }

DL-DPCH-InfoCommon ::=                 SEQUENCE {
    cfnHandling                          CHOICE {
        maintain                          NULL,
        initialise                         SEQUENCE {
            cfntargetsfnsframeoffset      Cfntargetsfnsframeoffset  OPTIONAL
        }
    },
    modeSpecificInfo                     CHOICE {
        fdd                                SEQUENCE {
            dl-DPCH-PowerControlInfo      DL-DPCH-PowerControlInfo  OPTIONAL,
            powerOffsetPilot-pdpdch       PowerOffsetPilot-pdpdch,
            dl-rate-matching-restriction   Dl-rate-matching-restriction  OPTIONAL,
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot        SF512-AndPilot,
            positionFixedOrFlexible        PositionFixedOrFlexible,
            tfci-Existence                 BOOLEAN
        },
        tdd                                SEQUENCE {
            dl-DPCH-PowerControlInfo      DL-DPCH-PowerControlInfo  OPTIONAL
        }
    }
}

DL-DPCH-InfoCommon-r4 ::=              SEQUENCE {
    cfnHandling                          CHOICE {
        maintain                          NULL,
        initialise                         SEQUENCE {
            cfntargetsfnsframeoffset      Cfntargetsfnsframeoffset  OPTIONAL
        }
    },
    modeSpecificInfo                     CHOICE {
        fdd                                SEQUENCE {
            dl-DPCH-PowerControlInfo      DL-DPCH-PowerControlInfo  OPTIONAL,
            powerOffsetPilot-pdpdch       PowerOffsetPilot-pdpdch,
            dl-rate-matching-restriction   Dl-rate-matching-restriction  OPTIONAL,
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot        SF512-AndPilot,
            positionFixedOrFlexible        PositionFixedOrFlexible,
            tfci-Existence                 BOOLEAN
        },
        tdd                                SEQUENCE {
            dl-DPCH-PowerControlInfo      DL-DPCH-PowerControlInfo  OPTIONAL
        }
    }
}

-- The IE mac-d-HFN-initial-value should be absent in the RRCConnectionSetup-r4-IEs or
-- RRCConnectionSetup-r5-IEs or HandoverToUTRANCommand-r4-IEs or HandoverToUTRANCommand-r5-IEs and
-- if the IE is included, the general error handling for conditional IEs applies.
mac-d-HFN-initial-value                 MAC-d-HFN-initial-value    OPTIONAL

```

```

}

DL-DPCH-InfoCommonPost ::=          SEQUENCE {
    dl-DPCH-PowerControlInfo          DL-DPCH-PowerControlInfo          OPTIONAL
}

DL-DPCH-InfoCommonPredef ::=        SEQUENCE {
    modeSpecificInfo                  CHOICE {
        fdd                            SEQUENCE {
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot      SF512-AndPilot,
            positionFixedOrFlexible      PositionFixedOrFlexible,
            tfci-Existence                BOOLEAN
        },
        tdd                            SEQUENCE {
            commonTimeslotInfo           CommonTimeslotInfo
        }
    }
}

DL-DPCH-InfoPerRL ::=              CHOICE {
    fdd                                SEQUENCE {
        pCPICH-UsageForChannelEst        PCPICH-UsageForChannelEst,
        dpch-FrameOffset                 DPCH-FrameOffset,
        secondaryCPICH-Info               SecondaryCPICH-Info          OPTIONAL,
        dl-ChannelisationCodeList        DL-ChannelisationCodeList,
        tpc-CombinationIndex              TPC-CombinationIndex,
        ssdt-CellIdentity                  SSDT-CellIdentity          OPTIONAL,
        closedLoopTimingAdjMode           ClosedLoopTimingAdjMode    OPTIONAL
    },
    tdd                                SEQUENCE {
        dl-CCTrChListToEstablish          DL-CCTrChList              OPTIONAL,
        dl-CCTrChListToRemove            DL-CCTrChListToRemove      OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r4 ::=           CHOICE {
    fdd                                SEQUENCE {
        pCPICH-UsageForChannelEst        PCPICH-UsageForChannelEst,
        dpch-FrameOffset                 DPCH-FrameOffset,
        secondaryCPICH-Info               SecondaryCPICH-Info          OPTIONAL,
        dl-ChannelisationCodeList        DL-ChannelisationCodeList,
        tpc-CombinationIndex              TPC-CombinationIndex,
        ssdt-CellIdentity                  SSDT-CellIdentity          OPTIONAL,
        closedLoopTimingAdjMode           ClosedLoopTimingAdjMode    OPTIONAL
    },
    tdd                                SEQUENCE {
        dl-CCTrChListToEstablish          DL-CCTrChList-r4          OPTIONAL,
        dl-CCTrChListToRemove            DL-CCTrChListToRemove      OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r5 ::=           CHOICE {
    fdd                                SEQUENCE {
        pCPICH-UsageForChannelEst        PCPICH-UsageForChannelEst,
        dpch-FrameOffset                 DPCH-FrameOffset,
        secondaryCPICH-Info               SecondaryCPICH-Info          OPTIONAL,
        dl-ChannelisationCodeList        DL-ChannelisationCodeList,
        tpc-CombinationIndex              TPC-CombinationIndex,
        powerOffsetTPC-pdpdch            PowerOffsetTPC-pdpdch      OPTIONAL,
        ssdt-CellIdentity                  SSDT-CellIdentity          OPTIONAL,
        closedLoopTimingAdjMode           ClosedLoopTimingAdjMode    OPTIONAL
    },
    tdd                                SEQUENCE {
        dl-CCTrChListToEstablish          DL-CCTrChList-r4          OPTIONAL,
        dl-CCTrChListToRemove            DL-CCTrChListToRemove      OPTIONAL
    }
}

DL-FDPCH-InfoPerRL-r6 ::=          SEQUENCE {
    pCPICH-UsageForChannelEst            PCPICH-UsageForChannelEst,
    fdpch-FrameOffset                    DPCH-FrameOffset,
    secondaryCPICH-Info                   SecondaryCPICH-Info          OPTIONAL,
    secondaryScramblingCode               SecondaryScramblingCode      OPTIONAL,
    dl-ChannelisationCode                  INTEGER (0..255),
    tpc-CombinationIndex                  TPC-CombinationIndex
}

```

```

}

DL-DPCH-InfoPerRL-PostFDD ::=                               SEQUENCE {
    pCPICH-UsageForChannelEst    PCPICH-UsageForChannelEst,
    dl-ChannelisationCode        DL-ChannelisationCode,
    tpc-CombinationIndex         TPC-CombinationIndex
}

DL-DPCH-InfoPerRL-PostTDD ::=                               SEQUENCE {
    dl-DPCH-TimeslotsCodes       DownlinkTimeslotsCodes
}

DL-DPCH-InfoPerRL-PostTDD-LCR-r4 ::=                       SEQUENCE {
    dl-CCTrCH-TimeslotsCodes     DownlinkTimeslotsCodes-LCR-r4
}

DL-DPCH-PowerControlInfo ::=                               SEQUENCE {
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            dpc-Mode              DPC-Mode
        },
        tdd                      SEQUENCE {
            tpc-StepSizeTDD       TPC-StepSizeTDD           OPTIONAL
        }
    }
}

DL-FDPCH-InfoCommon-r6 ::=                               SEQUENCE {
    cfnHandling                  CHOICE {
        maintain                  NULL,
        initialise                 SEQUENCE {
            cfnTargetsfnframeoffset    CfnTargetsfnframeoffset           OPTIONAL
        }
    },
    dl-FDPCH-PowerControlInfo    DL-DPCH-PowerControlInfo           OPTIONAL,
    -- Actual value dl-FDPCH-TPCcommandErrorRate = IE value * 0.005
    -- dl-FDPCH-TPCcommandErrorRate values 21..32 are spare and shall not be used in this version of
    -- the protocol
    dl-FDPCH-TPCcommandErrorRate    INTEGER (1..32)           OPTIONAL
}

DL-FrameType ::=                                         ENUMERATED {
    dl-FrameTypeA, dl-FrameTypeB }

DL-HSPDSCH-Information ::=                               SEQUENCE {
    hs-scch-Info                 HS-SCCH-Info           OPTIONAL,
    measurement-feedback-Info    Measurement-Feedback-Info   OPTIONAL,
    modeSpecificInfo             CHOICE {
        tdd                      CHOICE {
            tdd384                SEQUENCE {
                dl-HSPDSCH-TS-Configuration    DL-HSPDSCH-TS-Configuration   OPTIONAL
            },
            tdd128                SEQUENCE {
                hs-PDSCH-Midamble-Configuration-TDD128
                HS-PDSCH-Midamble-Configuration-TDD128           OPTIONAL
            }
        }
    },
    fdd                          NULL
}

-- The IE 'DL-HSPDSCH-TS-Configuration' applies to tdd-384 REL-5 onward
DL-HSPDSCH-TS-Configuration ::=                          SEQUENCE (SIZE (1..maxTS-1)) OF
    SEQUENCE {
        timeslot                  TimeslotNumber,
        midambleShiftAndBurstType    MidambleShiftAndBurstType-DL
    }
}

DL-InformationPerRL ::=                                   SEQUENCE {
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            primaryCPICH-Info      PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info     PDSCH-SHO-DCH-Info           OPTIONAL,
            pdsch-CodeMapping      PDSCH-CodeMapping           OPTIONAL
        },
        tdd                      PrimaryCCPCH-Info
    },
    dl-DPCH-InfoPerRL           DL-DPCH-InfoPerRL           OPTIONAL,
}

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    sccpch-InfoForFACH                SCCPCH-InfoForFACH                OPTIONAL
}

DL-InformationPerRL-r4 ::=             SEQUENCE {
    modeSpecificInfo                   CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info           PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info          PDSCH-SHO-DCH-Info        OPTIONAL,
            pdsch-CodeMapping            PDSCH-CodeMapping        OPTIONAL
        },
        tdd                             PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                 DL-DPCH-InfoPerRL-r4        OPTIONAL,
    sccpch-InfoForFACH                 SCCPCH-InfoForFACH-r4      OPTIONAL,
    cell-id                             CellIdentity                 OPTIONAL
}

DL-InformationPerRL-r5 ::=             SEQUENCE {
    modeSpecificInfo                   CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info           PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info          PDSCH-SHO-DCH-Info        OPTIONAL,
            pdsch-CodeMapping            PDSCH-CodeMapping        OPTIONAL,
            servingHSDSCH-RL-indicator  BOOLEAN
        },
        tdd                             PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                 DL-DPCH-InfoPerRL-r5      OPTIONAL,
    sccpch-InfoForFACH                 SCCPCH-InfoForFACH-r4      OPTIONAL,
    cell-id                             CellIdentity                 OPTIONAL
}

DL-InformationPerRL-r5bis ::=          SEQUENCE {
    modeSpecificInfo                   CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info           PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info          PDSCH-SHO-DCH-Info        OPTIONAL,
            pdsch-CodeMapping            PDSCH-CodeMapping        OPTIONAL
        },
        tdd                             PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                 DL-DPCH-InfoPerRL-r5      OPTIONAL,
    sccpch-InfoForFACH                 SCCPCH-InfoForFACH-r4      OPTIONAL,
    cell-id                             CellIdentity                 OPTIONAL
}

DL-InformationPerRL-r6 ::=             SEQUENCE {
    modeSpecificInfo                   CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info           PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info          PDSCH-SHO-DCH-Info        OPTIONAL,
            pdsch-CodeMapping            PDSCH-CodeMapping        OPTIONAL,
            servingHSDSCH-RL-indicator  BOOLEAN,
            servingEDCH-RL-indicator    BOOLEAN
        },
        tdd                             PrimaryCCPCH-Info-r4
    },
    dl-dpchInfo                        CHOICE {
        dl-DPCH-InfoPerRL               DL-DPCH-InfoPerRL-r5,
        dl-FDPCH-InfoPerRL               DL-FDPCH-InfoPerRL-r6
    }
    sccpch-InfoForFACH                 SCCPCH-InfoForFACH-r4      OPTIONAL,
    e-AGCH-Information                 E-AGCH-Information        OPTIONAL,
    e-HICH-Information                 E-HICH-Information        OPTIONAL,
    e-RGCH-Information                 E-RGCH-Information        OPTIONAL,
    cell-id                             CellIdentity                 OPTIONAL
}

DL-InformationPerRL-List ::=           SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL

DL-InformationPerRL-List-r4 ::=        SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r4

DL-InformationPerRL-List-r5 ::=        SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r5

DL-InformationPerRL-List-r6 ::=        SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r6

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DL-InformationPerRL-r6
DL-InformationPerRL-List-r5bis ::= SEQUENCE (SIZE (1..maxRL)) OF
    DL-InformationPerRL-r5bis
DL-InformationPerRL-ListPostFDD ::= SEQUENCE (SIZE (1..maxRL)) OF
    DL-InformationPerRL-PostFDD
DL-InformationPerRL-PostFDD ::= SEQUENCE {
    primaryCPICH-Info PrimaryCPICH-Info,
    dl-DPCH-InfoPerRL DL-DPCH-InfoPerRL-PostFDD
}
DL-InformationPerRL-PostTDD ::= SEQUENCE {
    primaryCCPCH-Info PrimaryCCPCH-InfoPost,
    dl-DPCH-InfoPerRL DL-DPCH-InfoPerRL-PostTDD
}
DL-InformationPerRL-PostTDD-LCR-r4 ::= SEQUENCE {
    primaryCCPCH-Info PrimaryCCPCH-InfoPostTDD-LCR-r4,
    dl-DPCH-InfoPerRL DL-DPCH-InfoPerRL-PostTDD-LCR-r4
}
DL-PDSCH-Information ::= SEQUENCE {
    pdsch-SHO-DCH-Info PDSCH-SHO-DCH-Info OPTIONAL,
    pdsch-CodeMapping PDSCH-CodeMapping OPTIONAL
}
Dl-rate-matching-restriction ::= SEQUENCE {
    restrictedTrCH-InfoList RestrictedTrCH-InfoList OPTIONAL
}
DL-TPC-PowerOffsetPerRL ::= SEQUENCE {
    powerOffsetTPC-pdpdch PowerOffsetTPC-pdpdch OPTIONAL
}
-- NOTE: The radio links in the following list have a one-to-one mapping with the
-- radio links in the message.
DL-TPC-PowerOffsetPerRL-List ::= SEQUENCE (SIZE (1..maxRL)) OF
    DL-TPC-PowerOffsetPerRL
DL-TS-ChannelisationCode ::= ENUMERATED {
    cc16-1, cc16-2, cc16-3, cc16-4,
    cc16-5, cc16-6, cc16-7, cc16-8,
    cc16-9, cc16-10, cc16-11, cc16-12,
    cc16-13, cc16-14, cc16-15, cc16-16 }
DL-TS-ChannelisationCodesShort ::= SEQUENCE {
    codesRepresentation CHOICE {
        consecutive SEQUENCE {
            firstChannelisationCode DL-TS-ChannelisationCode,
            lastChannelisationCode DL-TS-ChannelisationCode
        },
        bitmap BIT STRING {
            chCode16-SF16(0),
            chCode15-SF16(1),
            chCode14-SF16(2),
            chCode13-SF16(3),
            chCode12-SF16(4),
            chCode11-SF16(5),
            chCode10-SF16(6),
            chCode9-SF16(7),
            chCode8-SF16(8),
            chCode7-SF16(9),
            chCode6-SF16(10),
            chCode5-SF16(11),
            chCode4-SF16(12),
            chCode3-SF16(13),
            chCode2-SF16(14),
            chCode1-SF16(15)
        } (SIZE (16))
    }
}
DownlinkAdditionalTimeslots ::= SEQUENCE {
    parameters CHOICE {
        sameAsLast SEQUENCE {
            timeslotNumber TimeslotNumber
        }
    }
}

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    },
    newParameters
        individualTimeslotInfo      IndividualTimeslotInfo,
        dl-TS-ChannelisationCodesShort DL-TS-ChannelisationCodesShort
    }
}

DownlinkAdditionalTimeslots-LCR-r4 ::= SEQUENCE {
    parameters CHOICE {
        sameAsLast SEQUENCE {
            timeslotNumber TimeslotNumber-LCR-r4
        },
        newParameters SEQUENCE {
            individualTimeslotInfo IndividualTimeslotInfo-LCR-r4,
            dl-TS-ChannelisationCodesShort DL-TS-ChannelisationCodesShort
        }
    }
}

DownlinkTimeslotsCodes ::= SEQUENCE {
    firstIndividualTimeslotInfo IndividualTimeslotInfo,
    dl-TS-ChannelisationCodesShort DL-TS-ChannelisationCodesShort,
    moreTimeslots CHOICE {
        noMore NULL,
        additionalTimeslots CHOICE {
            consecutive INTEGER (1..maxTS-1),
            timeslotList SEQUENCE (SIZE (1..maxTS-1)) OF
                DownlinkAdditionalTimeslots
        }
    }
}

DownlinkTimeslotsCodes-LCR-r4 ::= SEQUENCE {
    firstIndividualTimeslotInfo IndividualTimeslotInfo-LCR-r4,
    dl-TS-ChannelisationCodesShort DL-TS-ChannelisationCodesShort,
    moreTimeslots CHOICE {
        noMore NULL,
        additionalTimeslots CHOICE {
            consecutive INTEGER (1..maxTS-LCR-1),
            timeslotList SEQUENCE (SIZE (1..maxTS-LCR-1)) OF
                DownlinkAdditionalTimeslots-LCR-r4
        }
    }
}

DPC-Mode ::= ENUMERATED {
    singleTPC,
    tpcTripletInSoft }

-- Actual value DPCCH-PowerOffset = IE value * 2
DPCCH-PowerOffset ::= INTEGER (-82..-3)

-- Actual value DPCCH-PowerOffset2 = 2 + (IE value * 4)
DPCCH-PowerOffset2 ::= INTEGER (-28..-13)

DPCH-CompressedModeInfo ::= SEQUENCE {
    tgp-SequenceList TGP-SequenceList
}

DPCH-CompressedModeStatusInfo ::= SEQUENCE {
    tgps-Reconfiguration-CFN TGPS-Reconfiguration-CFN,
    tgp-SequenceShortList SEQUENCE (SIZE (1..maxTGPS)) OF
        TGP-SequenceShort
}

-- Actual value DPCH-FrameOffset = IE value * 256
DPCH-FrameOffset ::= INTEGER (0..149)

DSCH-Mapping ::= SEQUENCE {
    maxTFICI-Field2Value MaxTFICI-Field2Value,
    spreadingFactor SF-PDSCH,
    codeNumber CodeNumberDSCH,
    multiCodeInfo MultiCodeInfo
}

DSCH-MappingList ::= SEQUENCE (SIZE (1..maxPDSCH-TFCIgroups)) OF
    DSCH-Mapping

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DSCH-RadioLinkIdentifier ::= INTEGER (0..511)

DSCH-TransportChannelsInfo ::= SEQUENCE (SIZE (1..maxTrCH)) OF
    SEQUENCE {
        dsch-transport-channel-identity TransportChannelIdentity,
        dsch-TFS TransportFormatSet
    }
DurationTimeInfo ::= INTEGER (1..4096)
DynamicPersistenceLevel ::= INTEGER (1..8)
DynamicPersistenceLevelList ::= SEQUENCE (SIZE (1..maxPRACH)) OF
    DynamicPersistenceLevel
DynamicPersistenceLevelTF-List ::= SEQUENCE (SIZE (1..maxTF-CPCH)) OF
    DynamicPersistenceLevel
E-AGCH-ChannelisationCode ::= INTEGER (0..255)
E-AGCH-Information ::= SEQUENCE {
    dl-ScramblingCode SecondaryScramblingCode OPTIONAL,
    e-AGCH-ChannelisationCode E-AGCH-ChannelisationCode
}
E-DPCCH-Info ::= SEQUENCE {
    e-DPCCH-DPCCH-PowerOffset E-DPCCH-DPCCH-PowerOffset
}
E-DPCCH-DPCCH-PowerOffset ::= INTEGER (0) -- FFS
E-DPDCH-Info ::= SEQUENCE {
    e-TFCI-ReferencePowerOffset E-TFCI-ReferencePowerOffset,
    e-TFCI-TableIndex E-TFCI-TableIndex,
    e-DPDCH-MaxNChannelisationCodes E-DPDCH-MaxNChannelisationCodes
}
E-DPDCH-MaxNChannelisationCodes ::= INTEGER (0) -- FFS
E-HICH-ChannelisationCode ::= INTEGER (0..127)
E-HICH-Information ::= SEQUENCE {
    dl-ScramblingCode SecondaryScramblingCode OPTIONAL,
    channelisationCode E-HICH-ChannelisationCode,
    signatureSequence E-HICH-RGCH-SignatureSequence,
    timingOffset E-HICH-RGCH-TimingOffset
}
E-HICH-RGCH-SignatureSequence ::= INTEGER (0..39)
E-HICH-RGCH-TimingOffset ::= INTEGER (0) -- FFS
E-RGCH-CombinationIndex ::= INTEGER (0..5)
E-RGCH-Information ::= SEQUENCE {
    dl-ScramblingCode SecondaryScramblingCode OPTIONAL,
    signatureSequence E-HICH-RGCH-SignatureSequence,
    timingOffset E-HICH-RGCH-TimingOffset,
    rg-CombinationIndex E-RGCH-CombinationIndex OPTIONAL
}
E-TFCI-ReferencePowerOffset ::= INTEGER (0) -- FFS
E-TFCI-TableIndex ::= ENUMERATED { ncc1, ncc2, ncc4 }
FACH-PCH-Information ::= SEQUENCE {
    transportFormatSet TransportFormatSet,
    transportChannelIdentity TransportChannelIdentity,
    ctch-Indicator BOOLEAN
}
FACH-PCH-InformationList ::= SEQUENCE (SIZE (1..maxFACHPCH)) OF
    FACH-PCH-Information
Feedback-cycle ::= ENUMERATED {
    fc0, fc2, fc4, fc8, fc10, fc20, fc40, fc80, fc160}
FPACH-Info-r4 ::= SEQUENCE {

```



```

    timeslotNumber          TimeslotNumber-LCR-r4,
    channelisationCode      TDD-FPACH-CCode16-r4,
    midambleShiftAndBurstType MidambleShiftAndBurstType-LCR-r4,
    wi                      Wi-LCR
}

FrequencyInfo ::=
    modeSpecificInfo
        fdd
        tdd
}

FrequencyInfoFDD ::=
    uarfcn-UL
    uarfcn-DL
}

FrequencyInfoTDD ::=
    uarfcn-Nt
}

HARQ-Preamble-Mode ::=
    INTEGER (0..1)

HS-ChannelisationCode-LCR ::=
    ENUMERATED {
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16 }

HS-PDSCH-Midamble-Configuration-TDD128 ::= SEQUENCE {
    midambleAllocationMode
        defaultMidamble          NULL,
        commonMidamble           NULL,
        ueSpecificMidamble       INTEGER (0..15)
    },
    -- Actual value midambleConfiguration = IE value * 2
    midambleConfiguration       INTEGER (1..8)
}

HS-SCCH-Info ::=
    modeSpecificInfo
        fdd
            hs-SCCHChannelisationCodeInfo SEQUENCE (SIZE (1..maxHSSCCHs)) OF
                HS-SCCH-Codes,
            dl-ScramblingCode             SecondaryScramblingCode OPTIONAL
        },
        tdd
            tdd384
                nack-ack-power-offset      INTEGER (-7..8),
                hs-SICH-PowerControl-Info   HS-SICH-Power-Control-Info-TDD384,
                hs-SCCH-SetConfiguration    SEQUENCE (SIZE (1..maxHSSCCHs)) OF
                    HS-SCCH-TDD384
            },
            tdd128 SEQUENCE (SIZE (1..maxHSSCCHs)) OF
                HS-SCCH-TDD128
        }
}

HS-SCCH-Codes ::=
    INTEGER (0..127)

HS-SCCH-TDD128 ::=
    SEQUENCE {
        timeslotNumber          TimeslotNumber-LCR-r4,
        firstChannelisationCode HS-ChannelisationCode-LCR,
        secondChannelisationCode HS-ChannelisationCode-LCR,
        midambleAllocationMode
            defaultMidamble          NULL,
            commonMidamble           NULL,
            ueSpecificMidamble       INTEGER(0..15)
        },
        -- Actual value midambleConfiguration = IE value * 2
        midambleConfiguration    INTEGER (1..8),
        bler-target               Bler-Target,
        hs-sich-configuration     HS-SICH-Configuration-TDD128
    }

HS-SICH-Configuration-TDD128 ::=
    SEQUENCE {
        timeslotNumber          TimeslotNumber-LCR-r4,

```

```

channelisationCode          HS-ChannelisationCode-LCR,
midambleAllocationMode     CHOICE {
    defaultMidamble         NULL,
    ueSpecificMidamble     SEQUENCE {
        midambleShift      MidambleShiftLong
    }
},
-- Actual value midambleConfiguration = IE value * 2
midambleConfiguration     INTEGER (1..8),
nack-ack-power-offset     INTEGER (-7..8),
power-level-HSSICH        INTEGER (-120..-58),
tpc-step-size             ENUMERATED { s1, s2, s3 , spare1}
}

HS-SCCH-TDD384 ::= SEQUENCE {
    timeslotNumber          TimeslotNumber,
    channelisationCode     DL-TS-ChannelisationCode,
    midambleAllocationMode CHOICE {
        defaultMidamble     NULL,
        commonMidamble      NULL,
        ueSpecificMidamble  SEQUENCE {
            midambleShift    MidambleShiftLong
        }
    },
    midambleconfiguration   MidambleConfigurationBurstTypeland3,
    bler-target             Bler-Target,
    hs-sich-configuration   HS-SICH-Configuration-TDD384
}

HS-SICH-Configuration-TDD384 ::= SEQUENCE {
    timeslotNumber          TimeslotNumber,
    channelisationCode     DL-TS-ChannelisationCode,
    midambleAllocationMode CHOICE {
        defaultMidamble     NULL,
        ueSpecificMidamble  SEQUENCE {
            midambleShift    MidambleShiftLong
        }
    },
    midambleconfiguration   MidambleConfigurationBurstTypeland3
}

HS-SICH-Power-Control-Info-TDD384 ::= SEQUENCE {
    -- Actual value ul-target-SIR = IE value * 0.5
    ul-target-SIR          INTEGER (-22..40),
    hs-sich-ConstantValue  ConstantValue
}

IndividualTimeslotInfo ::= SEQUENCE {
    timeslotNumber          TimeslotNumber,
    tfci-Existence         BOOLEAN,
    midambleShiftAndBurstType MidambleShiftAndBurstType
}

IndividualTimeslotInfo-LCR-r4 ::= SEQUENCE {
    timeslotNumber          TimeslotNumber-LCR-r4,
    tfci-Existence         BOOLEAN,
    midambleShiftAndBurstType MidambleShiftAndBurstType-LCR-r4,
    modulation             ENUMERATED { mod-QPSK, mod-8PSK },
    ss-TPC-Symbols         ENUMERATED { zero, one, sixteenOverSF },
    additionalSS-TPC-Symbols INTEGER(1..15) OPTIONAL
}

IndividualTimeslotInfo-LCR-r4-ext ::= SEQUENCE {
    -- timeslotNumber and tfci-Existence is taken from IndividualTimeslotInfo.
    -- midambleShiftAndBurstType in IndividualTimeslotInfo shall be ignored.
    midambleShiftAndBurstType MidambleShiftAndBurstType-LCR-r4,
    modulation             ENUMERATED { mod-QPSK, mod-8PSK },
    ss-TPC-Symbols         ENUMERATED { zero, one, sixteenOverSF }
}

IndividualTS-Interference ::= SEQUENCE {
    timeslot                TimeslotNumber,
    ul-TimeslotInterference TDD-UL-Interference
}

```

```

IndividualTS-InterferenceList ::= SEQUENCE (SIZE (1..maxTS)) OF
    IndividualTS-Interference

ITP ::= ENUMERATED {
    mode0, mode1 }

NidentifyAbort ::= INTEGER (1..128)

MaxAllowedUL-TX-Power ::= INTEGER (-50..33)

MaxAvailablePCPCH-Number ::= INTEGER (1..64)

MaxPowerIncrease-r4 ::= INTEGER (0..3)

MaxTFCI-Field2Value ::= INTEGER (1..1023)

Measurement-Feedback-Info ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            measurementPowerOffset MeasurementPowerOffset,
            feedback-cycle Feedback-cycle,
            cqi-RepetitionFactor CQI-RepetitionFactor,
            deltaCQI DeltaCQI
        },
        tdd NULL
    }
}

MidambleConfigurationBurstType1and3 ::= ENUMERATED {ms4, ms8, ms16}

MidambleConfigurationBurstType2 ::= ENUMERATED {ms3, ms6}

MidambleShiftAndBurstType ::= SEQUENCE {
    burstType CHOICE {
        type1 SEQUENCE {
            midambleConfigurationBurstType1and3 MidambleConfigurationBurstType1and3,
            midambleAllocationMode CHOICE {
                defaultMidamble NULL,
                commonMidamble NULL,
                ueSpecificMidamble SEQUENCE {
                    midambleShift MidambleShiftLong
                }
            }
        },
        type2 SEQUENCE {
            midambleConfigurationBurstType2 MidambleConfigurationBurstType2,
            midambleAllocationMode CHOICE {
                defaultMidamble NULL,
                commonMidamble NULL,
                ueSpecificMidamble SEQUENCE {
                    midambleShift MidambleShiftShort
                }
            }
        },
        type3 SEQUENCE {
            midambleConfigurationBurstType1and3 MidambleConfigurationBurstType1and3,
            midambleAllocationMode CHOICE {
                defaultMidamble NULL,
                ueSpecificMidamble SEQUENCE {
                    midambleShift MidambleShiftLong
                }
            }
        }
    }
}

MidambleShiftAndBurstType-DL ::= SEQUENCE {
    burstType CHOICE {
        type1 SEQUENCE {
            midambleConfigurationBurstType1and3 MidambleConfigurationBurstType1and3,
            midambleAllocationMode CHOICE {
                defaultMidamble NULL,
                commonMidamble NULL,
                ueSpecificMidamble SEQUENCE {
                    midambleShift MidambleShiftLong
                }
            }
        }
    }
}

```

```

    },
    type2
        midambleConfigurationBurstType2 SEQUENCE {
        midambleAllocationMode           MidambleConfigurationBurstType2,
        defaultMidamble                   CHOICE {
        commonMidamble                     NULL,
        ueSpecificMidamble                 NULL,
        midambleShift                       SEQUENCE {
        midambleShiftShort
        }
        }
    }
}

MidambleShiftAndBurstType-LCR-r4 ::= SEQUENCE {
    midambleAllocationMode CHOICE {
        defaultMidamble NULL,
        commonMidamble NULL,
        ueSpecificMidamble SEQUENCE {
            midambleShift INTEGER (0..15)
        }
    }
},
-- Actual value midambleConfiguration = IE value * 2
midambleConfiguration INTEGER (1..8)
}

MidambleShiftLong ::= INTEGER (0..15)

MidambleShiftShort ::= INTEGER (0..5)

MinimumSpreadingFactor ::= ENUMERATED {
    sf4, sf8, sf16, sf32,
    sf64, sf128, sf256 }

MultiCodeInfo ::= INTEGER (1..16)

N-EOT ::= INTEGER (0..7)

N-GAP ::= ENUMERATED {
    f2, f4, f8 }

N-PCH ::= INTEGER (1..8)

N-StartMessage ::= INTEGER (1..8)

NB01 ::= INTEGER (0..50)

NF-Max ::= INTEGER (1..64)

NumberOfDPDCH ::= INTEGER (1..maxDPDCH-UL)

NumberOfFBI-Bits ::= INTEGER (1..2)

OpenLoopPowerControl-TDD ::= SEQUENCE {
    primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power,
    -- alpha, prach-ConstantValue, dpch-ConstantValue and pusoch-ConstantValue
    -- shall be ignored in 1.28Mcps TDD mode.
    alpha Alpha OPTIONAL,
    prach-ConstantValue ConstantValueTdd,
    dpch-ConstantValue ConstantValueTdd,
    pusoch-ConstantValue ConstantValueTdd OPTIONAL
}

OpenLoopPowerControl-IPDL-TDD-r4 ::= SEQUENCE {
    ipdl-alpha Alpha,
    maxPowerIncrease MaxPowerIncrease-r4
}

PagingIndicatorLength ::= ENUMERATED {
    pi4, pi8, pi16 }

PC-Preamble ::= INTEGER (0..7)

PCP-Length ::= ENUMERATED {
    as0, as8 }

```

```

PCPCH-ChannelInfo ::=
    pcpch-UL-ScramblingCode
    pcpch-DL-ChannelisationCode
    pcpch-DL-ScramblingCode
    pcp-Length
    ucsM-Info
SEQUENCE {
    INTEGER (0..79),
    INTEGER (0..511),
    SecondaryScramblingCode
    PCP-Length,
    UCSM-Info
OPTIONAL,
OPTIONAL
}

PCPCH-ChannelInfoList ::=
SEQUENCE (SIZE (1..maxPCPCHs)) OF
    PCPCH-ChannelInfo

PCPICH-UsageForChannelEst ::=
ENUMERATED {
    maybeUsed,
    shallNotBeUsed
}

PDSCH-CapacityAllocationInfo ::=
SEQUENCE {
    -- pdsch-PowerControlInfo is conditional on new-configuration branch below, if this
    -- selected the IE is OPTIONAL otherwise it should not be sent
    pdsch-PowerControlInfo
    pdsch-AllocationPeriodInfo
    configuration
    CHOICE {
        old-Configuration
        SEQUENCE {
            tfcs-ID
            PDSCH-Identity
            TFCS-IdentityPlain
            PDSCH-Identity
            DEFAULT 1,
        },
        new-Configuration
        SEQUENCE {
            pdsch-Info
            PDSCH-Identity
            PDSCH-Info,
            PDSCH-Identity
            OPTIONAL
        }
    }
}

PDSCH-CapacityAllocationInfo-r4 ::= SEQUENCE {
    pdsch-AllocationPeriodInfo
    AllocationPeriodInfo,
    configuration
    CHOICE {
        old-Configuration
        SEQUENCE {
            tfcs-ID
            PDSCH-Identity
            TFCS-IdentityPlain
            PDSCH-Identity
            DEFAULT 1,
        },
        new-Configuration
        SEQUENCE {
            pdsch-Info
            PDSCH-Info-r4,
            PDSCH-Identity
            PDSCH-Identity
            OPTIONAL,
            pdsch-PowerControlInfo
            PDSCH-PowerControlInfo
            OPTIONAL
        }
    }
}

PDSCH-CodeInfo ::=
SEQUENCE {
    spreadingFactor
    SF-PDSCH,
    codeNumber
    CodeNumberDSCH,
    multiCodeInfo
    MultiCodeInfo
}

PDSCH-CodeInfoList ::=
SEQUENCE (SIZE (1..maxTFCI-2-Combs)) OF
    PDSCH-CodeInfo

PDSCH-CodeMap ::=
SEQUENCE {
    spreadingFactor
    SF-PDSCH,
    multiCodeInfo
    MultiCodeInfo,
    codeNumberStart
    CodeNumberDSCH,
    codeNumberStop
    CodeNumberDSCH
}

PDSCH-CodeMapList ::=
SEQUENCE (SIZE (1..maxPDSCH-TFCIgroups)) OF
    PDSCH-CodeMap

PDSCH-CodeMapping ::=
SEQUENCE {
    dl-ScramblingCode
    SecondaryScramblingCode
    signallingMethod
    CHOICE {
        codeRange
        CodeRange,
        tfci-Range
        DSCH-MappingList,
        explicit-config
        PDSCH-CodeInfoList,
        replace
        ReplacedPDSCH-CodeInfoList
    }
}

PDSCH-Identity ::=
INTEGER (1..hiPDSCHidentities)

```

PDSCH-Info ::=	SEQUENCE {	
tfcs-ID	TFCS-IdentityPlain	DEFAULT 1,
commonTimeslotInfo	CommonTimeslotInfo	OPTIONAL,
pdsch-TimeslotsCodes	DownlinkTimeslotsCodes	OPTIONAL
}		
PDSCH-Info-r4 ::=	SEQUENCE {	
tfcs-ID	TFCS-IdentityPlain	DEFAULT 1,
commonTimeslotInfo	CommonTimeslotInfo	OPTIONAL,
tddOption	CHOICE {	
tdd384	SEQUENCE {	
pdsch-TimeslotsCodes	DownlinkTimeslotsCodes	OPTIONAL
},		
tdd128	SEQUENCE {	
pdsch-TimeslotsCodes	DownlinkTimeslotsCodes-LCR-r4	OPTIONAL
}		
}		
PDSCH-Info-LCR-r4 ::=	SEQUENCE {	
tfcs-ID	TFCS-IdentityPlain	DEFAULT 1,
commonTimeslotInfo	CommonTimeslotInfo	OPTIONAL,
pdsch-TimeslotsCodes	DownlinkTimeslotsCodes-LCR-r4	OPTIONAL
}		
PDSCH-PowerControlInfo ::=	SEQUENCE {	
tpc-StepSizeTDD	TPC-StepSizeTDD	OPTIONAL,
ul-CCTrChTPCList	UL-CCTrChTPCList	OPTIONAL
}		
PDSCH-SHO-DCH-Info ::=	SEQUENCE {	
dsch-RadioLinkIdentifier	DSCH-RadioLinkIdentifier,	
rl-IdentifierList	RL-IdentifierList	OPTIONAL
}		
PDSCH-SysInfo ::=	SEQUENCE {	
pdsch-Identity	PDSCH-Identity,	
pdsch-Info	PDSCH-Info,	
dsch-TFS	TransportFormatSet	OPTIONAL,
dsch-TFCS	TFCS	OPTIONAL
}		
PDSCH-SysInfo-HCR-r5 ::=	SEQUENCE {	
pdsch-Identity	PDSCH-Identity,	
pdsch-Info	PDSCH-Info,	
dsch-TransportChannelsInfo	DSCH-TransportChannelsInfo	OPTIONAL,
dsch-TFCS	TFCS	OPTIONAL
}		
PDSCH-SysInfo-LCR-r4 ::=	SEQUENCE {	
pdsch-Identity	PDSCH-Identity,	
pdsch-Info	PDSCH-Info-LCR-r4,	
dsch-TFS	TransportFormatSet	OPTIONAL,
dsch-TFCS	TFCS	OPTIONAL
}		
PDSCH-SysInfoList ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	
	PDSCH-SysInfo	
PDSCH-SysInfoList-HCR-r5 ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	PDSCH-SysInfo-HCR-r5
PDSCH-SysInfoList-LCR-r4 ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	PDSCH-SysInfo-LCR-r4
PDSCH-SysInfoList-SFN ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	
	SEQUENCE {	
pdsch-SysInfo	PDSCH-SysInfo,	
sfm-TimeInfo	SFN-TimeInfo	OPTIONAL
}		
PDSCH-SysInfoList-SFN-HCR-r5 ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	
	SEQUENCE {	
pdsch-SysInfo	PDSCH-SysInfo-HCR-r5,	
sfm-TimeInfo	SFN-TimeInfo	OPTIONAL
}		
PDSCH-SysInfoList-SFN-LCR-r4 ::=	SEQUENCE (SIZE (1..maxPDSCH)) OF	

```

    pdsch-SysInfo
    sfn-TimeInfo
}
SEQUENCE {
    PDSCH-SysInfo-LCR-r4,
    SFN-TimeInfo
}
OPTIONAL

PersistenceScalingFactor ::=
    ENUMERATED {
        psf0-9, psf0-8, psf0-7, psf0-6,
        psf0-5, psf0-4, psf0-3, psf0-2 }

PersistenceScalingFactorList ::=
    SEQUENCE (SIZE (1..maxASCPersist)) OF
        PersistenceScalingFactor

PI-CountPerFrame ::=
    ENUMERATED {
        e18, e36, e72, e144 }

PichChannelisationCodeList-LCR-r4 ::=
    SEQUENCE (SIZE (1..2)) OF
        DL-TS-ChannelisationCode

PICH-Info ::=
    CHOICE {
        fdd
            SEQUENCE {
                channelisationCode256
                    ChannelisationCode256,
                pi-CountPerFrame
                    PI-CountPerFrame,
                sttd-Indicator
                    BOOLEAN
            },
        tdd
            SEQUENCE {
                channelisationCode
                    TDD-PICH-CCode
                    OPTIONAL,
                timeslot
                    TimeslotNumber
                    OPTIONAL,
                midambleShiftAndBurstType
                    MidambleShiftAndBurstType,
                repetitionPeriodLengthOffset
                    RepPerLengthOffset-PICH
                    OPTIONAL,
                pagingIndicatorLength
                    PagingIndicatorLength
                    DEFAULT pi4,
                n-GAP
                    N-GAP
                    DEFAULT f4,
                n-PCH
                    N-PCH
                    DEFAULT 2
            }
    }

PICH-Info-LCR-r4 ::=
    SEQUENCE {
        timeslot
            TimeslotNumber-LCR-r4
            OPTIONAL,
        pichChannelisationCodeList-LCR-r4
            PichChannelisationCodeList-LCR-r4,
        midambleShiftAndBurstType
            MidambleShiftAndBurstType-LCR-r4,
        repetitionPeriodLengthOffset
            RepPerLengthOffset-PICH
            OPTIONAL,
        pagingIndicatorLength
            PagingIndicatorLength
            DEFAULT pi4,
        n-GAP
            N-GAP
            DEFAULT f4,
        n-PCH
            N-PCH
            DEFAULT 2
    }

PICH-PowerOffset ::=
    INTEGER (-10..5)

PilotBits128 ::=
    ENUMERATED {
        pb4, pb8 }

PilotBits256 ::=
    ENUMERATED {
        pb2, pb4, pb8 }

-- Actual measurement power offset value = IE value * 0.5
MeasurementPowerOffset ::=
    INTEGER (-12..26)

PositionFixedOrFlexible ::=
    ENUMERATED {
        fixed,
        flexible }

PowerControlAlgorithm ::=
    CHOICE {
        algorithm1
            TPC-StepSizeFDD,
        algorithm2
            NULL
    }

PowerOffsetPilot-pdpdch ::=
    INTEGER (0..24)

PowerOffsetTPC-pdpdch ::=
    INTEGER (0..24)

PowerRampStep ::=
    INTEGER (1..8)

PRACH-ChanCodes-LCR-r4 ::=
    SEQUENCE (SIZE (1..4)) OF
        TDD-PRACH-CCode-LCR-r4

