CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **TS 25.331 CR 2540** | ⌘**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 **X** Radio Access Network **X** Core Network | |

Title: ⌘	Timing Maintained Hard Handover
Source: ⌘	Ericsson
Work item code:⌘	TEI6
Date: ⌘	February 2005

Category: ⌘ **B**	**Release:** ⌘ Rel-6

Use one of the following categories:
F (correction)
A (corresponds to a correction in an earlier release)
B (addition of feature),
C (functional modification of feature)
D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
*Rel-7 (Release 7)*

Reason for change: ⌘	Timing maintained hard handover can be performed without usage of synchronisation procedure A. The current specification requests the UE/UTRAN to perform synchronisation procedure A, which is delaying the process of timing maintained hard handover.
Summary of change:⌘	The use of procedure A for timing maintained hard handover is under control of UTRAN. The IE is included in which will make this possible with the following RRC messges: PHYSICAL CHANNEL RECONFIGURATION, RADIO BEARER RECONFIGURATION, RADIO BEARER RELEASE, RADIO BEARER SETUP and TRANSPORT CHANNEL RECONFIGURATION.
Consequences if not approved: ⌘	The process of timing maintained hard handover is delayed.

Clauses affected: ⌘	8.5.4, 10.3.6.18, 11.2

	Y	N		
Other specs affected: ⌘	X		Other core specifications ⌘	25.214
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	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

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.

8.3.5.1 Timing re-initialised hard handover

8.3.5.1.1 General

The purpose of the timing re-initialised hard handover procedure is to remove all the RL(s) in the active set and establish new RL(s) along with a change in the CFN in the UE according to the SFN of the target cell.(see subclause 8.5.15).

NOTE: During the hard-handover procedure, the UE will align the timing of the uplink transmission as specified in [26].

This procedure is initiated when UTRAN does not know the target SFN timing before hard handover.

8.3.5.1.2 Initiation

Timing re-initialised hard handover initiated by the UTRAN is normally performed by using the procedure "Physical channel reconfiguration" (subclause 8.2.6), but may also be performed by using either one of the following procedures:

- "radio bearer establishment" (subclause 8.2.1);

- "Radio bearer reconfiguration" (subclause 8.2.2);

- "Radio bearer release" (subclause 8.2.3); or

- "Transport channel reconfiguration" (subclause 8.2.4).

If IE "Timing indication" has the value "initialise", UE shall:

1> execute the Timing Re-initialised hard handover procedure by following the procedure indicated in the subclause relevant to the procedure chosen by the UTRAN.

In this case of a timing re-initialised hard handover, UTRAN should include the IE "Default DPCH Offset Value" and:

1> in FDD mode:

2> set "Default DPCH Offset Value" and "DPCH frame offset" respecting the following relation

$$\text{(Default DPCH Offset Value) mod } 38400 = \text{DPCH frame offset}_j$$

3> where j indicates the first radio link listed in the message and the IE values used are the Actual Values of the IEs as defined in clause 11.

If the IE "Default DPCH Offset Value" is included, the UE shall:

1> in FDD mode:

2> if the above relation between "Default DPCH Offset Value" and "DPCH frame offset" is not respected:

3> set the variable INVALID_CONFIGURATION to true.

If the IE "Default DPCH Offset Value" is not included, the UE shall:

1> set the variable INVALID_CONFIGURATION to true.

8.3.5.2 Timing-maintained hard handover

8.3.5.2.1 General

The purpose of the Timing-maintained hard handover procedure is to remove all the RL(s) in the active set and establish new RL(s) while maintaining the CFN in the UE.

NOTE: During the hard-handover procedure, the UE will align the timing of the uplink transmission as specified in [26].

This procedure can be initiated only if UTRAN knows the target SFN timing before hard handover. The target SFN timing can be known by UTRAN in the following 2 cases:

- UE reads SFN when measuring "Cell synchronisation information" and sends it to the UTRAN in MEASUREMENT REPORT message.

- UTRAN internally knows the time difference between the cells.

8.3.5.2.2 Initiation

Timing-maintained hard handover initiated by the network is normally performed by using the procedure "Physical channel reconfiguration" (subclause 8.2.6), but may also be performed by using either one of the following procedures:

- "radio bearer establishment" (subclause 8.2.1);

- "Radio bearer reconfiguration" (subclause 8.2.2);

- "Radio bearer release" (subclause 8.2.3); or

- "Transport channel reconfiguration" (subclause 8.2.4).

