

CHANGE REQUEST

⌘ **TS 25.331 CR 2539** ⌘ rev **-** ⌘ Current version: **6.4.0** ⌘

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:	⌘ Faster L1 DCH synchronization		
Source:	⌘ Ericsson		
Work item code:	⌘ TEI6	Date:	⌘ February 2005
Category:	⌘ B	Release:	⌘ Rel-6
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p><i>Ph2</i> (GSM Phase 2)</p> <p><i>R96</i> (Release 1996)</p> <p><i>R97</i> (Release 1997)</p> <p><i>R98</i> (Release 1998)</p> <p><i>R99</i> (Release 1999)</p> <p><i>Rel-4</i> (Release 4)</p> <p><i>Rel-5</i> (Release 5)</p> <p><i>Rel-6</i> (Release 6)</p> <p><i>Rel-7</i> (Release 7)</p>

Reason for change:	⌘ In many cases L1 DCH synchronization is unnecessarily delayed by a 40ms DL DPCCH quality check.
Summary of change:	<p>⌘ A faster DCH synchronization is defined, where the 40ms DL quality check is omitted, but a 40ms post-verification period is introduced to ensure stable system operation. The choice whether or not to use the 40ms DL quality check (and the post-verification) is under control of the UTRAN.</p> <p>In section 8.5.4 with the faster DCH synchronization there is a distinction made between physical channel establishment at layer 1 (leading to that the UE TX is started) and physical channel establishment at layer 3 (leading to that the UE complete message is transmitted).</p> <p>The IE is included in which will make this possible with the following RRC messages: CELL UPDATE CONFIRM, HANDOVER TO UTRAN COMMAND, PHYSICAL CHANNEL RECONFIGURATION, RADIO BEARER RECONFIGURATION, RADIO BEARER RELEASE, RADIO BEARER SETUP, RRC CONNECTION SETUP and TRANSPORT CHANNEL RECONFIGURATION.</p>
Consequences if not approved:	⌘ In many cases L1 DCH synchronization is unnecessarily delayed by a 40ms DL DPCCH quality check.

Clauses affected:	⌘ 8.5.4, 10.3.6.24, 11.2		
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">Y</td> <td style="padding: 2px 5px;">N</td> </tr> </table>	Y	N
Y	N		

Other specs affected:	<input checked="" type="checkbox"/>	Other core specifications	<input checked="" type="checkbox"/> 25.214
	<input checked="" type="checkbox"/>	Test specifications	
	<input checked="" type="checkbox"/>	O&M Specifications	
Other comments:	<input checked="" type="checkbox"/>	Note: Most of the modified messages in this CR are likely to have r6 critical extensions due to the introduction of E-DCH. In those cases, the new information should be included in the r6 critical extension. It's an open issue if the corresponding NCEs should be removed in those cases.	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.5.4 Physical channel establishment criteria

When a physical dedicated channel establishment is initiated by the UE, the UE shall:

start a timer T312:

if the IE "Post-verification period" is set to FALSE the UE shall:

1> ~~start a timer T312 and~~ wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established at layer 1 and layer 3 and the timer T312 is stopped and reset.

1> ~~if~~ the timer T312 expires before the physical channel is established, ~~the UE shall~~ consider this as a "physical channel failure".

if the IE "Post-verification period" is set to TRUE the UE shall:

1> indicate to layer 1 that the physical channel is established:

1> still consider the physical channel as not being established at layer 3:

1> if after 40 ms no post verification failure is indicated from lower layers:

2> consider the physical channel to be established at layer 3.

1> if after 40 ms a post verification failure is indicated from lower layers:

2> wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established at layer 3 and the timer T312 is stopped and reset:

2> if the timer T312 expires before the physical channel is established at layer 3, consider the physical channel as not being established at layer 1, and consider this as a "physical channel failure".

NOTE: The criteria defined in this subclause only apply in case the UE performs synchronisation procedure A (FDD only).

Not included sections

8.5.6 Radio link failure criteria and actions upon radio link failure

In CELL_DCH State, after receiving N313 consecutive "out of sync" indications from layer 1 for the established DPCH physical channel in FDD, and the DPCH associated with mapped DCCHs in TDD, the UE shall:

1> start timer T313;

1> upon receiving N315 successive "in sync" indications from layer 1 and upon change of UE state:

2> stop and reset timer T313.

1> if T313 expires:

2> consider it as a "Radio link failure".