PRACH-Definition-LCR-r4 ::=
    SEQUENCE {
        timeslot
            TimeslotNumber-PRACH-LCR-r4,
        prach-ChanCodes-LCR
            PRACH-ChanCodes-LCR-r4,
        midambleShiftAndBurstType
            MidambleShiftAndBurstType-LCR-r4,
    }

```

```

    fpach-Info                FPACH-Info-r4
}

PRACH-Midamble ::=          ENUMERATED {
                            direct,
                            direct-Inverted }

PRACH-Partitioning ::=     CHOICE {
    fdd                      SEQUENCE (SIZE (1..maxASC)) OF
-- TABULAR: If only "NumASC+1" (with, NumASC+1 < maxASC) ASCSetting-FDD are listed,
-- the remaining (NumASC+2 through maxASC) ASCs are unspecified.
                            ASCSetting-FDD,
    tdd                      SEQUENCE (SIZE (1..maxASC)) OF
-- TABULAR: If only "NumASC+1" (with, NumASC+1 < maxASC) ASCSetting-TDD are listed,
-- the remaining (NumASC+2 through maxASC) ASCs are unspecified.
                            ASCSetting-TDD
}

PRACH-Partitioning-LCR-r4 ::= SEQUENCE (SIZE (1..maxASC)) OF
-- TABULAR: If only "NumASC+1" (with, NumASC+1 < maxASC) ASCSetting-TDD-LCR-r4 are listed,
-- the remaining (NumASC+2 through maxASC) ASCs are unspecified.
                            ASCSetting-TDD-LCR-r4

PRACH-PowerOffset ::=     SEQUENCE {
    powerRampStep            PowerRampStep,
    preambleRetransMax      PreambleRetransMax
}

PRACH-RACH-Info ::=       SEQUENCE {
    modeSpecificInfo        CHOICE {
        fdd                 SEQUENCE {
            availableSignatures AvailableSignatures,
            availableSF         SF-PRACH,
            preambleScramblingCodeWordNumber PreambleScramblingCodeWordNumber,
            puncturingLimit     PuncturingLimit,
            availableSubChannelNumbers AvailableSubChannelNumbers
        },
        tdd                 SEQUENCE {
            timeslot           TimeslotNumber,
            channelisationCodeList TDD-PRACH-CCodeList,
            prach-Midamble     PRACH-Midamble
        }
    }
}

PRACH-RACH-Info-LCR-r4 ::= SEQUENCE {
    sync-UL-Info            SYNC-UL-Info-r4,
    prach-DefinitionList    SEQUENCE (SIZE (1..maxPRACH-FPACH)) OF
                            PRACH-Definition-LCR-r4
}

PRACH-SystemInformation ::= SEQUENCE {
    prach-RACH-Info         PRACH-RACH-Info,
    transportChannelIdentity TransportChannelIdentity,
    rach-TransportFormatSet TransportFormatSet OPTIONAL,
    rach-TFCS               TFCS OPTIONAL,
    prach-Partitioning      PRACH-Partitioning OPTIONAL,
    persistenceScalingFactorList PersistenceScalingFactorList OPTIONAL,
    ac-To-ASC-MappingTable  AC-To-ASC-MappingTable OPTIONAL,
    modeSpecificInfo        CHOICE {
        fdd                 SEQUENCE {
            primaryCPICH-TX-Power PrimaryCPICH-TX-Power OPTIONAL,
            constantValue         ConstantValue OPTIONAL,
            prach-PowerOffset     PRACH-PowerOffset OPTIONAL,
            rach-TransmissionParameters RACH-TransmissionParameters OPTIONAL,
            aich-Info            AICH-Info OPTIONAL
        },
        tdd                 NULL
    }
}

PRACH-SystemInformation-LCR-r4 ::= SEQUENCE {
    prach-RACH-Info-LCR     PRACH-RACH-Info-LCR-r4,
    rach-TransportFormatSet-LCR TransportFormatSet-LCR OPTIONAL,
    prach-Partitioning-LCR  PRACH-Partitioning-LCR-r4 OPTIONAL
}

PRACH-SystemInformationList ::= SEQUENCE (SIZE (1..maxPRACH)) OF

```


PRACH-SystemInformation

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PRACH-SystemInformationList-LCR-r4 ::= SEQUENCE (SIZE (1..maxPRACH)) OF
    PRACH-SystemInformation-LCR-r4

PreambleRetransMax ::= INTEGER (1..64)

PreambleScramblingCodeWordNumber ::= INTEGER (0..15)

PreDefPhyChConfiguration ::= SEQUENCE {
    ul-DPCH-InfoPredef          UL-DPCH-InfoPredef,
    dl-CommonInformationPredef  DL-CommonInformationPredef  OPTIONAL
}

PrimaryCCPCH-Info ::= CHOICE {
    fdd                         SEQUENCE {
        tx-DiversityIndicator   BOOLEAN
    },
    tdd                         SEQUENCE {
        -- syncCase should be ignored for 1.28Mcps TDD mode
        syncCase                CHOICE {
            syncCase1           SEQUENCE {
                timeslot        TimeslotNumber
            },
            syncCase2           SEQUENCE {
                timeslotSync2    TimeslotSync2
            }
        }
        cellParametersID        CellParametersID          OPTIONAL,
        sctd-Indicator          BOOLEAN                   OPTIONAL,
    }
}

PrimaryCCPCH-Info-r4 ::= CHOICE {
    fdd                         SEQUENCE {
        tx-DiversityIndicator   BOOLEAN
    },
    tdd                         SEQUENCE {
        tddOption              CHOICE {
            tdd384             SEQUENCE {
                syncCase        CHOICE {
                    syncCase1   SEQUENCE {
                        timeslot  TimeslotNumber
                    },
                    syncCase2   SEQUENCE {
                        timeslotSync2 TimeslotSync2
                    }
                }
            }
            tdd128             SEQUENCE {
                tstd-Indicator  BOOLEAN
            }
        }
        cellParametersID        CellParametersID          OPTIONAL,
        sctd-Indicator          BOOLEAN
    }
}

PrimaryCCPCH-Info-LCR-r4 ::= SEQUENCE {
    tstd-Indicator             BOOLEAN,
    cellParametersID          CellParametersID             OPTIONAL,
    sctd-Indicator            BOOLEAN
}

-- For 1.28Mcps TDD, the following IE includes elements for the PCCPCH Info additional to those
-- in PrimaryCCPCH-Info
PrimaryCCPCH-Info-LCR-r4-ext ::= SEQUENCE {
    tstd-Indicator            BOOLEAN
}

PrimaryCCPCH-InfoPost ::= SEQUENCE {
    syncCase                  CHOICE {
        syncCase1             SEQUENCE {
            timeslot          TimeslotNumber
        },
        syncCase2             SEQUENCE {
            timeslotSync2     TimeslotSync2
        }
    }
}

```

```

    },
    cellParametersID          CellParametersID,
    sctd-Indicator            BOOLEAN
}

PrimaryCCPCH-InfoPostTDD-LCR-r4 ::= SEQUENCE {
    tstd-Indicator            BOOLEAN,
    cellParametersID          CellParametersID,
    sctd-Indicator            BOOLEAN
}

PrimaryCCPCH-TX-Power ::=          INTEGER (6..43)

PrimaryCPICH-Info ::=              SEQUENCE {
    primaryScramblingCode     PrimaryScramblingCode
}

PrimaryCPICH-TX-Power ::=          INTEGER (-10..50)

PrimaryScramblingCode ::=         INTEGER (0..511)

PuncturingLimit ::=              ENUMERATED {
    p10-40, p10-44, p10-48, p10-52, p10-56,
    p10-60, p10-64, p10-68, p10-72, p10-76,
    p10-80, p10-84, p10-88, p10-92, p10-96, p11 }

PUSCH-CapacityAllocationInfo ::= SEQUENCE {
    pusch-Allocation          CHOICE {
        pusch-AllocationPending    NULL,
        pusch-AllocationAssignment SEQUENCE {
            pusch-AllocationPeriodInfo AllocationPeriodInfo,
            pusch-PowerControlInfo     UL-TargetSIR                OPTIONAL,
            configuration               CHOICE {
                old-Configuration      SEQUENCE {
                    tfcs-ID             TFCS-IdentityPlain          DEFAULT 1,
                    pusch-Identity      PUSCH-Identity
                },
                new-Configuration      SEQUENCE {
                    pusch-Info           PUSCH-Info,
                    pusch-Identity       PUSCH-Identity          OPTIONAL
                }
            }
        }
    }
}

PUSCH-CapacityAllocationInfo-r4 ::= SEQUENCE {
    pusch-Allocation          CHOICE {
        pusch-AllocationPending    NULL,
        pusch-AllocationAssignment SEQUENCE {
            pusch-AllocationPeriodInfo AllocationPeriodInfo,
            pusch-PowerControlInfo-r4  PUSCH-PowerControlInfo-r4  OPTIONAL,
            configuration             CHOICE {
                old-Configuration      SEQUENCE {
                    tfcs-ID             TFCS-IdentityPlain          DEFAULT 1,
                    pusch-Identity      PUSCH-Identity
                },
                new-Configuration      SEQUENCE {
                    pusch-Info-r4       PUSCH-Info-r4,
                    pusch-Identity       PUSCH-Identity          OPTIONAL
                }
            }
        }
    }
}

PUSCH-Identity ::=              INTEGER (1..hiPUSCHidentities)

PUSCH-Info ::=                  SEQUENCE {
    tfcs-ID                     TFCS-IdentityPlain          DEFAULT 1,
    commonTimeslotInfo           CommonTimeslotInfo              OPTIONAL,
    pusch-TimeslotsCodes         UplinkTimeslotsCodes              OPTIONAL
}

PUSCH-Info-r4 ::=              SEQUENCE {
    tfcs-ID                     TFCS-IdentityPlain          DEFAULT 1,
    commonTimeslotInfo           CommonTimeslotInfo              OPTIONAL,
    tddOption                    CHOICE {

```

```

        tdd384                SEQUENCE {
            pusch-TimeslotsCodes    UplinkTimeslotsCodes    OPTIONAL
        },
        tdd128                SEQUENCE {
            pusch-TimeslotsCodes    UplinkTimeslotsCodes-LCR-r4    OPTIONAL
        }
    }
}

PUSCH-Info-LCR-r4 ::=          SEQUENCE {
    tfcs-ID                    TFCS-IdentityPlain                DEFAULT 1,
    commonTimeslotInfo          CommonTimeslotInfo                OPTIONAL,
    pusch-TimeslotsCodes        UplinkTimeslotsCodes-LCR-r4        OPTIONAL
}

PUSCH-PowerControlInfo-r4 ::= SEQUENCE {
    -- The IE ul-TargetSIR corresponds to PRX-PUSCHdes for 1.28Mcps TDD
    -- Actual value PRX-PUSCHdes = (value of IE "ul-TargetSIR" - 120)
    ul-TargetSIR                UL-TargetSIR,
    tddOption                    CHOICE {
        tdd384                    NULL,
        tdd128                    SEQUENCE {
            tpc-StepSize            TPC-StepSizeTDD                OPTIONAL
        }
    }
}

PUSCH-SysInfo ::=             SEQUENCE {
    pusch-Identity              PUSCH-Identity,
    pusch-Info                  PUSCH-Info,
    usch-TFS                    TransportFormatSet                OPTIONAL,
    usch-TFCS                   TFCS                            OPTIONAL
}

PUSCH-SysInfo-HCR-r5 ::=      SEQUENCE {
    pusch-Identity              PUSCH-Identity,
    pusch-Info                  PUSCH-Info,
    usch-TransportChannelsInfo  USCH-TransportChannelsInfo    OPTIONAL,
    usch-TFCS                   TFCS                            OPTIONAL
}

PUSCH-SysInfo-LCR-r4 ::=      SEQUENCE {
    pusch-Identity              PUSCH-Identity,
    pusch-Info                  PUSCH-Info-LCR-r4,
    usch-TFS                    TransportFormatSet                OPTIONAL,
    usch-TFCS                   TFCS                            OPTIONAL
}

PUSCH-SysInfoList ::=        SEQUENCE (SIZE (1..maxPUSCH)) OF
    PUSCH-SysInfo

PUSCH-SysInfoList-HCR-r5 ::=  SEQUENCE (SIZE (1..maxPUSCH)) OF PUSCH-SysInfo-HCR-r5

PUSCH-SysInfoList-LCR-r4 ::=  SEQUENCE (SIZE (1..maxPUSCH)) OF
    PUSCH-SysInfo-LCR-r4

PUSCH-SysInfoList-SFN ::=     SEQUENCE (SIZE (1..maxPUSCH)) OF
    SEQUENCE {
        pusch-SysInfo            PUSCH-SysInfo,
        sfm-TimeInfo             SFN-TimeInfo                OPTIONAL
    }

PUSCH-SysInfoList-SFN-HCR-r5 ::= SEQUENCE (SIZE (1..maxPUSCH)) OF
    SEQUENCE {
        pusch-SysInfo            PUSCH-SysInfo-HCR-r5,
        sfm-TimeInfo             SFN-TimeInfo                OPTIONAL
    }

PUSCH-SysInfoList-SFN-LCR-r4 ::= SEQUENCE (SIZE (1..maxPUSCH)) OF
    SEQUENCE {
        pusch-SysInfo            PUSCH-SysInfo-LCR-r4,
        sfm-TimeInfo             SFN-TimeInfo                OPTIONAL
    }

RACH-TransmissionParameters ::= SEQUENCE {
    mmax                        INTEGER (1..32),
    nb01Min                     NB01,
}

```

```

    nb01Max                NB01
}

ReducedScramblingCodeNumber ::=    INTEGER (0..8191)

RepetitionPeriodAndLength ::=    CHOICE {
    repetitionPeriod1        NULL,
    -- repetitionPeriod2 could just as well be NULL also.
    repetitionPeriod2        INTEGER (1..1),
    repetitionPeriod4        INTEGER (1..3),
    repetitionPeriod8        INTEGER (1..7),
    repetitionPeriod16       INTEGER (1..15),
    repetitionPeriod32       INTEGER (1..31),
    repetitionPeriod64       INTEGER (1..63)
}

RepetitionPeriodLengthAndOffset ::= CHOICE {
    repetitionPeriod1        NULL,
    repetitionPeriod2        SEQUENCE {
        length                NULL,
        offset                INTEGER (0..1)
    },
    repetitionPeriod4        SEQUENCE {
        length                INTEGER (1..3),
        offset                INTEGER (0..3)
    },
    repetitionPeriod8        SEQUENCE {
        length                INTEGER (1..7),
        offset                INTEGER (0..7)
    },
    repetitionPeriod16       SEQUENCE {
        length                INTEGER (1..15),
        offset                INTEGER (0..15)
    },
    repetitionPeriod32       SEQUENCE {
        length                INTEGER (1..31),
        offset                INTEGER (0..31)
    },
    repetitionPeriod64       SEQUENCE {
        length                INTEGER (1..63),
        offset                INTEGER (0..63)
    }
}

ReplacedPDSCH-CodeInfo ::=    SEQUENCE {
    tfci-Field2              MaxTFCI-Field2Value,
    spreadingFactor          SF-PDSCH,
    codeNumber               CodeNumberDSCH,
    multiCodeInfo           MultiCodeInfo
}

ReplacedPDSCH-CodeInfoList ::= SEQUENCE (SIZE (1..maxTFCI-2-Combs)) OF
    ReplacedPDSCH-CodeInfo

RepPerLengthOffset-PICH ::=    CHOICE {
    rpp4-2                  INTEGER (0..3),
    rpp8-2                  INTEGER (0..7),
    rpp8-4                  INTEGER (0..7),
    rpp16-2                 INTEGER (0..15),
    rpp16-4                 INTEGER (0..15),
    rpp32-2                 INTEGER (0..31),
    rpp32-4                 INTEGER (0..31),
    rpp64-2                 INTEGER (0..63),
    rpp64-4                 INTEGER (0..63)
}

RepPerLengthOffset-MICH ::=    CHOICE {
    rpp4-2                  INTEGER (0..3),
    rpp8-2                  INTEGER (0..7),
    rpp8-4                  INTEGER (0..7),
    rpp16-2                 INTEGER (0..15),
    rpp16-4                 INTEGER (0..15),
    rpp32-2                 INTEGER (0..31),
    rpp32-4                 INTEGER (0..31),
    rpp64-2                 INTEGER (0..63),
    rpp64-4                 INTEGER (0..63)
}

```

```

RestrictedTrCH ::=
    dl-restrictedTrCh-Type
    restrictedDL-TrCH-Identity
    allowedTFIList
}

RestrictedTrCH-InfoList ::=
    SEQUENCE (SIZE(1..maxTrCH)) OF
        RestrictedTrCH

RL-AdditionInformation ::=
    primaryCPICH-Info
    dl-DPCH-InfoPerRL
    tfci-CombiningIndicator
    sccpch-InfoForFACH
}

RL-AdditionInformation-r6 ::=
    primaryCPICH-Info
    dl-dpchInfo
        dl-DPCH-InfoPerRL
        dl-FDPCH-InfoPerRL
    },
    tfci-CombiningIndicator
    sccpch-InfoForFACH
}

RL-AdditionInformationList ::=
    SEQUENCE (SIZE (1..maxRL-1)) OF
        RL-AdditionInformation

RL-AdditionInformationList-r6 ::=
    SEQUENCE (SIZE (1..maxRL-1)) OF
        RL-AdditionInformation-r6

RL-IdentifierList ::=
    SEQUENCE (SIZE (1..maxRL)) OF
        PrimaryCPICH-Info

RL-RemovalInformationList ::=
    SEQUENCE (SIZE (1..maxRL)) OF
        PrimaryCPICH-Info

RPP ::=
    ENUMERATED {
        mode0, mode1
    }

S-Field ::=
    ENUMERATED {
        e1bit, e2bits
    }

SCCPCH-ChannelisationCode ::=
    ENUMERATED {
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16
    }

SCCPCH-ChannelisationCodeList ::=
    SEQUENCE (SIZE (1..16)) OF
        SCCPCH-ChannelisationCode

SCCPCH-InfoForFACH ::=
    secondaryCCPCH-Info
    tfcs
    modeSpecificInfo
        fdd
            fach-PCH-InformationList
            sib-ReferenceListFACH
        },
        tdd
            fach-PCH-InformationList
    }
}

SCCPCH-InfoForFACH-r4 ::=
    secondaryCCPCH-Info
    tfcs
    fach-PCH-InformationList
    modeSpecificInfo
        fdd
            sib-ReferenceListFACH
        },
        tdd
            NULL
    }
}

```

```

SCCPCH-SystemInformation ::= SEQUENCE {
    secondaryCCPCH-Info      SecondaryCCPCH-Info,
    tfcs                     TFCS                               OPTIONAL,
    fach-PCH-InformationList FACH-PCH-InformationList          OPTIONAL,
    pich-Info                PICH-Info                          OPTIONAL
}

SCCPCH-SystemInformation-LCR-r4-ext ::= SEQUENCE {
    secondaryCCPCH-LCR-Extensions SecondaryCCPCH-Info-LCR-r4-ext,
    -- pich-Info in the SCCPCH-SystemInformation IE shall be absent,
    -- and instead the following used.
    pich-Info                PICH-Info-LCR-r4                  OPTIONAL
}

SCCPCH-SystemInformation-MBMS-r6-ext ::= SEQUENCE {
    mcch-ConfigurationInfo    MBMS-MCCH-ConfigurationInfo-r6    OPTIONAL
}

SCCPCH-SystemInformationList ::= SEQUENCE (SIZE (1..maxSCCPCH)) OF
    SCCPCH-SystemInformation

-- SCCPCH-SystemInformationList-LCR-r4-ext includes elements additional to those in
-- SCCPCH-SystemInformationList for the 1.28Mcps TDD. The order of the IEs
-- indicates which SCCPCH-SystemInformation-LCR-r4-ext IE extends which
-- SCCPCH-SystemInformation IE.
SCCPCH-SystemInformationList-LCR-r4-ext ::= SEQUENCE (SIZE (1..maxSCCPCH)) OF
    SCCPCH-SystemInformation-LCR-r4-ext

-- The SCCPCH-SystemInformationList-MBMS-r6-ext includes elements additional to those in the
-- SCCPCH-SystemInformationList for the mapping of MCCH onto an S-CCPCH common for both MBMS
-- and non-MBMS purposes. The order of the IEs indicates which SCCPCH-SystemInformation-MBMS-r6-ext
-- IE extends which SCCPCH-SystemInformation IE.
SCCPCH-SystemInformationList-MBMS-r6-ext ::= SEQUENCE (SIZE (1..maxSCCPCH)) OF
    SCCPCH-SystemInformation-MBMS-r6-ext

-- The SCCPCH-SystemInformation-MBMS-r6 is used for an S-CCPCH dedicated for MBMS purposes.
SCCPCH-SystemInformation-MBMS-r6 ::= SEQUENCE {
    secondaryCCPCHInfo-MBMS      SecondaryCCPCHInfo-MBMS-r6,
    transportFormatCombinationSet TFCS,
    fachCarryingMCCH             SEQUENCE {
        transportFormatSet      TransportFormatSet,
        mcch-ConfigurationInfo  MBMS-MCCH-ConfigurationInfo-r6
    },
    fachCarryingMTCH-List        MBMS-FACHCarryingMTCH-List    OPTIONAL,
    schedulingInformation        SEQUENCE {
        fachCarryingMSCH        TransportFormatSet,
        mschConfigurationInfo   MBMS-MSCHConfigurationInfo-r6
    }
    OPTIONAL
}

ScramblingCodeChange ::= ENUMERATED {
    codeChange, noCodeChange }

ScramblingCodeType ::= ENUMERATED {
    shortSC,
    longSC }

SecondaryCCPCH-Info ::= SEQUENCE {
    modeSpecificInfo            CHOICE {
        fdd                     SEQUENCE {
            -- dummy1 is not used in this version of the specification and should be ignored.
            dummy1              PCPICH-UsageForChannelEst,
            -- dummy2 is not used in this version of the specification. It should not
            -- be sent and if received it should be ignored.
            dummy2              SecondaryCPICH-Info                OPTIONAL,
            secondaryScramblingCode SecondaryScramblingCode        OPTIONAL,
            sttd-Indicator       BOOLEAN,
            sf-AndCodeNumber     SF256-AndCodeNumber,
            pilotSymbolExistence BOOLEAN,
            tfci-Existence       BOOLEAN,
            positionFixedOrFlexible PositionFixedOrFlexible,
            timingOffset         TimingOffset                      DEFAULT 0
        },
        tdd                     SEQUENCE {
            -- TABULAR: the offset is included in CommonTimeslotInfoSCCPCH
            commonTimeslotInfo    CommonTimeslotInfoSCCPCH,
            individualTimeslotInfo IndividualTimeslotInfo,

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        channelisationCode          SCCPCH-ChannelisationCodeList
    }
}

SecondaryCCPCH-Info-r4 ::= SEQUENCE {
    modeSpecificInfo              CHOICE {
        fdd                       SEQUENCE {
            secondaryScramblingCode  SecondaryScramblingCode          OPTIONAL,
            sttd-Indicator            BOOLEAN,
            sf-AndCodeNumber         SF256-AndCodeNumber,
            pilotSymbolExistence     BOOLEAN,
            tfci-Existence           BOOLEAN,
            positionFixedOrFlexible  PositionFixedOrFlexible,
            timingOffset             TimingOffset                DEFAULT 0
        },
        tdd                       SEQUENCE {
            -- TABULAR: the offset is included in CommonTimeslotInfoSCCPCH
            commonTimeslotInfo       CommonTimeslotInfoSCCPCH,
            tddOption                CHOICE {
                tdd384               SEQUENCE {
                    individualTimeslotInfo  IndividualTimeslotInfo
                },
                tdd128               SEQUENCE {
                    individualTimeslotInfo  IndividualTimeslotInfo-LCR-r4
                }
            },
            channelisationCode       SCCPCH-ChannelisationCodeList
        }
    }
}

SecondaryCCPCH-Info-LCR-r4-ext ::= SEQUENCE {
    individualTimeslotLCR-Ext      IndividualTimeslotInfo-LCR-r4-ext
}

SecondaryCCPCHInfo-MBMS-r6 ::= SEQUENCE {
    modeSpecificInfo              CHOICE {
        fdd                       SEQUENCE {
            secondaryScramblingCode  SecondaryScramblingCode          OPTIONAL,
            sttd-Indicator            BOOLEAN,
            sf-AndCodeNumber         SF256-AndCodeNumber,
            tfci-Existence           BOOLEAN,
            positionFixedOrFlexible  PositionFixedOrFlexible,
            timingOffset             TimingOffset                DEFAULT 0
        },
        tdd384                     DownlinkTimeslotsCodes,
        tdd128                     DownlinkTimeslotsCodes-LCR-r4
    }
}

SecondaryCPICH-Info ::= SEQUENCE {
    secondaryDL-ScramblingCode     SecondaryScramblingCode          OPTIONAL,
    channelisationCode             ChannelisationCode256
}

SecondaryScramblingCode ::= INTEGER (1..15)

SecondInterleavingMode ::= ENUMERATED {
    frameRelated, timeslotRelated }

-- SF256-AndCodeNumber encodes both "Spreading factor" and "Code Number"
SF256-AndCodeNumber ::= CHOICE {
    sf4          INTEGER (0..3),
    sf8          INTEGER (0..7),
    sf16         INTEGER (0..15),
    sf32         INTEGER (0..31),
    sf64         INTEGER (0..63),
    sf128        INTEGER (0..127),
    sf256        INTEGER (0..255)
}

-- SF512-AndCodeNumber encodes both "Spreading factor" and "Code Number"
SF512-AndCodeNumber ::= CHOICE {
    sf4          INTEGER (0..3),
    sf8          INTEGER (0..7),
    sf16         INTEGER (0..15),
    sf32         INTEGER (0..31),
}

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    sf64                INTEGER (0..63),
    sf128               INTEGER (0..127),
    sf256               INTEGER (0..255),
    sf512               INTEGER (0..511)
}

-- SF512-AndPilot encodes both "Spreading factor" and "Number of bits for Pilot bits"
SF512-AndPilot ::= CHOICE {
    sfd4                NULL,
    sfd8                NULL,
    sfd16               NULL,
    sfd32               NULL,
    sfd64               NULL,
    sfd128              PilotBits128,
    sfd256              PilotBits256,
    sfd512              NULL
}

SF-PDSCH ::= ENUMERATED {
    sfp4, sfp8, sfp16, sfp32,
    sfp64, sfp128, sfp256 }

SF-PRACH ::= ENUMERATED {
    sfpr32, sfpr64, sfpr128, sfpr256 }

SFN-TimeInfo ::= SEQUENCE {
    activationTimeSFN   INTEGER (0..4095),
    physChDuration      DurationTimeInfo
}

-- actual scheduling value = 2(signalled value +1) and is the periodicity of sending special burst frames
SpecialBurstScheduling ::= INTEGER (0..7)

SpreadingFactor ::= ENUMERATED {
    sf4, sf8, sf16, sf32,
    sf64, sf128, sf256 }

SRB-delay ::= INTEGER (0..7)

SSDT-CellIdentity ::= ENUMERATED {
    ssdt-id-a, ssdt-id-b, ssdt-id-c,
    ssdt-id-d, ssdt-id-e, ssdt-id-f,
    ssdt-id-g, ssdt-id-h }

SSDT-Information ::= SEQUENCE {
    s-Field              S-Field,
    codeWordSet          CodeWordSet
}

SSDT-Information-r4 ::= SEQUENCE {
    s-Field              S-Field,
    codeWordSet          CodeWordSet,
    ssdt-UL-r4           SSDT-UL
}

SSDT-UL ::= ENUMERATED {
    ul, ul-AndDL }

SynchronisationParameters-r4 ::= SEQUENCE {
    sync-UL-CodesBitmap BIT STRING {
        code7(0),
        code6(1),
        code5(2),
        code4(3),
        code3(4),
        code2(5),
        code1(6),
        code0(7)
    } (SIZE (8)),
    fpach-Info           FPACH-Info-r4,
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes          INTEGER (0..62),
    sync-UL-Procedure    SYNC-UL-Procedure-r4
}

SYNC-UL-Procedure-r4 ::= SEQUENCE {
    max-SYNC-UL-Transmissions
    powerRampStep        ENUMERATED { tr1, tr2, tr4, tr8 },
    powerRampStep        INTEGER (0..3)
}

```



```

SYNC-UL-Info-r4 ::=
    sync-UL-Codes-Bitmap
    prxUpPCHdes
    powerRampStep
    max-SYNC-UL-Transmissions
    mmax
}

SEQUENCE {
    BIT STRING {
        code7(0),
        code6(1),
        code5(2),
        code4(3),
        code3(4),
        code2(5),
        code1(6),
        code0(7)
    } ( SIZE (8)),
    -- Actual value prxUpPCHdes = IE value - 120
    INTEGER (0..62),
    INTEGER (0..3),
    ENUMERATED { tr1, tr2, tr4, tr8 } ,
    INTEGER(1..32)
}

TDD-FPACH-CCode16-r4 ::=
    ENUMERATED {
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-UL-Interference ::=
    INTEGER (-110..-52)

TDD-PICH-CCode ::=
    ENUMERATED {
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode8 ::=
    ENUMERATED {
        cc8-1, cc8-2, cc8-3, cc8-4,
        cc8-5, cc8-6, cc8-7, cc8-8 }

TDD-PRACH-CCode16 ::=
    ENUMERATED {
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode-LCR-r4 ::=
    ENUMERATED {
        cc4-1, cc4-2, cc4-3, cc4-4,
        cc8-1, cc8-2, cc8-3, cc8-4,
        cc8-5, cc8-6, cc8-7, cc8-8,
        cc16-1, cc16-2, cc16-3, cc16-4,
        cc16-5, cc16-6, cc16-7, cc16-8,
        cc16-9, cc16-10, cc16-11, cc16-12,
        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCodeList ::=
    sf8
    CHOICE {
        SEQUENCE (SIZE (1..8)) OF
            TDD-PRACH-CCode8,
        -- Channelisation codes cc16-9, cc16-10, cc16-11, cc16-12, cc16-13, cc16-14,
        -- cc16-15 and cc16-16 shall not be used
        sf16
        SEQUENCE (SIZE (1..8)) OF
            TDD-PRACH-CCode16
    }

TFC-ControlDuration ::=
    ENUMERATED {
        tfc-cd1, tfc-cd2, tfc-cd4, tfc-cd8,
        tfc-cd16, tfc-cd24, tfc-cd32,
        tfc-cd48, tfc-cd64, tfc-cd128,
        tfc-cd192, tfc-cd256, tfc-cd512 }

TFCI-Coding ::=
    ENUMERATED {
        tfci-bits-4, tfci-bits-8,
        tfci-bits-16, tfci-bits-32 }

TGCFN ::=
    INTEGER (0..255)

-- In TGD, value 270 represents "undefined" in the tabular description.
TGD ::=
    INTEGER (15..270)

TGL ::=
    INTEGER (1..14)

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```

TGMP ::=
    ENUMERATED {
        tdd-Measurement, fdd-Measurement,
        gsm-CarrierRSSIMeasurement,
        gsm-initialBSICIdentification, gsmBSICReconfirmation,
        multi-carrier }

TGP-Sequence ::=
    tgpsi
    tgps-Status
        activate
            tgcfm
        },
    deactivate
    },
    tgps-ConfigurationParams
}

TGPS-Reconfiguration-CFN ::=
    INTEGER (0..255)

TGP-SequenceList ::=
    SEQUENCE (SIZE (1..maxTGPS)) OF
        TGP-Sequence

TGP-SequenceShort ::=
    tgpsi
    tgps-Status
        activate
            tgcfm
        },
    deactivate
    }
}

TGPL ::=
    INTEGER (1..144)

-- TABULAR: In TGPRC, value 0 represents "infinity" in the tabular description.
TGPRC ::=
    INTEGER (0..511)

TGPS-ConfigurationParams ::=
    SEQUENCE {
        tgmpr TGMP,
        tgprc TGPRC,
        tgsn TGSN,
        tgl1 TGL,
        tgl2 TGL,
        tgd TGD,
        tgpl1 TGPL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it shall be ignored.
        dummy TGPL,
        rpp RPP,
        itp ITP,
        -- TABULAR: Compressed mode method is nested inside UL-DL-Mode
        ul-DL-Mode UL-DL-Mode,
        dl-FrameType DL-FrameType,
        deltaSIR1 DeltaSIR,
        deltaSIRAfter1 DeltaSIR,
        deltaSIR2 DeltaSIR,
        deltaSIRAfter2 DeltaSIR,
        nidentifyAbort NidentifyAbort,
        treconfirmAbort TreconfirmAbort
    }

TGPSI ::=
    INTEGER (1..maxTGPS)

TGSN ::=
    INTEGER (0..14)

TimeInfo ::=
    activationTime
    durationTimeInfo
}

TimeslotList ::=
    SEQUENCE (SIZE (1..maxTS)) OF
        TimeslotNumber

TimeslotList-r4 ::=
    tdd384
    tdd128
    CHOICE {
        SEQUENCE (SIZE (1..maxTS)) OF
            TimeslotNumber,
        SEQUENCE (SIZE (1..maxTS-LCR)) OF
            TimeslotNumber-LCR-r4
    }

```

```

}

-- If TimeslotNumber is included for a 1.28Mcps TDD description, it shall take values from 0..6
TimeslotNumber ::=
    INTEGER (0..14)

TimeslotNumber-LCR-r4 ::=
    INTEGER (0..6)

TimeslotNumber-PRACH-LCR-r4 ::=
    INTEGER (1..6)

TimeslotSync2 ::=
    INTEGER (0..6)

-- Actual value TimingOffset = IE value * 256
TimingOffset ::=
    INTEGER (0..149)

TPC-CombinationIndex ::=
    INTEGER (0..5)

-- Actual value TPC-StepSizeFDD = IE value + 1
TPC-StepSizeFDD ::=
    INTEGER (0..1)

TPC-StepSizeTDD ::=
    INTEGER (1..3)

-- Actual value TreconfirmAbort = IE value * 0.5 seconds
TreconfirmAbort ::= INTEGER (1..20)

TX-DiversityMode ::=
    ENUMERATED {
        noDiversity,
        sttd,
        closedLoopModel1,
        closedLoopModel2 }

UARFCN ::=
    INTEGER (0..16383)

UCSM-Info ::=
    SEQUENCE {
        minimumSpreadingFactor MinimumSpreadingFactor,
        nf-Max NF-Max,
        channelReqParamsForUCSM ChannelReqParamsForUCSM
    }

UL-CCTrCH ::=
    SEQUENCE {
        tfcs-ID TFCS-IdentityPlain DEFAULT 1,
        ul-TargetSIR UL-TargetSIR,
        timeInfo TimeInfo,
        commonTimeslotInfo CommonTimeslotInfo OPTIONAL,
        ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes OPTIONAL
    }

UL-CCTrCH-r4 ::=
    SEQUENCE {
        tfcs-ID TFCS-IdentityPlain DEFAULT 1,
        -- The IE ul-TargetSIR corresponds to PRX-DPCHdes for 1.28Mcps TDD
        -- Actual value PRX-DPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR UL-TargetSIR,
        timeInfo TimeInfo,
        commonTimeslotInfo CommonTimeslotInfo OPTIONAL,
        tddOption CHOICE {
            tdd384 SEQUENCE {
                ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes OPTIONAL
            },
            tdd128 SEQUENCE {
                ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes-LCR-r4 OPTIONAL
            }
        }
    }

UL-CCTrCHList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
        UL-CCTrCH

UL-CCTrCHList-r4 ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
        UL-CCTrCH-r4

UL-CCTrCHListToRemove ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
        TFCS-IdentityPlain

UL-CCTrChTPCList ::=
    SEQUENCE (SIZE (0..maxCCTrCH)) OF
        TFCS-Identity

UL-ChannelRequirement ::=
    CHOICE {
        ul-DPCH-Info UL-DPCH-Info,
        cpch-SetInfo CPCH-SetInfo
    }

```

```

}

UL-ChannelRequirement-r4 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r4,
    cpch-SetInfo          CPCH-SetInfo
}

UL-ChannelRequirement-r5 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r5,
    cpch-SetInfo          CPCH-SetInfo
}

UL-ChannelRequirement-r6 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r6,
    cpch-SetInfo          CPCH-SetInfo
}

UL-ChannelRequirementWithCPCH-SetID ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info,
    cpch-SetInfo          CPCH-SetInfo,
    cpch-SetID            CPCH-SetID
}

UL-ChannelRequirementWithCPCH-SetID-r4 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r4,
    cpch-SetInfo          CPCH-SetInfo,
    cpch-SetID            CPCH-SetID
}

UL-ChannelRequirementWithCPCH-SetID-r5 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r5,
    cpch-SetInfo          CPCH-SetInfo,
    cpch-SetID            CPCH-SetID
}

UL-ChannelRequirementWithCPCH-SetID-r6 ::= CHOICE {
    ul-DPCH-Info          UL-DPCH-Info-r6,
    cpch-SetInfo          CPCH-SetInfo,
    cpch-SetID            CPCH-SetID
}

UL-CompressedModeMethod ::= ENUMERATED {
    sf-2,
    higherLayerScheduling }

UL-DL-Mode ::= CHOICE {
    ul                    UL-CompressedModeMethod,
    dl                    DL-CompressedModeMethod,
    ul-and-dl             SEQUENCE {
        ul                UL-CompressedModeMethod,
        dl                DL-CompressedModeMethod
    }
}

UL-DPCH-SlotFormat ::= ENUMERATED {
    slf0, slf1, slf2 }

UL-DPCH-Info ::= SEQUENCE {
    ul-DPCH-PowerControlInfo  UL-DPCH-PowerControlInfo  OPTIONAL,
    modeSpecificInfo          CHOICE {
        fdd                    SEQUENCE {
            scramblingCodeType  ScramblingCodeType,
            scramblingCode       UL-ScramblingCode,
            numberOfDPDCH        NumberOfDPDCH          DEFAULT 1,
            spreadingFactor      SpreadingFactor,
            tfci-Existence       BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits     NumberOfFBI-Bits          OPTIONAL,
            puncturingLimit      PuncturingLimit
        },
        tdd                    SEQUENCE {
            ul-TimingAdvance     UL-TimingAdvanceControl  OPTIONAL,
            ul-CCTrCHList        UL-CCTrCHList          OPTIONAL,
            ul-CCTrCHListToRemove UL-CCTrCHListToRemove  OPTIONAL
        }
    }
}

UL-DPCH-Info-r4 ::= SEQUENCE {

```

```

ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfo-r4      OPTIONAL,
modeSpecificInfo                   CHOICE {
    fdd                             SEQUENCE {
        scramblingCodeType          ScramblingCodeType,
        scramblingCode              UL-ScramblingCode,
        numberOfDPDCH               NumberOfDPDCH          DEFAULT 1,
        spreadingFactor            SpreadingFactor,
        tfci-Existence             BOOLEAN,
        -- numberOfFBI-Bits is conditional based on history
        numberOfFBI-Bits           NumberOfFBI-Bits          OPTIONAL,
        puncturingLimit            PuncturingLimit
    },
    tdd                             SEQUENCE {
        ul-TimingAdvance            UL-TimingAdvanceControl-r4  OPTIONAL,
        ul-CCTrCHList              UL-CCTrCHList-r4         OPTIONAL,
        ul-CCTrCHListToRemove      UL-CCTrCHListToRemove    OPTIONAL
    }
}
}

UL-DPCH-Info-r5 ::=
ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfo-r5      OPTIONAL,
modeSpecificInfo                   CHOICE {
    fdd                             SEQUENCE {
        scramblingCodeType          ScramblingCodeType,
        scramblingCode              UL-ScramblingCode,
        numberOfDPDCH               NumberOfDPDCH          DEFAULT 1,
        spreadingFactor            SpreadingFactor,
        tfci-Existence             BOOLEAN,
        -- numberOfFBI-Bits is conditional based on history
        numberOfFBI-Bits           NumberOfFBI-Bits          OPTIONAL,
        puncturingLimit            PuncturingLimit
    },
    tdd                             SEQUENCE {
        ul-TimingAdvance            UL-TimingAdvanceControl-r4  OPTIONAL,
        ul-CCTrCHList              UL-CCTrCHList-r4         OPTIONAL,
        ul-CCTrCHListToRemove      UL-CCTrCHListToRemove    OPTIONAL
    }
}
}

UL-DPCH-Info-r6 ::=
ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfo-r6      OPTIONAL,
modeSpecificInfo                   CHOICE {
    fdd                             SEQUENCE {
        scramblingCodeType          ScramblingCodeType,
        scramblingCode              UL-ScramblingCode,
        numberOfDPDCH               NumberOfDPDCH          DEFAULT 1,
        spreadingFactor            SpreadingFactor,
        tfci-Existence             BOOLEAN,
        -- numberOfFBI-Bits is conditional based on history
        numberOfFBI-Bits           NumberOfFBI-Bits          OPTIONAL,
        puncturingLimit            PuncturingLimit
    },
    tdd                             SEQUENCE {
        ul-TimingAdvance            UL-TimingAdvanceControl-r4  OPTIONAL,
        ul-CCTrCHList              UL-CCTrCHList-r4         OPTIONAL,
        ul-CCTrCHListToRemove      UL-CCTrCHListToRemove    OPTIONAL
    }
}
}

UL-DPCH-InfoPostFDD ::=
ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfoPostFDD,
scramblingCodeType               ScramblingCodeType,
reducedScramblingCodeNumber       ReducedScramblingCodeNumber,
spreadingFactor                   SpreadingFactor
}

UL-DPCH-InfoPostTDD ::=
ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfoPostTDD,
ul-TimingAdvance                  UL-TimingAdvanceControl          OPTIONAL,
ul-CCTrCH-TimeslotsCodes         UplinkTimeslotsCodes
}

UL-DPCH-InfoPostTDD-LCR-r4 ::=
ul-DPCH-PowerControlInfo          UL-DPCH-PowerControlInfoPostTDD-LCR-r4,