If IE "Timing indication" has the value "maintain", UE shall initiate the Timing-maintained hard handover procedure by following the procedure indicated in the subclause relevant to the procedure chosen by the UTRAN. In this case UTRAN should not include the IE "Default DPCH Offset Value".

If the IE "Default DPCH Offset Value" is included, the UE shall:

1> ignore the IE "Default DPCH Offset Value".

Not included sections

8.5.15.2 Initialisation in CELL_DCH state at hard handover

When the UE is in CELL_DCH state and receives any of the messages causing the UE to perform a hard handover, the UE shall check the IE "Timing indication" in that message and:

1> if IE "Timing indication" has the value "initialise" (i.e. timing re-initialised hard handover):

2> read SFN on target cell identified by the first radio link listed in the IE "Downlink information per radio link list" included in that message;

2> set the CFN according to the following formula:

3> for FDD:

$$CFN = (SFN - (DOFF \text{ div } 38400)) \bmod 256$$

where the formula gives the CFN of the downlink DPCH frame which starts at the same time as or which starts during the PCCPCH frame with the given SFN.

3> for TDD:

$$CFN = (SFN - DOFF) \bmod 256.$$

1> if IE "Timing indication" has the value "maintain" (i.e. timing-maintained hard handover), the UE shall keep CFN with no change due to the hard handover, and only increase CFN (mod 256) by 1 every frame.

Not included sections

10.3.6.18 Downlink DPCH info common for all RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Timing Indication	MP		Enumerated(Initialise, Maintain)	NOTE	
CFN-targetSFN frame offset	CV-*TimInd*		Integer(0.. 255)	In frame	
Timing maintained Synchronization indicator	CV-*Synch*		Enumerated (false)	FALSE indicates that the synchronization procedure shall not be used for timing maintained intra- and inter-frequency hard handover [29]. Absence of this element means that the synchronization procedure shall be used.	REL-6
Downlink DPCH power control information	OP		Downlink DPCH power control information 10.3.6.23		
MAC-d HFN initial value	CV-*Message*		Bit string(24)		REL-4
CHOICE *mode*	MP				
>FDD					
>>Power offset P Pilot-DPDCH	MP		Integer(0.. 24)	Power offset equals P_{Pilot} - P_{DPDCH}, range 0..6 dB, in steps of 0.25 dB	
>>Downlink rate matching restriction information	OP		Downlink rate matching restriction information 10.3.6.31	If this IE is set to "absent", no Transport CH is restricted in TFI.	
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)		
>>Fixed or Flexible Position	MP		Enumerated (Fixed, Flexible)		
>>TFCI existence	MP		Boolean	TRUE indicates that TFCI is used. When spreading factor is less than or equal to 64, FALSE indicates that TFCI is not used and therefore DTX is used in the TFCI field.	
>>CHOICE *SF*	MP				
>>>SF = 256					
>>>>Number of bits for Pilot bits	MP		Integer (2,4,8)	In bits	
>>>SF = 128					
>>>>Number of bits for Pilot bits	MP		Integer(4, 8)	In bits	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>>>Otherwise				(no data). In ASN.1 choice "Otherwise" is not explicitly available as all values are available, it is implied by the use of any value other than 128 or 256.	
>TDD				(no data)	

CHOICE *SF*	Condition under which the given *SF* is chosen
SF=128	"Spreading factor" is set to 128
SF=256	"Spreading factor" is set to 256
Otherwise	"Spreading factor" is set to a value distinct from 128 and 256

Condition	Explanation
TimInd	This IE is optional if the IE "Timing Indication" is set to "Initialise". Otherwise it is not needed.
Message	This IE is not needed if the IE "Downlink DPCH info common for all RL" is included in RRC CONNECTION SETUP or HANDOVER TO UTRAN COMMAND messages. Otherwise it is optional.
Synch	The IE is not needed in the CELL UPDATE CONFIRM, HANDOVER TO UTRAN COMMAND and the RRC CONNECTION SETUP messages or if the IE "Timing Indication" is set to "Initialise". Otherwise, it is optional.

NOTE: Within the HANDOVER TO UTRAN COMMAND message, only value "initialise" is applicable.