Periods in time where neither "in sync" nor "out of sync" is reported by layer 1 do not affect the evaluation of the number of consecutive (resp. successive) "in sync" or "out of sync" indications.

When a radio link failure occurs, the UE shall:

1> clear the dedicated physical channel configuration;

1> perform actions as specified for the ongoing procedure;

1> if no procedure is ongoing or no actions are specified for the ongoing procedure:

2> perform a cell update procedure according to subclause 8.3.1 using the cause "radio link failure".

Not included sections

10.3.6.24 Downlink information common for all radio links

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Downlink DPCH info common for all RL	OP		Downlink DPCH info common for all RL 10.3.6.18		
CHOICE <i>mode</i>	MP				
>FDD					
>>DPCH compressed mode info	OP		DPCH compressed mode info 10.3.6.33		
>>TX Diversity Mode	MD		TX Diversity Mode 10.3.6.86	Default value is the existing value of TX Diversity mode	
>>SSDT information	OP		SSDT information 10.3.6.77		
>TDD				(no data)	
>>CHOICE <i>TDD option</i>	MP				REL-4
>>>3.84 Mcps TDD				(no data)	REL-4
>>>1.28 Mcps TDD					REL-4
>>>>TSTD indicator	MP		TSTD indicator 10.3.6.85a		REL-4
Default DPCH Offset Value	OP		Default DPCH Offset Value, 10.3.6.16		
MAC-hs reset indicator	CV- <i>messageType</i>		Enumerated (true)	TRUE Indicates the MAC-hs entity needs to be reset.	REL-5
Post-verification period	OP		Enumerated (true)	TRUE indicates that a post-verification period shall be used [29]. Absence of this element means that a post-verification period shall not be used.	REL-6

Condition	Explanation
<i>MessageType</i>	The IE is not needed in the HANDOVER TO UTRAN COMMAND and the RRC CONNECTION SETUP messages. Otherwise, it is optional.

Not included sections

11.2 PDU definitions

Not included parts of this section

```

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

CellUpdateConfirm ::= CHOICE {
  r3
    SEQUENCE {
      cellUpdateConfirm-r3          CellUpdateConfirm-r3-IEs,
      v3a0NonCriticalExtensions     SEQUENCE {
        cellUpdateConfirm-v3a0ext   CellUpdateConfirm-v3a0ext,
        laterNonCriticalExtensions  SEQUENCE {
          -- Container for additional R99 extensions
          cellUpdateConfirm-r3-add-ext BIT STRING OPTIONAL,
          v4b0NonCriticalExtensions   SEQUENCE {
            cellUpdateConfirm-v4b0ext CellUpdateConfirm-v4b0ext-IEs,
            v590NonCriticalExtensstions SEQUENCE {
              cellUpdateConfirm-v590ext CellUpdateConfirm-v590ext-IEs,
              v6xyNonCriticalExtensions SEQUENCE {
                cellUpdateConfirm-v6xyext CellUpdateConfirm-v6xyext-IEs,
                nonCriticalExtensions    SEQUENCE {} OPTIONAL
              } OPTIONAL
            } OPTIONAL
          } OPTIONAL
        } OPTIONAL
      } OPTIONAL
    } OPTIONAL
  },
  later-than-r3
    SEQUENCE {
      rrc-TransactionIdentifier      RRC-TransactionIdentifier,
      criticalExtensions             CHOICE {
        r4
          SEQUENCE {
            cellUpdateConfirm-r4      CellUpdateConfirm-r4-IEs,
            v4d0NonCriticalExtensions SEQUENCE {
              -- Container for adding non critical extensions after freezing REL-5
              cellUpdateConfirm-r4-add-ext BIT STRING OPTIONAL,
              v590NonCriticalExtensstions 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,
              -- Container for adding non critical extensions after freezing REL-6
              cellUpdateConfirm-r5-add-ext BIT STRING OPTIONAL,
              v6xyNonCriticalExtensions SEQUENCE {
                cellUpdateConfirm-v6xyext CellUpdateConfirm-v6xyext-IEs,
                nonCriticalExtensions    SEQUENCE {} OPTIONAL
              } OPTIONAL
            }
          },
          criticalExtensions             SEQUENCE {}
        }
      }
    }
  }
}

CellUpdateConfirm-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,
  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     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
}

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-v6xyext-IEs ::= SEQUENCE {
  -- Physical channel IEs
  harq-Preamble-Mode        HARQ-Preamble-Mode          OPTIONAL,
  postVerificationPeriod    ENUMERATED { true }          OPTIONAL,
  -- MBMS IEs
  mbms-FLCApPLICABILITYInfo MBMS-FLCApPLICABILITYInfo-r6
}

-- *****
--
-- 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
    } 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      SEQUENCE {}
    }
  }
}