```

```

    ul-TimingAdvance          UL-TimingAdvanceControl-LCR-r4          OPTIONAL,
    ul-CCTrCH-TimeslotsCodes  UplinkTimeslotsCodes-LCR-r4
}

UL-DPCH-InfoPredef ::= SEQUENCE {
    ul-DPCH-PowerControlInfo  UL-DPCH-PowerControlInfoPredef,
    modeSpecificInfo          CHOICE {
        fdd                    SEQUENCE {
            tfci-Existence     BOOLEAN,
            puncturingLimit     PuncturingLimit
        },
        tdd                    SEQUENCE {
            commonTimeslotInfo  CommonTimeslotInfo
        }
    }
}

UL-DPCH-PowerControlInfo ::= CHOICE {
    fdd                        SEQUENCE {
        dpcch-PowerOffset      DPCCH-PowerOffset,
        pc-Preamble             PC-Preamble,
        sRB-delay               SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm   PowerControlAlgorithm
    },
    tdd                        SEQUENCE {
        ul-TargetSIR            UL-TargetSIR          OPTIONAL,
        ul-OL-PC-Signalling     CHOICE {
            broadcast-UL-OL-PC-info  NULL,
            individuallySignalled    SEQUENCE {
                individualTS-InterferenceList  IndividualTS-InterferenceList,
                dpch-ConstantValue            ConstantValueTdd,
                primaryCCPCH-TX-Power         PrimaryCCPCH-TX-Power
            }
        }
    }
}

UL-DPCH-PowerControlInfo-r4 ::= CHOICE {
    fdd                        SEQUENCE {
        dpcch-PowerOffset      DPCCH-PowerOffset,
        pc-Preamble             PC-Preamble,
        sRB-delay               SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm   PowerControlAlgorithm
    },
    tdd                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-DPCHdes for 1.28Mcps TDD
        -- Actual value PRX-DPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR            UL-TargetSIR          OPTIONAL,
        ul-OL-PC-Signalling     CHOICE {
            broadcast-UL-OL-PC-info  NULL,
            individuallySignalled    SEQUENCE {
                tddOption            CHOICE {
                    tdd384           SEQUENCE {
                        individualTS-InterferenceList  IndividualTS-InterferenceList,
                        dpch-ConstantValue            ConstantValue
                    },
                    tdd128           SEQUENCE {
                        tpc-StepSize  TPC-StepSizeTDD
                    }
                }
            },
            primaryCCPCH-TX-Power  PrimaryCCPCH-TX-Power
        }
    }
}

UL-DPCH-PowerControlInfo-r5 ::= CHOICE {
    fdd                        SEQUENCE {
        dpcch-PowerOffset      DPCCH-PowerOffset,
        pc-Preamble             PC-Preamble,
        sRB-delay               SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm   PowerControlAlgorithm,
        deltaACK                 DeltaACK          OPTIONAL,
        deltaNACK                DeltaNACK        OPTIONAL,
        ack-NACK-repetition-factor  ACK-NACK-repetitionFactor  OPTIONAL
    }
}

```

```

},
tdd
-- The IE ul-TargetSIR corresponds to PRX-DPCHdes for 1.28Mcps TDD
-- Actual value PRX-DPCHdes = (value of IE "ul-TargetSIR" - 120)
ul-TargetSIR                UL-TargetSIR                OPTIONAL,
ul-OL-PC-Signalling         CHOICE {
    broadcast-UL-OL-PC-info  NULL,
    individuallySignalled   SEQUENCE {
        tddOption          CHOICE {
            tdd384         SEQUENCE {
                individualTS-InterferenceList  IndividualTS-InterferenceList,
                dpch-ConstantValue            ConstantValue
            },
            tdd128         SEQUENCE {
                tpc-StepSize            TPC-StepSizeTDD
            }
        }
    },
    primaryCCPCH-TX-Power    PrimaryCCPCH-TX-Power
}
}
}

UL-DPCH-PowerControlInfo-r6 ::= CHOICE {
    fdd
        dpch-PowerOffset      DPCCH-PowerOffset,
        pc-Preamble           PC-Preamble,
        sRB-delay             SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm PowerControlAlgorithm,
        deltaACK              DeltaACK OPTIONAL,
        deltaNACK             DeltaNACK OPTIONAL,
        ack-NACK-repetition-factor  ACK-NACK-repetitionFactor OPTIONAL,
        harq-Preamble-Mode    HARQ-Preamble-Mode OPTIONAL
    },
    tdd
        -- The IE ul-TargetSIR corresponds to PRX-DPCHdes for 1.28Mcps TDD
        -- Actual value PRX-DPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR                UL-TargetSIR                OPTIONAL,
        ul-OL-PC-Signalling         CHOICE {
            broadcast-UL-OL-PC-info  NULL,
            individuallySignalled   SEQUENCE {
                tddOption          CHOICE {
                    tdd384         SEQUENCE {
                        individualTS-InterferenceList  IndividualTS-InterferenceList,
                        dpch-ConstantValue            ConstantValue
                    },
                    tdd128         SEQUENCE {
                        beaconPLEst                BEACON-PL-Est                OPTIONAL,
                        tpc-StepSize            TPC-StepSizeTDD
                    }
                }
            },
            primaryCCPCH-TX-Power    PrimaryCCPCH-TX-Power
        }
    }
}

UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
    dpch-PowerOffset      DPCCH-PowerOffset2,
    pc-Preamble           PC-Preamble,
    sRB-delay             SRB-delay
}

UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR                UL-TargetSIR,
    ul-TimeslotInterference    TDD-UL-Interference
}

UL-DPCH-PowerControlInfoPostTDD-LCR-r4 ::= SEQUENCE {
    -- The IE ul-TargetSIR corresponds to PRX-DPCHdes for 1.28Mcps TDD
    -- Actual value PRX-DPCHdes = (value of IE "ul-TargetSIR" - 120)
    ul-TargetSIR                UL-TargetSIR
}

UL-DPCH-PowerControlInfoPredef ::= CHOICE {
    fdd
        SEQUENCE {

```

```

        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm          PowerControlAlgorithm
    },
    tdd                                SEQUENCE {
        -- dpch-ConstantValue shall be ignored if in 1.28Mcps TDD mode.
        dpch-ConstantValue             ConstantValueTdd
    }
}

UL-EDCH-Information-r6 ::=          SEQUENCE {
    e-DPCCH-Info                      E-DPCCH-Info                OPTIONAL,
    e-DPDCH-Info                      E-DPDCH-Info                OPTIONAL
}

UL-Interference ::=                INTEGER (-110..-70)

UL-ScramblingCode ::=              INTEGER (0..16777215)

UL-SynchronisationParameters-r4 ::= SEQUENCE {
    stepSize                          INTEGER (1..8),
    frequency                          INTEGER (1..8)
}

-- Actual value UL-TargetSIR = (IE value * 0.5) - 11
UL-TargetSIR ::=                   INTEGER (0..62)

UL-TimingAdvance ::=               INTEGER (0..63)

UL-TimingAdvanceControl ::=        CHOICE {
    disabled                           NULL,
    enabled                             SEQUENCE {
        ul-TimingAdvance              UL-TimingAdvance          OPTIONAL,
        activationTime                 ActivationTime             OPTIONAL
    }
}

UL-TimingAdvanceControl-r4 ::=     CHOICE {
    disabled                           NULL,
    enabled                             SEQUENCE {
        tddOption                     CHOICE {
            tdd384                     SEQUENCE {
                ul-TimingAdvance        UL-TimingAdvance          OPTIONAL,
                activationTime           ActivationTime             OPTIONAL
            },
            tdd128                     SEQUENCE {
                ul-SynchronisationParameters
                    SynchronisationParameters-r4 OPTIONAL,
                synchronisationParameters
                    SynchronisationParameters-r4 OPTIONAL
            }
        }
    }
}

UL-TimingAdvanceControl-LCR-r4 ::= CHOICE {
    disabled                           NULL,
    enabled                             SEQUENCE {
        ul-SynchronisationParameters  UL-SynchronisationParameters-r4 OPTIONAL,
        synchronisationParameters      SynchronisationParameters-r4  OPTIONAL
    }
}

UL-TS-ChannelisationCode ::=       ENUMERATED {
    cc1-1, cc2-1, cc2-2,
    cc4-1, cc4-2, cc4-3, cc4-4,
    cc8-1, cc8-2, cc8-3, cc8-4,
    cc8-5, cc8-6, cc8-7, cc8-8,
    cc16-1, cc16-2, cc16-3, cc16-4,
    cc16-5, cc16-6, cc16-7, cc16-8,
    cc16-9, cc16-10, cc16-11, cc16-12,
    cc16-13, cc16-14, cc16-15, cc16-16 }

UL-TS-ChannelisationCodeList ::=   SEQUENCE (SIZE (1..2)) OF
    UL-TS-ChannelisationCode

UplinkAdditionalTimeslots ::=      SEQUENCE {
    parameters                         CHOICE {
        sameAsLast                     SEQUENCE {
            timeslotNumber              TimeslotNumber
        }
    }
}

```



```

    },
    newParameters
        individualTimeslotInfo
        ul-TS-ChannelisationCodeList
    }
}

UplinkAdditionalTimeslots-LCR-r4 ::= SEQUENCE {
    parameters
        sameAsLast
        timeslotNumber
    },
    newParameters
        individualTimeslotInfo
        ul-TS-ChannelisationCodeList
}

UplinkTimeslotsCodes ::= SEQUENCE {
    dynamicSFusage
    firstIndividualTimeslotInfo
    ul-TS-ChannelisationCodeList
    moreTimeslots
        noMore
        additionalTimeslots
            consecutive
            numAdditionalTimeslots
        },
    timeslotList
}

UplinkTimeslotsCodes-LCR-r4 ::= SEQUENCE {
    dynamicSFusage
    firstIndividualTimeslotInfo
    ul-TS-ChannelisationCodeList
    moreTimeslots
        noMore
        additionalTimeslots
            consecutive
            numAdditionalTimeslots
        },
    timeslotList
}

Wi-LCR ::= INTEGER(1..4)

-- *****
--
-- MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- *****

AcquisitionSatInfo ::= SEQUENCE {
    satID
    -- Actual value dopplerOthOrder = IE value * 2.5
    dopplerOthOrder
    extraDopplerInfo
    codePhase
    integerCodePhase
    gps-BitNumber
    codePhaseSearchWindow
    azimuthAndElevation
}

AcquisitionSatInfoList ::= SEQUENCE (SIZE (1..maxSat)) OF
    AcquisitionSatInfo

AdditionalMeasurementID-List ::= SEQUENCE (SIZE (1..maxAdditionalMeas)) OF
    MeasurementIdentity

```

```

AlmanacSatInfo ::=
    dataID          INTEGER (0..3),
    satID           SatID,
    e               BIT STRING (SIZE (16)),
    t-oa           BIT STRING (SIZE (8)),
    deltaI         BIT STRING (SIZE (16)),
    omegaDot       BIT STRING (SIZE (16)),
    satHealth      BIT STRING (SIZE (8)),
    a-Sqrt         BIT STRING (SIZE (24)),
    omega0         BIT STRING (SIZE (24)),
    m0             BIT STRING (SIZE (24)),
    omega          BIT STRING (SIZE (24)),
    af0            BIT STRING (SIZE (11)),
    af1            BIT STRING (SIZE (11))
}

AlmanacSatInfoList ::=
    SEQUENCE (SIZE (1..maxSat)) OF
        AlmanacSatInfo

AverageRLC-BufferPayload ::=
    ENUMERATED {
        pla0, pla4, pla8, pla16, pla32,
        pla64, pla128, pla256, pla512,
        pla1024, pla2k, pla4k, pla8k, pla16k,
        pla32k, pla64k, pla128k, pla256k,
        pla512k, pla1024k, spare12, spare11,
        spare10, spare9, spare8, spare7, spare6,
        spare5, spare4, spare3, spare2, spare1 }

AzimuthAndElevation ::=
    SEQUENCE {
        -- Actual value azimuth = IE value * 11.25
        azimuth          INTEGER (0..31),
        -- Actual value elevation = IE value * 11.25
        elevation        INTEGER (0..7)
    }

BadSatList ::=
    SEQUENCE (SIZE (1..maxSat)) OF
        INTEGER (0..63)

Frequency-Band ::=
    ENUMERATED {
        dcs1800BandUsed, pcs1900BandUsed }

BCCH-ARFCN ::=
    INTEGER (0..1023)

BLER-MeasurementResults ::=
    SEQUENCE {
        transportChannelIdentity TransportChannelIdentity,
        dl-TransportChannelBLER  DL-TransportChannelBLER           OPTIONAL
    }

BLER-MeasurementResultsList ::=
    SEQUENCE (SIZE (1..maxTrCH)) OF
        BLER-MeasurementResults

BLER-TransChIdList ::=
    SEQUENCE (SIZE (1..maxTrCH)) OF
        TransportChannelIdentity

BSIC-VerificationRequired ::=
    ENUMERATED {
        required, notRequired }

BSICReported ::=
    CHOICE {
        -- Value maxCellMeas is not allowed for verifiedBSIC
        verifiedBSIC      INTEGER (0..maxCellMeas),
        nonVerifiedBSIC   BCCH-ARFCN
    }

BurstModeParameters ::=
    SEQUENCE {
        burstStart        INTEGER (0..15),
        burstLength       INTEGER (10..25),
        burstFreq         INTEGER (1..16)
    }

CellDCH-ReportCriteria ::=
    CHOICE {
        intraFreqReportingCriteria IntraFreqReportingCriteria,
        periodicalReportingCriteria PeriodicalReportingCriteria
    }

CellDCH-ReportCriteria-LCR-r4 ::=
    CHOICE {
        intraFreqReportingCriteria IntraFreqReportingCriteria-LCR-r4,
        periodicalReportingCriteria PeriodicalReportingCriteria
    }

```

```

}

-- Actual value CellIndividualOffset = IE value * 0.5
CellIndividualOffset ::=          INTEGER (-20..20)

CellInfo ::=                      SEQUENCE {
    cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell  OPTIONAL,
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            primaryCPICH-Info    PrimaryCPICH-Info          OPTIONAL,
            primaryCPICH-TX-Power PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator    BOOLEAN,
            tx-DiversityIndicator BOOLEAN
        },
        tdd                      SEQUENCE {
            primaryCCPCH-Info    PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList     TimeslotInfoList        OPTIONAL,
            readSFN-Indicator    BOOLEAN
        }
    }
}

CellInfo-r4 ::=                  SEQUENCE {
    cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell  OPTIONAL,
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            primaryCPICH-Info    PrimaryCPICH-Info          OPTIONAL,
            primaryCPICH-TX-Power PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator    BOOLEAN,
            tx-DiversityIndicator BOOLEAN
        },
        tdd                      SEQUENCE {
            primaryCCPCH-Info    PrimaryCCPCH-Info-r4,
            primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList     TimeslotInfoList-r4      OPTIONAL,
            readSFN-Indicator    BOOLEAN
        }
    }
}

CellInfoSI-RSCP ::=             SEQUENCE {
    cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell  OPTIONAL,
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            primaryCPICH-Info    PrimaryCPICH-Info          OPTIONAL,
            primaryCPICH-TX-Power PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator    BOOLEAN,
            tx-DiversityIndicator BOOLEAN
        },
        tdd                      SEQUENCE {
            primaryCCPCH-Info    PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList     TimeslotInfoList        OPTIONAL,
            readSFN-Indicator    BOOLEAN
        }
    },
    cellSelectionReselectionInfo CellSelectReselectInfoSIB-11-12-RSCP  OPTIONAL
}

CellInfoSI-RSCP-LCR-r4 ::=      SEQUENCE {
    cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell  OPTIONAL,
    primaryCCPCH-Info            PrimaryCCPCH-Info-LCR-r4,
    primaryCCPCH-TX-Power        PrimaryCCPCH-TX-Power    OPTIONAL,
    timeslotInfoList             TimeslotInfoList-LCR-r4  OPTIONAL,
    readSFN-Indicator            BOOLEAN,
    cellSelectionReselectionInfo CellSelectReselectInfoSIB-11-12-RSCP  OPTIONAL
}

CellInfoSI-ECN0 ::=            SEQUENCE {
    cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell  OPTIONAL,

```

```

modeSpecificInfo
  fdd
    primaryCPICH-Info
    primaryCPICH-TX-Power
    readSFN-Indicator
    tx-DiversityIndicator
  },
  tdd
    primaryCCPCH-Info
    primaryCCPCH-TX-Power
    timeslotInfoList
    readSFN-Indicator
  }
},
cellSelectionReselectionInfo      CellSelectReselectInfoSIB-11-12-ECN0      OPTIONAL
}

CellInfoSI-ECN0-LCR-r4 ::=
  cellIndividualOffset
  referenceTimeDifferenceToCell
  primaryCCPCH-Info
  primaryCCPCH-TX-Power
  timeslotInfoList
  readSFN-Indicator
  cellSelectionReselectionInfo
}
SEQUENCE {
  CellIndividualOffset              DEFAULT 0,
  ReferenceTimeDifferenceToCell     OPTIONAL,
  PrimaryCCPCH-Info-LCR-r4,
  PrimaryCCPCH-TX-Power            OPTIONAL,
  TimeslotInfoList-LCR-r4         OPTIONAL,
  BOOLEAN,
  CellSelectReselectInfoSIB-11-12-ECN0      OPTIONAL
}

CellInfoSI-HCS-RSCP ::=
  cellIndividualOffset
  referenceTimeDifferenceToCell
  modeSpecificInfo
  fdd
    primaryCPICH-Info
    primaryCPICH-TX-Power
    readSFN-Indicator
    tx-DiversityIndicator
  },
  tdd
    primaryCCPCH-Info
    primaryCCPCH-TX-Power
    timeslotInfoList
    readSFN-Indicator
  }
},
cellSelectionReselectionInfo      CellSelectReselectInfoSIB-11-12-HCS-RSCP      OPTIONAL
}

CellInfoSI-HCS-RSCP-LCR-r4 ::=
  cellIndividualOffset
  referenceTimeDifferenceToCell
  primaryCCPCH-Info
  primaryCCPCH-TX-Power
  timeslotInfoList
  readSFN-Indicator
  cellSelectionReselectionInfo
}
SEQUENCE {
  CellIndividualOffset              DEFAULT 0,
  ReferenceTimeDifferenceToCell     OPTIONAL,
  PrimaryCCPCH-Info-LCR-r4,
  PrimaryCCPCH-TX-Power            OPTIONAL,
  TimeslotInfoList-LCR-r4         OPTIONAL,
  BOOLEAN,
  CellSelectReselectInfoSIB-11-12-HCS-RSCP      OPTIONAL
}

CellInfoSI-HCS-ECN0 ::=
  cellIndividualOffset
  referenceTimeDifferenceToCell
  modeSpecificInfo
  fdd
    primaryCPICH-Info
    primaryCPICH-TX-Power
    readSFN-Indicator
    tx-DiversityIndicator
  },
  tdd
    primaryCCPCH-Info
    primaryCCPCH-TX-Power
    timeslotInfoList
    readSFN-Indicator
  }
},
cellSelectionReselectionInfo      CellSelectReselectInfoSIB-11-12-HCS-ECN0      OPTIONAL
}

CellInfoSI-HCS-ECN0-LCR-r4 ::=
SEQUENCE {

```

```

cellIndividualOffset          CellIndividualOffset          DEFAULT 0,
referenceTimeDifferenceToCell ReferenceTimeDifferenceToCell OPTIONAL,
primaryCCPCH-Info            PrimaryCCPCH-Info-LCR-r4,
primaryCCPCH-TX-Power        PrimaryCCPCH-TX-Power    OPTIONAL,
timeslotInfoList             TimeslotInfoList-LCR-r4  OPTIONAL,
readSFN-Indicator            BOOLEAN,
cellSelectionReselectionInfo CellSelectReselectInfoSIB-11-12-HCS-ECNO OPTIONAL
}

CellMeasuredResults ::=      SEQUENCE {
cellIdentity                  CellIdentity              OPTIONAL,
-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
dummy                          SFN-SFN-ObsTimeDifference    OPTIONAL,
cellSynchronisationInfo       CellSynchronisationInfo    OPTIONAL,
modeSpecificInfo              CHOICE {
fdd                            SEQUENCE {
primaryCPICH-Info             PrimaryCPICH-Info,
cpich-Ec-N0                   CPICH-Ec-N0               OPTIONAL,
cpich-RSCP                     CPICH-RSCP                 OPTIONAL,
pathloss                       Pathloss                   OPTIONAL
},
tdd                            SEQUENCE {
cellParametersID              CellParametersID,
proposedTGSN                  TGSN                       OPTIONAL,
primaryCCPCH-RSCP             PrimaryCCPCH-RSCP          OPTIONAL,
pathloss                       Pathloss                   OPTIONAL,
timeslotISCP-List             TimeslotISCP-List         OPTIONAL
}
}
}

CellMeasurementEventResults ::= CHOICE {
fdd                            SEQUENCE (SIZE (1..maxCellMeas)) OF
PrimaryCPICH-Info,
tdd                            SEQUENCE (SIZE (1..maxCellMeas)) OF
PrimaryCCPCH-Info
}

CellMeasurementEventResults-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
PrimaryCCPCH-Info-LCR-r4

CellReportingQuantities ::= SEQUENCE {
-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
dummy                          SFN-SFN-OTD-Type,
cellIdentity-reportingIndicator BOOLEAN,
cellSynchronisationInfoReportingIndicator BOOLEAN,
modeSpecificInfo              CHOICE {
fdd                            SEQUENCE {
cpich-Ec-N0-reportingIndicator BOOLEAN,
cpich-RSCP-reportingIndicator  BOOLEAN,
pathloss-reportingIndicator    BOOLEAN
},
tdd                            SEQUENCE {
timeslotISCP-reportingIndicator  BOOLEAN,
proposedTGSN-ReportingRequired  BOOLEAN,
primaryCCPCH-RSCP-reportingIndicator  BOOLEAN,
pathloss-reportingIndicator      BOOLEAN
}
}
}

CellSelectReselectInfoSIB-11-12 ::= SEQUENCE {
q-Offset1S-N                  Q-OffsetS-N               DEFAULT 0,
q-Offset2S-N                  Q-OffsetS-N               OPTIONAL,
maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power     OPTIONAL,
hcs-NeighbouringCellInformation-RSCP HCS-NeighbouringCellInformation-RSCP
OPTIONAL,
modeSpecificInfo              CHOICE {
fdd                            SEQUENCE {
q-QualMin                     Q-QualMin                 OPTIONAL,
q-RxlevMin                     Q-RxlevMin                 OPTIONAL
},
tdd                            SEQUENCE {
q-RxlevMin                     Q-RxlevMin                 OPTIONAL
},
gsm                            SEQUENCE {

```

```

        q-RxlevMin                Q-RxlevMin                OPTIONAL
    }
}

CellSelectReselectInfoSIB-11-12-RSCP ::= SEQUENCE {
    q-OffsetS-N                    Q-OffsetS-N                    DEFAULT 0,
    maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power          OPTIONAL,
    modeSpecificInfo               CHOICE {
        fdd                        SEQUENCE {
            q-QualMin              Q-QualMin                OPTIONAL,
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        tdd                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        gsm                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-ECNO ::= SEQUENCE {
    q-Offset1S-N                  Q-OffsetS-N                    DEFAULT 0,
    q-Offset2S-N                  Q-OffsetS-N                    DEFAULT 0,
    maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power          OPTIONAL,
    modeSpecificInfo               CHOICE {
        fdd                        SEQUENCE {
            q-QualMin              Q-QualMin                OPTIONAL,
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        tdd                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        gsm                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-HCS-RSCP ::= SEQUENCE {
    q-OffsetS-N                    Q-OffsetS-N                    DEFAULT 0,
    maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power          OPTIONAL,
    hcs-NeighbouringCellInformation-RSCP HCS-NeighbouringCellInformation-RSCP
    OPTIONAL,
    modeSpecificInfo               CHOICE {
        fdd                        SEQUENCE {
            q-QualMin              Q-QualMin                OPTIONAL,
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        tdd                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        gsm                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-HCS-ECNO ::= SEQUENCE {
    q-Offset1S-N                  Q-OffsetS-N                    DEFAULT 0,
    q-Offset2S-N                  Q-OffsetS-N                    DEFAULT 0,
    maxAllowedUL-TX-Power          MaxAllowedUL-TX-Power          OPTIONAL,
    hcs-NeighbouringCellInformation-ECNO HCS-NeighbouringCellInformation-ECNO
    OPTIONAL,
    modeSpecificInfo               CHOICE {
        fdd                        SEQUENCE {
            q-QualMin              Q-QualMin                OPTIONAL,
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        tdd                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        },
        gsm                        SEQUENCE {
            q-RxlevMin             Q-RxlevMin             OPTIONAL
        }
    }
}

```

```

CellSelectReselectInfo-v590ext ::= SEQUENCE {
    deltaQrxlevmin          DeltaQrxlevmin          OPTIONAL,
    deltaQhcs               DeltaRSCP                OPTIONAL,
}

CellSelectReselectInfoPCHFACH-v5b0ext ::= SEQUENCE {
    q-Hyst-1-S-PCH          Q-Hyst-S-Fine          OPTIONAL,
    q-Hyst-1-S-FACH         Q-Hyst-S-Fine          OPTIONAL,
    q-Hyst-2-S-PCH          Q-Hyst-S-Fine          OPTIONAL,
    q-Hyst-2-S-FACH         Q-Hyst-S-Fine          OPTIONAL,
    t-Reselection-S-PCH    T-Reselection-S          OPTIONAL,
    t-Reselection-S-FACH    T-Reselection-S-Fine        OPTIONAL,
}

CellSelectReselectInfoTreseselectionScaling-v5c0ext ::= SEQUENCE {
    -- For speed detection, the same HCS parameters are utilised
    non-HCS-t-CR-Max          T-CRMax          OPTIONAL,
    speedDependentScalingFactor SpeedDependentScalingFactor OPTIONAL,
    interFrequencyTreseselectionScalingFactor TreseselectionScalingFactor OPTIONAL,
    interRATTreseselectionScalingFactor TreseselectionScalingFactor OPTIONAL,
}

CellsForInterFreqMeasList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    InterFreqCellID
CellsForInterRATMeasList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    InterRATCellID
CellsForIntraFreqMeasList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    IntraFreqCellID

CellSynchronisationInfo ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            countC-SFN-Frame-difference CountC-SFN-Frame-difference OPTIONAL,
            tm INTEGER(0..38399)
        },
        tdd SEQUENCE {
            countC-SFN-Frame-difference CountC-SFN-Frame-difference OPTIONAL,
        }
    }
}

CellToReport ::= SEQUENCE {
    bsicReported BSICReported
}

CellToReportList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    CellToReport

CodePhaseSearchWindow ::= ENUMERATED {
    w1023, w1, w2, w3, w4, w6, w8,
    w12, w16, w24, w32, w48, w64,
    w96, w128, w192 }

CountC-SFN-Frame-difference ::= SEQUENCE {
    -- Actual value countC-SFN-High = IE value * 256
    countC-SFN-High INTEGER(0..15),
    off INTEGER(0..255)
}

-- SPARE: CPICH-Ec-No, Max = 49
-- Values above Max are spare
CPICH-Ec-N0 ::= INTEGER (0..63)

-- SPARE: CPICH- RSCP, Max = 91
-- Values above Max are spare
CPICH-RSCP ::= INTEGER (0..127)

DeltaPRC ::= INTEGER (-127..127)

--Actual value DeltaQrxlevmin = IE value * 2
DeltaQrxlevmin ::= INTEGER (-2..-1)

DeltaRSCP ::= INTEGER (-5..-1)

DeltaRSCPPerCell ::= SEQUENCE {
    deltaRSCP DeltaRSCP OPTIONAL
}

```

```

}

-- Actual value DeltaRRC = IE value * 0.032
DeltaRRC ::= INTEGER (-7..7)

DGPS-CorrectionSatInfo ::= SEQUENCE {
    satID          SatID,
    iode           IODE,
    udre           UDRE,
    prc           PRC,
    rrc           RRC,
    -- dummy1 and dummy2 are not used in this version of the specification and should be ignored.
    dummy1        DeltaPRC,
    dummy2        DeltaRRC,
    -- dummy3 and dummy4 are not used in this version of the specification. They should not
    -- be sent and if received they should be ignored.
    dummy3        DeltaPRC          OPTIONAL,
    dummy4        DeltaRRC          OPTIONAL
}

DGPS-CorrectionSatInfoList ::= SEQUENCE (SIZE (1..maxSat)) OF
    DGPS-CorrectionSatInfo

DiffCorrectionStatus ::= ENUMERATED {
    udre-1-0, udre-0-75, udre-0-5, udre-0-3,
    udre-0-2, udre-0-1, noData, invalidData }

DL-TransportChannelBLER ::= INTEGER (0..63)

DopplerUncertainty ::= ENUMERATED {
    hz12-5, hz25, hz50, hz100, hz200,
    spare3, spare2, spare1 }

EllipsoidPoint ::= SEQUENCE {
    latitudeSign   ENUMERATED { north, south },
    latitude       INTEGER (0..8388607),
    longitude      INTEGER (-8388608..8388607)
}

EllipsoidPointAltitude ::= SEQUENCE {
    latitudeSign   ENUMERATED { north, south },
    latitude       INTEGER (0..8388607),
    longitude      INTEGER (-8388608..8388607),
    altitudeDirection ENUMERATED { height, depth },
    altitude       INTEGER (0..32767)
}

EllipsoidPointAltitudeEllipsoide ::= SEQUENCE {
    latitudeSign   ENUMERATED { north, south },
    latitude       INTEGER (0..8388607),
    longitude      INTEGER (-8388608..8388607),
    altitudeDirection ENUMERATED { height, depth },
    altitude       INTEGER (0..32767),
    uncertaintySemiMajor   INTEGER (0..127),
    uncertaintySemiMinor   INTEGER (0..127),
    -- Actual value orientationMajorAxis = IE value * 2
    orientationMajorAxis   INTEGER (0..89),
    uncertaintyAltitude    INTEGER (0..127),
    confidence              INTEGER (0..100)
}

EllipsoidPointUncertCircle ::= SEQUENCE {
    latitudeSign   ENUMERATED { north, south },
    latitude       INTEGER (0..8388607),
    longitude      INTEGER (-8388608..8388607),
    uncertaintyCode INTEGER (0..127)
}

EllipsoidPointUncertEllipse ::= SEQUENCE {
    latitudeSign   ENUMERATED { north, south },
    latitude       INTEGER (0..8388607),
    longitude      INTEGER (-8388608..8388607),
    uncertaintySemiMajor   INTEGER (0..127),
    uncertaintySemiMinor   INTEGER (0..127),
}

```



```

-- Actual value orientationMajorAxis = IE value * 2
orientationMajorAxis    INTEGER (0..89),
confidence               INTEGER (0..100)
}

EnvironmentCharacterisation ::=      ENUMERATED {
                                     possibleHeavyMultipathNLOS,
                                     lightMultipathLOS,
                                     notDefined,
                                     spare }

Event1a ::=                        SEQUENCE {
    triggeringCondition          TriggeringCondition2,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList          OPTIONAL,
    w                            W,
    reportDeactivationThreshold ReportDeactivationThreshold,
    reportingAmount             ReportingAmount,
    reportingInterval           ReportingInterval
}

Event1a-r4 ::=                      SEQUENCE {
    triggeringCondition          TriggeringCondition2,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList-r4        OPTIONAL,
    w                            W,
    reportDeactivationThreshold ReportDeactivationThreshold,
    reportingAmount             ReportingAmount,
    reportingInterval           ReportingInterval
}

Event1a-LCR-r4 ::=                 SEQUENCE {
    triggeringCondition          TriggeringCondition2,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList-LCR-r4    OPTIONAL,
    w                            W,
    reportDeactivationThreshold ReportDeactivationThreshold,
    reportingAmount             ReportingAmount,
    reportingInterval           ReportingInterval
}

Event1b ::=                        SEQUENCE {
    triggeringCondition          TriggeringCondition1,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList          OPTIONAL,
    w                            W
}

Event1b-r4 ::=                     SEQUENCE {
    triggeringCondition          TriggeringCondition1,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList-r4        OPTIONAL,
    w                            W
}

Event1b-LCR-r4 ::=                 SEQUENCE {
    triggeringCondition          TriggeringCondition1,
    reportingRange              ReportingRange,
    forbiddenAffectCellList     ForbiddenAffectCellList-LCR-r4    OPTIONAL,
    w                            W
}

Event1c ::=                        SEQUENCE {
    replacementActivationThreshold ReplacementActivationThreshold,
    reportingAmount             ReportingAmount,
    reportingInterval           ReportingInterval
}

Event1e ::=                        SEQUENCE {
    triggeringCondition          TriggeringCondition2,
    thresholdUsedFrequency      ThresholdUsedFrequency
}

Event1f ::=                        SEQUENCE {
    triggeringCondition          TriggeringCondition1,
    thresholdUsedFrequency      ThresholdUsedFrequency
}

```

```

Event2a ::=
    -- dummy is not used in this version of the specification and should be ignored
    dummy
    usedFreqW
    hysteresis
    timeToTrigger
    reportingCellStatus
    nonUsedFreqParameterList
    SEQUENCE {
        Threshold,
        W,
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
        NonUsedFreqParameterList
    }
    OPTIONAL,
    OPTIONAL

Event2b ::=
    usedFreqThreshold
    usedFreqW
    hysteresis
    timeToTrigger
    reportingCellStatus
    nonUsedFreqParameterList
    SEQUENCE {
        Threshold,
        W,
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
        NonUsedFreqParameterList
    }
    OPTIONAL,
    OPTIONAL

Event2c ::=
    hysteresis
    timeToTrigger
    reportingCellStatus
    nonUsedFreqParameterList
    SEQUENCE {
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
        NonUsedFreqParameterList
    }
    OPTIONAL,
    OPTIONAL

Event2d ::=
    usedFreqThreshold
    usedFreqW
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Threshold,
        W,
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

Event2e ::=
    hysteresis
    timeToTrigger
    reportingCellStatus
    nonUsedFreqParameterList
    SEQUENCE {
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
        NonUsedFreqParameterList
    }
    OPTIONAL,
    OPTIONAL

Event2f ::=
    usedFreqThreshold
    usedFreqW
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Threshold,
        W,
        HysteresisInterFreq,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

Event3a ::=
    thresholdOwnSystem
    w
    thresholdOtherSystem
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Threshold,
        W,
        Threshold,
        Hysteresis,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

Event3b ::=
    thresholdOtherSystem
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Threshold,
        Hysteresis,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

Event3c ::=
    thresholdOtherSystem
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Threshold,
        Hysteresis,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

Event3d ::=
    hysteresis
    timeToTrigger
    reportingCellStatus
    SEQUENCE {
        Hysteresis,
        TimeToTrigger,
        ReportingCellStatus
    }
    OPTIONAL

```

```

}

EventIDInterFreq ::=          ENUMERATED {
                                e2a, e2b, e2c, e2d, e2e, e2f, spare2, spare1 }

EventIDInterRAT ::=          ENUMERATED {
                                e3a, e3b, e3c, e3d }

EventIDIntraFreq ::=          ENUMERATED {
                                e1a, e1b, e1c, e1d, e1e,
                                e1f, e1g, e1h, e1i, spare7,
                                spare6, spare5, spare4, spare3, spare2,
                                spare1 }

EventResults ::=              CHOICE {
    intraFreqEventResults      IntraFreqEventResults,
    interFreqEventResults      InterFreqEventResults,
    interRATEventResults       InterRATEventResults,
    trafficVolumeEventResults  TrafficVolumeEventResults,
    qualityEventResults         QualityEventResults,
    ue-InternalEventResults     UE-InternalEventResults,
    ue-positioning-MeasurementEventResults UE-Positioning-MeasurementEventResults,
    spare                       NULL
}

ExtraDopplerInfo ::=          SEQUENCE {
    -- Actual value doppler1stOrder = IE value * 0.023
    doppler1stOrder             INTEGER (-42..21),
    dopplerUncertainty          DopplerUncertainty
}

FACH-MeasurementOccasionInfo ::= SEQUENCE {
    fACH-meas-occasion-coeff    INTEGER (1..12)                OPTIONAL,
    inter-freq-FDD-meas-ind     BOOLEAN,
    -- inter-freq-TDD-meas-ind is for 3.84Mcps TDD. For 1.28Mcps TDD, the IE in
    -- FACH-MeasurementOccasionInfo-LCR-r4-ext is used.
    inter-freq-TDD-meas-ind     BOOLEAN,
    inter-RAT-meas-ind          SEQUENCE (SIZE (1..maxOtherRAT)) OF
                                RAT-Type                OPTIONAL
}

FACH-MeasurementOccasionInfo-LCR-r4-ext ::= SEQUENCE {
    inter-freq-TDD128-meas-ind  BOOLEAN
}

FilterCoefficient ::=          ENUMERATED {
                                fc0, fc1, fc2, fc3, fc4, fc5,
                                fc6, fc7, fc8, fc9, fc11, fc13,
                                fc15, fc17, fc19, spare1 }

-- Actual value FineSFN-SFN = IE value * 0.0625
FineSFN-SFN ::=                INTEGER (0..15)

ForbiddenAffectCell ::=          CHOICE {
    fdd                         PrimaryCPICH-Info,
    tdd                         PrimaryCCPCH-Info
}

ForbiddenAffectCell-r4 ::=          CHOICE {
    fdd                         PrimaryCPICH-Info,
    tdd                         PrimaryCCPCH-Info-r4
}

ForbiddenAffectCell-LCR-r4 ::=          SEQUENCE {
    tdd                         PrimaryCCPCH-Info-LCR-r4
}

ForbiddenAffectCellList ::=          SEQUENCE (SIZE (1..maxCellMeas)) OF
    ForbiddenAffectCell

ForbiddenAffectCellList-r4 ::=          SEQUENCE (SIZE (1..maxCellMeas)) OF
    ForbiddenAffectCell-r4

ForbiddenAffectCellList-LCR-r4 ::=          SEQUENCE (SIZE (1..maxCellMeas)) OF
    ForbiddenAffectCell-LCR-r4

FreqQualityEstimateQuantity-FDD ::= ENUMERATED {
    cpich-Ec-N0,

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        cpich-RSCP }

FreqQualityEstimateQuantity-TDD ::= ENUMERATED {
    primaryCCPCH-RSCP }

GPS-MeasurementParam ::= SEQUENCE {
    satelliteID          INTEGER (0..63),
    c-NO                 INTEGER (0..63),
    doppler              INTEGER (-32768..32768),
    wholeGPS-Chips       INTEGER (0..1022),
    fractionalGPS-Chips INTEGER (0..1023),
    multipathIndicator   MultipathIndicator,
    pseudorangeRMS-Error INTEGER (0..63)
}

GPS-MeasurementParamList ::= SEQUENCE (SIZE (1..maxSat)) OF
    GPS-MeasurementParam

GSM-CarrierRSSI ::= BIT STRING (SIZE (6))

GSM-MeasuredResults ::= SEQUENCE {
    gsm-CarrierRSSI          GSM-CarrierRSSI          OPTIONAL,
    -- dummy is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    dummy                    INTEGER (46..173)        OPTIONAL,
    bsicReported             BSICReported,
    observedTimeDifferenceToGSM ObservedTimeDifferenceToGSM OPTIONAL
}

GSM-MeasuredResultsList ::= SEQUENCE (SIZE (1..maxReportedGSMCells)) OF
    GSM-MeasuredResults

GPS-TOW-1msec ::= INTEGER (0..604799999)

GPS-TOW-Assist ::= SEQUENCE {
    satID                    SatID,
    tlm-Message              BIT STRING (SIZE (14)),
    tlm-Reserved             BIT STRING (SIZE (2)),
    alert                    BOOLEAN,
    antiSpoof                BOOLEAN
}

GPS-TOW-AssistList ::= SEQUENCE (SIZE (1..maxSat)) OF
    GPS-TOW-Assist

HCS-CellReselectInformation-RSCP ::= SEQUENCE {
    -- TABULAR: The default value for penaltyTime is "notUsed"
    -- Temporary offset is nested inside PenaltyTime-RSCP
    penaltyTime              PenaltyTime-RSCP
}

HCS-CellReselectInformation-ECNO ::= SEQUENCE {
    -- TABULAR: The default value for penaltyTime is "notUsed"
    -- Temporary offset is nested inside PenaltyTime-ECNO
    penaltyTime              PenaltyTime-ECNO
}

HCS-NeighbouringCellInformation-RSCP ::= SEQUENCE {
    hcs-PRIO                 HCS-PRIO                DEFAULT 0,
    q-HCS                    Q-HCS                   DEFAULT 0,
    hcs-CellReselectInformation HCS-CellReselectInformation-RSCP
}

HCS-NeighbouringCellInformation-ECNO ::= SEQUENCE {
    hcs-PRIO                 HCS-PRIO                DEFAULT 0,
    q-HCS                    Q-HCS                   DEFAULT 0,
    hcs-CellReselectInformation HCS-CellReselectInformation-ECNO
}

HCS-PRIO ::= INTEGER (0..7)

HCS-ServingCellInformation ::= SEQUENCE {
    hcs-PRIO                 HCS-PRIO                DEFAULT 0,
    q-HCS                    Q-HCS                   DEFAULT 0,
    t-CR-Max                 T-CR-Max                OPTIONAL
}

```

```

-- Actual value Hysteresis = IE value * 0.5
Hysteresis ::=
    INTEGER (0..15)

-- Actual value HysteresisInterFreq = IE value * 0.5
HysteresisInterFreq ::=
    INTEGER (0..29)

InterFreqCell ::=
    SEQUENCE {
        frequencyInfo
            FrequencyInfo,
        nonFreqRelatedEventResults
            CellMeasurementEventResults
    }

InterFreqCell-LCR-r4 ::=
    SEQUENCE {
        frequencyInfo
            FrequencyInfo,
        nonFreqRelatedEventResults
            CellMeasurementEventResults-LCR-r4
    }

InterFreqCellID ::=
    INTEGER (0..maxCellMeas-1)

InterFreqCellInfoList ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellList
            OPTIONAL,
        cellsForInterFreqMeasList
            CellsForInterFreqMeasList
            OPTIONAL
    }

InterFreqCellInfoList-r4 ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellList-r4
            OPTIONAL,
        cellsForInterFreqMeasList
            CellsForInterFreqMeasList
            OPTIONAL
    }

InterFreqCellInfoSI-List-RSCP ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-RSCP
            OPTIONAL
    }

InterFreqCellInfoSI-List-ECN0 ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-ECN0
            OPTIONAL
    }

InterFreqCellInfoSI-List-HCS-RSCP ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-HCS-RSCP
            OPTIONAL
    }

InterFreqCellInfoSI-List-HCS-ECN0 ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-HCS-ECN0
            OPTIONAL
    }

InterFreqCellInfoSI-List-RSCP-LCR ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-RSCP-LCR-r4
            OPTIONAL
    }

InterFreqCellInfoSI-List-ECN0-LCR ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-ECN0-LCR-r4
            OPTIONAL
    }

InterFreqCellInfoSI-List-HCS-RSCP-LCR ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-HCS-RSCP-LCR-r4
            OPTIONAL
    }

InterFreqCellInfoSI-List-HCS-ECN0-LCR ::=
    SEQUENCE {
        removedInterFreqCellList
            RemovedInterFreqCellList
            OPTIONAL,
        newInterFreqCellList
            NewInterFreqCellSI-List-HCS-ECN0-LCR-r4
            OPTIONAL
    }

InterFreqCellList ::=
    SEQUENCE (SIZE (1..maxFreq)) OF
        InterFreqCell

InterFreqCellList-LCR-r4-ext ::=
    SEQUENCE (SIZE (1..maxFreq)) OF
        InterFreqCell-LCR-r4

InterFreqCellMeasuredResultsList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
        CellMeasuredResults

InterFreqEvent ::=
    CHOICE {