<div style="background:yellow">**Not included sections**</div>

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 *mode*	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 *TDD option*	MP				REL-4
>>>3.84 Mcps TDD				(no data)	REL-4

3GPP

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>>>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-*messageType*		Enumerated (true)	TRUE Indicates the MAC-hs entity needs to be reset.	REL-5

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

11.2 PDU definitions

```
-- **************************************************
--
-- 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,
                v4b0NonCriticalExtensions           SEQUENCE {
                    physicalChannelReconfiguration-v4b0ext
                                            PhysicalChannelReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtenstions          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,
                        v590NonCriticalExtenstions            SEQUENCE {
                            physicalChannelReconfiguration-v590ext
                                                 PhysicalChannelReconfiguration-v590ext-IEs,
                            v6xyNonCriticalExtensions           SEQUENCE {
                                physicalChannelReconfiguration-v6xyext
                                                     PhysicalChannelReconfiguration-v6xyext-IEs,
                                nonCriticalExtensions           SEQUENCE {}      OPTIONAL
                            } OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions             CHOICE {
                    r5                             SEQUENCE {
                        physicalChannelReconfiguration-r5
                                                     PhysicalChannelReconfiguration-r5-IEs,
                        -- Container for adding non critical extensions after freezing REL-6
                        physicalChannelReconfiguration-r5-add-ext       BIT STRING      OPTIONAL,
                        v6xyNonCriticalExtensions           SEQUENCE {
                            physicalChannelReconfiguration-v6xyext
                                                     PhysicalChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}      OPTIONAL
                        } OPTIONAL
                    },
                    criticalExtensions             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,
        timingMaintainedSynchInd       ENUMERATED { false }               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
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerReconfiguration-r4   RadioBearerReconfiguration-r4-IEs,
                v4d0NonCriticalExtensions       SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    radioBearerReconfiguration-r4-add-ext       BIT STRING      OPTIONAL,
                    v590NonCriticalExtensions       SEQUENCE {
                        radioBearerReconfiguration-v590ext
                                                        RadioBearerReconfiguration-v590ext-IEs,
                        v6xyNonCriticalExtensions       SEQUENCE {
                            radioBearerReconfiguration-v6xyext
                                                        RadioBearerReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions              CHOICE {
                r5                              SEQUENCE {
                    radioBearerReconfiguration-r5       RadioBearerReconfiguration-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    radioBearerReconfiguration-r5-add-ext       BIT STRING      OPTIONAL,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        radioBearerReconfiguration-v6xyext
                                                        RadioBearerReconfiguration-v6xyext-IEs,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
```

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

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

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

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

RadioBearerReconfiguration-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo      IntegrityProtectionModeInfo      OPTIONAL,
        cipheringModeInfo                CipheringModeInfo                OPTIONAL,
        activationTime                   ActivationTime                   OPTIONAL,
        new-U-RNTI                       U-RNTI                           OPTIONAL,
        new-C-RNTI                       C-RNTI                           OPTIONAL,
        new-DSCH-RNTI                    DSCH-RNTI                        OPTIONAL,
        rrc-StateIndicator               RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff       UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
    -- Core network IEs
```

```
        cn-InformationInfo             CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                   URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList    RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReconfigList     RB-InformationReconfigList-r4       OPTIONAL,
        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
        }                                                                  OPTIONAL,
        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
                }                                                                  OPTIONAL,
                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,
        timingMaintainedSynchInd        ENUMERATED { false }               OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo       MBMS-FLCApplicabilityInfo-r6
}
```

<div style="text-align:center; background:#ffff99;">**Not included parts of this section**</div>