```

}

Not included parts of this section

```
-- *****
--
-- HANOVER TO UTRAN COMMAND
--
-- *****

HandoverToUTRANCommand ::= CHOICE {
  r3 SEQUENCE {
    handoverToUTRANCommand-r3 HandoverToUTRANCommand-r3-IEs,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
  },
  criticalExtensions CHOICE {
    r4 SEQUENCE {
      handoverToUTRANCommand-r4 HandoverToUTRANCommand-r4-IEs,
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    criticalExtensions CHOICE {
      r5 SEQUENCE {
        handoverToUTRANCommand-r5 HandoverToUTRANCommand-r5-IEs,
        v6xyNonCriticalExtensions SEQUENCE {
          handoverToUTRANCommand-v6xyext HandoverToUTRANCommand-v6xyext-IEs,
          nonCriticalExtensions SEQUENCE {} OPTIONAL
        } 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 {
      predefinedConfigIdentity PredefinedConfigIdentity,
      defaultConfig SEQUENCE {
        defaultConfigMode DefaultConfigMode,
        defaultConfigIdentity DefaultConfigIdentity
      }
    }
  }
}
-- 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.
```

```

    },
    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              DL-InformationPerRL-PostTDD,
            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,

```



```

HandoverToUTRANCommand-v6xyext-IEs ::= SEQUENCE {
-- Physical channel IEs
postVerificationPeriod          ENUMERATED { true } OPTIONAL
}

```

Not included parts of this section

```

-- *****
--
-- 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
      } 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
      } 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          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,
  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,
    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-v6xyext-IEs ::= SEQUENCE {
    -- Core network IEs
    plmn-Identity                       PLMN-Identity                       OPTIONAL,
    -- Physical channel IEs
    harq-Preamble-Mode                 HARQ-Preamble-Mode                 OPTIONAL,
    postVerificationPeriod            ENUMERATED { true }              OPTIONAL,
    -- MBMS IEs
    mbms-FLCApPLICABILITYInfo          MBMS-FLCApPLICABILITYInfo-r6
}

```

Not included parts of this section

```

-- *****
--
-- 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
                        }
                    }
                }
            }
        }
    }
}

```



```

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,
    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-v6xyext-IEs ::= SEQUENCE {
  -- Core network IEs
  plmn-Identity                   PLMN-Identity                    OPTIONAL,
  -- Physical channel IEs
  harq-Preamble-Mode              HARQ-Preamble-Mode              OPTIONAL,
  postVerificationPeriod        ENUMERATED { true }          OPTIONAL,
  -- MBMS IEs
  mbms-FLCApPLICabilityInfo      MBMS-FLCApPLICabilityInfo-r6
}

```

Not included parts of this section

```

-- *****
--
-- 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
        } 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
        },
        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
            } 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,
    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-r4    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
    plmn-Identity              PLMN-Identity                    OPTIONAL,
-- Physical channel IEs
    harq-Preamble-Mode        HARQ-Preamble-Mode                OPTIONAL,

```

```

| postVerificationPeriod          ENUMERATED { true }          OPTIONAL,
-- MBMS IEs
  mbms-FLCApPLICABILITYInfo      MBMS-FLCApPLICABILITYInfo-r6,
  mbms-RB-ListReleasedToChangeTransferMode
                                   RB-InformationReleaseList      OPTIONAL
}

```

Not included parts of this section

```

-- *****
--
-- 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
    } 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
            } 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
  plmn-Identity          PLMN-Identity          OPTIONAL,
  -- Physical channel IEs
  harq-Preamble-Mode    HARQ-Preamble-Mode    OPTIONAL,
  postVerificationPeriod ENUMERATED { true } OPTIONAL,
  -- Radio bearer IEs
  rab-InformationSetupList RAB-InformationSetupList-r6-ext OPTIONAL,
  -- MBMS IEs
  mbms-FLCApPLICABILITYInfo MBMS-FLCApPLICABILITYInfo-r6
}