```

```

event2a          Event2a,
event2b          Event2b,
event2c          Event2c,
event2d          Event2d,
event2e          Event2e,
event2f          Event2f
}

InterFreqEventList ::=          SEQUENCE (SIZE (1..maxMeasEvent)) OF
                                InterFreqEvent

--Following IE shall be used regardless of CPICH RSCP(FDD) or Primary CCPCH RSCP(TDD)
--The order of the list corresponds to the order of the cells in Inter-FrequencyMeasuredResultsList
InterFrequencyMeasuredResultsList-v590ext ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                                DeltaRSCPPerCell

Inter-FreqEventCriteria-v590ext ::= SEQUENCE {
    thresholdUsedFrequency-delta          DeltaRSCP,
    thresholdNonUsedFrequency-deltaList    ThresholdNonUsedFrequency-deltaList    OPTIONAL
}

--The order of the list corresponds to the order of the events in Inter-FreqEventList
Inter-FreqEventCriteriaList-v590ext ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
                                        Inter-FreqEventCriteria-v590ext

--The order of the list corresponds to the order of relevant events in Intra-FreqEventCriteriaList
--i.e. the first element of the list corresponds to the first occurrence of event 1e, 1f, 1h, 1i,
--the second element of the list corresponds to the second occurrence of event 1e, 1f, 1h, 1i
Intra-FreqEventCriteriaList-v590ext ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
                                        DeltaRSCP

--Following IE shall be used regardless of CPICH RSCP(FDD) or Primary CCPCH RSCP(TDD)
--The order of the list corresponds to the order of the cells in Intra-FrequencyMeasuredResultsList
IntraFrequencyMeasuredResultsList-v590ext ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                                DeltaRSCPPerCell

IntraFreqReportingCriteria-1b-r5 ::= SEQUENCE {
    periodicReportingInfo-1b          PeriodicReportingInfo-1b
}

PeriodicReportingInfo-1b ::= SEQUENCE {
    reportingAmount          ReportingAmount,
    reportingInterval        ReportingInterval
}

InterFreqEventResults ::=          SEQUENCE {
    eventID                  EventIDInterFreq,
    interFreqCellList        InterFreqCellList          OPTIONAL
}

InterFreqEventResults-LCR-r4-ext ::= SEQUENCE {
    eventID                  EventIDInterFreq,
    interFreqCellList        InterFreqCellList-LCR-r4-ext    OPTIONAL
}

InterFreqMeasQuantity ::=          SEQUENCE {
    reportingCriteria        CHOICE {
        intraFreqReportingCriteria    SEQUENCE {
            intraFreqMeasQuantity      IntraFreqMeasQuantity
        },
        interFreqReportingCriteria    SEQUENCE {
            filterCoefficient          FilterCoefficient          DEFAULT fc0,
            modeSpecificInfo          CHOICE {
                fdd                    SEQUENCE {
                    freqQualityEstimateQuantity-FDD    FreqQualityEstimateQuantity-FDD
                },
                tdd                    SEQUENCE {
                    freqQualityEstimateQuantity-TDD    FreqQualityEstimateQuantity-TDD
                }
            }
        }
    }
}

InterFreqMeasuredResults ::=          SEQUENCE {
    frequencyInfo            FrequencyInfo          OPTIONAL,
    utra-CarrierRSSI        UTRA-CarrierRSSI      OPTIONAL,
    interFreqCellMeasuredResultsList    InterFreqCellMeasuredResultsList    OPTIONAL
}

```

```

}

InterFreqMeasuredResultsList ::= SEQUENCE (SIZE (1..maxFreq)) OF
    InterFreqMeasuredResults

InterFreqMeasurementSysInfo-RSCP ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-RSCP OPTIONAL
}

InterFreqMeasurementSysInfo-ECN0 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-ECN0 OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-RSCP ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-HCS-RSCP OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-ECN0 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-HCS-ECN0 OPTIONAL
}

InterFreqMeasurementSysInfo-RSCP-LCR-r4 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-RSCP-LCR OPTIONAL
}

InterFreqMeasurementSysInfo-ECN0-LCR-r4 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-ECN0-LCR OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-HCS-RSCP-LCR OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-ECN0-LCR-r4 ::= SEQUENCE {
    interFreqCellInfoSI-List InterFreqCellInfoSI-List-HCS-ECN0-LCR OPTIONAL
}

InterFreqReportCriteria ::= CHOICE {
    intraFreqReportingCriteria IntraFreqReportingCriteria,
    interFreqReportingCriteria InterFreqReportingCriteria,
    periodicalReportingCriteria PeriodicalWithReportingCellStatus,
    noReporting ReportingCellStatusOpt
}

InterFreqReportCriteria-r4 ::= CHOICE {
    intraFreqReportingCriteria-r4 IntraFreqReportingCriteria-r4,
    interFreqReportingCriteria InterFreqReportingCriteria,
    periodicalReportingCriteria PeriodicalWithReportingCellStatus,
    noReporting ReportingCellStatusOpt
}

InterFreqReportingCriteria ::= SEQUENCE {
    interFreqEventList InterFreqEventList OPTIONAL
}

InterFreqReportingQuantity ::= SEQUENCE {
    ultra-Carrier-RSSI BOOLEAN,
    frequencyQualityEstimate BOOLEAN,
    nonFreqRelatedQuantities CellReportingQuantities
}

InterFrequencyMeasurement ::= SEQUENCE {
    interFreqCellInfoList InterFreqCellInfoList,
    interFreqMeasQuantity InterFreqMeasQuantity OPTIONAL,
    interFreqReportingQuantity InterFreqReportingQuantity OPTIONAL,
    measurementValidity MeasurementValidity OPTIONAL,
    interFreqSetUpdate UE-AutonomousUpdateMode OPTIONAL,
    reportCriteria InterFreqReportCriteria
}

InterFrequencyMeasurement-r4 ::= SEQUENCE {
    interFreqCellInfoList-r4 InterFreqCellInfoList-r4,
    interFreqMeasQuantity InterFreqMeasQuantity OPTIONAL,
    interFreqReportingQuantity InterFreqReportingQuantity OPTIONAL,
    measurementValidity MeasurementValidity OPTIONAL,
    interFreqSetUpdate UE-AutonomousUpdateMode OPTIONAL,
    reportCriteria InterFreqReportCriteria-r4
}

```

```

}

InterRAT-TargetCellDescription ::= SEQUENCE {
    technologySpecificInfo CHOICE {
        gsm SEQUENCE {
            bsic BSIC,
            frequency-band Frequency-Band,
            bcch-ARFCN BCCH-ARFCN,
            ncMode NC-Mode OPTIONAL
        },
        is-2000 NULL,
        spare2 NULL,
        spare1 NULL
    }
}

InterRATCellID ::= INTEGER (0..maxCellMeas-1)

InterRATCellInfoIndicator ::= INTEGER (0..3)

InterRATCellInfoList ::= SEQUENCE {
    removedInterRATCellList RemovedInterRATCellList,
    -- NOTE: Future revisions of dedicated messages including IE newInterRATCellList
    -- should use a corrected version of this IE
    newInterRATCellList NewInterRATCellList,
    cellsForInterRATMeasList CellsForInterRATMeasList OPTIONAL
}

InterRATCellInfoList-B ::= SEQUENCE {
    removedInterRATCellList RemovedInterRATCellList,
    -- NOTE: IE newInterRATCellList should be optional. However, system information
    -- does not support message versions. Hence, this can not be corrected
    newInterRATCellList NewInterRATCellList-B
}

InterRATCellInfoList-r4 ::= SEQUENCE {
    removedInterRATCellList RemovedInterRATCellList,
    newInterRATCellList NewInterRATCellList OPTIONAL,
    cellsForInterRATMeasList CellsForInterRATMeasList OPTIONAL
}

InterRATCellIndividualOffset ::= INTEGER (-50..50)

InterRATEvent ::= CHOICE {
    event3a Event3a,
    event3b Event3b,
    event3c Event3c,
    event3d Event3d
}

InterRATEventList ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
    InterRATEvent

InterRATEventResults ::= SEQUENCE {
    eventID EventIDInterRAT,
    cellToReportList CellToReportList
}

InterRATInfo ::= ENUMERATED {
    gsm }

InterRATInfo-r6 ::= SEQUENCE {
    rat InterRATInfo,
    gsm-TargetCellInfoList GSM-TargetCellInfoList OPTIONAL
}

InterRATMeasQuantity ::= SEQUENCE {
    measQuantityUTRAN-QualityEstimate IntraFreqMeasQuantity OPTIONAL,
    ratSpecificInfo CHOICE {
        gsm SEQUENCE {
            measurementQuantity MeasurementQuantityGSM,
            filterCoefficient FilterCoefficient DEFAULT fc0,
            bsic-VerificationRequired BSIC-VerificationRequired
        },
        is-2000 SEQUENCE {
            tadd-EcIo INTEGER (0..63),
            tcomp-EcIo INTEGER (0..15),
            softSlope INTEGER (0..63) OPTIONAL,
        }
    }
}

```



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        addIntercept                               INTEGER (0..63)           OPTIONAL
    }
}

InterRATMeasuredResults ::= CHOICE {
    gsm      GSM-MeasuredResultsList,
    spare    NULL
}

InterRATMeasuredResultsList ::= SEQUENCE (SIZE (1..maxOtherRAT-16)) OF
    InterRATMeasuredResults

InterRATMeasurement ::= SEQUENCE {
    interRATCellInfoList      InterRATCellInfoList           OPTIONAL,
    interRATMeasQuantity      InterRATMeasQuantity           OPTIONAL,
    interRATReportingQuantity InterRATReportingQuantity      OPTIONAL,
    reportCriteria            InterRATReportCriteria
}

InterRATMeasurement-r4 ::= SEQUENCE {
    interRATCellInfoList-r4   InterRATCellInfoList-r4       OPTIONAL,
    interRATMeasQuantity      InterRATMeasQuantity           OPTIONAL,
    interRATReportingQuantity InterRATReportingQuantity      OPTIONAL,
    reportCriteria            InterRATReportCriteria
}

InterRATMeasurementSysInfo ::= SEQUENCE {
    interRATCellInfoList      InterRATCellInfoList           OPTIONAL
}

InterRATMeasurementSysInfo-B ::= SEQUENCE {
    interRATCellInfoList      InterRATCellInfoList-B        OPTIONAL
}

InterRATReportCriteria ::= CHOICE {
    interRATReportingCriteria InterRATReportingCriteria,
    periodicalReportingCriteria PeriodicalWithReportingCellStatus,
    noReporting               ReportingCellStatusOpt
}

InterRATReportingCriteria ::= SEQUENCE {
    interRATEventList      InterRATEventList           OPTIONAL
}

InterRATReportingQuantity ::= SEQUENCE {
    utran-EstimatedQuality   BOOLEAN,
    ratSpecificInfo          CHOICE {
        gsm      SEQUENCE {
            dummy                BOOLEAN,
            observedTimeDifferenceGSM BOOLEAN,
            gsm-Carrier-RSSI     BOOLEAN
        }
    }
}

IntraFreqCellID ::= INTEGER (0..maxCellMeas-1)

IntraFreqCellInfoList ::= SEQUENCE {
    removedIntraFreqCellList RemovedIntraFreqCellList      OPTIONAL,
    newIntraFreqCellList     NewIntraFreqCellList           OPTIONAL,
    cellsForIntraFreqMeasList CellsForIntraFreqMeasList      OPTIONAL
}

IntraFreqCellInfoList-r4 ::= SEQUENCE {
    removedIntraFreqCellList RemovedIntraFreqCellList      OPTIONAL,
    newIntraFreqCellList     NewIntraFreqCellList-r4         OPTIONAL,
    cellsForIntraFreqMeasList CellsForIntraFreqMeasList      OPTIONAL
}

IntraFreqCellInfoSI-List-RSCP ::= SEQUENCE {
    removedIntraFreqCellList RemovedIntraFreqCellList      OPTIONAL,
    newIntraFreqCellList     NewIntraFreqCellSI-List-RSCP
}

IntraFreqCellInfoSI-List-ECNO ::= SEQUENCE {
    removedIntraFreqCellList RemovedIntraFreqCellList      OPTIONAL,
    newIntraFreqCellList     NewIntraFreqCellSI-List-ECNO
}

```

```

}

IntraFreqCellInfoSI-List-HCS-RSCP ::=          SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-HCS-RSCP
}

IntraFreqCellInfoSI-List-HCS-ECN0 ::=          SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-HCS-ECN0
}

IntraFreqCellInfoSI-List-RSCP-LCR-r4 ::=       SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-RSCP-LCR-r4
}

IntraFreqCellInfoSI-List-ECN0-LCR-r4 ::=       SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-ECN0-LCR-r4
}

IntraFreqCellInfoSI-List-HCS-RSCP-LCR-r4 ::=   SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-HCS-RSCP-LCR-r4
}

IntraFreqCellInfoSI-List-HCS-ECN0-LCR-r4 ::=   SEQUENCE {
    removedIntraFreqCellList          RemovedIntraFreqCellList          OPTIONAL,
    newIntraFreqCellList              NewIntraFreqCellSI-List-HCS-ECN0-LCR-r4
}

IntraFreqEvent ::=                             CHOICE {
    e1a                               Event1a,
    e1b                               Event1b,
    e1c                               Event1c,
    e1d                               NULL,
    e1e                               Event1e,
    e1f                               Event1f,
    e1g                               NULL,
    e1h                               ThresholdUsedFrequency,
    e1i                               ThresholdUsedFrequency
}

IntraFreqEvent-r4 ::=                         CHOICE {
    e1a                               Event1a-r4,
    e1b                               Event1b-r4,
    e1c                               Event1c,
    e1d                               NULL,
    e1e                               Event1e,
    e1f                               Event1f,
    e1g                               NULL,
    e1h                               ThresholdUsedFrequency,
    e1i                               ThresholdUsedFrequency
}

IntraFreqEvent-LCR-r4 ::=                    CHOICE {
    e1a                               Event1a-LCR-r4,
    e1b                               Event1b-LCR-r4,
    e1c                               Event1c,
    e1d                               NULL,
    e1e                               Event1e,
    e1f                               Event1f,
    e1g                               NULL,
    e1h                               ThresholdUsedFrequency,
    e1i                               ThresholdUsedFrequency
}

IntraFreqEvent-ld-r5 ::=                     SEQUENCE {
    triggeringCondition                TriggeringCondition2          OPTIONAL,
    useCIO                             BOOLEAN                          OPTIONAL
}

IntraFreqEventCriteria ::=                   SEQUENCE {
    event                              IntraFreqEvent,
    hysteresis                         Hysteresis,
    timeToTrigger                      TimeToTrigger,
    reportingCellStatus                ReportingCellStatus          OPTIONAL
}

```

```

}

IntraFreqEventCriteria-r4 ::= SEQUENCE {
    event                IntraFreqEvent-r4,
    hysteresis           Hysteresis,
    timeToTrigger        TimeToTrigger,
    reportingCellStatus  ReportingCellStatus
} OPTIONAL

IntraFreqEventCriteria-LCR-r4 ::= SEQUENCE {
    event                IntraFreqEvent-LCR-r4,
    hysteresis           Hysteresis,
    timeToTrigger        TimeToTrigger,
    reportingCellStatus  ReportingCellStatus
} OPTIONAL

IntraFreqEventCriteriaList ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
    IntraFreqEventCriteria

IntraFreqEventCriteriaList-r4 ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
    IntraFreqEventCriteria-r4

IntraFreqEventCriteriaList-LCR-r4 ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
    IntraFreqEventCriteria-LCR-r4

IntraFreqEventResults ::= SEQUENCE {
    eventID              EventIDIntraFreq,
    cellMeasurementEventResults CellMeasurementEventResults
}

IntraFreqMeasQuantity ::= SEQUENCE {
    filterCoefficient    FilterCoefficient
} DEFAULT fc0,
    modeSpecificInfo    CHOICE {
        fdd              SEQUENCE {
            intraFreqMeasQuantity-FDD IntraFreqMeasQuantity-FDD
        },
        tdd              SEQUENCE {
            intraFreqMeasQuantity-TDDList IntraFreqMeasQuantity-TDDList
        }
    }
}

-- If IntraFreqMeasQuantity-FDD is used in InterRATMeasQuantity, then only
-- cpich-Ec-N0 and cpich-RSCP are allowed.
-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
IntraFreqMeasQuantity-FDD ::= ENUMERATED {
    cpich-Ec-N0,
    cpich-RSCP,
    pathloss,
    dummy }

-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
IntraFreqMeasQuantity-TDD ::= ENUMERATED {
    primaryCCPCH-RSCP,
    pathloss,
    timeslotISCP,
    dummy }

IntraFreqMeasQuantity-TDDList ::= SEQUENCE (SIZE (1..4)) OF
    IntraFreqMeasQuantity-TDD

IntraFreqMeasuredResultsList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    CellMeasuredResults

IntraFreqMeasurementSysInfo-RSCP ::= SEQUENCE {
    intraFreqMeasurementID MeasurementIdentity
} DEFAULT 1,
    intraFreqCellInfoSI-List IntraFreqCellInfoSI-List-RSCP
} OPTIONAL,
    intraFreqMeasQuantity IntraFreqMeasQuantity
} OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH
} OPTIONAL,
    maxReportedCellsOnRACH MaxReportedCellsOnRACH
} OPTIONAL,
    reportingInfoForCellDCH ReportingInfoForCellDCH
} OPTIONAL

IntraFreqMeasurementSysInfo-ECNO ::= SEQUENCE {
    intraFreqMeasurementID MeasurementIdentity
} DEFAULT 1,
    intraFreqCellInfoSI-List IntraFreqCellInfoSI-List-ECNO
} OPTIONAL,

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```

    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH        OPTIONAL
}

IntraFreqMeasurementSysInfo-HCS-RSCP ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-HCS-RSCP OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH        OPTIONAL
}

IntraFreqMeasurementSysInfo-HCS-ECNO ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-HCS-ECNO OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH        OPTIONAL
}

IntraFreqMeasurementSysInfo-RSCP-LCR-r4 ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-RSCP-LCR-r4 OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH-LCR-r4 OPTIONAL
}

IntraFreqMeasurementSysInfo-ECNO-LCR-r4 ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-ECNO-LCR-r4 OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH-LCR-r4 OPTIONAL
}

IntraFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-HCS-RSCP-LCR-r4 OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH-LCR-r4 OPTIONAL
}

IntraFreqMeasurementSysInfo-HCS-ECNO-LCR-r4 ::= SEQUENCE {
    intraFreqMeasurementID          MeasurementIdentity          DEFAULT 1,
    intraFreqCellInfoSI-List       IntraFreqCellInfoSI-List-HCS-ECNO-LCR-r4 OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantityForRACH IntraFreqReportingQuantityForRACH OPTIONAL,
    maxReportedCellsOnRACH         MaxReportedCellsOnRACH         OPTIONAL,
    reportingInfoForCellDCH        ReportingInfoForCellDCH-LCR-r4 OPTIONAL
}

IntraFreqReportCriteria ::= CHOICE {
    intraFreqReportingCriteria      IntraFreqReportingCriteria,
    periodicalReportingCriteria     PeriodicalWithReportingCellStatus,
    noReporting                      ReportingCellStatusOpt
}

IntraFreqReportCriteria-r4 ::= CHOICE {
    intraFreqReportingCriteria-r4   IntraFreqReportingCriteria-r4,
    periodicalReportingCriteria     PeriodicalWithReportingCellStatus,
    noReporting                      ReportingCellStatusOpt
}

IntraFreqReportingCriteria ::= SEQUENCE {
    eventCriteriaList              IntraFreqEventCriteriaList OPTIONAL
}

IntraFreqReportingCriteria-r4 ::= SEQUENCE {
    eventCriteriaList              IntraFreqEventCriteriaList-r4 OPTIONAL
}

```

```

}

IntraFreqReportingCriteria-LCR-r4 ::= SEQUENCE {
    eventCriteriaList          IntraFreqEventCriteriaList-LCR-r4  OPTIONAL
}

IntraFreqReportingQuantity ::= SEQUENCE {
    activeSetReportingQuantities      CellReportingQuantities,
    monitoredSetReportingQuantities   CellReportingQuantities,
    detectedSetReportingQuantities    CellReportingQuantities      OPTIONAL
}

IntraFreqReportingQuantityForRACH ::= SEQUENCE {
    sfn-SFN-OTD-Type                SFN-SFN-OTD-Type,
    modeSpecificInfo                 CHOICE {
        fdd                           SEQUENCE {
            intraFreqRepQuantityRACH-FDD      IntraFreqRepQuantityRACH-FDD
        },
        tdd                             SEQUENCE {
            intraFreqRepQuantityRACH-TDDList   IntraFreqRepQuantityRACH-TDDList
        }
    }
}

IntraFreqRepQuantityRACH-FDD ::= ENUMERATED {
    cpich-EcN0, cpich-RSCP,
    pathloss, noReport }

IntraFreqRepQuantityRACH-TDD ::= ENUMERATED {
    timeslotISCP,
    primaryCCPCH-RSCP,
    noReport }

IntraFreqRepQuantityRACH-TDDList ::= SEQUENCE (SIZE (1..2)) OF
    IntraFreqRepQuantityRACH-TDD

IntraFrequencyMeasurement ::= SEQUENCE {
    intraFreqCellInfoList          IntraFreqCellInfoList          OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantity     IntraFreqReportingQuantity     OPTIONAL,
    measurementValidity            MeasurementValidity          OPTIONAL,
    reportCriteria                 IntraFreqReportCriteria      OPTIONAL
}

IntraFrequencyMeasurement-r4 ::= SEQUENCE {
    intraFreqCellInfoList-r4       IntraFreqCellInfoList-r4       OPTIONAL,
    intraFreqMeasQuantity          IntraFreqMeasQuantity          OPTIONAL,
    intraFreqReportingQuantity     IntraFreqReportingQuantity     OPTIONAL,
    measurementValidity            MeasurementValidity          OPTIONAL,
    reportCriteria                 IntraFreqReportCriteria-r4    OPTIONAL
}

IODE ::= INTEGER (0..255)

IP-Length ::= ENUMERATED {
    ip15, ip110 }

IP-PCCPCH-r4 ::= BOOLEAN

IP-Spacing ::= ENUMERATED {
    e5, e7, e10, e15, e20,
    e30, e40, e50 }

IP-Spacing-TDD ::= ENUMERATED {
    e30, e40, e50, e70, e100}

IS-2000SpecificMeasInfo ::= ENUMERATED {
    frequency, timeslot, colourcode,
    outputpower, pn-Offset }

MaxNumberOfReportingCellsType1 ::= ENUMERATED {
    e1, e2, e3, e4, e5, e6}

MaxNumberOfReportingCellsType2 ::= ENUMERATED {
    e1, e2, e3, e4, e5, e6, e7, e8, e9, e10, e11, e12}

MaxNumberOfReportingCellsType3 ::= ENUMERATED {
    viactCellsPlus1,

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viactCellsPlus2,
viactCellsPlus3,
viactCellsPlus4,
viactCellsPlus5,
viactCellsPlus6 }

MaxReportedCellsOnRACH ::= ENUMERATED {
    noReport,
    currentCell,
    currentAnd-1-BestNeighbour,
    currentAnd-2-BestNeighbour,
    currentAnd-3-BestNeighbour,
    currentAnd-4-BestNeighbour,
    currentAnd-5-BestNeighbour,
    currentAnd-6-BestNeighbour }

MeasuredResults ::= CHOICE {
    intraFreqMeasuredResultsList      IntraFreqMeasuredResultsList,
    interFreqMeasuredResultsList      InterFreqMeasuredResultsList,
    interRATMeasuredResultsList      InterRATMeasuredResultsList,
    trafficVolumeMeasuredResultsList  TrafficVolumeMeasuredResultsList,
    qualityMeasuredResults            QualityMeasuredResults,
    ue-InternalMeasuredResults        UE-InternalMeasuredResults,
    ue-positioning-MeasuredResults    UE-Positioning-MeasuredResults,
    spare                             NULL
}

MeasuredResults-v390ext ::= SEQUENCE {
    ue-positioning-MeasuredResults-v390ext    UE-Positioning-MeasuredResults-v390ext
}

MeasuredResults-v590ext ::= CHOICE {
    intraFrequencyMeasuredResultsList      IntraFrequencyMeasuredResultsList-v590ext,
    interFrequencyMeasuredResultsList      InterFrequencyMeasuredResultsList-v590ext
}

MeasuredResults-LCR-r4 ::= CHOICE {
    intraFreqMeasuredResultsList      IntraFreqMeasuredResultsList,
    interFreqMeasuredResultsList      InterFreqMeasuredResultsList,
    interRATMeasuredResultsList      InterRATMeasuredResultsList,
    trafficVolumeMeasuredResultsList  TrafficVolumeMeasuredResultsList,
    qualityMeasuredResults            QualityMeasuredResults,
    ue-InternalMeasuredResults        UE-InternalMeasuredResults-LCR-r4,
    ue-positioning-MeasuredResults    UE-Positioning-MeasuredResults,
    spare                             NULL
}

MeasuredResultsList ::= SEQUENCE (SIZE (1..maxAdditionalMeas)) OF
    MeasuredResults

MeasuredResultsList-LCR-r4-ext ::= SEQUENCE (SIZE (1..maxAdditionalMeas)) OF
    MeasuredResults-LCR-r4

MeasuredResultsOnRACH ::= SEQUENCE {
    currentCell
        modeSpecificInfo
            fdd
                measurementQuantity
                    cpich-Ec-N0
                    cpich-RSCP
                    pathloss
                    spare
            },
    tdd
        timeslotISCP
        primaryCCPCH-RSCP
    },
    monitoredCells
}

MeasurementCommand ::= CHOICE {
    setup
    modify
        measurementType
}

```

```

    },
    release                                     NULL
}

MeasurementCommand-r4 ::= CHOICE {
    setup                                     MeasurementType-r4,
    modify                                     SEQUENCE {
        measurementType                       MeasurementType-r4           OPTIONAL
    },
    release                                     NULL
}

MeasurementControlSysInfo ::= SEQUENCE {
    -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
    use-of-HCS                                CHOICE {
        hcs-not-used                          SEQUENCE {
            cellSelectQualityMeasure          CHOICE {
                cpich-RSCP                    SEQUENCE {
                    intraFreqMeasurementSysInfo      IntraFreqMeasurementSysInfo-RSCP
                },
                interFreqMeasurementSysInfo      InterFreqMeasurementSysInfo-RSCP   OPTIONAL
            },
            cpich-Ec-N0                        SEQUENCE {
                intraFreqMeasurementSysInfo      IntraFreqMeasurementSysInfo-ECN0
            },
            interFreqMeasurementSysInfo        InterFreqMeasurementSysInfo-ECN0   OPTIONAL
        }
    },
    interRATMeasurementSysInfo                InterRATMeasurementSysInfo-B       OPTIONAL
},
    hcs-used                                  SEQUENCE {
        cellSelectQualityMeasure              CHOICE {
            cpich-RSCP                        SEQUENCE {
                intraFreqMeasurementSysInfo      IntraFreqMeasurementSysInfo-HCS-RSCP
            },
            interFreqMeasurementSysInfo        InterFreqMeasurementSysInfo-HCS-RSCP
        },
        cpich-Ec-N0                          SEQUENCE {
            intraFreqMeasurementSysInfo        IntraFreqMeasurementSysInfo-HCS-ECN0
        },
        interFreqMeasurementSysInfo            InterFreqMeasurementSysInfo-HCS-ECN0
    },
    interRATMeasurementSysInfo                InterRATMeasurementSysInfo        OPTIONAL
},
    trafficVolumeMeasSysInfo                  TrafficVolumeMeasSysInfo          OPTIONAL,
    -- dummy is not used in this version of specification and it shall be ignored by the UE.
    dummy                                     UE-InternalMeasurementSysInfo     OPTIONAL
}

MeasurementControlSysInfo-LCR-r4-ext ::= SEQUENCE {
    -- CHOICE use-of-HCS shall have the same value as the use-of-HCS
    -- in MeasurementControlSysInfo
    -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
    use-of-HCS                                CHOICE {
        hcs-not-used                          SEQUENCE {
            -- CHOICE cellSelectQualityMeasure shall have the same value as the
            -- cellSelectQualityMeasure in MeasurementControlSysInfo
            cellSelectQualityMeasure          CHOICE {
                cpich-RSCP                    SEQUENCE {
                    intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
                    interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL
                },
                cpich-Ec-N0                    SEQUENCE {
                    intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL,
                    interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
                }
            }
        }
    },
    hcs-used                                  SEQUENCE {
        -- CHOICE cellSelectQualityMeasure shall have the same value as the
        -- cellSelectQualityMeasure in MeasurementControlSysInfo
        cellSelectQualityMeasure              CHOICE {
            cpich-RSCP                        SEQUENCE {

```

```

        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP-LCR-r4
OPTIONAL,
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
    },
    cpich-Ec-N0 SEQUENCE {
OPTIONAL,
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0-LCR-r4
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-ECN0-LCR-r4 OPTIONAL
    }
}
}
}
}
}

MeasurementIdentity ::= INTEGER (1..16)

MeasurementQuantityGSM ::= ENUMERATED {
    gsm-CarrierRSSI,
    dummy }

MeasurementReportingMode ::= SEQUENCE {
    measurementReportTransferMode TransferMode,
    periodicalOrEventTrigger PeriodicalOrEventTrigger
}

MeasurementType ::= CHOICE {
    intraFrequencyMeasurement IntraFrequencyMeasurement,
    interFrequencyMeasurement InterFrequencyMeasurement,
    interRATMeasurement InterRATMeasurement,
    ue-positioning-Measurement UE-Positioning-Measurement,
    trafficVolumeMeasurement TrafficVolumeMeasurement,
    qualityMeasurement QualityMeasurement,
    ue-InternalMeasurement UE-InternalMeasurement
}

MeasurementType-r4 ::= CHOICE {
    intraFrequencyMeasurement IntraFrequencyMeasurement-r4,
    interFrequencyMeasurement InterFrequencyMeasurement-r4,
    interRATMeasurement InterRATMeasurement-r4,
    up-Measurement UE-Positioning-Measurement-r4,
    trafficVolumeMeasurement TrafficVolumeMeasurement,
    qualityMeasurement QualityMeasurement,
    ue-InternalMeasurement UE-InternalMeasurement-r4
}

MeasurementValidity ::= SEQUENCE {
    ue-State ENUMERATED {
        cell-DCH, all-But-Cell-DCH, all-States }
}

MonitoredCellRACH-List ::= SEQUENCE (SIZE (1..8)) OF
    MonitoredCellRACH-Result

MonitoredCellRACH-Result ::= SEQUENCE {
    sfn-SFN-ObsTimeDifference SFN-SFN-ObsTimeDifference OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            primaryCPICH-Info PrimaryCPICH-Info,
            measurementQuantity CHOICE {
                cpich-Ec-N0 CPICH-Ec-N0,
                cpich-RSCP CPICH-RSCP,
                pathloss Pathloss,
                spare NULL
            }
        },
        tdd SEQUENCE {
            cellParametersID CellParametersID,
            primaryCCPCH-RSCP PrimaryCCPCH-RSCP
        }
    }
}

MultipathIndicator ::= ENUMERATED {
    nm,
    low,
    medium,
    high }

```



```

N-CR-T-CRMaxHyst ::= SEQUENCE {
    n-CR INTEGER (1..16) DEFAULT 8,
    t-CRMaxHyst T-CRMaxHyst
}

NavigationModelSatInfo ::= SEQUENCE {
    satID SatID,
    satelliteStatus SatelliteStatus,
    ephemerisParameter EphemerisParameter OPTIONAL
}

NavigationModelSatInfoList ::= SEQUENCE (SIZE (1..maxSat)) OF
    NavigationModelSatInfo

EphemerisParameter ::= SEQUENCE {
    codeOnL2 BIT STRING (SIZE (2)),
    uraIndex BIT STRING (SIZE (4)),
    satHealth BIT STRING (SIZE (6)),
    iodc BIT STRING (SIZE (10)),
    l2Pflag BIT STRING (SIZE (1)),
    sflRevd SubFrameReserved,
    t-GD BIT STRING (SIZE (8)),
    t-oc BIT STRING (SIZE (16)),
    af2 BIT STRING (SIZE (8)),
    af1 BIT STRING (SIZE (16)),
    af0 BIT STRING (SIZE (22)),
    c-rs BIT STRING (SIZE (16)),
    delta-n BIT STRING (SIZE (16)),
    m0 BIT STRING (SIZE (32)),
    c-uc BIT STRING (SIZE (16)),
    e BIT STRING (SIZE (32)),
    c-us BIT STRING (SIZE (16)),
    a-Sqrt BIT STRING (SIZE (32)),
    t-oe BIT STRING (SIZE (16)),
    fitInterval BIT STRING (SIZE (1)),
    aodo BIT STRING (SIZE (5)),
    c-ic BIT STRING (SIZE (16)),
    omega0 BIT STRING (SIZE (32)),
    c-is BIT STRING (SIZE (16)),
    i0 BIT STRING (SIZE (32)),
    c-rc BIT STRING (SIZE (16)),
    omega BIT STRING (SIZE (32)),
    omegaDot BIT STRING (SIZE (24)),
    iDot BIT STRING (SIZE (14))
}

NC-Mode ::= BIT STRING (SIZE (3))

Neighbour ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            neighbourIdentity PrimaryCPICH-Info OPTIONAL,
            ue-RX-TX-TimeDifferenceType2Info UE-RX-TX-TimeDifferenceType2Info OPTIONAL
        },
        tdd SEQUENCE {
            neighbourAndChannelIdentity CellAndChannelIdentity OPTIONAL
        }
    },
    neighbourQuality NeighbourQuality,
    sfn-SFN-ObsTimeDifference2 SFN-SFN-ObsTimeDifference2
}

Neighbour-v390ext ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            frequencyInfo FrequencyInfo
        },
        tdd NULL
    }
}

NeighbourList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    Neighbour

-- The order of the cells in IE NeighbourList-v390ext shall be the
-- same as the order in IE NeighbourList
NeighbourList-v390ext ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    Neighbour-v390ext

NeighbourQuality ::= SEQUENCE {

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ue-Positioning-OTDOA-Quality	UE-Positioning-OTDOA-Quality	
}		
NewInterFreqCell ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfo	
}		
NewInterFreqCell-r4 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfo-r4	
}		
NewInterFreqCellList ::=	SEQUENCE (SIZE (1..maxCellMeas)) OF	
	NewInterFreqCell	
NewInterFreqCellList-r4 ::=	SEQUENCE (SIZE (1..maxCellMeas)) OF	
	NewInterFreqCell-r4	
NewInterFreqCellSI-RSCP ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-RSCP	
}		
NewInterFreqCellSI-ECN0 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-ECN0	
}		
NewInterFreqCellSI-HCS-RSCP ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-HCS-RSCP	
}		
NewInterFreqCellSI-HCS-ECN0 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-HCS-ECN0	
}		
NewInterFreqCellSI-RSCP-LCR-r4 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-RSCP-LCR-r4	
}		
NewInterFreqCellSI-ECN0-LCR-r4 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-ECN0-LCR-r4	
}		
NewInterFreqCellSI-HCS-RSCP-LCR-r4 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-HCS-RSCP-LCR-r4	
}		
NewInterFreqCellSI-HCS-ECN0-LCR-r4 ::=	SEQUENCE {	
interFreqCellID	InterFreqCellID	OPTIONAL,
frequencyInfo	FrequencyInfo	OPTIONAL,
cellInfo	CellInfoSI-HCS-ECN0-LCR-r4	
}		
NewInterFreqCellSI-List-ECN0 ::=	SEQUENCE (SIZE (1..maxCellMeas)) OF	
	NewInterFreqCellSI-ECN0	
NewInterFreqCellSI-List-HCS-RSCP ::=	SEQUENCE (SIZE (1..maxCellMeas)) OF	
	NewInterFreqCellSI-HCS-RSCP	
NewInterFreqCellSI-List-HCS-ECN0 ::=	SEQUENCE (SIZE (1..maxCellMeas)) OF	
	NewInterFreqCellSI-HCS-ECN0	

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NewInterFreqCellSI-List-RSCP ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterFreqCellSI-RSCP

NewInterFreqCellSI-List-ECN0-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterFreqCellSI-ECN0-LCR-r4

NewInterFreqCellSI-List-HCS-RSCP-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterFreqCellSI-HCS-RSCP-LCR-r4

NewInterFreqCellSI-List-HCS-ECN0-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterFreqCellSI-HCS-ECN0-LCR-r4

NewInterFreqCellSI-List-RSCP-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterFreqCellSI-RSCP-LCR-r4

NewInterRATCell ::= SEQUENCE {
    interRATCellID InterRATCellID OPTIONAL,
    technologySpecificInfo CHOICE {
        gsm SEQUENCE {
            cellSelectionReselectionInfo CellSelectReselectInfoSIB-11-12 OPTIONAL,
            interRATCellIndividualOffset InterRATCellIndividualOffset,
            bsic BSIC,
            frequency-band Frequency-Band,
            bcch-ARFCN BCCH-ARFCN,
            -- dummy is not used in this version of the specification, it should
            -- not be sent and if received it should be ignored.
            dummy NULL OPTIONAL
        },
        is-2000 SEQUENCE {
            is-2000SpecificMeasInfo IS-2000SpecificMeasInfo
        },
        -- ASN.1 inconsistency: NewInterRATCellList should be optional within
        -- InterRATCellInfoList. The UE shall consider IE NewInterRATCell with
        -- technologySpecificInfo set to "absent" as valid and handle the
        -- message as if the IE NewInterRATCell was absent
        absent NULL,
        spare1 NULL
    }
}

NewInterRATCell-B ::= SEQUENCE {
    interRATCellID InterRATCellID OPTIONAL,
    technologySpecificInfo CHOICE {
        gsm SEQUENCE {
            cellSelectionReselectionInfo CellSelectReselectInfoSIB-11-12 OPTIONAL,
            interRATCellIndividualOffset InterRATCellIndividualOffset,
            bsic BSIC,
            frequency-band Frequency-Band,
            bcch-ARFCN BCCH-ARFCN,
            -- dummy is not used in this version of the specification, it should
            -- not be sent and if received it should be ignored.
            dummy NULL OPTIONAL
        },
        is-2000 SEQUENCE {
            is-2000SpecificMeasInfo IS-2000SpecificMeasInfo
        },
        -- ASN.1 inconsistency: NewInterRATCellList-B should be optional within
        -- InterRATCellInfoList-B. The UE shall consider IE NewInterRATCell-B with
        -- technologySpecificInfo set to "absent" as valid and handle the
        -- message as if the IE NewInterRATCell-B was absent
        absent NULL,
        spare1 NULL
    }
}

NewInterRATCellList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterRATCell

NewInterRATCellList-B ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
NewInterRATCell-B

NewIntraFreqCell ::= SEQUENCE {
    intraFreqCellID IntraFreqCellID OPTIONAL,
    cellInfo CellInfo
}

NewIntraFreqCell-r4 ::= SEQUENCE {
    intraFreqCellID IntraFreqCellID OPTIONAL,
}

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    cellInfo                CellInfo-r4
}

NewIntraFreqCellList ::=      SEQUENCE (SIZE (1..maxCellMeas)) OF
                               NewIntraFreqCell

NewIntraFreqCellList-r4 ::=   SEQUENCE (SIZE (1..maxCellMeas)) OF
                               NewIntraFreqCell-r4

NewIntraFreqCellSI-RSCP ::=   SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-RSCP
}

NewIntraFreqCellSI-ECN0 ::=   SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-ECN0
}

NewIntraFreqCellSI-HCS-RSCP ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-HCS-RSCP
}

NewIntraFreqCellSI-HCS-ECN0 ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-HCS-ECN0
}

NewIntraFreqCellSI-RSCP-LCR-r4 ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-RSCP-LCR-r4
}

NewIntraFreqCellSI-ECN0-LCR-r4 ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-ECN0-LCR-r4
}

NewIntraFreqCellSI-HCS-RSCP-LCR-r4 ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-HCS-RSCP-LCR-r4
}

NewIntraFreqCellSI-HCS-ECN0-LCR-r4 ::= SEQUENCE {
    intraFreqCellID           OPTIONAL,
    cellInfo                   CellInfoSI-HCS-ECN0-LCR-r4
}

NewIntraFreqCellSI-List-RSCP ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                   NewIntraFreqCellSI-RSCP

NewIntraFreqCellSI-List-ECN0 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                   NewIntraFreqCellSI-ECN0

NewIntraFreqCellSI-List-HCS-RSCP ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                       NewIntraFreqCellSI-HCS-RSCP

NewIntraFreqCellSI-List-HCS-ECN0 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                       NewIntraFreqCellSI-HCS-ECN0

NewIntraFreqCellSI-List-RSCP-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                          NewIntraFreqCellSI-RSCP-LCR-r4

NewIntraFreqCellSI-List-ECN0-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                          NewIntraFreqCellSI-ECN0-LCR-r4

NewIntraFreqCellSI-List-HCS-RSCP-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                              NewIntraFreqCellSI-HCS-RSCP-LCR-r4

NewIntraFreqCellSI-List-HCS-ECN0-LCR-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                              NewIntraFreqCellSI-HCS-ECN0-LCR-r4