```
-- **************************************************
--
-- 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
    },
    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
        },
        criticalExtensions         CHOICE {
            r5                          SEQUENCE {
                radioBearerRelease-r5        RadioBearerRelease-r5-IEs,
                -- Container for adding non critical extensions after freezing REL-6
                radioBearerRelease-r5-add-ext     BIT STRING    OPTIONAL,
                v6xyNonCriticalExtensions    SEQUENCE {
                    radioBearerRelease-v6xyext    RadioBearerRelease-v6xyext-IEs,
                    nonCriticalExtensions        SEQUENCE {}    OPTIONAL
                }  OPTIONAL
            },
            criticalExtensions          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
        }                                                                  OPTIONAL,
        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            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
        }                                                                  OPTIONAL,
        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
            }                                                               OPTIONAL,
            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,
        timingMaintainedSynchInd        ENUMERATED { false }            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
    },
    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
            },
            criticalExtensions          CHOICE {
                r5                      SEQUENCE {
                    radioBearerSetup-r5          RadioBearerSetup-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    radioBearerSetup-r5-add-ext    BIT STRING    OPTIONAL,
                    v6xyNonCriticalExtensions        SEQUENCE {
                        radioBearerSetup-v6xyext      RadioBearerSetup-v6xyext-IEs,
                        nonCriticalExtensions        SEQUENCE {}    OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions          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
    }                                                                 OPTIONAL,
    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
        }                                                                OPTIONAL,
        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
        }                                                            OPTIONAL,
        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,
        timingMaintainedSynchInd      ENUMERATED { false }           OPTIONAL,
    -- Radio bearer IEs
        rab-InformationSetupList      RAB-InformationSetupList-r6-ext OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo     MBMS-FLCApplicabilityInfo-r6
}
```

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
```

```
                    }        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
        }                                                           OPTIONAL,
        dl-CommonTransChInfo          DL-CommonTransChInfo-r4       OPTIONAL,
        dl-AddReconfTransChInfoList   DL-AddReconfTransChInfoList-r4 OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                 FrequencyInfo                 OPTIONAL,
        maxAllowedUL-TX-Power         MaxAllowedUL-TX-Power         OPTIONAL,
        ul-ChannelRequirement         UL-ChannelRequirement-r4      OPTIONAL,
        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
          }                                                               OPTIONAL,
          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,
      timingMaintainedSynchInd      ENUMERATED { false }              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 ::=              SEQUENCE {
    channelisationCodeIndices               BIT STRING  {
                                                chCodeIndex7(0),
                                                chCodeIndex6(1),
                                                chCodeIndex5(2),
                                                chCodeIndex4(3),
                                                chCodeIndex3(4),
                                                chCodeIndex2(5),
                                                chCodeIndex1(6),
                                                chCodeIndex0(7)
                                                } (SIZE(8))            OPTIONAL,
    subchannelSize                      CHOICE {
        size1                               NULL,
        size2                               SEQUENCE {
            -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'
            subchannels                         ENUMERATED  { subch0, subch1 }  OPTIONAL
        },
        size4                               SEQUENCE {
            subchannels                         BIT STRING  {
                                                    subCh3(0),
                                                    subCh2(1),
                                                    subCh1(2),
                                                    subCh0(3)
                                                    } (SIZE(4))      OPTIONAL
        },
        size8                               SEQUENCE {
            subchannels                         BIT STRING  {
                                                    subCh7(0),
                                                    subCh6(1),
                                                    subCh5(2),
                                                    subCh4(3),
                                                    subCh3(4),
                                                    subCh2(5),
                                                    subCh1(6),
                                                    subCh0(7)
                                                    } (SIZE(8))      OPTIONAL
        }
    }
}

AccessServiceClass-TDD-LCR-r4 ::=   SEQUENCE {
    availableSYNC-UlCodesIndics         BIT STRING {
                                                sulCodeIndex7(0),
                                                sulCodeIndex6(1),
                                                sulCodeIndex5(2),
                                                sulCodeIndex4(3),
                                                sulCodeIndex3(4),
                                                sulCodeIndex2(5),
                                                sulCodeIndex1(6),
                                                sulCodeIndex0(7)
                                                } (SIZE(8))            OPTIONAL,