```

Not included parts of this section

```

-- *****
--
-- 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,
            v6xyNonCriticalExtensions SEQUENCE {
              rrcConnectionSetup-v6xyext RRCConnectionSetup-v6xyext-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
          },
        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-r4  CapabilityUpdateRequirement-r4  OPTIONAL,
-- Radio bearer IEs
  srb-InformationSetupList        SRB-InformationSetupList2,
-- Transport channel IEs
  ul-CommonTransChInfo-r4        UL-CommonTransChInfo-r4      OPTIONAL,
  ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList  OPTIONAL,
  dl-CommonTransChInfo-r4        DL-CommonTransChInfo-r4      OPTIONAL,
  dl-AddReconfTransChInfoList-r4 DL-AddReconfTransChInfoList-r4  OPTIONAL,
-- Physical channel IEs
  frequencyInfo                  FrequencyInfo                OPTIONAL,
  maxAllowedUL-TX-Power-r4        MaxAllowedUL-TX-Power-r4    OPTIONAL,
  ul-ChannelRequirement-r4        UL-ChannelRequirement-r4    OPTIONAL,
  dl-CommonInformation-r4         DL-CommonInformation-r4     OPTIONAL,
  dl-InformationPerRL-List-r4     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
  postVerificationPeriod    ENUMERATED { true }          OPTIONAL
}

```

Not included parts of this section

```

-- *****
--
-- 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

```

```

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
    },
    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         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
  }  OPTIONAL,
  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
  plmn-Identity                  PLMN-Identity                  OPTIONAL,
  -- Physical channel IEs
  harq-Preamble-Mode            HARQ-Preamble-Mode            OPTIONAL,
  postVerificationPeriod       ENUMERATED { true }       OPTIONAL,
  -- MBMS IEs
  mbms-FLCApPLICabilityInfo     MBMS-FLCApPLICabilityInfo-r6
}

```

Not included parts of this section

11.3 Information element definitions

Not included parts of this section

```

-- *****
--
--   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 ::=
  channelisationCodeIndices
  subchannelSize
  size1
  size2
  subchannels
  },
  size4
  subchannels
  },
  size8
  subchannels
}

SEQUENCE {
  BIT STRING {
    chCodeIndex7(0),
    chCodeIndex6(1),
    chCodeIndex5(2),
    chCodeIndex4(3),
    chCodeIndex3(4),
    chCodeIndex2(5),
    chCodeIndex1(6),
    chCodeIndex0(7)
  } (SIZE(8)) OPTIONAL,
  CHOICE {
    NULL,
    SEQUENCE {
      -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'
      subchannels
      ENUMERATED { subch0, subch1 } OPTIONAL
    },
    SEQUENCE {
      BIT STRING {
        subCh3(0),
        subCh2(1),
        subCh1(2),
        subCh0(3)
      } (SIZE(4)) OPTIONAL
    },
    SEQUENCE {
      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 ::=
  availableSYNC-UlCodesIndics
  subchannelSize
  size1
  size2
  subchannels
  },
  size4
  subchannels
  },
  size8
  subchannels
}

SEQUENCE {
  BIT STRING {
    sulCodeIndex7(0),
    sulCodeIndex6(1),
    sulCodeIndex5(2),
    sulCodeIndex4(3),
    sulCodeIndex3(4),
    sulCodeIndex2(5),
    sulCodeIndex1(6),
    sulCodeIndex0(7)
  } (SIZE(8)) OPTIONAL,
  CHOICE {
    NULL,
    SEQUENCE {
      -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'.
      subchannels
      ENUMERATED { subch0, subch1 } OPTIONAL
    },
    SEQUENCE {
      BIT STRING {
        subCh3(0),
        subCh2(1),
        subCh1(2),
        subCh0(3)
      } (SIZE(4)) OPTIONAL
    },
    SEQUENCE {
      BIT STRING {
        subCh7(0),
        subCh6(1),
        subCh5(2),
        subCh4(3),
        subCh3(4),
        subCh2(5),
        subCh1(6),
        subCh0(7)
      } (SIZE(8)) OPTIONAL
    }
  }
}