-- IE "nonUsedFreqThreshold" is not needed in case of event 2a
-- In case of event 2a UTRAN should include value 0 within IE "nonUsedFreqThreshold"
-- In case of event 2a, the UE shall be ignore IE "nonUsedFreqThreshold"
-- In later versions of the message including this IE, a special version of
-- IE "NonUsedFreqParameterList" may be defined for event 2a, namely a
-- version not including IE "nonUsedFreqThreshold"
NonUsedFreqParameter ::= SEQUENCE {

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        nonUsedFreqThreshold      Threshold,
        nonUsedFreqW              W
    }

NonUsedFreqParameterList ::=      SEQUENCE (SIZE (1..maxFreq)) OF
                                    NonUsedFreqParameter

ObservedTimeDifferenceToGSM ::=    INTEGER (0..4095)

OTDOA-SearchWindowSize ::=        ENUMERATED {
                                    c20, c40, c80, c160, c320,
                                    c640, c1280, moreThan1280 }

-- SPARE: Pathloss, Max = 158
-- Values above Max are spare
Pathloss ::=                       INTEGER (46..173)

PenaltyTime-RSCP ::=              CHOICE {
    notUsed                        NULL,
    pt10                           TemporaryOffset1,
    pt20                           TemporaryOffset1,
    pt30                           TemporaryOffset1,
    pt40                           TemporaryOffset1,
    pt50                           TemporaryOffset1,
    pt60                           TemporaryOffset1
}

PenaltyTime-ECNO ::=              CHOICE {
    notUsed                        NULL,
    pt10                           TemporaryOffsetList,
    pt20                           TemporaryOffsetList,
    pt30                           TemporaryOffsetList,
    pt40                           TemporaryOffsetList,
    pt50                           TemporaryOffsetList,
    pt60                           TemporaryOffsetList
}

PendingTimeAfterTrigger ::=        ENUMERATED {
    ptat0-25, ptat0-5, ptat1,
    ptat2, ptat4, ptat8, ptat16 }

PeriodicalOrEventTrigger ::=        ENUMERATED {
    periodical,
    eventTrigger }

PeriodicalReportingCriteria ::=     SEQUENCE {
    reportingAmount                 ReportingAmount                DEFAULT ra-Infinity,
    reportingInterval               ReportingIntervalLong
}

PeriodicalWithReportingCellStatus ::= SEQUENCE {
    periodicalReportingCriteria      PeriodicalReportingCriteria,
    reportingCellStatus              ReportingCellStatus                OPTIONAL
}

PLMNIdentitiesOfNeighbourCells ::= SEQUENCE {
    plmnsOfIntraFreqCellsList       PLMNsOfIntraFreqCellsList        OPTIONAL,
    plmnsOfInterFreqCellsList       PLMNsOfInterFreqCellsList        OPTIONAL,
    plmnsOfInterRATCellsList        PLMNsOfInterRATCellsList        OPTIONAL
}

PLMNsOfInterFreqCellsList ::=       SEQUENCE (SIZE (1..maxCellMeas)) OF
    SEQUENCE {
        plmn-Identity                PLMN-Identity                    OPTIONAL
    }

PLMNsOfIntraFreqCellsList ::=        SEQUENCE (SIZE (1..maxCellMeas)) OF
    SEQUENCE {
        plmn-Identity                PLMN-Identity                    OPTIONAL
    }

PLMNsOfInterRATCellsList ::=         SEQUENCE (SIZE (1..maxCellMeas)) OF
    SEQUENCE {
        plmn-Identity                PLMN-Identity                    OPTIONAL
    }

PositionEstimate ::=                 CHOICE {
    ellipsoidPoint                   EllipsoidPoint,
}

```

```

    ellipsoidPointUncertCircle      EllipsoidPointUncertCircle,
    ellipsoidPointUncertEllipse     EllipsoidPointUncertEllipse,
    ellipsoidPointAltitude         EllipsoidPointAltitude,
    ellipsoidPointAltitudeEllipse  EllipsoidPointAltitudeEllipsoide
}

PositioningMethod ::=                ENUMERATED {
    otdoa,
    gps,
    otdoaOrGPS, cellID }

-- Actual value PRC = IE value * 0.32
PRC ::=                              INTEGER (-2047..2047)

-- SPARE: PrimaryCCPCH-RSCP, Max = 91
-- Values above Max are spare
PrimaryCCPCH-RSCP ::=              INTEGER (0..127)

Q-HCS ::=                            INTEGER (0..99)

Q-OffsetS-N ::=                     INTEGER (-50..50)

Q-QualMin ::=                        INTEGER (-24..0)

-- Actual value Q-RxlevMin = (IE value * 2) + 1
Q-RxlevMin ::=                      INTEGER (-58..-13)

QualityEventResults ::=             SEQUENCE (SIZE (1..maxTrCH)) OF
    TransportChannelIdentity

QualityMeasuredResults ::=          SEQUENCE {
    blerMeasurementResultsList      BLER-MeasurementResultsList      OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                          NULL,
        tdd                          SEQUENCE {
            sir-MeasurementResults    SIR-MeasurementList      OPTIONAL
        }
    }
}

QualityMeasurement ::=             SEQUENCE {
    qualityReportingQuantity         QualityReportingQuantity          OPTIONAL,
    reportCriteria                   QualityReportCriteria
}

QualityReportCriteria ::=          CHOICE {
    qualityReportingCriteria         QualityReportingCriteria,
    periodicalReportingCriteria     PeriodicalReportingCriteria,
    noReporting                       NULL
}

QualityReportingCriteria ::=        SEQUENCE (SIZE (1..maxTrCH)) OF
    QualityReportingCriteriaSingle

QualityReportingCriteriaSingle ::= SEQUENCE {
    transportChannelIdentity         TransportChannelIdentity,
    totalCRC                         INTEGER (1..512),
    badCRC                           INTEGER (1..512),
    pendingAfterTrigger              INTEGER (1..512)
}

QualityReportingQuantity ::=        SEQUENCE {
    dl-TransChBLER                   BOOLEAN,
    bler-dl-TransChIdList            BLER-TransChIdList              OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                          NULL,
        tdd                          SEQUENCE {
            sir-TFCS-List             SIR-TFCS-List              OPTIONAL
        }
    }
}

RAT-Type ::=                        ENUMERATED {
    gsm, is2000 }

ReferenceCellPosition ::=           CHOICE {
    ellipsoidPoint                   EllipsoidPoint,
    ellipsoidPointWithAltitude       EllipsoidPointAltitude
}

```

```

}

-- ReferenceLocation, as defined in 23.032
ReferenceLocation ::= SEQUENCE {
    ellipsoidPointAltitudeEllipsoide EllipsoidPointAltitudeEllipsoide
}

ReferenceTimeDifferenceToCell ::= CHOICE {
    -- Actual value accuracy40 = IE value * 40
    accuracy40 INTEGER (0..960),
    -- Actual value accuracy256 = IE value * 256
    accuracy256 INTEGER (0..150),
    -- Actual value accuracy2560 = IE value * 2560
    accuracy2560 INTEGER (0..15)
}

RemovedInterFreqCellList ::= CHOICE {
    removeAllInterFreqCells NULL,
    removeSomeInterFreqCells SEQUENCE (SIZE (1..maxCellMeas)) OF
        InterFreqCellID,
    removeNoInterFreqCells NULL
}

RemovedInterRATCellList ::= CHOICE {
    removeAllInterRATCells NULL,
    removeSomeInterRATCells SEQUENCE (SIZE (1..maxCellMeas)) OF
        InterRATCellID,
    removeNoInterRATCells NULL
}

RemovedIntraFreqCellList ::= CHOICE {
    removeAllIntraFreqCells NULL,
    removeSomeIntraFreqCells SEQUENCE (SIZE (1..maxCellMeas)) OF
        IntraFreqCellID,
    removeNoIntraFreqCells NULL
}

ReplacementActivationThreshold ::= ENUMERATED {
    notApplicable, t1, t2,
    t3, t4, t5, t6, t7 }

ReportDeactivationThreshold ::= ENUMERATED {
    notApplicable, t1, t2,
    t3, t4, t5, t6, t7 }

ReportingAmount ::= ENUMERATED {
    ra1, ra2, ra4, ra8, ra16, ra32,
    ra64, ra-Infinity }

ReportingCellStatus ::= CHOICE{
    withinActiveSet MaxNumberOfReportingCellsType1,
    withinMonitoredSetUsedFreq MaxNumberOfReportingCellsType1,
    withinActiveAndOrMonitoredUsedFreq MaxNumberOfReportingCellsType1,
    withinDetectedSetUsedFreq MaxNumberOfReportingCellsType1,
    withinMonitoredAndOrDetectedUsedFreq MaxNumberOfReportingCellsType1,
    allActiveplusMonitoredSet MaxNumberOfReportingCellsType3,
    allActivePlusDetectedSet MaxNumberOfReportingCellsType3,
    allActivePlusMonitoredAndOrDetectedSet MaxNumberOfReportingCellsType3,
    withinVirtualActSet MaxNumberOfReportingCellsType1,
    withinMonitoredSetNonUsedFreq MaxNumberOfReportingCellsType1,
    withinMonitoredAndOrVirtualActiveSetNonUsedFreq MaxNumberOfReportingCellsType1,
    allVirtualActSetplusMonitoredSetNonUsedFreq MaxNumberOfReportingCellsType3,
    withinActSetOrVirtualActSet-InterRATcells MaxNumberOfReportingCellsType1,
    withinActSetAndOrMonitoredUsedFreqOrVirtualActSetAndOrMonitoredNonUsedFreq MaxNumberOfReportingCellsType2
}

ReportingCellStatusOpt ::= SEQUENCE {
    reportingCellStatus ReportingCellStatus OPTIONAL
}

ReportingInfoForCellDCH ::= SEQUENCE {

```

```

    intraFreqReportingQuantity      IntraFreqReportingQuantity,
    measurementReportingMode        MeasurementReportingMode,
    reportCriteria                   CellDCH-ReportCriteria
}

ReportingInfoForCellDCH-LCR-r4 ::= SEQUENCE {
    intraFreqReportingQuantity      IntraFreqReportingQuantity,
    measurementReportingMode        MeasurementReportingMode,
    reportCriteria                   CellDCH-ReportCriteria-LCR-r4
}

ReportingInterval ::= ENUMERATED {
    noPeriodicalreporting, ri0-25,
    ri0-5, ril, ri2, ri4, ri8, ril6 }

ReportingIntervalLong ::= ENUMERATED {
    ril0, ril0-25, ril0-5, ril1,
    ril2, ril3, ril4, ril6, ril8,
    ril12, ril16, ril20, ril24,
    ril28, ril32, ril64 }
-- When the value "ril0" is used, the UE behaviour is not
-- defined.

-- Actual value ReportingRange = IE value * 0.5
ReportingRange ::= INTEGER (0..29)

RL-AdditionInfoList ::= SEQUENCE (SIZE (1..maxRL)) OF
    PrimaryCPICH-Info

RL-InformationLists ::= SEQUENCE {
    rl-AdditionInfoList             OPTIONAL,
    rl-RemovalInformationList       OPTIONAL
}

RLC-BuffersPayload ::= ENUMERATED {
    pl0, pl4, pl8, pl16, pl32,
    pl64, pl128, pl256, pl512, pl1024,
    pl2k, pl4k, pl8k, pl16k, pl32k,
    pl64k, pl128k, pl256k, pl512k, pl1024k,
    spare12, spare11, spare10, spare9, spare8,
    spare7, spare6, spare5, spare4, spare3,
    spare2, spare1 }

-- Actual value RRC = IE value * 0.032
RRC ::= INTEGER (-127..127)

SatData ::= SEQUENCE{
    satID      SatID,
    iode       IODE
}

SatDataList ::= SEQUENCE (SIZE (0..maxSat)) OF
    SatData

SatelliteStatus ::= ENUMERATED {
    ns-NN-U,
    es-SN,
    es-NN-U,
    rev2,
    rev }

-- Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
SatID ::= INTEGER (0..63)

SFN-Offset-Validity ::= ENUMERATED { false }

SFN-SFN-Drift ::= ENUMERATED {
    sfnsfndrift0, sfnsfndrift1, sfnsfndrift2,
    sfnsfndrift3, sfnsfndrift4, sfnsfndrift5,
    sfnsfndrift8, sfnsfndrift10, sfnsfndrift15,
    sfnsfndrift25, sfnsfndrift35, sfnsfndrift50,
    sfnsfndrift65, sfnsfndrift80, sfnsfndrift100,
    sfnsfndrift-1, sfnsfndrift-2, sfnsfndrift-3,
    sfnsfndrift-4, sfnsfndrift-5, sfnsfndrift-8,
    sfnsfndrift-10, sfnsfndrift-15, sfnsfndrift-25,
    sfnsfndrift-35, sfnsfndrift-50, sfnsfndrift-65,
    sfnsfndrift-80, sfnsfndrift-100}

```



```

SFN-SFN-ObsTimeDifference ::=          CHOICE {
    type1                               SFN-SFN-ObsTimeDifference1,
    type2                               SFN-SFN-ObsTimeDifference2
}

-- SPARE: SFN-SFN-ObsTimeDifference1, Max = 9830399
-- For 1.28Mcps TDD, Max value of SFN-SFN-ObsTimeDifference1 is 3276799.
-- Values above Max are spare
SFN-SFN-ObsTimeDifference1 ::=        INTEGER (0..16777215)

-- SPARE: SFN-SFN-ObsTimeDifference2, Max = 40961
-- For 1.28Mcps TDD, Max value of SFN-SFN-ObsTimeDifference2 is 27649.
-- Values above Max are spare
SFN-SFN-ObsTimeDifference2 ::=        INTEGER (0..65535)

SFN-SFN-OTD-Type ::=                  ENUMERATED {
    noReport,
    type1,
    type2 }

SFN-SFN-RelTimeDifference1 ::=        SEQUENCE {
    sfn-Offset                           INTEGER (0 .. 4095),
    sfn-sfn-Reltimedifference            INTEGER (0.. 38399)
}

SFN-TOW-Uncertainty ::=               ENUMERATED {
    lessThan10,
    moreThan10 }

SIR ::=                                INTEGER (0..63)

SIR-MeasurementList ::=               SEQUENCE (SIZE (1..maxCCTrCH)) OF
    SIR-MeasurementResults

SIR-MeasurementResults ::=            SEQUENCE {
    tfcs-ID                               TFCS-IdentityPlain,
    sir-TimeslotList                      SIR-TimeslotList
}

SIR-TFCS ::=                           TFCS-IdentityPlain

SIR-TFCS-List ::=                     SEQUENCE (SIZE (1..maxCCTrCH)) OF
    SIR-TFCS

SIR-TimeslotList ::=                  SEQUENCE (SIZE (1..maxTS)) OF
    SIR

-- SubFrame1Reserved, reserved bits in subframe 1 of the GPS navigation message
SubFrame1Reserved ::=                 SEQUENCE {
    reserved1                             BIT STRING (SIZE (23)),
    reserved2                             BIT STRING (SIZE (24)),
    reserved3                             BIT STRING (SIZE (24)),
    reserved4                             BIT STRING (SIZE (16))
}

T-ADVinfo ::=                          SEQUENCE {
    t-ADV                                 INTEGER(0..2047),
    sfn                                   INTEGER(0..4095)
}

T-CRMax ::=                            CHOICE {
    notUsed                               NULL,
    t30                                   N-CR-T-CRMaxHyst,
    t60                                   N-CR-T-CRMaxHyst,
    t120                                  N-CR-T-CRMaxHyst,
    t180                                  N-CR-T-CRMaxHyst,
    t240                                  N-CR-T-CRMaxHyst
}

T-CRMaxHyst ::=                        ENUMERATED {
    notUsed, t10, t20, t30,
    t40, t50, t60, t70 }

TemporaryOffset1 ::=                  ENUMERATED {

```

```

        to3, to6, to9, to12, to15,
        to18, to21, infinite }

TemporaryOffset2 ::=          ENUMERATED {
                                to2, to3, to4, to6, to8,
                                to10, to12, infinite }

TemporaryOffsetList ::=      SEQUENCE {
                                temporaryOffset1
                                temporaryOffset2
                                TemporaryOffset1,
                                TemporaryOffset2
                                }

Threshold ::=                 INTEGER (-115..0)

-- The order of the list corresponds to the order of frequency defined in Inter-FreqEventCriteria
ThresholdNonUsedFrequency-deltaList ::= SEQUENCE (SIZE (1..maxFreq)) OF
                                         DeltaRSCPPerCell

ThresholdPositionChange ::=  ENUMERATED {
                                pc10, pc20, pc30, pc40, pc50,
                                pc100, pc200, pc300, pc500,
                                pc1000, pc2000, pc5000, pc10000,
                                pc20000, pc50000, pc100000 }

ThresholdSFN-GPS-TOW ::=     ENUMERATED {
                                ms1, ms2, ms3, ms5, ms10,
                                ms20, ms50, ms100 }

ThresholdSFN-SFN-Change ::=  ENUMERATED {
                                c0-25, c0-5, c1, c2, c3, c4, c5,
                                c10, c20, c50, c100, c200, c500,
                                c1000, c2000, c5000 }

ThresholdUsedFrequency ::=    INTEGER (-115..165)

-- Actual value TimeInterval = IE value * 20.
TimeInterval ::=             INTEGER (1..13)

TimeslotInfo ::=             SEQUENCE {
                                timeslotNumber
                                burstType
                                TimeslotNumber,
                                BurstType
                                }

TimeslotInfo-LCR-r4 ::=      SEQUENCE {
                                timeslotNumber
                                TimeslotNumber-LCR-r4
                                }

TimeslotInfoList ::=         SEQUENCE (SIZE (1..maxTS)) OF
                                TimeslotInfo

TimeslotInfoList-LCR-r4 ::=  SEQUENCE (SIZE (1..maxTS-LCR)) OF
                                TimeslotInfo-LCR-r4

TimeslotInfoList-r4 ::=      CHOICE {
                                tdd384
                                SEQUENCE (SIZE (1..maxTS)) OF
                                    TimeslotInfo,
                                tdd128
                                SEQUENCE (SIZE (1..maxTS-LCR)) OF
                                    TimeslotInfo-LCR-r4
                                }

-- SPARE: TimeslotISCP, Max = 91
-- Values above Max are spare
TimeslotISCP ::=             INTEGER (0..127)

-- TimeslotISCP-List shall not include more than 6 elements in 1.28Mcps TDD mode.
TimeslotISCP-List ::=        SEQUENCE (SIZE (1..maxTS)) OF
                                TimeslotISCP

TimeslotListWithISCP ::=     SEQUENCE (SIZE (1..maxTS)) OF
                                TimeslotWithISCP

TimeslotWithISCP ::=         SEQUENCE {
                                timeslot
                                timeslotISCP
                                TimeslotNumber,
                                TimeslotISCP
                                }

```

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TimeToTrigger ::=          ENUMERATED {
                            ttt0, ttt10, ttt20, ttt40, ttt60,
                            ttt80, ttt100, ttt120, ttt160,
                            ttt200, ttt240, ttt320, ttt640,
                            ttt1280, ttt2560, ttt5000 }

TrafficVolumeEventParam ::= SEQUENCE {
    eventID                TrafficVolumeEventType,
    reportingThreshold      TrafficVolumeThreshold,
    timeToTrigger           TimeToTrigger                OPTIONAL,
    pendingTimeAfterTrigger PendingTimeAfterTrigger     OPTIONAL,
    tx-InterruptionAfterTrigger TX-InterruptionAfterTrigger OPTIONAL
}

TrafficVolumeEventResults ::= SEQUENCE {
    ul-transportChannelCausingEvent UL-TrCH-Identity,
    trafficVolumeEventIdentity      TrafficVolumeEventType
}

TrafficVolumeEventType ::= ENUMERATED {
    e4a,
    e4b }

TrafficVolumeMeasQuantity ::= CHOICE {
    rlc-BufferPayload          NULL,
    averageRLC-BufferPayload   TimeInterval,
    varianceOfRLC-BufferPayload TimeInterval
}

TrafficVolumeMeasSysInfo ::= SEQUENCE {
    trafficVolumeMeasurementID      MeasurementIdentity          DEFAULT 4,
    trafficVolumeMeasurementObjectList TrafficVolumeMeasurementObjectList OPTIONAL,
    trafficVolumeMeasQuantity        TrafficVolumeMeasQuantity      OPTIONAL,
    trafficVolumeReportingQuantity   TrafficVolumeReportingQuantity  OPTIONAL,
    -- dummy is not used in this version of specification, it should
    -- not be sent and if received it should be ignored.
    dummy                            TrafficVolumeReportingCriteria OPTIONAL,
    measurementValidity              MeasurementValidity            OPTIONAL,
    measurementReportingMode         MeasurementReportingMode,
    reportCriteriaSysInf            TrafficVolumeReportCriteriaSysInfo
}

TrafficVolumeMeasuredResults ::= SEQUENCE {
    rb-Identity                RB-Identity,
    rlc-BuffersPayload          RLC-BuffersPayload            OPTIONAL,
    averageRLC-BufferPayload     AverageRLC-BufferPayload        OPTIONAL,
    varianceOfRLC-BufferPayload   VarianceOfRLC-BufferPayload     OPTIONAL
}

TrafficVolumeMeasuredResultsList ::= SEQUENCE (SIZE (1..maxRB)) OF
    TrafficVolumeMeasuredResults

TrafficVolumeMeasurement ::= SEQUENCE {
    trafficVolumeMeasurementObjectList TrafficVolumeMeasurementObjectList OPTIONAL,
    trafficVolumeMeasQuantity          TrafficVolumeMeasQuantity      OPTIONAL,
    trafficVolumeReportingQuantity     TrafficVolumeReportingQuantity  OPTIONAL,
    measurementValidity                MeasurementValidity            OPTIONAL,
    reportCriteria                     TrafficVolumeReportCriteria
}

TrafficVolumeMeasurementObjectList ::= SEQUENCE (SIZE (1..maxTrCH)) OF
    UL-TrCH-Identity

TrafficVolumeReportCriteria ::= CHOICE {
    trafficVolumeReportingCriteria TrafficVolumeReportingCriteria,
    periodicalReportingCriteria    PeriodicalReportingCriteria,
    noReporting                     NULL
}

TrafficVolumeReportCriteriaSysInfo ::= CHOICE {
    trafficVolumeReportingCriteria TrafficVolumeReportingCriteria,
    periodicalReportingCriteria    PeriodicalReportingCriteria
}

TrafficVolumeReportingCriteria ::= SEQUENCE {
    -- NOTE: transChCriteriaList should be mandatory in later versions of this message

```

```

    transChCriteriaList          TransChCriteriaList          OPTIONAL
}

TrafficVolumeReportingQuantity ::= SEQUENCE {
    rlc-RB-BufferPayload          BOOLEAN,
    rlc-RB-BufferPayloadAverage   BOOLEAN,
    rlc-RB-BufferPayloadVariance  BOOLEAN
}

TrafficVolumeThreshold ::=
    ENUMERATED {
        th8, th16, th32, th64, th128,
        th256, th512, th1024, th2k, th3k,
        th4k, th6k, th8k, th12k, th16k,
        th24k, th32k, th48k, th64k, th96k,
        th128k, th192k, th256k, th384k,
        th512k, th768k }

TransChCriteria ::=
    SEQUENCE {
        ul-transportChannelID      UL-TrCH-Identity          OPTIONAL,
        eventSpecificParameters    SEQUENCE (SIZE (1..maxMeasParEvent)) OF
                                   TrafficVolumeEventParam        OPTIONAL
    }

TransChCriteriaList ::=
    SEQUENCE (SIZE (1..maxTrCH)) OF
    TransChCriteria

TransferMode ::=
    ENUMERATED {
        acknowledgedModeRLC,
        unacknowledgedModeRLC }

TransmittedPowerThreshold ::=
    INTEGER (-50..33)

TriggeringCondition1 ::=
    ENUMERATED {
        activeSetCellsOnly,
        monitoredSetCellsOnly,
        activeSetAndMonitoredSetCells }

TriggeringCondition2 ::=
    ENUMERATED {
        activeSetCellsOnly,
        monitoredSetCellsOnly,
        activeSetAndMonitoredSetCells,
        detectedSetCellsOnly,
        detectedSetAndMonitoredSetCells }

TX-InterruptionAfterTrigger ::=
    ENUMERATED {
        txiat0-25, txiat0-5, txiat1,
        txiat2, txiat4, txiat8, txiat16 }

UDRE ::=
    ENUMERATED {
        lessThan1,
        between1-and-4,
        between4-and-8,
        over8 }

UE-6AB-Event ::=
    SEQUENCE {
        timeToTrigger              TimeToTrigger,
        transmittedPowerThreshold  TransmittedPowerThreshold
    }

UE-6FG-Event ::=
    SEQUENCE {
        timeToTrigger              TimeToTrigger,
        -- in 1.28 Mcps TDD ue-RX-TX-TimeDifferenceThreshold corresponds to TADV Threshold
        ue-RX-TX-TimeDifferenceThreshold  UE-RX-TX-TimeDifferenceThreshold
    }

-- dummy and dummy2 are not used in this version of the specification, they should
-- not be sent and if received the UE behaviour is not specified.
UE-AutonomousUpdateMode ::=
    CHOICE {
        dummy                      NULL,
        onWithNoReporting          NULL,
        dummy2                     RL-InformationLists
    }

UE-InternalEventParam ::=
    CHOICE {
        event6a                    UE-6AB-Event,
        event6b                    UE-6AB-Event,
        event6c                    TimeToTrigger,
        event6d                    TimeToTrigger,
    }

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    event6e                TimeToTrigger,
    event6f                UE-6FG-Event,
    event6g                UE-6FG-Event
}

UE-InternalEventParamList ::= SEQUENCE (SIZE (1..maxMeasEvent)) OF
    UE-InternalEventParam

UE-InternalEventResults ::= CHOICE {
    event6a                NULL,
    event6b                NULL,
    event6c                NULL,
    event6d                NULL,
    event6e                NULL,
    event6f                PrimaryCPICH-Info,
    event6g                PrimaryCPICH-Info,
    spare                  NULL
}

UE-InternalMeasQuantity ::= SEQUENCE {
    measurementQuantity    UE-MeasurementQuantity,
    filterCoefficient      FilterCoefficient           DEFAULT fc0
}

UE-InternalMeasuredResults ::= SEQUENCE {
    modeSpecificInfo      CHOICE {
        fdd                SEQUENCE {
            ue-TransmittedPowerFDD    UE-TransmittedPower    OPTIONAL,
            ue-RX-TX-ReportEntryList  UE-RX-TX-ReportEntryList  OPTIONAL
        },
        tdd                SEQUENCE {
            ue-TransmittedPowerTDD-List UE-TransmittedPowerTDD-List  OPTIONAL,
            appliedTA          UL-TimingAdvance           OPTIONAL
        }
    }
}

UE-InternalMeasuredResults-LCR-r4 ::= SEQUENCE {
    ue-TransmittedPowerTDD-List  UE-TransmittedPowerTDD-List  OPTIONAL,
    t-ADVinfo                    T-ADVinfo                       OPTIONAL
}

UE-InternalMeasurement ::= SEQUENCE {
    ue-InternalMeasQuantity    UE-InternalMeasQuantity    OPTIONAL,
    ue-InternalReportingQuantity UE-InternalReportingQuantity  OPTIONAL,
    reportCriteria             UE-InternalReportCriteria
}

UE-InternalMeasurement-r4 ::= SEQUENCE {
    ue-InternalMeasQuantity    UE-InternalMeasQuantity    OPTIONAL,
    ue-InternalReportingQuantity UE-InternalReportingQuantity-r4  OPTIONAL,
    reportCriteria             UE-InternalReportCriteria
}

UE-InternalMeasurementSysInfo ::= SEQUENCE {
    ue-InternalMeasurementID    MeasurementIdentity        DEFAULT 5,
    ue-InternalMeasQuantity     UE-InternalMeasQuantity
}

UE-InternalReportCriteria ::= CHOICE {
    ue-InternalReportingCriteria UE-InternalReportingCriteria,
    periodicalReportingCriteria  PeriodicalReportingCriteria,
    noReporting                  NULL
}

UE-InternalReportingCriteria ::= SEQUENCE {
    ue-InternalEventParamList  UE-InternalEventParamList  OPTIONAL
}

UE-InternalReportingQuantity ::= SEQUENCE {
    ue-TransmittedPower        BOOLEAN,
    modeSpecificInfo          CHOICE {
        fdd                    SEQUENCE {
            ue-RX-TX-TimeDifference  BOOLEAN
        },
        tdd                    SEQUENCE {
            appliedTA              BOOLEAN
        }
    }
}

```

```

    }
}

UE-InternalReportingQuantity-r4 ::= SEQUENCE {
    ue-TransmittedPower          BOOLEAN,
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            ue-RX-TX-TimeDifference  BOOLEAN
        },
        tdd                      SEQUENCE {
            tddOption              CHOICE {
                tdd384             SEQUENCE {
                    appliedTA       BOOLEAN
                },
                tdd128             SEQUENCE {
                    t-ADVinfo       BOOLEAN
                }
            }
        }
    }
}

-- TABULAR: UE-MeasurementQuantity, for 3.84 Mcps TDD only the first two values
-- ue-TransmittedPower and ultra-Carrier-RSSI are used.
-- For 1.28 Mcps TDD ue-RX-TX-TimeDifference corresponds to T-ADV in the tabular
UE-MeasurementQuantity ::= ENUMERATED {
    ue-TransmittedPower,
    ultra-Carrier-RSSI,
    ue-RX-TX-TimeDifference }

UE-RX-TX-ReportEntry ::= SEQUENCE {
    primaryCPICH-Info          PrimaryCPICH-Info,
    ue-RX-TX-TimeDifferenceType1 UE-RX-TX-TimeDifferenceType1
}

UE-RX-TX-ReportEntryList ::= SEQUENCE (SIZE (1..maxRL)) OF
    UE-RX-TX-ReportEntry

-- SPARE: UE-RX-TX-TimeDifferenceType1, Max = 1280
-- Values above Max are spare
UE-RX-TX-TimeDifferenceType1 ::= INTEGER (768..1791)

UE-RX-TX-TimeDifferenceType2 ::= INTEGER (0..8191)

UE-RX-TX-TimeDifferenceType2Info ::= SEQUENCE {
    ue-RX-TX-TimeDifferenceType2 UE-RX-TX-TimeDifferenceType2,
    neighbourQuality             NeighbourQuality
}

-- In 1.28 Mcps TDD, actual value for
-- T-ADV Threshold = (UE-RX-TX-TimeDifferenceThreshold - 768) * 0.125
UE-RX-TX-TimeDifferenceThreshold ::= INTEGER (768..1280)

UE-TransmittedPower ::= INTEGER (0..104)

UE-TransmittedPowerTDD-List ::= SEQUENCE (SIZE (1..maxTS)) OF
    UE-TransmittedPower

UL-TrCH-Identity ::= CHOICE{
    dch          TransportChannelIdentity,
    -- Default transport channel in the UL is either RACH or CPCH, but not both.
    rachorcpch  NULL,
    usch       TransportChannelIdentity
}

UE-Positioning-Accuracy ::= BIT STRING (SIZE (7))

UE-Positioning-CipherParameters ::= SEQUENCE {
    cipheringKeyFlag          BIT STRING (SIZE (1)),
    cipheringSerialNumber     INTEGER (0..65535)
}

UE-Positioning-Error ::= SEQUENCE {
    errorReason              UE-Positioning-ErrorCause,
    ue-positioning-GPS-additionalAssistanceDataRequest  UE-Positioning-GPS-
AdditionalAssistanceDataRequest OPTIONAL
}

```

```

}

UE-Positioning-ErrorCause ::=
    ENUMERATED {
        notEnoughOTDOA-Cells,
        notEnoughGPS-Satellites,
        assistanceDataMissing,
        notAccomplishedGPS-TimingOfCellFrames,
        undefinedError,
        requestDeniedByUser,
        notProcessedAndTimeout,
        referenceCellNotServingCell }

UE-Positioning-EventParam ::=
    SEQUENCE {
        reportingAmount          ReportingAmount,
        reportFirstFix           BOOLEAN,
        measurementInterval      UE-Positioning-MeasurementInterval,
        eventSpecificInfo        UE-Positioning-EventSpecificInfo
    }

UE-Positioning-EventParamList ::=
    SEQUENCE (SIZE (1..maxMeasEvent)) OF
    UE-Positioning-EventParam

UE-Positioning-EventSpecificInfo ::=
    CHOICE {
        e7a                      ThresholdPositionChange,
        e7b                      ThresholdSFN-SFN-Change,
        e7c                      ThresholdSFN-GPS-TOW
    }

UE-Positioning-GPS-AcquisitionAssistance ::=
    SEQUENCE {
        gps-ReferenceTime        INTEGER (0..604799999),
        utran-GPSReferenceTime   UTRAN-GPSReferenceTime          OPTIONAL,
        satelliteInformationList AcquisitionSatInfoList
    }

UE-Positioning-GPS-AdditionalAssistanceDataRequest ::=
    SEQUENCE {
        almanacRequest          BOOLEAN,
        utcModelRequest         BOOLEAN,
        ionosphericModelRequest BOOLEAN,
        navigationModelRequest  BOOLEAN,
        dgpsCorrectionsRequest  BOOLEAN,
        referenceLocationRequest BOOLEAN,
        referenceTimeRequest     BOOLEAN,
        acquisitionAssistanceRequest BOOLEAN,
        realTimeIntegrityRequest BOOLEAN,
        navModelAddDataRequest   UE-Positioning-GPS-NavModelAddDataReq  OPTIONAL
    }

UE-Positioning-GPS-Almanac ::=
    SEQUENCE {
        wn-a                    BIT STRING (SIZE (8)),
        almanacSatInfoList     AlmanacSatInfoList,
        sv-GlobalHealth        BIT STRING (SIZE (364))          OPTIONAL
    }

UE-Positioning-GPS-AssistanceData ::=
    SEQUENCE {
        ue-positioning-GPS-ReferenceTime      UE-Positioning-GPS-ReferenceTime
        OPTIONAL,
        ue-positioning-GPS-ReferenceLocation  ReferenceLocation          OPTIONAL,
        ue-positioning-GPS-DGPS-Corrections  UE-Positioning-GPS-DGPS-Corrections
        OPTIONAL,
        ue-positioning-GPS-NavigationModel    UE-Positioning-GPS-NavigationModel
        OPTIONAL,
        ue-positioning-GPS-IonosphericModel  UE-Positioning-GPS-IonosphericModel
        OPTIONAL,
        ue-positioning-GPS-UTC-Model         UE-Positioning-GPS-UTC-Model
        OPTIONAL,
        ue-positioning-GPS-Almanac           UE-Positioning-GPS-Almanac
        OPTIONAL,
        ue-positioning-GPS-AcquisitionAssistance UE-Positioning-GPS-AcquisitionAssistance
        OPTIONAL,
        ue-positioning-GPS-Real-timeIntegrity BadSatList          OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        dummy                                UE-Positioning-GPS-ReferenceCellInfo  OPTIONAL
    }

UE-Positioning-GPS-DGPS-Corrections ::=
    SEQUENCE {
        gps-TOW                INTEGER (0..604799),
        statusHealth           DiffCorrectionStatus,
    }

```

```

    dgps-CorrectionSatInfoList          DGPS-CorrectionSatInfoList
}

UE-Positioning-GPS-IonosphericModel ::= SEQUENCE {
    alfa0          BIT STRING (SIZE (8)),
    alfa1          BIT STRING (SIZE (8)),
    alfa2          BIT STRING (SIZE (8)),
    alfa3          BIT STRING (SIZE (8)),
    beta0          BIT STRING (SIZE (8)),
    beta1          BIT STRING (SIZE (8)),
    beta2          BIT STRING (SIZE (8)),
    beta3          BIT STRING (SIZE (8))
}

UE-Positioning-GPS-MeasurementResults ::= SEQUENCE {
    referenceTime CHOICE {
        utran-GPSReferenceTimeResult    UTRAN-GPSReferenceTimeResult,
        gps-ReferenceTimeOnly           INTEGER (0..604799999)
    },
    gps-MeasurementParamList           GPS-MeasurementParamList
}

UE-Positioning-GPS-NavModelSatInfoList ::= SEQUENCE {
    navigationModelSatInfoList         NavigationModelSatInfoList
}

UE-Positioning-GPS-NavModelAddDataReq ::= SEQUENCE {
    gps-Week          INTEGER (0..1023),
    -- SPARE: gps-Toe, Max = 167
    -- Values above Max are spare
    gps-Toe           INTEGER (0..255),
    -- SPARE: tToeLimit, Max = 10
    -- Values above Max are spare
    tToeLimit        INTEGER (0..15),
    satDataList      SatDataList
}

UE-Positioning-GPS-ReferenceCellInfo ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            referenceIdentity PrimaryCPICH-Info
        },
        tdd SEQUENCE {
            referenceIdentity CellParametersID
        }
    }
}

UE-Positioning-GPS-ReferenceTime ::= SEQUENCE {
    gps-Week          INTEGER (0..1023),
    gps-tow-lmsec     GPS-TOW-lmsec,    utran-GPSReferenceTime    UTRAN-
GPSReferenceTime    OPTIONAL,
    sfn-tow-Uncertainty SFN-TOW-Uncertainty    OPTIONAL,
    utran-GPS-DriftRate UTRAN-GPS-DriftRate    OPTIONAL,
    gps-TOW-AssistList GPS-TOW-AssistList    OPTIONAL
}

UE-Positioning-GPS-UTC-Model ::= SEQUENCE {
    a1          BIT STRING (SIZE (24)),
    a0          BIT STRING (SIZE (32)),
    t-ot        BIT STRING (SIZE (8)),
    wn-t        BIT STRING (SIZE (8)),
    delta-t-LS BIT STRING (SIZE (8)),
    wn-lsf      BIT STRING (SIZE (8)),
    dn          BIT STRING (SIZE (8)),
    delta-t-LSF BIT STRING (SIZE (8))
}

UE-Positioning-IPDL-Parameters ::= SEQUENCE {
    ip-Spacing      IP-Spacing,
    ip-Length       IP-Length,
    ip-Offset       INTEGER (0..9),
    seed            INTEGER (0..63),
    burstModeParameters BurstModeParameters    OPTIONAL
}

UE-Positioning-IPDL-Parameters-r4 ::= SEQUENCE {
    modeSpecificInfo CHOICE {

```



```

        fdd                SEQUENCE {
            ip-Spacing      IP-Spacing,
            ip-Length       IP-Length,
            ip-Offset       INTEGER (0..9),
            seed            INTEGER (0..63)
        },
        tdd                SEQUENCE {
            ip-Spacing-TDD  IP-Spacing-TDD,
            ip-slot         INTEGER (0..14),
            ip-Start        INTEGER (0..4095),
            ip-PCCPCG       IP-PCCPCH-r4                OPTIONAL
        }
    },
    burstModeParameters    BurstModeParameters                OPTIONAL
}

UE-Positioning-IPDL-Parameters-TDD-r4-ext ::= SEQUENCE {
    ip-Spacing              IP-Spacing-TDD,
    ip-slot                 INTEGER (0..14),
    ip-Start                INTEGER (0..4095),
    ip-PCCPCG               IP-PCCPCH-r4                OPTIONAL,
    burstModeParameters    BurstModeParameters
}

UE-Positioning-MeasuredResults ::= SEQUENCE {
    ue-positioning-OTDOA-Measurement    UE-Positioning-OTDOA-Measurement
    OPTIONAL,
    ue-positioning-PositionEstimateInfo UE-Positioning-PositionEstimateInfo
    OPTIONAL,
    ue-positioning-GPS-Measurement      UE-Positioning-GPS-MeasurementResults
    OPTIONAL,
    ue-positioning-Error                UE-Positioning-Error
    OPTIONAL
}

UE-Positioning-MeasuredResults-v390ext ::= SEQUENCE {
    ue-Positioning-OTDOA-Measurement-v390ext    UE-Positioning-OTDOA-Measurement-v390ext
}

UE-Positioning-Measurement ::= SEQUENCE {
    ue-positioning-ReportingQuantity    UE-Positioning-ReportingQuantity,
    reportCriteria                      UE-Positioning-ReportCriteria,
    ue-positioning-OTDOA-AssistanceData UE-Positioning-OTDOA-AssistanceData
    OPTIONAL,
    ue-positioning-GPS-AssistanceData   UE-Positioning-GPS-AssistanceData
    OPTIONAL
}

UE-Positioning-Measurement-v390ext ::= SEQUENCE {
    ue-positioning-ReportingQuantity-v390ext    UE-Positioning-ReportingQuantity-v390ext
    OPTIONAL,
    measurementValidity                        MeasurementValidity                OPTIONAL,
    ue-positioning-OTDOA-AssistanceData-UEB    UE-Positioning-OTDOA-AssistanceData-UEB
    OPTIONAL
}

UE-Positioning-Measurement-r4 ::= SEQUENCE {
    ue-positioning-ReportingQuantity    UE-Positioning-ReportingQuantity-r4,
    measurementValidity                 MeasurementValidity
    OPTIONAL,
    reportCriteria                      UE-Positioning-ReportCriteria,
    ue-positioning-OTDOA-AssistanceData UE-Positioning-OTDOA-AssistanceData-r4
    OPTIONAL,
    ue-positioning-GPS-AssistanceData   UE-Positioning-GPS-AssistanceData
    OPTIONAL
}

UE-Positioning-MeasurementEventResults ::= CHOICE {
    event7a    UE-Positioning-PositionEstimateInfo,
    event7b    UE-Positioning-OTDOA-Measurement,
    event7c    UE-Positioning-GPS-MeasurementResults,
    spare      NULL
}

UE-Positioning-MeasurementInterval ::= ENUMERATED {
    e5, e15, e60, e300,
    e900, e1800, e3600, e7200 }