    subchannelSize                      CHOICE {
        size1                               NULL,
        size2                               SEQUENCE {
            -- subch0 means bitstring '01' in the tabular, subch1 means bitsring '10'.
            subchannels                         ENUMERATED  { subch0, subch1 }  OPTIONAL
        },
        size4                               SEQUENCE {
            subchannels                         BIT STRING  {
                                                    subCh3(0),
                                                    subCh2(1),
                                                    subCh1(2),
                                                    subCh0(3)
                                                    } (SIZE(4))        OPTIONAL
        },
        size8                               SEQUENCE {
            subchannels                         BIT STRING  {
                                                    subCh7(0),
                                                    subCh6(1),
                                                    subCh5(2),
                                                    subCh4(3),
                                                    subCh3(4),
                                                    subCh2(5),
```

```
                                            subCh1(6),
                                            subCh0(7)
                                        } (SIZE(8))        OPTIONAL
        }
    }

}

AICH-Info ::=                       SEQUENCE {
    channelisationCode256               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        UL-DPCH-PowerControlInfo-r4
}

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

CD-AccessSlotSubchannel ::=         INTEGER (0..11)

CD-AccessSlotSubchannelList ::=     SEQUENCE (SIZE (1..maxPCPCH-CDsubCh)) OF
                                        CD-AccessSlotSubchannel

CD-CA-ICH-ChannelisationCode ::=    INTEGER (0..255)

CD-PreambleScramblingCode ::=       INTEGER (0..79)

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

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


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

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

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

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

DL-DPCH-InfoCommon ::=            SEQUENCE {
    cfnHandling                       CHOICE {
        maintain                          NULL,
        initialise                        SEQUENCE {
            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
        }
    }
}

DL-DPCH-InfoCommon-r4 ::=          SEQUENCE {
    cfnHandling                        CHOICE {
        maintain                           NULL,
        initialise                         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 ::=         SEQUENCE {
    dl-DPCH-PowerControlInfo           DL-DPCH-PowerControlInfo           OPTIONAL
}

DL-DPCH-InfoCommonPredef ::=       SEQUENCE {
    modeSpecificInfo                   CHOICE {
        fdd                                SEQUENCE {
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot            SF512-AndPilot,
            positionFixedOrFlexible            PositionFixedOrFlexible,
            tfci-Existence                     BOOLEAN
        },
        tdd                                SEQUENCE {
            commonTimeslotInfo                 CommonTimeslotInfo
        }
    }
}

DL-DPCH-InfoPerRL ::=              CHOICE {
    fdd                                SEQUENCE {
        pCPICH-UsageForChannelEst          PCPICH-UsageForChannelEst,
        dpch-FrameOffset                   DPCH-FrameOffset,
        secondaryCPICH-Info                SecondaryCPICH-Info               OPTIONAL,
        dl-ChannelisationCodeList          DL-ChannelisationCodeList,
        tpc-CombinationIndex               TPC-CombinationIndex,
        ssdt-CellIdentity                  SSDT-CellIdentity                 OPTIONAL,
        closedLoopTimingAdjMode            ClosedLoopTimingAdjMode           OPTIONAL
    },
    tdd                                SEQUENCE {
        dl-CCTrChListToEstablish           DL-CCTrChList                     OPTIONAL,
        dl-CCTrChListToRemove              DL-CCTrChListToRemove             OPTIONAL
    }
```

```
}

DL-DPCH-InfoPerRL-r4 ::=                    CHOICE {
    fdd                                         SEQUENCE {
        pCPICH-UsageForChannelEst                   PCPICH-UsageForChannelEst,
        dpch-FrameOffset                            DPCH-FrameOffset,
        secondaryCPICH-Info                         SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList                   DL-ChannelisationCodeList,
        tpc-CombinationIndex                        TPC-CombinationIndex,
        ssdt-CellIdentity                           SSDT-CellIdentity              OPTIONAL,
        closedLoopTimingAdjMode                     ClosedLoopTimingAdjMode        OPTIONAL
    },
    tdd                                         SEQUENCE {
        dl-CCTrChListToEstablish                    DL-CCTrChList-r4               OPTIONAL,
        dl-CCTrChListToRemove                       DL-CCTrChListToRemove          OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r5 ::=                    CHOICE {
    fdd                                         SEQUENCE {
        pCPICH-UsageForChannelEst                   PCPICH-UsageForChannelEst,
        dpch-FrameOffset                            DPCH-FrameOffset,
        secondaryCPICH-Info                         SecondaryCPICH-Info            OPTIONAL,
        dl-ChannelisationCodeList                   DL-ChannelisationCodeList,
        tpc-CombinationIndex                        TPC-CombinationIndex,
        powerOffsetTPC-pdpdch                       PowerOffsetTPC-pdpdch          OPTIONAL,
        ssdt-CellIdentity                           SSDT-CellIdentity              OPTIONAL,
        closedLoopTimingAdjMode                     ClosedLoopTimingAdjMode        OPTIONAL
    },
    tdd                                         SEQUENCE {
        dl-CCTrChListToEstablish                    DL-CCTrChList-r4               OPTIONAL,
        dl-CCTrChListToRemove                       DL-CCTrChListToRemove          OPTIONAL
    }
}

DL-DPCH-InfoPerRL-PostFDD ::=                                       SEQUENCE {
        pCPICH-UsageForChannelEst                   PCPICH-UsageForChannelEst,
        dl-ChannelisationCode                       DL-ChannelisationCode,
        tpc-CombinationIndex                        TPC-CombinationIndex
}
```