```

```

    }
}

AICH-Info ::=
    channelisationCode256          SEQUENCE {
        ChannelisationCode256,
        sttd-Indicator             BOOLEAN,
        aich-TransmissionTiming    AICH-TransmissionTiming
    }

AICH-PowerOffset ::=              INTEGER (-22..5)

AICH-TransmissionTiming ::=      ENUMERATED {
        e0, e1 }

AllocationPeriodInfo ::=         SEQUENCE {
        allocationActivationTime    INTEGER (0..255),
        allocationDuration          INTEGER (1..256)
    }

-- 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 ::=            SEQUENCE {
        ap-Signature               AP-Signature,
        availableAP-SubchannelList AvailableAP-SubchannelList OPTIONAL
    }

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
    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))

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-r4  UL-DPCH-PowerControlInfo-r4
                                }

CCTrCH-PowerControlInfo-r5 ::= SEQUENCE {
                                tfcs-Identity          TFCS-Identity          OPTIONAL,
                                ul-DPCH-PowerControlInfo-r5  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)

CD-SignatureCode ::=          INTEGER (0..15)

CD-SignatureCodeList ::=      SEQUENCE (SIZE (1..maxPCPCH-CDsig)) OF
                                CD-SignatureCode

CellAndChannelIdentity ::=    SEQUENCE {
                                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
            defaultDPCH-OffsetValue          SEQUENCE {
            dpch-CompressedModeInfo          DefaultDPCH-OffsetValueFDD  OPTIONAL,
            tx-DiversityMode                  DPCH-CompressedModeInfo   OPTIONAL,
            ssdt-Information                   TX-DiversityMode         OPTIONAL,
        },
        tdd
            defaultDPCH-OffsetValue          SEQUENCE {
            DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}

DL-CommonInformation-r4 ::=
    dl-DPCH-InfoCommon
    modeSpecificInfo
        fdd
            defaultDPCH-OffsetValue          SEQUENCE {
            dpch-CompressedModeInfo          DefaultDPCH-OffsetValueFDD  OPTIONAL,
            tx-DiversityMode                  DPCH-CompressedModeInfo   OPTIONAL,
            ssdt-Information                   TX-DiversityMode         OPTIONAL,
            ssdt-Information-r4              SSDT-Information-r4      OPTIONAL
        },
        tdd
            tddOption
                CHOICE {
                tdd384
                    NULL,
                tdd128
                    SEQUENCE {
                    tstd-Indicator
                        BOOLEAN
                    }
                },
            defaultDPCH-OffsetValue          SEQUENCE {
            DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}

DL-CommonInformation-r5 ::=
    dl-DPCH-InfoCommon
    modeSpecificInfo
        fdd
            defaultDPCH-OffsetValue          SEQUENCE {
            dpch-CompressedModeInfo          DL-DPCH-InfoCommon-r4    OPTIONAL,
            tx-DiversityMode                  CHOICE {
            ssdt-Information                   SEQUENCE {
            SSDT-Information-r4              DefaultDPCH-OffsetValueFDD  OPTIONAL,
            DPCH-CompressedModeInfo          DPCH-CompressedModeInfo   OPTIONAL,
            TX-DiversityMode                  TX-DiversityMode         OPTIONAL,
            SSDT-Information-r4              SSDT-Information-r4      OPTIONAL
            }
        },
        tdd
            tddOption
                CHOICE {
                tdd384
                    NULL,
                tdd128
                    SEQUENCE {
                    tstd-Indicator
                        BOOLEAN
                    }
                },
            defaultDPCH-OffsetValue          SEQUENCE {
            DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    },
    mac-hsResetIndicator
        ENUMERATED { true }
        OPTIONAL
}

DL-CommonInformationPost ::=
    dl-DPCH-InfoCommon
        SEQUENCE {
        DL-DPCH-InfoCommonPost
    }

DL-CommonInformationPredef ::=
    dl-DPCH-InfoCommon
        SEQUENCE {
        DL-DPCH-InfoCommonPredef
        OPTIONAL
    }

DL-CompressedModeMethod ::=
    ENUMERATED {
        puncturing, sf-2,
        higherLayerScheduling
    }

DL-DPCH-InfoCommon ::=
    cfnHandling
        CHOICE {
        maintain
            NULL,
        initialise
            SEQUENCE {
            cfnTargetsfnframeoffset
                CfnTargetsfnframeoffset
                OPTIONAL
            }
        },
    modeSpecificInfo
        CHOICE {
        fdd
            dl-DPCH-PowerControlInfo
                SEQUENCE {
                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 ::=
    cfnHandling                           SEQUENCE {
        maintain                           CHOICE {
            initialise                       NULL,
            cfntargetsfnframeoffset         SEQUENCE {
                cfntargetsfnframeoffset     Cfntargetsfnframeoffset         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 ::=
    dl-DPCH-PowerControlInfo              DL-DPCH-PowerControlInfo          OPTIONAL
}

DL-DPCH-InfoCommonPredef ::=
    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 ::=
    fdd                                     CHOICE {
        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 ::=
    fdd                                     CHOICE {
        SEQUENCE {

```