```

```

UE-Positioning-MethodType ::=
    ENUMERATED {
        ue-Assisted,
        ue-Based,
        ue-BasedPreferred,
        ue-AssistedPreferred }

UE-Positioning-OTDOA-AssistanceData ::= SEQUENCE {
    ue-positioning-OTDOA-ReferenceCellInfo    UE-Positioning-OTDOA-ReferenceCellInfo
    OPTIONAL,
    ue-positioning-OTDOA-NeighbourCellList    UE-Positioning-OTDOA-NeighbourCellList
    OPTIONAL
}

UE-Positioning-OTDOA-AssistanceData-r4 ::= SEQUENCE {
    ue-positioning-OTDOA-ReferenceCellInfo    UE-Positioning-OTDOA-ReferenceCellInfo-r4
    OPTIONAL,
    ue-positioning-OTDOA-NeighbourCellList    UE-Positioning-OTDOA-NeighbourCellList-r4
    OPTIONAL
}

UE-Positioning-OTDOA-AssistanceData-r4ext ::= SEQUENCE {
    -- In case of TDD these IPDL parameters shall be used for the reference cell instead of
    -- IPDL Parameters in IE UE-Positioning-OTDOA-ReferenceCellInfo
    ue-Positioning-IPDL-Parameters-TDD-r4-ext    UE-Positioning-IPDL-Parameters-TDD-r4-ext
    OPTIONAL,
    -- These IPDL parameters shall be used for the neighbour cells in case of TDD instead of
    -- IPDL Parameters in IE UE-Positioning-OTDOA-NeighbourCellInfoList. The cells shall be
    -- listed in the same order as in IE UE-Positioning-OTDOA-NeighbourCellInfoList
    ue-Positioning-IPDL-Parameters-TDDList-r4-ext    UE-Positioning-IPDL-Parameters-TDDList-r4-ext
    OPTIONAL
}

UE-Positioning-OTDOA-AssistanceData-UEB ::= SEQUENCE {
    ue-positioning-OTDOA-ReferenceCellInfo-UEB    UE-Positioning-OTDOA-ReferenceCellInfo-UEB
    OPTIONAL,
    ue-positioning-OTDOA-NeighbourCellList-UEB    UE-Positioning-OTDOA-NeighbourCellList-
    UEB
    OPTIONAL
}

UE-Positioning-IPDL-Parameters-TDDList-r4-ext ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    UE-Positioning-IPDL-Parameters-TDD-r4-ext

UE-Positioning-OTDOA-Measurement ::= SEQUENCE {
    sfn                INTEGER (0..4095),
    modeSpecificInfo   CHOICE {
        fdd                SEQUENCE {
            referenceCellIdentity    PrimaryCPICH-Info,
            ue-RX-TX-TimeDifferenceType2Info    UE-RX-TX-TimeDifferenceType2Info
        },
        tdd                SEQUENCE {
            referenceCellIdentity    CellParametersID
        }
    },
    neighbourList      NeighbourList
    OPTIONAL
}

UE-Positioning-OTDOA-Measurement-v390ext ::= SEQUENCE {
    neighbourList-v390ext    NeighbourList-v390ext
}

UE-Positioning-OTDOA-NeighbourCellInfo ::= SEQUENCE {
    modeSpecificInfo   CHOICE {
        fdd                SEQUENCE {
            primaryCPICH-Info    PrimaryCPICH-Info
        },
        tdd                SEQUENCE {
            cellAndChannelIdentity    CellAndChannelIdentity
        }
    },
    frequencyInfo      FrequencyInfo
    OPTIONAL,
    ue-positioning-IPDL-Parameters    UE-Positioning-IPDL-Parameters
    OPTIONAL,
    sfn-SFN-RelTimeDifference    SFN-SFN-RelTimeDifference1,
    sfn-SFN-Drift                SFN-SFN-Drift
    OPTIONAL,
    searchWindowSize            OTDOA-SearchWindowSize,
    positioningMode             CHOICE {
        ueBased                SEQUENCE {},
        ueAssisted              SEQUENCE {}
    }
}

```

```

    }
}
UE-Positioning-OTDOA-NeighbourCellInfo-r4 ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            primaryCPICH-Info PrimaryCPICH-Info
        },
        tdd SEQUENCE {
            cellAndChannelIdentity CellAndChannelIdentity
        }
    },
    frequencyInfo FrequencyInfo OPTIONAL,
    ue-positioning-IPDL-Parameters UE-Positioning-IPDL-Parameters-r4 OPTIONAL,
    sfn-SFN-RelTimeDifference SFN-SFN-RelTimeDifference,
    sfn-Offset-Validity SFN-Offset-Validity OPTIONAL,
    sfn-SFN-Drift SFN-SFN-Drift OPTIONAL,
    searchWindowSize OTDOA-SearchWindowSize,
    positioningMode CHOICE {
        ueBased SEQUENCE {
            relativeNorth INTEGER (-20000..20000) OPTIONAL,
            relativeEast INTEGER (-20000..20000) OPTIONAL,
            relativeAltitude INTEGER (-4000..4000) OPTIONAL,
            fineSFN-SFN FineSFN-SFN OPTIONAL,
            -- actual value roundTripTime = (IE value * 0.0625) + 876
            roundTripTime INTEGER (0.. 32766) OPTIONAL
        },
        ueAssisted SEQUENCE {}
    }
}

```

```

UE-Positioning-OTDOA-NeighbourCellInfo-UEB ::= SEQUENCE {
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            primaryCPICH-Info PrimaryCPICH-Info
        },
        tdd SEQUENCE {
            cellAndChannelIdentity CellAndChannelIdentity
        }
    },
    frequencyInfo FrequencyInfo OPTIONAL,
    ue-positioning-IPDL-Parameters UE-Positioning-IPDL-Parameters OPTIONAL,
    sfn-SFN-RelTimeDifference SFN-SFN-RelTimeDifference,
    sfn-SFN-Drift SFN-SFN-Drift OPTIONAL,
    searchWindowSize OTDOA-SearchWindowSize,
    relativeNorth INTEGER (-20000..20000) OPTIONAL,
    relativeEast INTEGER (-20000..20000) OPTIONAL,
    relativeAltitude INTEGER (-4000..4000) OPTIONAL,
    fineSFN-SFN FineSFN-SFN,
    -- actual value roundTripTime = (IE value * 0.0625) + 876
    roundTripTime INTEGER (0..32766) OPTIONAL
}

```

```

UE-Positioning-OTDOA-NeighbourCellList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    UE-Positioning-OTDOA-NeighbourCellInfo

```

```

UE-Positioning-OTDOA-NeighbourCellList-r4 ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    UE-Positioning-OTDOA-NeighbourCellInfo-r4

```

```

UE-Positioning-OTDOA-NeighbourCellList-UEB ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
    UE-Positioning-OTDOA-NeighbourCellInfo-UEB

```

```

UE-Positioning-OTDOA-Quality ::= SEQUENCE {
    stdResolution BIT STRING (SIZE (2)),
    numberOfOTDOA-Measurements BIT STRING (SIZE (3)),
    stdOfOTDOA-Measurements BIT STRING (SIZE (5))
}

```

```

UE-Positioning-OTDOA-ReferenceCellInfo ::= SEQUENCE {
    sfn INTEGER (0..4095)
    OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            primaryCPICH-Info PrimaryCPICH-Info
        },
        tdd SEQUENCE {
            cellAndChannelIdentity CellAndChannelIdentity
        }
    }
}

```

```

    },
    frequencyInfo                                FrequencyInfo                                OPTIONAL,
    positioningMode CHOICE {
        ueBased                                  SEQUENCE {},
        ueAssisted                              SEQUENCE {}
    },
    ue-positioning-IPDL-Parameters                UE-Positioning-IPDL-Parameters OPTIONAL
}

UE-Positioning-OTDOA-ReferenceCellInfo-r4 ::= SEQUENCE {
    sfn                                           INTEGER (0..4095)
    OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd                                       SEQUENCE {
            primaryCPICH-Info                    PrimaryCPICH-Info
        },
        tdd                                       SEQUENCE {
            cellAndChannelIdentity                CellAndChannelIdentity
        }
    },
    frequencyInfo                                FrequencyInfo                                OPTIONAL,
    positioningMode CHOICE {
        ueBased                                  SEQUENCE {
            cellPosition                          ReferenceCellPosition OPTIONAL,
            -- actual value roundTripTime = (IE value * 0.0625) + 876
            roundTripTime                        INTEGER (0..32766)          OPTIONAL
        },
        ueAssisted                              SEQUENCE {}
    },
    ue-positioning-IPDL-Parameters                UE-Positioning-IPDL-Parameters-r4 OPTIONAL
}

UE-Positioning-OTDOA-ReferenceCellInfo-UEB ::= SEQUENCE {
    sfn                                           INTEGER (0..4095)                                OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd                                       SEQUENCE {
            primaryCPICH-Info                    PrimaryCPICH-Info
        },
        tdd                                       SEQUENCE {
            cellAndChannelIdentity                CellAndChannelIdentity
        }
    },
    frequencyInfo                                FrequencyInfo                                OPTIONAL,
    cellPosition                                ReferenceCellPosition                            OPTIONAL,
    -- actual value roundTripTime = (IE value * 0.0625) + 876
    roundTripTime                                INTEGER (0..32766)                                OPTIONAL,
    ue-positioning-IPDL-Parameters                UE-Positioning-IPDL-Parameters                OPTIONAL
}

UE-Positioning-PositionEstimateInfo ::= SEQUENCE {
    referenceTime                                CHOICE {
        utran-GPSReferenceTimeResult            UTRAN-GPSReferenceTimeResult,
        gps-ReferenceTimeOnly                    INTEGER (0..604799999),
        cell-Timing                              SEQUENCE {
            sfn                                  INTEGER (0..4095),
            modeSpecificInfo                    CHOICE {
                fdd                             SEQUENCE {
                    primaryCPICH-Info            PrimaryCPICH-Info
                },
                tdd                             SEQUENCE {
                    cellAndChannelIdentity        CellAndChannelIdentity
                }
            }
        }
    },
    positionEstimate                            PositionEstimate
}

UE-Positioning-ReportCriteria ::= CHOICE {
    ue-positioning-ReportingCriteria            UE-Positioning-EventParamList,
    periodicalReportingCriteria                PeriodicalReportingCriteria,
    noReporting                                NULL
}

UE-Positioning-ReportingQuantity ::= SEQUENCE {
    methodType                                UE-Positioning-MethodType,
    positioningMethod                          PositioningMethod,
    -- dummy1 is not used in this version of specification and it should

```

```

-- be ignored.
dummy1                UE-Positioning-ResponseTime,
horizontal-Accuracy   UE-Positioning-Accuracy           OPTIONAL,
gps-TimingOfCellWanted  BOOLEAN,
-- dummy2 is not used in this version of specification and it should
-- be ignored.
dummy2                BOOLEAN,
additionalAssistanceDataRequest  BOOLEAN,
environmentCharacterisation  EnvironmentCharacterisation  OPTIONAL
}

UE-Positioning-ReportingQuantity-v390ext ::=          SEQUENCE {
    vertical-Accuracy           UE-Positioning-Accuracy
}

UE-Positioning-ReportingQuantity-r4 ::=          SEQUENCE {
    methodType                 UE-Positioning-MethodType,
    positioningMethod          PositioningMethod,
    horizontalAccuracy         UE-Positioning-Accuracy           OPTIONAL,
    verticalAccuracy           UE-Positioning-Accuracy           OPTIONAL,
    gps-TimingOfCellWanted    BOOLEAN,
    additionalAssistanceDataReq  BOOLEAN,
    environmentCharacterisation  EnvironmentCharacterisation  OPTIONAL
}

UE-Positioning-ResponseTime ::=          ENUMERATED {
    s1, s2, s4, s8, s16,
    s32, s64, s128 }

-- SPARE: UTRA-CarrierRSSI, Max = 76
-- Values above Max are spare
UTRA-CarrierRSSI ::=          INTEGER (0..127)

UTRAN-GPS-DriftRate ::=          ENUMERATED {
    utran-GPSDrift0, utran-GPSDrift1, utran-GPSDrift2,
    utran-GPSDrift5, utran-GPSDrift10, utran-GPSDrift15,
    utran-GPSDrift25, utran-GPSDrift50, utran-GPSDrift-1,
    utran-GPSDrift-2, utran-GPSDrift-5, utran-GPSDrift-10,
    utran-GPSDrift-15, utran-GPSDrift-25, utran-GPSDrift-50}

UTRAN-GPSReferenceTime ::=          SEQUENCE {
    -- For utran-GPSTimingOfCell values above 2322431999999 are not
    -- used in this version of the specification
    -- Actual value utran-GPSTimingOfCell = (ms-part * 4294967296) + ls-part
    utran-GPSTimingOfCell      SEQUENCE {
        ms-part                INTEGER (0..1023),
        ls-part                INTEGER (0..4294967295)
    },
    modeSpecificInfo           CHOICE {
        fdd                    SEQUENCE {
            referenceIdentity   PrimaryCPICH-Info
        },
        tdd                    SEQUENCE {
            referenceIdentity   CellParametersID
        }
    } OPTIONAL,
    sfn                        INTEGER (0..4095)
}

UTRAN-GPSReferenceTimeResult ::=          SEQUENCE {
    -- For ue-GPSTimingOfCell values above 37158911999999 are not
    -- used in this version of the specification
    -- Actual value ue-GPSTimingOfCell = (ms-part * 4294967296) + ls-part
    ue-GPSTimingOfCell        SEQUENCE {
        ms-part                INTEGER (0.. 16383),
        ls-part                INTEGER (0..4294967295)
    },
    modeSpecificInfo           CHOICE {
        fdd                    SEQUENCE {
            referenceIdentity   PrimaryCPICH-Info
        },
        tdd                    SEQUENCE {
            referenceIdentity   CellParametersID
        }
    },
    sfn                        INTEGER (0..4095)
}

```

```

VarianceOfRLC-BufferPayload ::=      ENUMERATED {
                                        plv0, plv4, plv8, plv16, plv32, plv64,
                                        plv128, plv256, plv512, plv1024,
                                        plv2k, plv4k, plv8k, plv16k, spare2, spare1 }

-- Actual value W = IE value * 0.1
W ::=                                  INTEGER (0..20)

-- *****
--
--      OTHER INFORMATION ELEMENTS (10.3.8)
--
-- *****

BCC ::=                                INTEGER (0..7)

BCCH-ModificationInfo ::=             SEQUENCE {
    mib-ValueTag                       MIB-ValueTag,
    bcch-ModificationTime               BCCH-ModificationTime           OPTIONAL
}

-- Actual value BCCH-ModificationTime = IE value * 8
BCCH-ModificationTime ::=             INTEGER (0..511)

BSIC ::=                               SEQUENCE {
    ncc                                 NCC,
    bcc                                 BCC
}

CBS-DRX-Level1Information ::=         SEQUENCE {
    ctch-AllocationPeriod              INTEGER (1..256),
    cbs-FrameOffset                   INTEGER (0..255)
}

CDMA2000-Message ::=                 SEQUENCE {
    msg-Type                           BIT STRING (SIZE (8)),
    payload                            BIT STRING (SIZE (1..512))
}

CDMA2000-MessageList ::=              SEQUENCE (SIZE (1..maxInterSysMessages)) OF
                                        CDMA2000-Message

CDMA2000-UMTS-Frequency-List ::=      SEQUENCE (SIZE (1..maxNumCDMA2000Freqs)) OF
                                        FrequencyInfoCDMA2000

CellValueTag ::=                      INTEGER (1..4)

--Actual value = 2^(IE value)
ExpirationTimeFactor ::=              INTEGER (1..8)

FDD-UMTS-Frequency-List ::=          SEQUENCE (SIZE (1..maxNumFDDFreqs)) OF
                                        FrequencyInfoFDD

FrequencyInfoCDMA2000 ::=             SEQUENCE {
    band-Class                         BIT STRING (SIZE (5)),
    cdma-Freq                          BIT STRING (SIZE(11))
}

GERAN-SystemInfoBlock ::=             OCTET STRING (SIZE (1..23))

GERAN-SystemInformation ::=           SEQUENCE (SIZE (1..maxGERAN-SI)) OF GERAN-SystemInfoBlock

GSM-BA-Range ::=                     SEQUENCE {
    gsmLowRangeUARFCN                  UARFCN,
    gsmUpRangeUARFCN                   UARFCN
}

GSM-BA-Range-List ::=                 SEQUENCE (SIZE (1..maxNumGSMFreqRanges)) OF
                                        GSM-BA-Range

-- This IE is formatted as 'TLV' and is coded in the same way as the Mobile Station Classmark 2
-- information element in [5]. The first octet is the Mobile station classmark 2 IEI and its value
-- shall be set to 33H. The second octet is the Length of mobile station classmark 2 and its value
-- shall be set to 3. The octet 3 contains the first octet of the value part of the Mobile Station
-- Classmark 2 information element, the octet 4 contains the second octet of the value part of the
-- Mobile Station Classmark 2 information element and so on. For each of these octets, the first/
-- leftmost/ most significant bit of the octet contains b8 of the corresponding octet of the Mobile

```

```

-- Station Classmark 2.
GSM-Classmark2 ::= OCTET STRING (SIZE (5))

-- This IE is formatted as 'V' and is coded in the same way as the value part in the Mobile station
-- classmark 3 information element in [5]
-- The value part is specified by means of CSN.1, which encoding results in a bit string, to which
-- final padding may be appended upto the next octet boundary [5]. The first/ leftmost bit of the
-- CSN.1 bit string is placed in the first/ leftmost/ most significant bit of the first
-- octet. This continues until the last bit of the CSN.1 bit string, which is placed in the last/
-- rightmost/ least significant bit of the last octet.
GSM-Classmark3 ::= OCTET STRING (SIZE (1..32))

GSM-MessageList ::= SEQUENCE (SIZE (1..maxInterSysMessages)) OF
    BIT STRING (SIZE (1..512))

GsmSecurityCapability ::= BIT STRING {
    -- For each bit value "0" means false/ not supported
    a5-7(0),
    a5-6(1),
    a5-5(2),
    a5-4(3),
    a5-3(4),
    a5-2(5),
    a5-1(6)
} (SIZE (7))

GSM-TargetCellInfoList ::= SEQUENCE (SIZE (1..maxGSMTargetCells)) OF
    GSM-TargetCellInfo

GSM-TargetCellInfo ::= SEQUENCE {
    bcch-ARFCN BCCH-ARFCN,
    frequency-band Frequency-Band,
    bsic BSIC OPTIONAL
}

IdentificationOfReceivedMessage ::= SEQUENCE {
    rrc-TransactionIdentifier RRC-TransactionIdentifier,
    receivedMessageType ReceivedMessageType
}

InterRAT-ChangeFailureCause ::= CHOICE {
    configurationUnacceptable NULL,
    physicalChannelFailure NULL,
    protocolError ProtocolErrorInformation,
    unspecified NULL,
    spare4 NULL,
    spare3 NULL,
    spare2 NULL,
    spare1 NULL
}

GERANIu-MessageList ::= SEQUENCE (SIZE (1..maxInterSysMessages)) OF
    BIT STRING (SIZE (1..32768))

GERANIu-RadioAccessCapability ::= BIT STRING (SIZE (1..170))

InterRAT-UE-RadioAccessCapability ::= CHOICE {
    gsm SEQUENCE {
        gsm-Classmark2 GSM-Classmark2,
        gsm-Classmark3 GSM-Classmark3
    },
    cdma2000 SEQUENCE {
        cdma2000-MessageList CDMA2000-MessageList
    }
}

InterRAT-UE-RadioAccessCapabilityList ::= SEQUENCE (SIZE(1..maxInterSysMessages)) OF
    InterRAT-UE-RadioAccessCapability

InterRAT-UE-RadioAccessCapability-v590ext ::= SEQUENCE {
    geranIu-RadioAccessCapability GERANIu-RadioAccessCapability
}

InterRAT-UE-SecurityCapability ::= CHOICE {
    gsm SEQUENCE {
        gsmSecurityCapability GsmSecurityCapability
    }
}

```

```

}
}

InterRAT-UE-SecurityCapList ::= SEQUENCE (SIZE(1..maxInterSysMessages)) OF
    InterRAT-UE-SecurityCapability

InterRAT-HO-FailureCause ::= CHOICE {
    configurationUnacceptable    NULL,
    physicalChannelFailure      NULL,
    protocolError                ProtocolErrorInformation,
    interRAT-ProtocolError      NULL,
    unspecified                  NULL,
    spare11                     NULL,
    spare10                     NULL,
    spare9                      NULL,
    spare8                      NULL,
    spare7                      NULL,
    spare6                      NULL,
    spare5                      NULL,
    spare4                      NULL,
    spare3                      NULL,
    spare2                      NULL,
    spare1                      NULL
}

MasterInformationBlock ::= SEQUENCE {
    mib-ValueTag                MIB-ValueTag,
    -- TABULAR: The PLMN identity and ANSI-41 core network information
    -- are included in PLMN-Type.
    plmn-Type                   PLMN-Type,
    sibSb-ReferenceList         SIBSb-ReferenceList,
    -- Extension mechanism for non- release99 information
    v6xyNonCriticalExtensions   SEQUENCE {
        masterInformationBlock-v6xyext  MasterInformationBlock-v6xyext    OPTIONAL,
        nonCriticalExtensions           SEQUENCE {}                      OPTIONAL
    }
}

MasterInformationBlock-v6xyext ::= SEQUENCE {
    multiplePLMN-List          MultiplePLMN-List-r6          OPTIONAL
}

MIB-ValueTag ::= INTEGER (1..8)

NCC ::= INTEGER (0..7)

PLMN-ValueTag ::= INTEGER (1..256)

PredefinedConfigIdentityAndValueTag ::= SEQUENCE {
    predefinedConfigIdentity    PredefinedConfigIdentity,
    predefinedConfigValueTag    PredefinedConfigValueTag
}

ProtocolErrorInformation ::= SEQUENCE {
    diagnosticsType            CHOICE {
        type1                  SEQUENCE {
            protocolErrorCause ProtocolErrorCause
        },
        spare                  NULL
    }
}

ReceivedMessageType ::= ENUMERATED {
    activeSetUpdate,
    cellChangeOrderFromUTRAN,
    cellUpdateConfirm,
    counterCheck,
    downlinkDirectTransfer,
    interRATHandoverCommand,
    measurementControl,
    pagingType2,
    physicalChannelReconfiguration,
    physicalSharedChannelAllocation,
    radioBearerReconfiguration,
    radioBearerRelease,
    radioBearerSetup,
    rrcConnectionRelease,
}

```



```

rrcConnectionReject,
rrcConnectionSetup,
securityModeCommand,
signallingConnectionRelease,
transportChannelReconfiguration,
transportFormatCombinationControl,
ueCapabilityEnquiry,
ueCapabilityInformationConfirm,
uplinkPhysicalChannelControl,
uraUpdateConfirm,
utranMobilityInformation,
assistanceDataDelivery,
spare6, spare5, spare4, spare3, spare2,
spare1
}

Rplmn-Information ::=
    OPTIONAL,
    OPTIONAL,
    List OPTIONAL
}

SEQUENCE {
    gsm-BA-Range-List GSM-BA-Range-List OPTIONAL,
    fdd-UMTS-Frequency-List FDD-UMTS-Frequency-List
    tdd-UMTS-Frequency-List TDD-UMTS-Frequency-List
    cdma2000-UMTS-Frequency-List CDMA2000-UMTS-Frequency-
}

Rplmn-Information-r4 ::= SEQUENCE {
    gsm-BA-Range-List GSM-BA-Range-List OPTIONAL,
    fdd-UMTS-Frequency-List FDD-UMTS-Frequency-List OPTIONAL,
    tdd384-UMTS-Frequency-List TDD-UMTS-Frequency-List OPTIONAL,
    tdd128-UMTS-Frequency-List TDD-UMTS-Frequency-List OPTIONAL,
    cdma2000-UMTS-Frequency-List CDMA2000-UMTS-Frequency-List OPTIONAL
}

SchedulingInformation ::= SEQUENCE {
    scheduling SEQUENCE {
        segCount SegCount DEFAULT 1,
        sib-Pos CHOICE {
            -- The element name indicates the repetition period and the value
            -- (multiplied by two) indicates the position of the first segment.
            rep4 INTEGER (0..1),
            rep8 INTEGER (0..3),
            rep16 INTEGER (0..7),
            rep32 INTEGER (0..15),
            rep64 INTEGER (0..31),
            rep128 INTEGER (0..63),
            rep256 INTEGER (0..127),
            rep512 INTEGER (0..255),
            rep1024 INTEGER (0..511),
            rep2048 INTEGER (0..1023),
            rep4096 INTEGER (0..2047)
        },
        sib-PosOffsetInfo SibOFF-List OPTIONAL
    }
}

SchedulingInformationSIB ::= SEQUENCE {
    sib-Type SIB-TypeAndTag,
    scheduling SchedulingInformation
}

SchedulingInformationSIBSb ::= SEQUENCE {
    sibSb-Type SIBSb-TypeAndTag,
    scheduling SchedulingInformation
}

SegCount ::= INTEGER (1..16)

SegmentIndex ::= INTEGER (1..15)

-- Actual value SFN-Prime = 2 * IE value
SFN-Prime ::= INTEGER (0..2047)

SIB-Data-fixed ::= BIT STRING (SIZE (222))

SIB-Data-variable ::= BIT STRING (SIZE (1..214))

```

```

SIBOccurIdentity ::=                INTEGER (0..15)

SIBOccurrenceIdentityAndValueTag ::= SEQUENCE {
    sibOccurIdentity          SIBOccurIdentity,
    sibOccurValueTag         SIBOccurValueTag
}

SIBOccurValueTag ::=                INTEGER (0..15)

SIB-ReferenceList ::=                SEQUENCE (SIZE (1..maxSIB)) OF
    SchedulingInformationSIB

SIBSb-ReferenceList ::=              SEQUENCE (SIZE (1..maxSIB)) OF
    SchedulingInformationSIBSb

SIB-ReferenceListFACH ::=            SEQUENCE (SIZE (1..maxSIB-FACH)) OF
    SchedulingInformationSIB

SIB-Type ::=                          ENUMERATED {
    masterInformationBlock,
    systemInformationBlockType1,
    systemInformationBlockType2,
    systemInformationBlockType3,
    systemInformationBlockType4,
    systemInformationBlockType5,
    systemInformationBlockType6,
    systemInformationBlockType7,
    systemInformationBlockType8,
    systemInformationBlockType9,
    systemInformationBlockType10,
    systemInformationBlockType11,
    systemInformationBlockType12,
    systemInformationBlockType13,
    systemInformationBlockType13-1,
    systemInformationBlockType13-2,
    systemInformationBlockType13-3,
    systemInformationBlockType13-4,
    systemInformationBlockType14,
    systemInformationBlockType15,
    systemInformationBlockType15-1,
    systemInformationBlockType15-2,
    systemInformationBlockType15-3,
    systemInformationBlockType16,
    systemInformationBlockType17,
    systemInformationBlockType15-4,
    systemInformationBlockType18,
    schedulingBlock1,
    schedulingBlock2,
    systemInformationBlockType15-5,
    systemInformationBlockType5bis,
    spare1 }

SIB-TypeAndTag ::=                   CHOICE {
    sysInfoType1               PLMN-ValueTag,
    sysInfoType2               CellValueTag,
    sysInfoType3               CellValueTag,
    sysInfoType4               CellValueTag,
    sysInfoType5               CellValueTag,
    sysInfoType6               CellValueTag,
    sysInfoType7               NULL,
    sysInfoType8               CellValueTag,
    sysInfoType9               NULL,
    sysInfoType10              NULL,
    sysInfoType11              CellValueTag,
    sysInfoType12              CellValueTag,
    sysInfoType13              CellValueTag,
    sysInfoType13-1            CellValueTag,
    sysInfoType13-2            CellValueTag,
    sysInfoType13-3            CellValueTag,
    sysInfoType13-4            CellValueTag,
    sysInfoType14              NULL,
    sysInfoType15              CellValueTag,
    sysInfoType16              PredefinedConfigIdentityAndValueTag,
    sysInfoType17              NULL,
    sysInfoType15-1            CellValueTag,
    sysInfoType15-2            SIBOccurrenceIdentityAndValueTag,
    sysInfoType15-3            SIBOccurrenceIdentityAndValueTag,

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```

sysInfoType15-4      CellValueTag,
sysInfoType18       CellValueTag,
sysInfoType15-5     CellValueTag,
sysInfoType5bis     CellValueTag,
spare4              NULL,
spare3              NULL,
spare2              NULL,
spare1              NULL
}

SIBSb-TypeAndTag ::= CHOICE {
  sysInfoType1      PLMN-ValueTag,
  sysInfoType2      CellValueTag,
  sysInfoType3      CellValueTag,
  sysInfoType4      CellValueTag,
  sysInfoType5      CellValueTag,
  sysInfoType6      CellValueTag,
  sysInfoType7      NULL,
  sysInfoType8      CellValueTag,
  sysInfoType9      NULL,
  sysInfoType10     NULL,
  sysInfoType11     CellValueTag,
  sysInfoType12     CellValueTag,
  sysInfoType13     CellValueTag,
  sysInfoType13-1   CellValueTag,
  sysInfoType13-2   CellValueTag,
  sysInfoType13-3   CellValueTag,
  sysInfoType13-4   CellValueTag,
  sysInfoType14     NULL,
  sysInfoType15     CellValueTag,
  sysInfoType16     PredefinedConfigIdentityAndValueTag,
  sysInfoType17     NULL,
  sysInfoTypeSB1    CellValueTag,
  sysInfoTypeSB2    CellValueTag,
  sysInfoType15-1   CellValueTag,
  sysInfoType15-2   SIBOccurrenceIdentityAndValueTag,
  sysInfoType15-3   SIBOccurrenceIdentityAndValueTag,
  sysInfoType15-4   CellValueTag,
  sysInfoType18     CellValueTag,
  sysInfoType15-5   CellValueTag,
  sysInfoType5bis   CellValueTag,
  spare2            NULL,
  spare1            NULL
}

SibOFF ::= ENUMERATED {
  so2, so4, so6, so8, so10,
  so12, so14, so16, so18,
  so20, so22, so24, so26,
  so28, so30, so32 }

SibOFF-List ::= SEQUENCE (SIZE (1..15)) OF
  SibOFF

SysInfoType1 ::= SEQUENCE {
  -- Core network IEs
  cn-CommonGSM-MAP-NAS-SysInfo  NAS-SystemInformationGSM-MAP,
  cn-DomainSysInfoList          CN-DomainSysInfoList,
  -- User equipment IEs
  ue-ConnTimersAndConstants      UE-ConnTimersAndConstants      OPTIONAL,
  ue-IdleTimersAndConstants      UE-IdleTimersAndConstants      OPTIONAL,
  -- Extension mechanism for non- release99 information
  v3a0NonCriticalExtensions      SEQUENCE {
    sysInfoType1-v3a0ext        SysInfoType1-v3a0ext-IEs,
    nonCriticalExtensions        SEQUENCE {} OPTIONAL
  }
}

SysInfoType1-v3a0ext-IEs ::= SEQUENCE {
  ue-ConnTimersAndConstants-v3a0ext  UE-ConnTimersAndConstants-v3a0ext,
  ue-IdleTimersAndConstants-v3a0ext  UE-IdleTimersAndConstants-v3a0ext
}

SysInfoType2 ::= SEQUENCE {
  -- UTRAN mobility IEs
  ura-IdentityList              URA-IdentityList,
  -- Extension mechanism for non- release99 information
  nonCriticalExtensions          SEQUENCE {} OPTIONAL
}

```

```

}

SysInfoType3 ::=
    sib4indicator                SEQUENCE {
        BOOLEAN,
    -- UTRAN mobility IEs
    cellIdentity                  CellIdentity,
    cellSelectReselectInfo        CellSelectReselectInfoSIB-3-4,
    cellAccessRestriction         CellAccessRestriction,
    -- Extension mechanism for non- release99 information
    v4b0NonCriticalExtensions     SEQUENCE {
        sysInfoType3-v4b0ext      SysInfoType3-v4b0ext-IEs,
        v590NonCriticalExtension  SEQUENCE {
            sysInfoType3-v590ext  SysInfoType3-v590ext,
            v5c0NonCriticalExtension SEQUENCE {
                sysInfoType3-v5c0ext SysInfoType3-v5c0ext-IEs,
                v6xyNonCriticalExtension SEQUENCE {
                    sysInfoType3-v6xyext SysInfoType3-v6xyext,
                    nonCriticalExtensions SEQUENCE {}
                }
            }
        }
    }
    OPTIONAL
}
OPTIONAL
}
OPTIONAL
}

SysInfoType3-v4b0ext-IEs ::= SEQUENCE {
    mapping-LCR                    Mapping-LCR-r4
}
OPTIONAL

SysInfoType3-v590ext ::= SEQUENCE {
    cellSelectReselectInfo-v590ext CellSelectReselectInfo-v590ext
}
OPTIONAL

SysInfoType3-v5c0ext-IEs ::= SEQUENCE {
    cellSelectReselectInfoTreselectionScaling-v5c0ext
}
CellSelectReselectInfoTreselectionScaling-v5c0ext OPTIONAL

SysInfoType3-v6xyext ::= SEQUENCE {
    domainSpecificAccessRestrictionParametersForPLMNOfMIB
}
DomainSpecificAccessRestrictionParam-v6xyext OPTIONAL,
domainSpecificAccessRestrictionForSharedNetwork
DomainSpecificAccessRestrictionForSharedNetwork-v6xyext OPTIONAL

SysInfoType4 ::=
    -- UTRAN mobility IEs
    cellIdentity                  CellIdentity,
    cellSelectReselectInfo        CellSelectReselectInfoSIB-3-4,
    cellAccessRestriction         CellAccessRestriction,
    -- Extension mechanism for non- release99 information
    v4b0NonCriticalExtensions     SEQUENCE {
        sysInfoType4-v4b0ext      SysInfoType4-v4b0ext-IEs,
        v590NonCriticalExtension  SEQUENCE {
            sysInfoType4-v590ext  SysInfoType4-v590ext,
            v5b0NonCriticalExtension SEQUENCE {
                sysInfoType4-v5b0ext SysInfoType4-v5b0ext-IEs,
                v5c0NonCriticalExtension SEQUENCE {
                    sysInfoType4-v5c0ext SysInfoType4-v5c0ext-IEs,
                    nonCriticalExtensions SEQUENCE {}
                }
            }
        }
    }
    OPTIONAL
}
OPTIONAL
}
OPTIONAL
}

SysInfoType4-v4b0ext-IEs ::= SEQUENCE {
    mapping-LCR                    Mapping-LCR-r4
}
OPTIONAL

SysInfoType4-v590ext ::= SEQUENCE {
    cellSelectReselectInfo-v590ext CellSelectReselectInfo-v590ext
}
OPTIONAL

SysInfoType4-v5b0ext-IEs ::= SEQUENCE {
    cellSelectReselectInfoPCHFACH-v5b0ext CellSelectReselectInfoPCHFACH-v5b0ext
}
OPTIONAL

```

```

SysInfoType4-v5c0ext-IEs ::= SEQUENCE {
    cellSelectReselectInfoTreselectionScaling-v5c0ext
                                CellSelectReselectInfoTreselectionScaling-v5c0ext    OPTIONAL
}

SysInfoType5 ::=
    sib6indicator                BOOLEAN,
    -- Physical channel IEs
    pich-PowerOffset             PICH-PowerOffset,
    modeSpecificInfo             CHOICE {
        fdd                      SEQUENCE {
            aich-PowerOffset      AICH-PowerOffset
        },
        tdd                      SEQUENCE {
            -- If PDSCH/PUSCH is configured for 1.28Mcps TDD, the following IEs should be absent
            -- and the info included in the tdd128SpecificInfo instead.
            -- If PDSCH/PUSCH is configured for 3.84Mcps TDD in R5, HCR-r5-SpecificInfo should also be
            -- included.
            pusch-SysInfoList-SFN    PUSCH-SysInfoList-SFN        OPTIONAL,
            pdsch-SysInfoList-SFN    PDSCH-SysInfoList-SFN        OPTIONAL,
            openLoopPowerControl-TDD  OpenLoopPowerControl-TDD
        }
    },
    primaryCCPCH-Info            PrimaryCCPCH-Info                OPTIONAL,
    prach-SystemInformationList  PRACH-SystemInformationList,
    sCCPCH-SystemInformationList SCCPCH-SystemInformationList,
    -- cbs-DRX-LevellInformation is conditional on any of the CTCH indicator IEs in
    -- sCCPCH-SystemInformationList
    cbs-DRX-LevellInformation    CBS-DRX-LevellInformation        OPTIONAL,
    -- Extension mechanism for non- release99 information
    v4b0NonCriticalExtensions    SEQUENCE {
        sysInfoType5-v4b0ext        SysInfoType5-v4b0ext-IEs    OPTIONAL,
        -- Extension mechanism for non- rel-4 information
        v590NonCriticalExtensions    SEQUENCE {
            sysInfoType5-v590ext      SysInfoType5-v590ext-IEs    OPTIONAL,
            v650NonCriticalExtensions SEQUENCE {
                sysInfoType5-v650ext  SysInfoType5-v650ext-IEs    OPTIONAL,
                v6xyNonCriticalExtensions SEQUENCE {
                    sysInfoType5-v6xyext SysInfoType5-v6xyext-IEs,
                    nonCriticalExtensions SEQUENCE {}                OPTIONAL
                }
            }
        }
    }
}
OPTIONAL
OPTIONAL
}
}
OPTIONAL
OPTIONAL
}

SysInfoType5-v4b0ext-IEs ::= SEQUENCE {
    --The following IE PNBSCH-Allocation-r4 shall be used for 3.84Mcps TDD only.
    pNBSCH-Allocation-r4        PNBSCH-Allocation-r4            OPTIONAL,
    -- In case of TDD, the following IE is included instead of the
    -- IE up-IPDL-Parameter in up-OTDOA-AssistanceData.
    openLoopPowerControl-IPDL-TDD OpenLoopPowerControl-IPDL-TDD-r4    OPTIONAL,
    -- If SysInfoType5 is sent to describe a 1.28Mcps TDD cell, the IE PRACH-RACH-Info included in
    -- PRACH-SystemInformationList shall be ignored, the IE PRACH-Partitioning and the
    -- IE rach-TransportFormatSet shall be absent and the corresponding IE in the following
    -- PRACH-SystemInformationList-LCR-r4 shall be used
    prach-SystemInformationList-LCR-r4 PRACH-SystemInformationList-LCR-r4    OPTIONAL,
    tdd128SpecificInfo          SEQUENCE {
        pusch-SysInfoList-SFN      PUSCH-SysInfoList-SFN-LCR-r4    OPTIONAL,
        pdsch-SysInfoList-SFN      PDSCH-SysInfoList-SFN-LCR-r4    OPTIONAL,
        pCCPCH-LCR-Extensions      PrimaryCCPCH-Info-LCR-r4-ext    OPTIONAL,
        sCCPCH-LCR-ExtensionsList  SCCPCH-SystemInformationList-LCR-r4-ext
    }
    frequencyBandIndicator        RadioFrequencyBandFDD            OPTIONAL
}

SysInfoType5-v590ext-IEs ::= SEQUENCE {
    hcr-r5-SpecificInfo          SEQUENCE {
        pusch-SysInfoList-SFN      PUSCH-SysInfoList-SFN-HCR-r5    OPTIONAL,
        pdsch-SysInfoList-SFN      PDSCH-SysInfoList-SFN-HCR-r5    OPTIONAL
    }
}

SysInfoType5-v650ext-IEs ::= SEQUENCE {
    frequencyBandIndicator2      RadioFrequencyBandFDD2
}

SysInfoType5-v6xyext-IEs ::= SEQUENCE {

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```

sccpch-SystemInformation-MBMS CHOICE {
  sccpch-CommonForMBMSAndNonMBMS SCCPCH-SystemInformationList-MBMS-r6-ext,
  sccpch-DedicatedForMBMS        SCCPCH-SystemInformation-MBMS-r6
}
}
OPTIONAL

-- SysInfoType5bis uses the same structure as SysInfoType5
SysInfoType5bis ::= SysInfoType5

SysInfoType6 ::= SEQUENCE {
  -- Physical channel IEs
  pich-PowerOffset          PICH-PowerOffset,
  modeSpecificInfo          CHOICE {
    fdd                      SEQUENCE {
      aich-PowerOffset       AICH-PowerOffset,
      -- dummy is not used in this version of specification, it should
      -- not be sent and if received it should be ignored.
      dummy                  CSICH-PowerOffset          OPTIONAL
    },
    tdd                      SEQUENCE {
      -- If PDSCH/PUSCH is configured for 1.28Mcps TDD, pusch-SysInfoList-SFN,
      -- pdsch-SysInfoList-SFN and openLoopPowerControl-TDD should be absent
      -- and the info included in the tdd128SpecificInfo instead.
      -- If PDSCH/PUSCH is configured for 3.84Mcps TDD in R5, HCR-r5-SpecificInfo should
      -- also be included.
      pusch-SysInfoList-SFN  PUSCH-SysInfoList-SFN          OPTIONAL,
      pdsch-SysInfoList-SFN  PDSCH-SysInfoList-SFN          OPTIONAL,
      openLoopPowerControl-TDD OpenLoopPowerControl-TDD
    }
  },
  primaryCCPCH-Info         PrimaryCCPCH-Info          OPTIONAL,
  prach-SystemInformationList PRACH-SystemInformationList OPTIONAL,
  sCCPCH-SystemInformationList SCCPCH-SystemInformationList OPTIONAL,
  cbs-DRX-Level1Information CBS-DRX-Level1Information  OPTIONAL,
  -- Conditional on any of the CTCH indicator IEs in
  -- sCCPCH-SystemInformationList
  -- Extension mechanism for non- release99 information
  v4b0NonCriticalExtensions SEQUENCE {
    sysInfoType6-v4b0ext     SysInfoType6-v4b0ext-IEs  OPTIONAL,
    -- Extension mechanism for non- rel-4 information
    v590NonCriticalExtensions SEQUENCE {
      sysInfoType6-v590ext   SysInfoType6-v590ext-IEs  OPTIONAL,
      v650nonCriticalExtensions SEQUENCE {
        sysInfoType6-v650ext SysInfoType6-v650ext-IEs  OPTIONAL,
        nonCriticalExtensions SEQUENCE {}              OPTIONAL
      }
    }
  }
}
OPTIONAL
}

SysInfoType6-v4b0ext-IEs ::= SEQUENCE {
  -- openLoopPowerControl-IPDL-TDD is present only if IPDLs are applied for TDD
  openLoopPowerControl-IPDL-TDD OpenLoopPowerControl-IPDL-TDD-r4  OPTIONAL,
  -- If SysInfoType6 is sent to describe a 1.28Mcps TDD cell, the IE PRACH-RACH-Info included
  -- in PRACH-SystemInformationList shall be ignored, the IE PRACH-Partitioning and the
  -- IE rach-TransportFormatSet shall be absent and the corresponding IEs in the following
  -- PRACH-SystemInformationList-LCR-r4 shall be used
  prach-SystemInformationList-LCR-r4 PRACH-SystemInformationList-LCR-r4  OPTIONAL,
  tdd128SpecificInfo                 SEQUENCE {
    pusch-SysInfoList-SFN            PUSCH-SysInfoList-SFN-LCR-r4  OPTIONAL,
    pdsch-SysInfoList-SFN            PDSCH-SysInfoList-SFN-LCR-r4  OPTIONAL,
    pCCPCH-LCR-Extensions             PrimaryCCPCH-Info-LCR-r4-ext  OPTIONAL,
    sCCPCH-LCR-ExtensionsList        SCCPCH-SystemInformationList-LCR-r4-ext  OPTIONAL
  }
  frequencyBandIndicator             RadioFrequencyBandFDD          OPTIONAL
}

SysInfoType6-v590ext-IEs ::= SEQUENCE {
  hcr-r5-SpecificInfo               SEQUENCE {
    pusch-SysInfoList-SFN            PUSCH-SysInfoList-SFN-HCR-r5  OPTIONAL,
    pdsch-SysInfoList-SFN            PDSCH-SysInfoList-SFN-HCR-r5  OPTIONAL
  }
}

SysInfoType6-v650ext-IEs ::= SEQUENCE {
  frequencyBandIndicator2           RadioFrequencyBandFDD2
}

```

```

SysInfoType7 ::=
    -- Physical channel IEs
    modeSpecificInfo
        fdd
            ul-Interference
        },
        tdd
            NULL
    },
    prach-Information-SIB5-List      DynamicPersistenceLevelList,
    prach-Information-SIB6-List      DynamicPersistenceLevelList      OPTIONAL,
    expirationTimeFactor             ExpirationTimeFactor          OPTIONAL,
    -- Extension mechanism for non- release99 information
    nonCriticalExtensions             SEQUENCE {}                       OPTIONAL
}

SysInfoType8 ::=
    -- User equipment IEs
    cpch-Parameters                  CPCH-Parameters,
    -- Physical channel IEs
    cpch-SetInfoList                 CPCH-SetInfoList,
    csich-PowerOffset                CSICH-PowerOffset,
    -- Extension mechanism for non- release99 information
    nonCriticalExtensions             SEQUENCE {}                       OPTIONAL
}

SysInfoType9 ::=
    -- Physical channel IEs
    cpch-PersistenceLevelsList       CPCH-PersistenceLevelsList,
    -- Extension mechanism for non- release99 information
    nonCriticalExtensions             SEQUENCE {}                       OPTIONAL
}

SysInfoType10 ::=
    -- User equipment IEs
    drac-SysInfoList                 DRAC-SysInfoList,
    -- Extension mechanism for non- release99 information
    nonCriticalExtensions             SEQUENCE {}                       OPTIONAL
}

SysInfoType11 ::=
    sib12indicator                    BOOLEAN,
    -- Measurement IEs
    fach-MeasurementOccasionInfo      FACH-MeasurementOccasionInfo      OPTIONAL,
    measurementControlSysInfo         MeasurementControlSysInfo,
    -- Extension mechanism for non- release99 information
    v4b0NonCriticalExtensions         SEQUENCE {
        sysInfoType11-v4b0ext         SysInfoType11-v4b0ext-IEs        OPTIONAL,
        v590NonCriticalExtension      SEQUENCE {
            sysInfoType11-v590ext     SysInfoType11-v590ext-IEs,
            nonCriticalExtensions     SEQUENCE {}                       OPTIONAL
        }
    }
    OPTIONAL
}

SysInfoType11-v4b0ext-IEs ::= SEQUENCE {
    fach-MeasurementOccasionInfo-LCR-Ext  FACH-MeasurementOccasionInfo-LCR-r4-ext  OPTIONAL,
    measurementControlSysInfo-LCR        MeasurementControlSysInfo-LCR-r4-ext
}

SysInfoType11-v590ext-IEs ::= SEQUENCE {
    --The order of the list corresponds to the order of cell in newIntraFrequencyCellInfoList
    newIntraFrequencyCellInfoList-v590ext SEQUENCE (SIZE (1..maxCellMeas)) OF
        CellSelectReselectInfo-v590ext  OPTIONAL,
    --The order of the list corresponds to the order of cell in newInterFrequencyCellInfoList
    newInterFrequencyCellInfoList-v590ext SEQUENCE (SIZE (1..maxCellMeas)) OF
        CellSelectReselectInfo-v590ext  OPTIONAL,
    --The order of the list corresponds to the order of cell in newInterRATCellInfoList
    newInterRATCellInfoList-v590ext      SEQUENCE (SIZE (1..maxCellMeas)) OF
        CellSelectReselectInfo-v590ext  OPTIONAL,
    intraFreqEventCriteriaList-v590ext    Intra-FreqEventCriteriaList-v590ext     OPTIONAL,
    intraFreqReportingCriteria-1b-r5      IntraFreqReportingCriteria-1b-r5        OPTIONAL,
    intraFreqEvent-1d-r5                  IntraFreqEvent-1d-r5                    OPTIONAL
}

SysInfoType12 ::=
    -- Measurement IEs
    fach-MeasurementOccasionInfo      FACH-MeasurementOccasionInfo      OPTIONAL,
    measurementControlSysInfo         MeasurementControlSysInfo,

```

```

-- Extension mechanism for non- release99 information
v4b0NonCriticalExtensions SEQUENCE {
  sysInfoType12-v4b0ext SysInfoType12-v4b0ext-IEs OPTIONAL,
  v590NonCriticalExtension SEQUENCE {
    sysInfoType12-v590ext SysInfoType12-v590ext-IEs,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
  }
}
OPTIONAL

}

SysInfoType12-v4b0ext-IEs ::= SEQUENCE {
  fach-MeasurementOccasionInfo-LCR-Ext FACH-MeasurementOccasionInfo-LCR-r4-ext OPTIONAL,
  measurementControlSysInfo-LCR MeasurementControlSysInfo-LCR-r4-ext
}

SysInfoType12-v590ext-IEs ::= SEQUENCE {
  --The order of the list corresponds to the order of cell in newIntraFrequencyCellInfoList
  newIntraFrequencyCellInfoList-v590ext SEQUENCE (SIZE (1..maxCellMeas)) OF
    CellSelectReselectInfo-v590ext OPTIONAL,
  --The order of the list corresponds to the order of cell in newInterFrequencyCellInfoList
  newInterFrequencyCellInfoList-v590ext SEQUENCE (SIZE (1..maxCellMeas)) OF
    CellSelectReselectInfo-v590ext OPTIONAL,
  --The order of the list corresponds to the order of cell in newInterRATCellInfoList
  newInterRATCellInfoList-v590ext SEQUENCE (SIZE (1..maxCellMeas)) OF
    CellSelectReselectInfo-v590ext OPTIONAL,
  intraFreqEventCriteriaList-v590ext Intra-FreqEventCriteriaList-v590ext OPTIONAL,
  intraFreqReportingCriteria-lb-r5 IntraFreqReportingCriteria-lb-r5 OPTIONAL,
  intraFreqEvent-ld-r5 IntraFreqEvent-ld-r5 OPTIONAL
}

SysInfoType13 ::= SEQUENCE {
  -- Core network IEs
  cn-DomainSysInfoList CN-DomainSysInfoList,
  -- User equipment IEs
  ue-IdleTimersAndConstants UE-IdleTimersAndConstants OPTIONAL,
  capabilityUpdateRequirement CapabilityUpdateRequirement OPTIONAL,
  -- Extension mechanism for non- release99 information
  v3a0NonCriticalExtensions SEQUENCE {
    sysInfoType13-v3a0ext SysInfoType13-v3a0ext-IEs,
    v4b0NonCriticalExtensions SEQUENCE {
      sysInfoType13-v4b0ext SysInfoType13-v4b0ext-IEs,
      -- Extension mechanism for non- release99 information
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    }
  }
}
OPTIONAL

}

SysInfoType13-v3a0ext-IEs ::= SEQUENCE {
  ue-IdleTimersAndConstants-v3a0ext UE-IdleTimersAndConstants-v3a0ext
}

SysInfoType13-v4b0ext-IEs ::= SEQUENCE {
  capabilityUpdateRequirement-r4Ext CapabilityUpdateRequirement-r4-ext OPTIONAL
}

SysInfoType13-1 ::= SEQUENCE {
  -- ANSI-41 IEs
  ansi-41-RAND-Information ANSI-41-RAND-Information,
  -- Extension mechanism for non- release99 information
  nonCriticalExtensions SEQUENCE {} OPTIONAL
}

SysInfoType13-2 ::= SEQUENCE {
  -- ANSI-41 IEs
  ansi-41-UserZoneID-Information ANSI-41-UserZoneID-Information,
  -- Extension mechanism for non- release99 information
  nonCriticalExtensions SEQUENCE {} OPTIONAL
}

SysInfoType13-3 ::= SEQUENCE {
  -- ANSI-41 IEs
  ansi-41-PrivateNeighbourListInfo ANSI-41-PrivateNeighbourListInfo,
  -- Extension mechanism for non- release99 information
  nonCriticalExtensions SEQUENCE {} OPTIONAL
}

SysInfoType13-4 ::= SEQUENCE {
  -- ANSI-41 IEs

```



```

        ansi-41-GlobalServiceRedirectInfo
        ANSI-41-GlobalServiceRedirectInfo,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}                OPTIONAL
}

SysInfoType14 ::=          SEQUENCE {
    -- Physical channel IEs
        individualTS-InterferenceList  IndividualTS-InterferenceList,
        expirationTimeFactor           ExpirationTimeFactor      OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}                OPTIONAL
}

SysInfoType15 ::=          SEQUENCE {
    -- Measurement IEs

        ue-positioning-GPS-CipherParameters  UE-Positioning-CipherParameters      OPTIONAL,
        ue-positioning-GPS-ReferenceLocation  ReferenceLocation,
        ue-positioning-GPS-ReferenceTime     UE-Positioning-GPS-ReferenceTime,

        ue-positioning-GPS-Real-timeIntegrity  BadSatList                        OPTIONAL,
    -- Extension mechanism for non- release99 information
        v4b0NonCriticalExtensions          SEQUENCE {
            sysInfoType15-v4b0ext          SysInfoType15-v4b0ext-IEs,
            -- Extension mechanism for non- release4 information
            nonCriticalExtensions          SEQUENCE {}                OPTIONAL
        } OPTIONAL
}

SysInfoType15-v4b0ext-IEs ::= SEQUENCE {
        up-IPDL-Parameters-TDD            UE-Positioning-IPDL-Parameters-TDD-r4-ext  OPTIONAL
}

SysInfoType15-1 ::=          SEQUENCE {
    -- DGPS corrections
        ue-positioning-GPS-DGPS-Corrections  UE-Positioning-GPS-DGPS-Corrections,

    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}                OPTIONAL
}

SysInfoType15-2 ::=          SEQUENCE {
    -- Ephemeris and clock corrections
        transmissionTOW                  INTEGER (0..604799),
        satID                             SatID,
        ephemerisParameter               EphemerisParameter,

    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}                OPTIONAL
}

SysInfoType15-3 ::=          SEQUENCE {
    -- Almanac and other data
        transmissionTOW                  INTEGER (0.. 604799),
        ue-positioning-GPS-Almanac       UE-Positioning-GPS-Almanac
    OPTIONAL,
        ue-positioning-GPS-IonosphericModel  UE-Positioning-GPS-IonosphericModel
    OPTIONAL,
        ue-positioning-GPS-UTC-Model       UE-Positioning-GPS-UTC-Model
    OPTIONAL,
        satMask                           BIT STRING (SIZE (1..32))  OPTIONAL,
        lsbTOW                             BIT STRING (SIZE (8))    OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}                OPTIONAL
}

SysInfoType15-4 ::=          SEQUENCE {
    -- Measurement IEs
        ue-positioning-OTDOA-CipherParameters  UE-Positioning-CipherParameters      OPTIONAL,
        ue-positioning-OTDOA-AssistanceData    UE-Positioning-OTDOA-AssistanceData,
        v3a0NonCriticalExtensions          SEQUENCE {
            sysInfoType15-4-v3a0ext          SysInfoType15-4-v3a0ext,
            -- Extension mechanism for non- release99 information
            v4b0NonCriticalExtensions          SEQUENCE {
                sysInfoType15-4-v4b0ext      SysInfoType15-4-v4b0ext,
                nonCriticalExtensions          SEQUENCE {}                OPTIONAL
            } OPTIONAL
        }
}

```

```

    } OPTIONAL
}

SysInfoType15-4-v3a0ext ::= SEQUENCE {
    sfn-Offset-Validity          SFN-Offset-Validity          OPTIONAL
}

SysInfoType15-4-v4b0ext ::= SEQUENCE {
    ue-Positioning-OTDOA-AssistanceData-r4ext  UE-Positioning-OTDOA-AssistanceData-r4ext  OPTIONAL
}

SysInfoType15-5 ::=
    SEQUENCE {
        -- Measurement IEs
        ue-positioning-OTDOA-AssistanceData-UEB  UE-Positioning-OTDOA-AssistanceData-UEB,
        v3a0NonCriticalExtensions                SEQUENCE {
            sysInfoType15-5-v3a0ext              SysInfoType15-5-v3a0ext,
            -- Extension mechanism for non- release99 information
            nonCriticalExtensions                SEQUENCE {}          OPTIONAL
        } OPTIONAL
    }

SysInfoType15-5-v3a0ext ::= SEQUENCE {
    sfn-Offset-Validity          SFN-Offset-Validity          OPTIONAL
}

SysInfoType16 ::=
    SEQUENCE {
        -- Radio bearer IEs
        preDefinedRadioConfiguration  PreDefRadioConfiguration,
        -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}              OPTIONAL
    }

SysInfoType17 ::=
    SEQUENCE {
        -- Physical channel IEs
        -- If PDSCH/PUSCH is configured for 1.28Mcps TDD, pusch-SysInfoList and
        -- pdsch-SysInfoList should be absent and the info included in the
        -- tdd128SpecificInfo instead.
        -- If PDSCH/PUSCH is configured for 3.84Mcps TDD in R5, HCR-r5-SpecificInfo should also be
        -- included.
        pusch-SysInfoList              PUSCH-SysInfoList          OPTIONAL,
        pdsch-SysInfoList              PDSCH-SysInfoList          OPTIONAL,
        -- Extension mechanism for non- release99 information
        v4b0NonCriticalExtensions      SEQUENCE {
            sysInfoType17-v4b0ext      SysInfoType17-v4b0ext-IEs,
            v590NonCriticalExtensions  SEQUENCE {
                sysInfoType17-v590ext  SysInfoType17-v590ext-IEs  OPTIONAL,
                nonCriticalExtensions  SEQUENCE {}                  OPTIONAL
            }
        } OPTIONAL
    } OPTIONAL

SysInfoType17-v4b0ext-IEs ::= SEQUENCE {
    tdd128SpecificInfo                SEQUENCE {
        pusch-SysInfoList              PUSCH-SysInfoList-LCR-r4    OPTIONAL,
        pdsch-SysInfoList              PDSCH-SysInfoList-LCR-r4    OPTIONAL
    }
}

SysInfoType17-v590ext-IEs ::= SEQUENCE {
    hcr-r5-SpecificInfo                SEQUENCE {
        pusch-SysInfoList              PUSCH-SysInfoList-HCR-r5  OPTIONAL,
        pdsch-SysInfoList              PDSCH-SysInfoList-HCR-r5  OPTIONAL
    }
}

SysInfoType18 ::=
    SEQUENCE {
        idleModePLMNIdentities          PLMNIdentitiesOfNeighbourCells  OPTIONAL,
        connectedModePLMNIdentities    PLMNIdentitiesOfNeighbourCells  OPTIONAL,
        -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}          OPTIONAL
    }

SysInfoTypeSB1 ::=
    SEQUENCE {
        -- Other IEs
        sib-ReferenceList                SIB-ReferenceList,
        -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}              OPTIONAL
    }

```

```

SysInfoTypeSB2 ::=
  -- Other IEs
  sib-ReferenceList          SIB-ReferenceList,
  -- Extension mechanism for non-release99 information
  nonCriticalExtensions      SEQUENCE {}
                                OPTIONAL
}

TDD-UMTS-Frequency-List ::=
  SEQUENCE (SIZE (1..maxNumTDDFreqs)) OF
  FrequencyInfoTDD

-- *****
--
-- ANSI-41 INFORMATION ELEMENTS (10.3.9)
--
-- *****

ANSI-41-GlobalServiceRedirectInfo ::= ANSI-41-NAS-Parameter
ANSI-41-PrivateNeighbourListInfo ::= ANSI-41-NAS-Parameter
ANSI-41-RAND-Information ::= ANSI-41-NAS-Parameter
ANSI-41-UserZoneID-Information ::= ANSI-41-NAS-Parameter
ANSI-41-NAS-Parameter ::= BIT STRING (SIZE (1..2048))

Min-P-REV ::= BIT STRING (SIZE (8))

NAS-SystemInformationANSI-41 ::= ANSI-41-NAS-Parameter
NID ::= BIT STRING (SIZE (16))

P-REV ::= BIT STRING (SIZE (8))

SID ::= BIT STRING (SIZE (15))

-- *****
--
-- MBMS INFORMATION ELEMENTS (10.3.9a)
--
-- *****

MBMS-AccessProbabilityFactor ::= ENUMERATED {
  apf0, apf32, apf64, apf96, apf128, apf160, apf192,
  apf224, apf256, apf288, apf320, apf352, apf384, apf416,
  apf448, apf480, apf512, apf544, apf576, apf608, apf640,
  apf672, apf704, apf736, apf768, apf800, apf832, apf864,
  apf896, apf928, apf960, apf1000 }

MBMS-CellGroupIdentity-r6 ::= BIT STRING (SIZE (12))

MBMS-CommonCCTrChIdentity ::= INTEGER (1..32)

MBMS-CommonPhyChIdentity ::= INTEGER (1..32)

MBMS-CommonRBIdentity ::= INTEGER (1..32)

MBMS-CommonRBInformation-r6 ::= SEQUENCE {
  commonRBIdentity      MBMS-CommonRBIdentity,
  pdcp-Info             PDCP-Info-r4,
  rlc-Info              RLC-Info-r6
}

MBMS-CommonRBInformationList-r6 ::= SEQUENCE (SIZE (1..maxMBMS-CommonRB)) OF
  MBMS-CommonRBInformation-r6

MBMS-CommonTrChIdentity ::= INTEGER (1..32)

MBMS-CurrentCell-SCCPCH-r6 ::= SEQUENCE {
  sccpchIdentity        MBMS-SCCPCHIdentity          OPTIONAL,
  secondaryCCPCH-Info  MBMS-CommonPhyChIdentity,
  transpCh-InfoCommonForAllTrCh MBMS-CommonCCTrChIdentity,
  transpCHInformation  MBMS-TrCHInformation-CommList
}

MBMS-CurrentCell-SCCPCHList-r6 ::= SEQUENCE (SIZE (1..maxSCCPCH)) OF
  MBMS-CurrentCell-SCCPCH-r6

MBMS-FACHCarryingMTCH-List ::= SEQUENCE (SIZE (1..maxFACHPCH)) OF
  TransportFormatSet

MBMS-JoinedInformation-r6 ::= SEQUENCE {

```

```

    p-TMSI                                P-TMSI-GSM-MAP                                OPTIONAL
}

MBMS-L1CombiningSchedule-32 ::=          SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..7)                                OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..7),
    periodDuration                         INTEGER (1..8)
}
}

MBMS-L1CombiningSchedule-64 ::=          SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..15)                               OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..15),
    periodDuration                         INTEGER (1..16)
}
}

MBMS-L1CombiningSchedule-128 ::=         SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..31)                               OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..31),
    periodDuration                         INTEGER (1..32)
}
}

MBMS-L1CombiningSchedule-256 ::=         SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..63)                               OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..63),
    periodDuration                         INTEGER (1..64)
}
}

MBMS-L1CombiningSchedule-512 ::=         SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..127)                              OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..127),
    periodDuration                         INTEGER (1..128)
}
}

MBMS-L1CombiningSchedule-1024 ::=        SEQUENCE {
-- Actual L1 combining schedule values (offset, start, duration) = IE value * 4
cycleOffset                               INTEGER (0..255)                              OPTIONAL,
mtch-L1CombiningPeriodList                SEQUENCE (SIZE (1..maxMBMS-L1CP)) OF SEQUENCE {
    periodStart                            INTEGER (0..255),
    periodDuration                         INTEGER (1..256)
}
}

MBMS-L1CombiningSchedule ::=             CHOICE {
    cycleLength-32                         MBMS-L1CombiningSchedule-32,
    cycleLength-64                         MBMS-L1CombiningSchedule-64,
    cycleLength-128                        MBMS-L1CombiningSchedule-128,
    cycleLength-256                        MBMS-L1CombiningSchedule-256,
    cycleLength-512                        MBMS-L1CombiningSchedule-512,
    cycleLength-1024                       MBMS-L1CombiningSchedule-1024
}

MBMS-L1CombiningTransmTimeDiff ::=       INTEGER (0..3)

MBMS-L23Configuration ::=                CHOICE {
    sameAsCurrent                           SEQUENCE {
        currentCell-SCCPCH                 MBMS-SCCPCHIdentity,
        mschConfigurationInfo              MBMS-MSCHConfigurationInfo-r6
    },
    different                               SEQUENCE {
        transpCh-InfoCommonForAllTrCh      MBMS-CommonCCTrChIdentity,
        transpCHInformation                 MBMS-TrCHInformation-NeighbList
    }
}

```

```

MBMS-LogicalChIdentity ::=          INTEGER (1..15)

MBMS-MCCH-ConfigurationInfo-r6 ::= SEQUENCE {
    accessInfoPeriodCoefficient      INTEGER (0..3),
    repetitionPeriodCoefficient      INTEGER (0..3),
    modificationPeriodCoefficient    INTEGER (7..10),
    rlc-Info                          RLC-Info-r6,
    tctf-Presence                     MBMS-TCTF-Presence          OPTIONAL
}

MBMS-MICHConfigurationInfo-r6 ::= SEQUENCE {
    michPowerOffset                  MBMS-MICHPowerOffset,
    mode                              CHOICE {
        fdd                          SEQUENCE {
            channelisationCode256    ChannelisationCode256,
            ni-CountPerFrame          MBMS-NI-CountPerFrame,
            sttd-Indicator            BOOLEAN
        },
        tdd384                        SEQUENCE {
            timeslot                  TimeslotNumber,
            midambleShiftAndBurstType MidambleShiftAndBurstType,
            channelisationCode        DL-TS-ChannelisationCode,
            repetitionPeriodLengthOffset RepPerLengthOffset-MICH  OPTIONAL,
            mbmsNotificationIndLength MBMS-MICHNotificationIndLength  DEFAULT mn4
        },
        tdd128                        SEQUENCE {
            timeslot                  TimeslotNumber-LCR-r4,
            midambleShiftAndBurstType MidambleShiftAndBurstType-LCR-r4,
            channelisationCodeList    SEQUENCE (SIZE (1..2)) OF
                DL-TS-ChannelisationCode,
            repetitionPeriodLengthOffset RepPerLengthOffset-MICH  OPTIONAL,
            mbmsNotificationIndLength MBMS-MICHNotificationIndLength  DEFAULT mn4
        }
    }
}

MBMS-MICHNotificationIndLength ::= ENUMERATED { mn4, mn8, mn16 }

MBMS-MICHPowerOffset ::=          INTEGER (-10..5)

MBMS-ModifedService-r6 ::=        SEQUENCE {
    mbms-TransmissionIdentity        MBMS-TransmissionIdentity,
    mbms-RequiredUEAction            MBMS-RequiredUEAction-Mod,
    mbms-PreferredFrequency          CHOICE {
        mcch                          MBMS-PFLIndex,
        dcch                          MBMS-PFLInfo
    } OPTIONAL,
    continueMCCHReading              BOOLEAN
}

MBMS-ModifedServiceList-r6 ::=    SEQUENCE (SIZE (1..maxMBMSservModif)) OF
    MBMS-ModifedService-r6

MBMS-MSCHConfigurationInfo-r6 ::= SEQUENCE {
    mschSchedulingInfo              MBMS-MSCHSchedulingInfo          OPTIONAL,
    rlc-Info                        RLC-Info-r6                      OPTIONAL,
    tctf-Presence                    MBMS-TCTF-Presence          OPTIONAL
}

MBMS-MSCHSchedulingInfo ::=      CHOICE {
    schedulingPeriod-32-Offset      INTEGER (0..31),
    schedulingPeriod-64-Offset      INTEGER (0..63),
    schedulingPeriod-128-Offset     INTEGER (0..127),
    schedulingPeriod-256-Offset     INTEGER (0..255),
    schedulingPeriod-512-Offset     INTEGER (0..511),
    schedulingPeriod-1024-Offset    INTEGER (0..1023)
}

MBMS-NeighbouringCellSCCPCH-r6 ::= SEQUENCE {
    secondaryCCPCH-Info             MBMS-CommonPhyChIdentity,
    rakeCombinableGroupId           MBMS-RakeCombinableGroupId          OPTIONAL,
    layer1Combining                 CHOICE {
        fdd                          SEQUENCE {
            typeOfL1Combining        MBMS-TypeOfL1Combining,
            mbms-L1CombiningSchedule MBMS-L1CombiningSchedule          OPTIONAL
        },
        tdd                          NULL
    }
}

```

```

    } OPTIONAL,
    mbms-L23Configuration MBMS-L23Configuration
}

MBMS-NeighbouringCellSCCPCHList-r6 ::= SEQUENCE (SIZE (1..maxSCCPCH)) OF
    MBMS-NeighbouringCellSCCPCH-r6

MBMS-NI-CountPerFrame ::= ENUMERATED { ni18, ni36, ni72, ni144 }

MBMS-PFLIndex ::= INTEGER (1..maxMBMS-Freq)

MBMS-PFLInfo ::= FrequencyInfo

MBMS-PhyChInformation-r6 ::= SEQUENCE {
    mbms-CommonPhyChIdentity MBMS-CommonPhyChIdentity,
    secondaryCCPCHInfo-MBMS SecondaryCCPCHInfo-MBMS-r6
}

MBMS-PhyChInformationList-r6 ::= SEQUENCE (SIZE (1..maxMBMS-CommonPhyCh)) OF
    MBMS-PhyChInformation-r6

MBMS-PL-ServiceRestrictInfo-r6 ::= ENUMERATED { true }

MBMS-PreferredFreqRequest-r6 ::= SEQUENCE {
    preferredFreqRequest FrequencyInfo
}

MBMS-PreferredFrequencyInfo-r6 ::= SEQUENCE {
    mbmsPreferredFrequency INTEGER (1..maxMBMS-Freq),
    layerConvergenceInformation CHOICE {
        mbms-Qoffset INTEGER (0..7),
        mbms-HCSoffset INTEGER (0..7)
    }
}

MBMS-PreferredFrequencyList-r6 ::= SEQUENCE (SIZE (1..maxMBMS-Freq)) OF
    MBMS-PreferredFrequencyInfo-r6

MBMS-PTM-RBInformation-C ::= SEQUENCE {
    rbInformation MBMS-CommonRBIdentity,
    shortTransmissionID MBMS-ShortTransmissionID,
    logicalChIdentity MBMS-LogicalChIdentity
}

MBMS-PTM-RBInformation-CList ::= SEQUENCE (SIZE (1..maxRBperTrCh)) OF
    MBMS-PTM-RBInformation-C

MBMS-PTM-RBInformation-N ::= SEQUENCE {
    shortTransmissionID MBMS-ShortTransmissionID,
    logicalChIdentity MBMS-LogicalChIdentity,
    layer1-CombiningStatus ENUMERATED { true } OPTIONAL
}

MBMS-PTM-RBInformation-NList ::= SEQUENCE (SIZE (1..maxRBperTrCh)) OF
    MBMS-PTM-RBInformation-N

MBMS-PTM-RBInformation-S ::= SEQUENCE {
    rbInformation MBMS-CommonRBIdentity,
    shortTransmissionID MBMS-ShortTransmissionID,
    logicalChIdentity MBMS-LogicalChIdentity
}

MBMS-PTM-RBInformation-SList ::= SEQUENCE (SIZE (1..maxRBperTrCh)) OF
    MBMS-PTM-RBInformation-S

MBMS-RakeCombinableGroupId ::= INTEGER (0..15)

MBMS-RequiredUEAction-Mod ::= ENUMERATED {
    none,
    acquireCountingInfo,
    acquirePTM-RBInfo,
    establishPMMConnection,
    releasePTM-RB }

MBMS-RequiredUEAction-UMod ::= ENUMERATED {
    none,
    acquirePTM-RBInfo,
    establishPMMConnection }

```

```

MBMS-SCCPCHIdentity ::=                INTEGER (1..maxSCCPCH)

MBMS-ServiceAccessInfo-r6 ::=          SEQUENCE {
    shortTransmissionID                MBMS-ShortTransmissionID,
    accessprobabilityFactor-Idle       MBMS-AccessProbabilityFactor,
    accessprobabilityFactor-UraPCH     MBMS-AccessProbabilityFactor      OPTIONAL
}

MBMS-ServiceAccessInfoList-r6 ::=      SEQUENCE (SIZE (1..maxMBMsservCount)) OF
                                        MBMS-ServiceAccessInfo-r6

MBMS-ServiceIdentity ::=               SEQUENCE {
    serviceIdentity                    OCTET STRING (SIZE (3)),
    plmn-Identity                      CHOICE {
        -- The 'sameAsMIB-PLMN-Id' choice refers to the 'PLMN Identity' (R99) in MIB.
        sameAsMIB-PLMN-Id              NULL,
        other                           CHOICE {
            -- The 'sameAsMIB-MultiPLMN-Id' choice refers to one of the (1..5) PLMN Identities
            -- provided in the 'Multiple PLMN List' (REL-6) in MIB.
            sameAsMIB-MultiPLMN-Id     INTEGER (1..5),
            explicitPLMN-Id            PLMN-Identity
        }
    }
}

MBMS-ServiceSchedulingInfo-r6 ::=      SEQUENCE {
    mbms-TransmissionIdentity          MBMS-TransmissionIdentity,
    mbms-ServiceTransmInfoList        MBMS-ServiceTransmInfoList      OPTIONAL,
    nextSchedulingperiod               INTEGER (0..31)
}

MBMS-ServiceSchedulingInfoList-r6 ::=  SEQUENCE (SIZE (1..maxMBMsservSched)) OF
                                        MBMS-ServiceSchedulingInfo-r6

MBMS-ServiceTransmInfo ::=             SEQUENCE {
    -- Actual values (start, duration) = IE values * 4
    start                              INTEGER (0..255),
    duration                            INTEGER (1..256)
}

MBMS-ServiceTransmInfoList ::=         SEQUENCE (SIZE (1..maxMBMSTransmis)) OF
                                        MBMS-ServiceTransmInfo

MBMS-SessionIdentity ::=               OCTET STRING (SIZE (1))

MBMS-ShortTransmissionID ::=           INTEGER (1..32)

MBMS-SIBType5-SCCPCH-r6 ::=           SEQUENCE {
    sccpchIdentity                    MBMS-SCCPCHIdentity,
    transpCHInformation                MBMS-TrCHInformation-SIB5List
}

MBMS-SIBType5-SCCPCHList-r6 ::=       SEQUENCE (SIZE (1..maxSCCPCH)) OF
                                        MBMS-SIBType5-SCCPCH-r6

MBMS-TCTF-Presence ::=                 ENUMERATED { false }

MBMS-TimersAndCouneters-r6 ::=        SEQUENCE {
    t-318                              T-318                                DEFAULT ms1000
}

MBMS-TransmissionIdentity ::=         SEQUENCE {
    mbms-ServiceIdentity              MBMS-ServiceIdentity,
    mbms-SessionIdentity              MBMS-SessionIdentity      OPTIONAL
}

MBMS-TranspChInfoForCCTrCh-r6 ::=     SEQUENCE {
    commonCCTrChIdentity              MBMS-CommonCCTrChIdentity,
    transportFormatCombinationSet     TFCS
}

MBMS-TranspChInfoForEachCCTrCh-r6 ::= SEQUENCE (SIZE (1..maxMBMS-CommonCCTrCh)) OF
                                        MBMS-TranspChInfoForCCTrCh-r6

MBMS-TranspChInfoForEachTrCh-r6 ::=   SEQUENCE (SIZE (1..maxMBMS-CommonTrCh)) OF
                                        MBMS-TranspChInfoForTrCh-r6

```

```

MBMS-TranspChInfoForTrCh-r6 ::= SEQUENCE {
    commonTrChIdentity
    transportFormatSet
}

MBMS-TrCHInformation-Comm ::= SEQUENCE {
    transpCh-Info
    rbInformation
    mschConfigurationInfo
    MBMS-CommonTrChIdentity,
    MBMS-PTM-RBInformation-CList OPTIONAL,
    MBMS-MSCHConfigurationInfo-r6 OPTIONAL
}

MBMS-TrCHInformation-CommList ::= SEQUENCE (SIZE (1..maxTrChperSCCPCH)) OF
    MBMS-TrCHInformation-Comm

MBMS-TrCHInformation-Neighb ::= SEQUENCE {
    transpCh-Info
    transpCh-CombiningStatus
    rbInformation
    mschConfigurationInfo
    MBMS-CommonTrChIdentity,
    BOOLEAN,
    MBMS-PTM-RBInformation-NList OPTIONAL,
    MBMS-MSCHConfigurationInfo-r6 OPTIONAL
}

MBMS-TrCHInformation-NeighbList ::= SEQUENCE (SIZE (1..maxFACHPCH)) OF
    MBMS-TrCHInformation-Neighb

MBMS-TrCHInformation-SIB5 ::= SEQUENCE {
    transpCh-Identity
    rbInformation
    mschConfigurationInfo
    INTEGER (1..maxFACHPCH),
    MBMS-PTM-RBInformation-SList OPTIONAL,
    MBMS-MSCHConfigurationInfo-r6 OPTIONAL
}

MBMS-TrCHInformation-SIB5List ::= SEQUENCE (SIZE (1..maxTrChperSCCPCH)) OF
    MBMS-TrCHInformation-SIB5

MBMS-TypeOfL1Combining ::= CHOICE {
    rake
    soft
    NULL,
    MBMS-L1CombiningTransmTimeDiff
}

MBMS-UnmodifiedService-r6 ::= SEQUENCE {
    mbms-TransmissionIdentity
    mbms-RequiredUEAction
    mbms-PreferredFrequency
    MBMS-TransmissionIdentity,
    MBMS-RequiredUEAction-UMod,
    MBMS-PFLIndex OPTIONAL
}

MBMS-UnmodifiedServiceList-r6 ::= SEQUENCE (SIZE (1..maxMBMsservUnmodif)) OF
    MBMS-UnmodifiedService-r6

END

```


11.5 RRC information between network nodes

```
Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
```

```
BEGIN
```

```
IMPORTS
```

```
    HandoverToUTRANCommand,  
    MeasurementReport,  
    PhysicalChannelReconfiguration,  
    RadioBearerReconfiguration,  
    RadioBearerRelease,  
    RadioBearerSetup,  
    RRC-FailureInfo,  
    TransportChannelReconfiguration
```

```
FROM PDU-definitions
```

```
-- Core Network IEs :  
    CN-DomainIdentity,  
    CN-DomainInformationList,  
    CN-DomainInformationListFull,  
    CN-DRX-CycleLengthCoefficient,  
    NAS-SystemInformationGSM-MAP,  
-- UTRAN Mobility IEs :  
    CellIdentity,  
    URA-Identity,  
-- User Equipment IEs :  
    AccessStratumReleaseIndicator,  
    C-RNTI,  
    ChipRateCapability,  
    DL-CapabilityWithSimultaneousHS-DSCHConfig,  
    DL-PhysChCapabilityFDD-v380ext,  
    DL-PhysChCapabilityTDD,  
    DL-PhysChCapabilityTDD-LCR-r4,  
    GSM-Measurements,  
    HSDSCH-physical-layer-category,  
    FailureCauseWithProtErr,  
    MaxHcContextSpace,  
    MaximumAM-EntityNumberRLC-Cap,  
    MaximumRLC-WindowSize,  
    MaxNoPhysChBitsReceived,  
    MaxPhysChPerFrame,  
    MaxPhysChPerSubFrame-r4,  
    MaxPhysChPerTS,  
    MaxROHC-ContextSessions-r4,  
    MaxTS-PerFrame,  
    MaxTS-PerSubFrame-r4,  
    MinimumSF-DL,  
    MultiModeCapability,  
    MultiRAT-Capability,  
    NetworkAssistedGPS-Supported,  
    RadioFrequencyBandTDDList,  
    RLC-Capability,  
    RRC-MessageSequenceNumber,  
    SecurityCapability,  
    SimultaneousSCCPCH-DPCH-Reception,  
    STARTList,  
    STARTSingle,  
    START-Value,  
    SupportOfDedicatedPilotsForChEstimation,  
    TransportChannelCapability,  
    TxRxFrequencySeparation,  
    U-RNTI,  
    UE-MultiModeRAT-Capability,  
    UE-PowerClassExt,  
    UE-RadioAccessCapabBandFDDList,  
    UE-RadioAccessCapabBandFDDList2,  
    UE-RadioAccessCapabBandFDDList-ext,  
    UE-RadioAccessCapability,  
    UE-RadioAccessCapability-v370ext,  
    UE-RadioAccessCapability-v380ext,  
    UE-RadioAccessCapability-v3a0ext,  
    UE-RadioAccessCapability-v3g0ext,  
    UE-RadioAccessCapability-v4b0ext,
```

```

    UE-RadioAccessCapability-v590ext,
    UE-RadioAccessCapability-v5c0ext,
    UE-RadioAccessCapability-v650ext,
    UL-PhysChCapabilityFDD,
    UL-PhysChCapabilityTDD,
    UL-PhysChCapabilityTDD-LCR-r4,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RAB-InformationSetupList-r4,
    RAB-InformationSetupList-r5,
    RAB-InformationSetupList-r6-ext,
    RAB-InformationSetupList-r6,
    RB-Identity,
    SRB-InformationSetupList,
    SRB-InformationSetupList-r5,
    SRB-InformationSetupList-r6,
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-CommonTransChInfo-r4,
    DL-AddReconfTransChInfoList,
    DL-AddReconfTransChInfoList-r4,
    DL-AddReconfTransChInfoList-r5,
    DRAC-StaticInformationList,
    UL-CommonTransChInfo,
    UL-CommonTransChInfo-r4,
    UL-AddReconfTransChInfoList,
    UL-AddReconfTransChInfoList-r6,
-- Physical Channel IEs :
    PrimaryCPICH-Info,
    TPC-CombinationIndex,
    ScramblingCodeChange,
    TGCFN,
    TGPSI,
    TGPS-ConfigurationParams,
-- Measurement IEs :
    Inter-FreqEventCriteriaList-v590ext,
    Intra-FreqEventCriteriaList-v590ext,
    IntraFreqEvent-ld-r5,
    IntraFreqReportingCriteria-lb-r5,
    InterRATCellInfoIndicator,
    MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    MeasurementType-r4,
    AdditionalMeasurementID-List,
    PositionEstimate,
-- MBMS IEs :
    MBMS-JoinedInformation-r6,
-- Other IEs :
    GERANIu-RadioAccessCapability,
    InterRAT-UE-RadioAccessCapabilityList,
    InterRAT-UE-RadioAccessCapability-v590ext,
    UESpecificBehaviourInformationlidle,
    UESpecificBehaviourInformationlinterRAT

```

FROM InformationElements

```

    maxCNdomains,
    maxNoOfMeas,

    maxRB,
    maxRBallRABs,
    maxRFC3095-CID,
    maxSRBsetup,
    maxRL,
    maxTGPS

```

FROM Constant-definitions
;

-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is tranferred in the same direction and across the same path is grouped

```

-- *****
--
-- RRC information, to target RNC

```

```

--
-- *****
-- RRC Information to target RNC sent either from source RNC or from another RAT

ToTargetRNC-Container ::= CHOICE {
    interRATHandoverInfo      InterRATHandoverInfoWithInterRATCapabilities-r3,
    srncRelocation            SRNC-RelocationInfo-r3,
    rfc3095-ContextInfo       RFC3095-ContextInfo-r5,
    extension                  NULL
}

-- *****
--
-- RRC information, target RNC to source RNC
--
-- *****

TargetRNC-ToSourceRNC-Container ::= CHOICE {
    radioBearerSetup          RadioBearerSetup,
    radioBearerReconfiguration RadioBearerReconfiguration,
    radioBearerRelease        RadioBearerRelease,
    transportChannelReconfiguration TransportChannelReconfiguration,
    physicalChannelReconfiguration PhysicalChannelReconfiguration,
    rrc-FailureInfo           RRC-FailureInfo,
    -- IE dl-DCCHmessage consists of an octet string that includes the IE DL-DCCH-Message
    dl-DCCHmessage            OCTET STRING,
    extension                  NULL
}

-- Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
-- In alphabetical order

-- *****
--
-- Handover to UTRAN information
--
-- *****

InterRATHandoverInfoWithInterRATCapabilities-r3 ::= CHOICE {
    r3                        SEQUENCE {
        -- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
        -- includes non critical extensions
        interRATHandoverInfo-r3      InterRATHandoverInfoWithInterRATCapabilities-r3-IEs,
        v390NonCriticalExtensions     SEQUENCE {
            interRATHandoverInfoWithInterRATCapabilities-v390ext
        }
        InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
        -- Reserved for future non critical extension
        nonCriticalExtensions         SEQUENCE {} OPTIONAL
    }
    },
    criticalExtensions               SEQUENCE {}
}

InterRATHandoverInfoWithInterRATCapabilities-r3-IEs ::= SEQUENCE {
    -- The order of the IEs may not reflect the tabular format
    -- but has been chosen to simplify the handling of the information in the BSC
    -- Other IEs
    ue-RATSpecificCapability         InterRAT-UE-RadioAccessCapabilityList OPTIONAL,
    -- interRATHandoverInfo, Octet string is used to obtain 8 bit length field prior to
    -- actual information. This makes it possible for BSS to transparently handle information
    -- received via GSM air interface even when it includes non critical extensions.
    -- The octet string shall include the InterRATHandoverInfo information
    -- The BSS can re-use the 04.18 length field received from the MS
    interRATHandoverInfo             OCTET STRING (SIZE (0..255))
}

InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs ::= SEQUENCE {
    -- User equipment IEs
    failureCauseWithProtErr          FailureCauseWithProtErr          OPTIONAL
}

-- *****
--
-- RFC3095 context, source RNC to target RNC
--
-- *****

```

```

RFC3095-ContextInfo-r5 ::= CHOICE {
  r5          SEQUENCE {
    RFC3095-ContextInfoList-r5    RFC3095-ContextInfoList-r5,
    -- Reserved for future non critical extension
    nonCriticalExtensions          SEQUENCE {} OPTIONAL
  },
  criticalExtensions              SEQUENCE {}
}

RFC3095-ContextInfoList-r5 ::= SEQUENCE (SIZE (1..maxRBallRABs)) OF
                                RFC3095-ContextInfo

```

```

-- *****
--
-- SRNC Relocation information
--
-- *****

```

```

SRNC-RelocationInfo-r3 ::= CHOICE {
  r3          SEQUENCE {
    SRNC-RelocationInfo-r3          SRNC-RelocationInfo-r3-IEs,
    v380NonCriticalExtensions        SEQUENCE {
      SRNC-RelocationInfo-v380ext    SRNC-RelocationInfo-v380ext-IEs,
      -- Reserved for future non critical extension
      v390NonCriticalExtensions      SEQUENCE {
        SRNC-RelocationInfo-v390ext  SRNC-RelocationInfo-v390ext-IEs,
        v3a0NonCriticalExtensions    SEQUENCE {
          SRNC-RelocationInfo-v3a0ext SRNC-RelocationInfo-v3a0ext-IEs,
          v3b0NonCriticalExtensions  SEQUENCE {
            SRNC-RelocationInfo-v3b0ext SRNC-RelocationInfo-v3b0ext-IEs,
            v3c0NonCriticalExtensions  SEQUENCE {
              SRNC-RelocationInfo-v3c0ext SRNC-RelocationInfo-v3c0ext-IEs,
              laterNonCriticalExtensions SEQUENCE {
                SRNC-RelocationInfo-v3d0ext SRNC-RelocationInfo-v3d0ext-IEs,
                -- Container for additional R99 extensions
                SRNC-RelocationInfo-r3-add-ext BIT STRING
                (CONTAINING SRNC-RelocationInfo-v3h0ext-IEs) OPTIONAL,
                v3g0NonCriticalExtensions SEQUENCE {
                  SRNC-RelocationInfo-v3g0ext SRNC-RelocationInfo-v3g0ext-IEs,
                  v4b0NonCriticalExtensions SEQUENCE {
                    SRNC-RelocationInfo-v4b0ext SRNC-RelocationInfo-v4b0ext-IEs,
                    v590NonCriticalExtensions SEQUENCE {
                      SRNC-RelocationInfo-v590ext
                      SRNC-RelocationInfo-v590ext-IEs,
                      v5a0NonCriticalExtensions SEQUENCE {
                        SRNC-RelocationInfo-v5a0ext
                        SRNC-RelocationInfo-v5a0ext-IEs,
                        v5b0NonCriticalExtensions SEQUENCE {
                          SRNC-RelocationInfo-v5b0ext
                          SRNC-RelocationInfo-v5b0ext-IEs,
                          v5c0NonCriticalExtensions SEQUENCE {
                            SRNC-RelocationInfo-v5c0ext
                            SRNC-RelocationInfo-v5c0ext-IEs,
                            v6xyNonCriticalExtensions SEQUENCE {
                              SRNC-RelocationInfo-v6xyext
                              SRNC-RelocationInfo-v6xyext-IEs,
                              -- Reserved for future non critical extension
                              nonCriticalExtensions SEQUENCE {} OPTIONAL
                            } OPTIONAL
                          } OPTIONAL
                        } OPTIONAL
                      } OPTIONAL
                    } OPTIONAL
                  } OPTIONAL
                } OPTIONAL
              } OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3          CHOICE {
    r4          SEQUENCE {
      SRNC-RelocationInfo-r4          SRNC-RelocationInfo-r4-IEs,
      v4d0NonCriticalExtensions        SEQUENCE {

```



```

-- User equipment IEs
  u-RNTI          U-RNTI,
  c-RNTI          C-RNTI          OPTIONAL,
  ue-RadioAccessCapability UE-RadioAccessCapability,
  ue-Positioning-LastKnownPos UE-Positioning-LastKnownPos  OPTIONAL,
-- Other IEs
  ue-RATSpecificCapability InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
-- UTRAN mobility IEs
  ura-Identity    URA-Identity          OPTIONAL,
-- Core network IEs
  cn-CommonGSM-MAP-NAS-SysInfo NAS-SystemInformationGSM-MAP,
  cn-DomainInformationList      CN-DomainInformationList      OPTIONAL,
-- Measurement IEs
  ongoingMeasRepList OngoingMeasRepList  OPTIONAL,
-- Radio bearer IEs
  predefinedConfigStatusList PredefinedConfigStatusList,
  srb-InformationList        SRB-InformationSetupList,
  rab-InformationList        RAB-InformationSetupList  OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo      UL-CommonTransChInfo          OPTIONAL,
  ul-TransChInfoList        UL-AddReconfTransChInfoList  OPTIONAL,
  modeSpecificInfo          CHOICE {
    fdd                      SEQUENCE {
      cpch-SetID              CPCH-SetID          OPTIONAL,
      transChDRAC-Info        DRAC-StaticInformationList  OPTIONAL
    },
    tdd                      NULL
  },
  dl-CommonTransChInfo      DL-CommonTransChInfo          OPTIONAL,
  dl-TransChInfoList        DL-AddReconfTransChInfoList  OPTIONAL,
-- Measurement report
  measurementReport         MeasurementReport  OPTIONAL
}

SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
  -- Ciphering related information IEs
  cn-DomainIdentity          CN-DomainIdentity,
  cipheringStatusList        CipheringStatusList
}

SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
  cn-DomainInformationList-v390ext CN-DomainInformationList-v390ext  OPTIONAL,
  ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext  OPTIONAL,
  ue-RadioAccessCapability-v380ext UE-RadioAccessCapability-v380ext  OPTIONAL,
  dl-PhysChCapabilityFDD-v380ext    DL-PhysChCapabilityFDD-v380ext,
  failureCauseWithProtErr          FailureCauseWithProtErr      OPTIONAL
}

SRNC-RelocationInfo-v3a0ext-IEs ::= SEQUENCE {
  cipheringInfoForSRB1-v3a0ext      CipheringInfoPerRB-List-v3a0ext,
  ue-RadioAccessCapability-v3a0ext  UE-RadioAccessCapability-v3a0ext  OPTIONAL,
  -- cn-domain identity for IE startValueForCiphering-v3a0ext is specified
  -- in subsequent extension (SRNC-RelocationInfo-v3b0ext-IEs)
  startValueForCiphering-v3a0ext     START-Value
}

SRNC-RelocationInfo-v3b0ext-IEs ::= SEQUENCE {
  -- cn-domain identity for IE startValueForCiphering-v3a0ext included in previous extension
  cn-DomainIdentity                  CN-DomainIdentity,
  -- the IE startValueForCiphering-v3b0ext contains the start values for each CN Domain. The
  -- value of start indicated by the IE startValueForCiphering-v3a0ext should be set to the
  -- same value as the start-Value for the corresponding cn-DomainIdentity in the IE
  -- startValueForCiphering-v3b0ext
  startValueForCiphering-v3b0ext     STARTList2          OPTIONAL
}

SRNC-RelocationInfo-v3c0ext-IEs ::= SEQUENCE {
  -- IE rb-IdentityForHOMessage includes the identity of the RB used by the source SRNC
  -- to send the message contained in the IE "TargetRNC-ToSourceRNC-Container".
  -- Only included if type is "UE involved"
  rb-IdentityForHOMessage             RB-Identity          OPTIONAL
}

SRNC-RelocationInfo-v3d0ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  uESpecificBehaviourInformationlidle UESpecificBehaviourInformationlidle  OPTIONAL,
  uESpecificBehaviourInformationlinterRAT UESpecificBehaviourInformationlinterRAT
  OPTIONAL
}

```

```

}

SRNC-RelocationInfo-v3g0ext-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v3g0ext    UE-RadioAccessCapability-v3g0ext    OPTIONAL
}

SRNC-RelocationInfo-v3h0ext-IEs ::= SEQUENCE {
    tpc-CombinationInfoList            TPC-CombinationInfoList            OPTIONAL,
    v650NonCriticalExtensions          SEQUENCE {
        ue-RadioAccessCapability-v650ext    UE-RadioAccessCapability-v650ext    OPTIONAL,
        nonCriticalExtension                SEQUENCE {}
    } OPTIONAL
}

SRNC-RelocationInfo-v4d0ext-IEs ::= SEQUENCE {
    tpc-CombinationInfoList            TPC-CombinationInfoList            OPTIONAL
}

TPC-CombinationInfoList ::= SEQUENCE (SIZE (1..maxRL)) OF
    TPC-Combination-Info

STARTList2 ::=
    SEQUENCE (SIZE (2..maxCNdomains)) OF
        STARTSingle

SRNC-RelocationInfo-v4b0ext-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v4b0ext    UE-RadioAccessCapability-v4b0ext    OPTIONAL
}

SRNC-RelocationInfo-v590ext-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v590ext    UE-RadioAccessCapability-v590ext    OPTIONAL,
    ue-RATSpecificCapability-v590ext    InterRAT-UE-RadioAccessCapability-v590ext    OPTIONAL
}

SRNC-RelocationInfo-v5a0ext-IEs ::= SEQUENCE {
    storedCompressedModeInfo            StoredCompressedModeInfo            OPTIONAL
}

SRNC-RelocationInfo-v5b0ext-IEs ::= SEQUENCE {
    interRATCellInfoIndicator          InterRATCellInfoIndicator          OPTIONAL
}

SRNC-RelocationInfo-v5c0ext-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v5c0ext    UE-RadioAccessCapability-v5c0ext    OPTIONAL
}

SRNC-RelocationInfo-v650ext1-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v650ext    UE-RadioAccessCapability-v650ext    OPTIONAL,
    nonCriticalExtension                SEQUENCE {}
}

SRNC-RelocationInfo-v650ext2-IEs ::= SEQUENCE {
    ue-RadioAccessCapability-v650ext    UE-RadioAccessCapability-v650ext
}

CipheringInfoPerRB-List-v3a0ext ::= SEQUENCE {
    dl-UM-SN                            BIT STRING (SIZE (7))
}

CipheringStatusList ::=
    SEQUENCE (SIZE (1..maxCNdomains)) OF
        CipheringStatusCNdomain

CipheringStatusCNdomain ::=
    SEQUENCE {
        cn-DomainIdentity                CN-DomainIdentity,
        cipheringStatus                  CipheringStatus
    }

CodeChangeStatusList ::= SEQUENCE (SIZE (1..maxRL)) OF
    CodeChangeStatus

CodeChangeStatus ::= SEQUENCE {
    primaryCPICH-Info                    PrimaryCPICH-Info,
    scramblingCodeChange                  ScramblingCodeChange
}

StoredCompressedModeInfo ::= SEQUENCE {
    storedTGP-SequenceList              StoredTGP-SequenceList,
    codeChangeStatusList                CodeChangeStatusList    OPTIONAL
}

```

```

StoredTGP-SequenceList ::=          SEQUENCE (SIZE (1..maxTGPS)) OF
                                     StoredTGP-Sequence

StoredTGP-Sequence ::=              SEQUENCE {
    tgpsi                            TGPSI,
    current-tgps-Status              CHOICE {
        active                       SEQUENCE {
            tgcfn                    TGCFN
        },
        inactive                     NULL
    },
    tgps-ConfigurationParams        TGPS-ConfigurationParams        OPTIONAL
}

SRNC-RelocationInfo-r4-IEs ::=     SEQUENCE {
    -- Non-RRC IEs
    -- IE rb-IdentityForHOMessage includes the identity of the RB used by the source SRNC
    -- to send the message contained in the IE "TargetRNC-ToSourceRNC-Container".
    -- Only included if type is "UE involved"
    rb-IdentityForHOMessage          RB-Identity                    OPTIONAL,
    stateOfRRC                      StateOfRRC,
    stateOfRRC-Procedure             StateOfRRC-Procedure,
    -- Ciphering related information IEs
    cipheringStatusList             CipheringStatusList-r4,
    latestConfiguredCN-Domain       CN-DomainIdentity,
    calculationTimeForCiphering     CalculationTimeForCiphering    OPTIONAL,
    count-C-List                    COUNT-C-List                OPTIONAL,
    cipheringInfoPerRB-List         CipheringInfoPerRB-List-r4    OPTIONAL,
    -- Integrity protection related information IEs
    integrityProtectionStatus       IntegrityProtectionStatus,
    -- The target RNC may ignore the IE srb-SpecificIntegrityProtInfo if the
    -- IE integrityProtectionStatus has the value "not started".
    srb-SpecificIntegrityProtInfo   SRB-SpecificIntegrityProtInfoList,
    implementationSpecificParams     ImplementationSpecificParams    OPTIONAL,
    -- User equipment IEs
    u-RNTI                          U-RNTI,
    c-RNTI                          C-RNTI                            OPTIONAL,
    ue-RadioAccessCapability        UE-RadioAccessCapability-r4,
    ue-RadioAccessCapability-ext    UE-RadioAccessCapabBandFDDList  OPTIONAL,
    ue-Positioning-LastKnownPos     UE-Positioning-LastKnownPos      OPTIONAL,
    uESpecificBehaviourInformationIdle UESpecificBehaviourInformationIdle OPTIONAL,
    uESpecificBehaviourInformationInterRAT UESpecificBehaviourInformationInterRAT
OPTIONAL,
    -- Other IEs
    ue-RATSpecificCapability        InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                    URA-Identity                    OPTIONAL,
    -- Core network IEs
    cn-CommonGSM-MAP-NAS-SysInfo    NAS-SystemInformationGSM-MAP,
    cn-DomainInformationList        CN-DomainInformationListFull      OPTIONAL,
    -- Measurement IEs
    ongoingMeasRepList              OngoingMeasRepList-r4            OPTIONAL,
    -- Radio bearer IEs
    predefinedConfigStatusList       PredefinedConfigStatusList,
    srb-InformationList              SRB-InformationSetupList,
    rab-InformationList              RAB-InformationSetupList-r4      OPTIONAL,
    -- Transport channel IEs
    ul-CommonTransChInfo            UL-CommonTransChInfo-r4          OPTIONAL,
    ul-TransChInfoList              UL-AddReconfTransChInfoList      OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                          SEQUENCE {
            cpch-SetID                CPCH-SetID                      OPTIONAL,
            transChDRAC-Info          DRAC-StaticInformationList    OPTIONAL
        },
        tdd                          NULL
    }
    dl-CommonTransChInfo            DL-CommonTransChInfo-r4          OPTIONAL,
    dl-TransChInfoList              DL-AddReconfTransChInfoList-r4    OPTIONAL,
    -- Measurement report
    measurementReport                MeasurementReport                  OPTIONAL,
    failureCause                    FailureCauseWithProtErr           OPTIONAL
}

SRNC-RelocationInfo-r5-IEs ::=     SEQUENCE {
    -- Non-RRC IEs
    -- IE rb-IdentityForHOMessage includes the identity of the RB used by the source SRNC
    -- to send the message contained in the IE "TargetRNC-ToSourceRNC-Container".

```



```

-- Only included if type is "UE involved"
rb-IdentityForHOMessage      RB-Identity      OPTIONAL,
stateOfRRC                  StateOfRRC,
stateOfRRC-Procedure        StateOfRRC-Procedure,
-- Ciphering related information IEs
cipheringStatusList         CipheringStatusList-r4,
latestConfiguredCN-Domain   CN-DomainIdentity,
calculationTimeForCiphering CalculationTimeForCiphering  OPTIONAL,
count-C-List                COUNT-C-List      OPTIONAL,
cipheringInfoPerRB-List     CipheringInfoPerRB-List-r4  OPTIONAL,
-- Integrity protection related information IEs
integrityProtectionStatus   IntegrityProtectionStatus,
srb-SpecificIntegrityProtInfo SRB-SpecificIntegrityProtInfoList  OPTIONAL,
implementationSpecificParams ImplementationSpecificParams  OPTIONAL,
-- User equipment IEs
u-RNTI                      U-RNTI,
c-RNTI                      C-RNTI      OPTIONAL,
ue-RadioAccessCapability    UE-RadioAccessCapability-r5,
ue-RadioAccessCapability-ext UE-RadioAccessCapabBandFDDList  OPTIONAL,
ue-Positioning-LastKnownPos UE-Positioning-LastKnownPos  OPTIONAL,
uESpecificBehaviourInformationlidle  UESpecificBehaviourInformationlidle  OPTIONAL,
uESpecificBehaviourInformationlinterRAT  UESpecificBehaviourInformationlinterRAT  OPTIONAL,
-- Other IEs
ue-RATSpecificCapability    InterRAT-UE-RadioAccessCapabilityList-r5  OPTIONAL,
-- UTRAN mobility IEs
ura-Identity                URA-Identity      OPTIONAL,
-- Core network IEs
cn-CommonGSM-MAP-NAS-SysInfo NAS-SystemInformationGSM-MAP,
cn-DomainInformationList    CN-DomainInformationListFull  OPTIONAL,
-- Measurement IEs
ongoingMeasRepList         OngoingMeasRepList-r5      OPTIONAL,
-- Radio bearer IEs
predefinedConfigStatusList  PredefinedConfigStatusList,
srb-InformationList         SRB-InformationSetupList-r5,
rab-InformationList         RAB-InformationSetupList-r5  OPTIONAL,
-- Transport channel IEs
ul-CommonTransChInfo        UL-CommonTransChInfo-r4      OPTIONAL,
ul-TransChInfoList          UL-AddReconfTransChInfoList  OPTIONAL,
modeSpecificInfo            CHOICE {
    fdd                      SEQUENCE {
        cpch-SetID           CPCH-SetID      OPTIONAL,
        transChDRAC-Info     DRAC-StaticInformationList  OPTIONAL,
    },
    tdd                      NULL
}
dl-CommonTransChInfo        DL-CommonTransChInfo-r4      OPTIONAL,
dl-TransChInfoList          DL-AddReconfTransChInfoList-r5  OPTIONAL,
-- PhyCH IEs
tpc-CombinationInfoList     TPC-CombinationInfoList     OPTIONAL,
-- Measurement report
measurementReport           MeasurementReport            OPTIONAL,
-- Other IEs
failureCause                FailureCauseWithProtErr      OPTIONAL
}

SRNC-RelocationInfo-v6xyext-IEs ::= SEQUENCE {
-- Radio bearer IEs
rab-InformationSetupList     RAB-InformationSetupList-r6-ext  OPTIONAL,
-- MBMS IEs
mbms-JoinedInformation       MBMS-JoinedInformation-r6      OPTIONAL
}

SRNC-RelocationInfo-r6-IEs ::= SEQUENCE {
-- Non-RRC IEs
-- IE rb-IdentityForHOMessage includes the identity of the RB used by the source SRNC
-- to send the message contained in the IE "TargetRNC-ToSourceRNC-Container".
-- Only included if type is "UE involved"
rb-IdentityForHOMessage      RB-Identity      OPTIONAL,
stateOfRRC                  StateOfRRC,
stateOfRRC-Procedure        StateOfRRC-Procedure,
-- Ciphering related information IEs
cipheringStatusList         CipheringStatusList-r4,
latestConfiguredCN-Domain   CN-DomainIdentity,
calculationTimeForCiphering CalculationTimeForCiphering  OPTIONAL,
count-C-List                COUNT-C-List      OPTIONAL,
cipheringInfoPerRB-List     CipheringInfoPerRB-List-r4  OPTIONAL,

```

```

-- Integrity protection related information IEs
  integrityProtectionStatus      IntegrityProtectionStatus,
  srb-SpecificIntegrityProtInfo  SRB-SpecificIntegrityProtInfoList  OPTIONAL,
  implementationSpecificParams  ImplementationSpecificParams      OPTIONAL,
-- User equipment IEs
  u-RNTI                          U-RNTI,
  c-RNTI                          C-RNTI                                OPTIONAL,
  ue-RadioAccessCapability        UE-RadioAccessCapability-#5r6,
  ue-RadioAccessCapability-ext    UE-RadioAccessCapabBandFDDList-r6  OPTIONAL,
  ue-Positioning-LastKnownPos    UE-Positioning-LastKnownPos        OPTIONAL,
  uESpecificBehaviourInformationlidle
  uESpecificBehaviourInformationlidle  OPTIONAL,
  uESpecificBehaviourInformationlinterRAT
  uESpecificBehaviourInformationlinterRAT  OPTIONAL,
-- Other IEs
  ue-RATSpecificCapability        InterRAT-UE-RadioAccessCapabilityList-r5  OPTIONAL,
-- UTRAN mobility IEs
  ura-Identity                    URA-Identity                            OPTIONAL,
-- Core network IEs
  cn-CommonGSM-MAP-NAS-SysInfo   NAS-SystemInformationGSM-MAP,
  cn-DomainInformationList       CN-DomainInformationListFull          OPTIONAL,
-- Measurement IEs
  ongoingMeasRepList             OngoingMeasRepList-r5                OPTIONAL,
  interRATCellInfoIndicator      InterRATCellInfoIndicator            OPTIONAL,
-- Radio bearer IEs
  predefinedConfigStatusList     PredefinedConfigStatusList,
  srb-InformationList            SRB-InformationSetupList-r6,
  rab-InformationList            RAB-InformationSetupList-r6          OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo          UL-CommonTransChInfo-r4              OPTIONAL,
  ul-TransChInfoList            UL-AddReconfTransChInfoList-r6      OPTIONAL,
  modeSpecificInfo              CHOICE {
    fdd                          SEQUENCE {
      cpch-SetID                CPCH-SetID                          OPTIONAL,
      transChDRAC-Info          DRAC-StaticInformationList        OPTIONAL
    },
    tdd                          NULL
  }
  dl-CommonTransChInfo          DL-CommonTransChInfo-r4              OPTIONAL,
  dl-TransChInfoList            DL-AddReconfTransChInfoList-r5      OPTIONAL,
-- PhyCH IEs
  tpc-CombinationInfoList       TPC-CombinationInfoList             OPTIONAL,
  storedCompressedModeInfo      StoredCompressedModeInfo             OPTIONAL,
-- Measurement report
  measurementReport             MeasurementReport                    OPTIONAL,
-- Other IEs
  failureCause                  FailureCauseWithProtErr              OPTIONAL,
-- MBMS IEs
  mbms-JoinedInformation        MBMS-JoinedInformation-r6           OPTIONAL
}

-- IE definitions

CalculationTimeForCiphering ::= SEQUENCE {
  cell-Id      CellIdentity,
  sfn          INTEGER (0..4095)
}

CipheringInfoPerRB ::= SEQUENCE {
  dl-HFN      BIT STRING (SIZE (20..25)),
  ul-HFN      BIT STRING (SIZE (20..25))
}

CipheringInfoPerRB-r4 ::= SEQUENCE {
  rb-Identity  RB-Identity,
  dl-HFN      BIT STRING (SIZE (20..25)),
  dl-UM-SN    BIT STRING (SIZE (7))          OPTIONAL,
  ul-HFN      BIT STRING (SIZE (20..25))
}

-- TABULAR: CipheringInfoPerRB-List, multiplicity value numberOfRadioBearers
-- has been replaced with maxRB.
CipheringInfoPerRB-List ::= SEQUENCE (SIZE (1..maxRB)) OF
  CipheringInfoPerRB

CipheringInfoPerRB-List-r4 ::= SEQUENCE (SIZE (1..maxRB)) OF
  CipheringInfoPerRB-r4

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CipheringStatus ::=          ENUMERATED {
                                started, notStarted }

CipheringStatusList-r4 ::=   SEQUENCE (SIZE (1..maxCNdomains)) OF
                                CipheringStatusCNdomain-r4

CipheringStatusCNdomain-r4 ::= SEQUENCE {
                                cn-DomainIdentity      CN-DomainIdentity,
                                cipheringStatus        CipheringStatus,
                                start-Value            START-Value
                            }

CN-DomainInformation-v390ext ::= SEQUENCE {
                                cn-DRX-CycleLengthCoeff  CN-DRX-CycleLengthCoefficient
                            }

CN-DomainInformationList-v390ext ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
                                CN-DomainInformation-v390ext

CompressedModeMeasCapability-r4 ::= SEQUENCE {
                                fdd-Measurements          BOOLEAN,
                                -- TABULAR: The IEs tdd-Measurements, gsm-Measurements and multiCarrierMeasurements
                                -- are made optional since they are conditional based on another information element.
                                -- Their absence corresponds to the case where the condition is not true.
                                tdd384-Measurements        BOOLEAN                                OPTIONAL,
                                tdd128-Measurements        BOOLEAN                                OPTIONAL,
                                gsm-Measurements            GSM-Measurements                    OPTIONAL,
                                multiCarrierMeasurements    BOOLEAN                                OPTIONAL
                            }

COUNT-C-List ::=            SEQUENCE (SIZE (1..maxCNdomains)) OF
                                COUNT-C-List

COUNT-C-List ::=           SEQUENCE {
                                cn-DomainIdentity          CN-DomainIdentity,
                                count-C                    BIT STRING (SIZE (32))
                            }

DL-PhysChCapabilityFDD-r4 ::= SEQUENCE {
                                maxNoDPCH-PDSCH-Codes      INTEGER (1..8),
                                maxNoPhysChBitsReceived     MaxNoPhysChBitsReceived,
                                supportForSF-512            BOOLEAN,
                                supportOfPDSCH              BOOLEAN,
                                simultaneousSCCPCH-DPCH-Reception SimultaneousSCCPCH-DPCH-Reception,
                                supportOfDedicatedPilotsForChEstimation SupportOfDedicatedPilotsForChEstimation OPTIONAL
                            }

DL-PhysChCapabilityFDD-r5 ::= SEQUENCE {
                                maxNoDPCH-PDSCH-Codes      INTEGER (1..8),
                                maxNoPhysChBitsReceived     MaxNoPhysChBitsReceived,
                                supportForSF-512            BOOLEAN,
                                supportOfPDSCH              BOOLEAN,
                                simultaneousSCCPCH-DPCH-Reception SimultaneousSCCPCH-DPCH-Reception,
                                supportOfDedicatedPilotsForChEstimation SupportOfDedicatedPilotsForChEstimation OPTIONAL,
                                fdd-hspdsch                 CHOICE {
                                    supported                SEQUENCE {
                                        hsdSCH-physical-layer-category HSDSCH-physical-layer-category,
                                        supportOfDedicatedPilotsForChannelEstimationOfHSDSCH BOOLEAN,
                                        -- simultaneousSCCPCH-DPCH-HSDSCH-Reception shall be true only if the
                                        -- IE SimultaneousSCCPCH-DPCH-Reception indicates support of simultaneous
                                        -- reception of S-CCPCH and DPCH
                                        simultaneousSCCPCH-DPCH-HSDSCH-Reception BOOLEAN
                                    },
                                    unsupported                NULL
                                }
                            }

DL-PhysChCapabilityTDD-r5 ::= SEQUENCE {
                                maxTS-PerFrame              MaxTS-PerFrame,
                                maxPhysChPerFrame           MaxPhysChPerFrame,
                                minimumSF                  MinimumSF-DL,
                                supportOfPDSCH              BOOLEAN,
                                maxPhysChPerTS             MaxPhysChPerTS,
                                tdd384-hspdsch             CHOICE {
                                    supported                HSDSCH-physical-layer-category,
                                    unsupported                NULL
                                }
                            }

```

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}

DL-PhysChCapabilityTDD-LCR-r5 ::= SEQUENCE {
    maxTS-PerSubFrame          MaxTS-PerSubFrame-r4,
    maxPhysChPerFrame          MaxPhysChPerSubFrame-r4,
    minimumSF                  MinimumSF-DL,
    supportOfPDSCH              BOOLEAN,
    maxPhysChPerTS              MaxPhysChPerTS,
    supportOf8PSK               BOOLEAN,
    tdd128-hspdsch              CHOICE {
        supported                HSDSCH-physical-layer-category,
        unsupported              NULL
    }
}

DL-RFC3095-Context ::= SEQUENCE {
    rfc3095-Context-Identity    INTEGER (0..16383),
    dl-mode                     ENUMERATED {u, o, r},
    dl-ref-ir                    OCTET STRING ( SIZE (1..3000)),
    dl-ref-time                  INTEGER (0..4294967295)    OPTIONAL,
    dl-curr-time                 INTEGER (0..4294967295)    OPTIONAL,
    dl-syn-offset-id            INTEGER (0..65535)          OPTIONAL,
    dl-syn-slope-ts             INTEGER (0..4294967295)    OPTIONAL,
    dl-dyn-changed              BOOLEAN
}

ImplementationSpecificParams ::= BIT STRING (SIZE (1..512))

IntegrityProtectionStatus ::= ENUMERATED {
    started, notStarted }

InterRAT-UE-RadioAccessCapabilityList-r5 ::= SEQUENCE {
    interRAT-UE-RadioAccessCapability  InterRAT-UE-RadioAccessCapabilityList,
    geranIu-RadioAccessCapability      GERANIu-RadioAccessCapability          OPTIONAL
}

-- dummy is not used in this version of the specification, it should
-- not be sent and if received it should be ignored.
MaxHcContextSpace-r5 ::= ENUMERATED {
    dummy, by1024, by2048, by4096, by8192,
    by16384, by32768, by65536, by131072 }

MeasurementCapability-r4 ::= SEQUENCE {
    downlinkCompressedMode  CompressedModeMeasCapability-r4,
    uplinkCompressedMode    CompressedModeMeasCapability-r4
}

MeasurementCommandWithType ::= CHOICE {
    setup      MeasurementType,
    modify     NULL,
    release    NULL
}

MeasurementCommandWithType-r4 ::= CHOICE {
    setup      MeasurementType-r4,
    modify     NULL,
    release    NULL
}

OngoingMeasRep ::= SEQUENCE {
    measurementIdentity      MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType
    measurementCommandWithType  MeasurementCommandWithType,
    measurementReportingMode     MeasurementReportingMode          OPTIONAL,
    additionalMeasurementID-List AdditionalMeasurementID-List        OPTIONAL
}

OngoingMeasRep-r4 ::= SEQUENCE {
    measurementIdentity      MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType-r4.
    measurementCommandWithType  MeasurementCommandWithType-r4,
    measurementReportingMode     MeasurementReportingMode          OPTIONAL,
    additionalMeasurementID-List AdditionalMeasurementID-List        OPTIONAL
}

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OngoingMeasRep-r5 ::=                               SEQUENCE {
    measurementIdentity                               MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType-r4.
    measurementCommandWithType                       MeasurementCommandWithType-r4,
    measurementReportingMode                         MeasurementReportingMode           OPTIONAL,
    additionalMeasurementID-List                     AdditionalMeasurementID-List     OPTIONAL,
    measurementCommand-v590ext                       CHOICE {
        -- the choice "intra-frequency" shall be used for the case of intra-frequency measurement,
        -- as well as when intra-frequency events are configured for inter-frequency measurement
        intra-frequency                               Intra-FreqEventCriteriaList-v590ext,
        inter-frequency                               Inter-FreqEventCriteriaList-v590ext
    }
    OPTIONAL,
    intraFreqReportingCriteria-lb-r5                 IntraFreqReportingCriteria-lb-r5  OPTIONAL,
    intraFreqEvent-ld-r5                             IntraFreqEvent-ld-r5             OPTIONAL
}

OngoingMeasRepList ::=                             SEQUENCE (SIZE (1..maxNoOfMeas)) OF
    OngoingMeasRep

OngoingMeasRepList-r4 ::=                           SEQUENCE (SIZE (1..maxNoOfMeas)) OF
    OngoingMeasRep-r4

OngoingMeasRepList-r5 ::=                           SEQUENCE (SIZE (1..maxNoOfMeas)) OF
    OngoingMeasRep-r5

PDCP-Capability-r4 ::=                             SEQUENCE {
    losslessSRNS-RelocationSupport                   BOOLEAN,
    supportForRfc2507                                CHOICE {
        notSupported                                NULL,
        supported                                  MaxHcContextSpace
    },
    supportForRfc3095                                CHOICE {
        notSupported                                NULL,
        supported                                  SEQUENCE {
            maxROHC-ContextSessions                 MaxROHC-ContextSessions-r4  DEFAULT s16,
            reverseCompressionDepth                 INTEGER (0..65535)          DEFAULT 0
        }
    }
}

PDCP-Capability-r5 ::=                             SEQUENCE {
    losslessSRNS-RelocationSupport                   BOOLEAN,
    supportForRfc2507                                CHOICE {
        notSupported                                NULL,
        supported                                  MaxHcContextSpace-r5
    },
    supportForRfc3095                                CHOICE {
        notSupported                                NULL,
        supported                                  SEQUENCE {
            maxROHC-ContextSessions                 MaxROHC-ContextSessions-r4  DEFAULT s16,
            reverseCompressionDepth                 INTEGER (0..65535)          DEFAULT 0,
            supportForRfc3095ContextRelocation     BOOLEAN
        }
    }
}

PDCP-Capability-r6 ::=                             SEQUENCE {
    losslessSRNS-RelocationSupport                   BOOLEAN,
    losslessDLRLC-PDUSizeChange                     ENUMERATED { true }          OPTIONAL,
    supportForRfc2507                                CHOICE {
        notSupported                                NULL,
        supported                                  MaxHcContextSpace-r5
    },
    supportForRfc3095                                CHOICE {
        notSupported                                NULL,
        supported                                  SEQUENCE {
            maxROHC-ContextSessions                 MaxROHC-ContextSessions-r4  DEFAULT s16,
            reverseCompressionDepth                 INTEGER (0..65535)          DEFAULT 0,
            supportForRfc3095ContextRelocation     BOOLEAN
        }
    }
}

PhysicalChannelCapability-r4 ::=                     SEQUENCE {
    fddPhysChCapability                               SEQUENCE {
        downlinkPhysChCapability                   DL-PhysChCapabilityFDD-r4,
        uplinkPhysChCapability                     UL-PhysChCapabilityFDD
    }
}

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    }
    tdd384-PhysChCapability          SEQUENCE {
        downlinkPhysChCapability    DL-PhysChCapabilityTDD,
        uplinkPhysChCapability      UL-PhysChCapabilityTDD
    }
    tdd128-PhysChCapability          SEQUENCE {
        downlinkPhysChCapability    DL-PhysChCapabilityTDD-LCR-r4,
        uplinkPhysChCapability      UL-PhysChCapabilityTDD-LCR-r4
    }
}

PhysicalChannelCapability-r5 ::= SEQUENCE {
    fddPhysChCapability            SEQUENCE {
        downlinkPhysChCapability    DL-PhysChCapabilityFDD-r5,
        uplinkPhysChCapability      UL-PhysChCapabilityFDD
    }
    tdd384-PhysChCapability        SEQUENCE {
        downlinkPhysChCapability    DL-PhysChCapabilityTDD-r5,
        uplinkPhysChCapability      UL-PhysChCapabilityTDD
    }
    tdd128-PhysChCapability        SEQUENCE {
        downlinkPhysChCapability    DL-PhysChCapabilityTDD-LCR-r5,
        uplinkPhysChCapability      UL-PhysChCapabilityTDD-LCR-r4
    }
}

RF-Capability-r4 ::= SEQUENCE {
    fddRF-Capability              SEQUENCE {
        ue-PowerClass              UE-PowerClassExt,
        txRxFrequencySeparation    TxRxFrequencySeparation
    }
    tdd384-RF-Capability          SEQUENCE {
        ue-PowerClass              UE-PowerClassExt,
        radioFrequencyBandTDDList  RadioFrequencyBandTDDList,
        chipRateCapability          ChipRateCapability
    }
    tdd128-RF-Capability          SEQUENCE {
        ue-PowerClass              UE-PowerClassExt,
        radioFrequencyBandTDDList  RadioFrequencyBandTDDList,
        chipRateCapability          ChipRateCapability
    }
}

RFC3095-ContextInfo ::= SEQUENCE {
    rb-Identity                    RB-Identity,
    rfc3095-Context-List          RFC3095-Context-List
}

RFC3095-Context-List ::= SEQUENCE (SIZE (1..maxRFC3095-CID)) OF SEQUENCE {
    dl-RFC3095-Context            DL-RFC3095-Context    OPTIONAL,
    ul-RFC3095-Context            UL-RFC3095-Context    OPTIONAL
}

RLC-Capability-r5 ::= SEQUENCE {
    totalRLC-AM-BufferSize        TotalRLC-AM-BufferSize-r5,
    maximumRLC-WindowSize        MaximumRLC-WindowSize,
    maximumAM-EntityNumber        MaximumAM-EntityNumberRLC-Cap
}

SRB-SpecificIntegrityProtInfo ::= SEQUENCE {
    ul-RRC-HFN                    BIT STRING (SIZE (28)),
    dl-RRC-HFN                    BIT STRING (SIZE (28)),
    ul-RRC-SequenceNumber        RRC-MessageSequenceNumber,
    dl-RRC-SequenceNumber        RRC-MessageSequenceNumber
}

SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
SRB-SpecificIntegrityProtInfo

StateOfRRC ::= ENUMERATED {
    cell-DCH, cell-FACH,
    cell-PCH, ura-PCH }

StateOfRRC-Procedure ::= ENUMERATED {
    awaitNoRRC-Message,
    awaitRB-ReleaseComplete,
    awaitRB-SetupComplete,
    awaitRB-ReconfigurationComplete,
}

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        awaitTransportCH-ReconfigurationComplete,
        awaitPhysicalCH-ReconfigurationComplete,
        awaitActiveSetUpdateComplete,
        awaitHandoverComplete,
        sendCellUpdateConfirm,
        sendUraUpdateConfirm,
        -- dummy is not used in this version of specification
        -- It should not be sent
        dummy,
        otherStates
    }
}

TotalRLC-AM-BufferSize-r5 ::= ENUMERATED {
    kb10, kb50, kb100, kb150, kb200,
    kb300, kb400, kb500, kb750, kb1000 }

TPC-Combination-Info ::= SEQUENCE {
    primaryCPICH-Info          PrimaryCPICH-Info,
    tpc-CombinationIndex      TPC-CombinationIndex
}

UE-MultiModeRAT-Capability-r5 ::= SEQUENCE {
    multiRAT-CapabilityList    MultiRAT-Capability,
    multiModeCapability        MultiModeCapability,
    supportOfUTRAN-ToGERAN-NACC BOOLEAN
}

UE-Positioning-Capability-r4 ::= SEQUENCE {
    standaloneLocMethodsSupported    BOOLEAN,
    ue-BasedOTDOA-Supported          BOOLEAN,
    networkAssistedGPS-Supported     NetworkAssistedGPS-Supported,
    supportForUE-GPS-TimingOfCellFrames    BOOLEAN,
    supportForIPDL                   BOOLEAN,
    rx-tx-TimeDifferenceType2Capable    BOOLEAN,
    validity-CellPCH-UraPCH           ENUMERATED { true }    OPTIONAL,
    sfn-sfnType2Capability            ENUMERATED { true }    OPTIONAL
}

UE-Positioning-LastKnownPos ::= SEQUENCE {
    sfn                INTEGER (0..4095),
    cell-id            CellIdentity,
    positionEstimate  PositionEstimate
}

UE-RadioAccessCapability-r4 ::= SEQUENCE {
    accessStratumReleaseIndicator    AccessStratumReleaseIndicator,
    pdcp-Capability                 PDCP-Capability-r4,
    rlc-Capability                  RLC-Capability,
    transportChannelCapability       TransportChannelCapability,
    rf-Capability                   RF-Capability-r4,
    physicalChannelCapability        PhysicalChannelCapability-r4,
    ue-MultiModeRAT-Capability      UE-MultiModeRAT-Capability,
    securityCapability              SecurityCapability,
    ue-positioning-Capability        UE-Positioning-Capability-r4,
    measurementCapability            MeasurementCapability-r4    OPTIONAL
}

UE-RadioAccessCapability-r5 ::= SEQUENCE {
    accessStratumReleaseIndicator    AccessStratumReleaseIndicator,
    dl-CapabilityWithSimultaneousHS-DSCHConfig
        DL-CapabilityWithSimultaneousHS-DSCHConfig    OPTIONAL,
    pdcp-Capability                 PDCP-Capability-r5,
    rlc-Capability                  RLC-Capability-r5,
    transportChannelCapability       TransportChannelCapability,
    rf-Capability                   RF-Capability-r4,
    physicalChannelCapability        PhysicalChannelCapability-r5,
    ue-MultiModeRAT-Capability      UE-MultiModeRAT-Capability-r5,
    securityCapability              SecurityCapability,
    ue-positioning-Capability        UE-Positioning-Capability-r4,
    measurementCapability            MeasurementCapability-r4    OPTIONAL
}

UE-RadioAccessCapability-r6 ::= SEQUENCE {
    accessStratumReleaseIndicator    AccessStratumReleaseIndicator,
    dl-CapabilityWithSimultaneousHS-DSCHConfig
        DL-CapabilityWithSimultaneousHS-DSCHConfig    OPTIONAL,
    pdcp-Capability                 PDCP-Capability-r6,
    rlc-Capability                  RLC-Capability-r5,

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transportChannelCapability      TransportChannelCapability,
rf-Capability                  RF-Capability-r4,
physicalChannelCapability      PhysicalChannelCapability-r5,
ue-MultiModeRAT-Capability    UE-MultiModeRAT-Capability-r5,
securityCapability             SecurityCapability,
ue-positioning-Capability      UE-Positioning-Capability-r4,
measurementCapability          MeasurementCapability-r4      OPTIONAL
}

UE-RadioAccessCapabBandFDDList-r6 ::= SEQUENCE {
ue-RadioAccessCapability-ext    UE-RadioAccessCapabBandFDDList,
ue-RadioAccessCapabBandFDDList2 UE-RadioAccessCapabBandFDDList2,
-- IE 'ue-RadioAccessCapabBandFDDList-ext' shall be included if the UE supports Band I-VII
ue-RadioAccessCapabBandFDDList-ext UE-RadioAccessCapabBandFDDList-ext OPTIONAL
}

UL-RFC3095-Context ::=
rfc3095-Context-Identity      INTEGER (0..16383),
ul-mode                       ENUMERATED {u, o, r},
ul-ref-ir                     OCTET STRING ( SIZE (1..3000)),
ul-ref-time                   INTEGER (0..4294967295)      OPTIONAL,
ul-curr-time                  INTEGER (0..4294967295)      OPTIONAL,
ul-syn-offset-id              INTEGER (0..65535)           OPTIONAL,
ul-syn-slope-ts               INTEGER (0..4294967295)      OPTIONAL,
ul-ref-sn-1                   INTEGER (0..65535)           OPTIONAL
}

END

```