Title   **Linked CRs (Rel-6 Category C) to TS25.224 & TS25.331 for Improvements to uplink closed-loop power control for 1.28Mcps TDD**
Source   **TSG RAN WG1 and WG2**
Agenda Item   **9.8**

RAN WG Tdoc	Spec	CR	Rev	Rel	Cat	Current Version	Subject	Work item	Remarks
R1-050096	25.224	140	2	Rel-6	C	6.3.0	Improvements to uplink closed-loop power control for 1.28Mcps TDD	LCRTDD-Phys	
R2-050315	25.331	2535	-	Rel-6	C	6.4.0	Improvements to uplink closed-loop power control for 1.28Mcps TDD	LCRTDD-L23	

CR-Form-v7.1

CHANGE REQUEST

⌘ **TS 25.224 CR 140** ⌘**rev 2** ⌘ Current version: **6.3.0** ⌘

*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: ⌘	Improvements to uplink closed-loop power control for 1.28Mcps TDD	
Source: ⌘	RAN WG1	
Work item code:⌘	LCRTDD-Phys	***Date:*** ⌘ 07/02/2005

Category: ⌘ **C**

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

Release: ⌘ Rel-6

Use <u>one</u> of the following releases:
 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: ⌘	1) Uplink power control performance can be improved if the UE is allowed to take available pathloss information into account when calculating uplink transmit power. 2) Existing procedures during uplink transmission pauses may cause continual reset of the TPC loop due to UL DTX.
Summary of change:⌘	1) It is clarified that the UE may optionally assist the closed-loop power control process (if allowed by higher layers) by using pathloss information from beacon channel receptions. 2) The procedure during an uplink transmission pause is modifed such that the TPC loop is not reset for short transmission pauses.
Consequences if ***not approved:*** ⌘	1) Achievable uplink capacity improvements will not be realised. 2) Uplink power control operation will be inefficient in the presence of transmission pauses (eg: DTX, fractionated DPCH's and uplink shared channels).

Clauses affected: ⌘	5.1.1.4

	Y	N			
Other specs ⌘	X		Other core specifications ⌘	25.331	
affected:		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘	

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.

5.1.1.4 DPCH and PUSCH

The initial transmission power for uplink DPCH and PUSCH is set by higher layers based on open loop power control as described in [15]. The UE then transits into closed loop power control. The node B shall generate TPC commands according to a quality target set by higher layers in order to instruct an increase or decrease in the level of transmission power from the UE and send them in the TPC field of associated downlink CCTrCHs (see [8] for a description of the mapping between DL associated TPC symbols and UL controlled CCTrCH/timeslots). If the physical channel power ~~shall~~ should be increased, the TPC command is set to "up", whereas if the power ~~shall~~ should be reduced the command is set to "down". A TPC command sent in a downlink CCTrCH controls all uplink DPCHs and PUSCHs in the associated uplink CCTrCH and timeslot. An example of SIR based UL power control is given in annex A2

If signalled by higher layers, the UE must follow the received TPC commands only. In this case, ~~A~~at the UE when the TPC command is judged as 'down', the mobile transmit power shall be reduced by one power control step, whereas if it is judged as 'up', the mobile transmit power shall be raised by one power control step.

If indicated as allowed by higher layers, the UE may optionally take into account pathloss estimated from beacon function physical channels in addition to the TPC commands when calculating the transmit power. In this case, the mobile transmit power is first modified as described above by the received TPC command and is then further modified based upon the pathloss estimated on recent beacon transmissions. Modifications based upon pathloss shall only be applied when the UE estimates that the pathloss on the uplink transmission timeslot and the pathloss on the beacon timeslots used to derive the modification value are likely to be similar.

The closed loop power control procedure for UL DPCH and PUSCH is not affected by the use of TSTD.

In the event of no associated uplink data being transmitted between two related downlink TPC commands, the UE shall ignore the resulting TPC command. The transmit power for the next instance of the timeslot/CCTrCH pair shall then be set:

> i) to the power level of the previous uplink transmission, optionally modified to compensate for the change in pathloss observed during the uplink transmission pause or,

> ii) using the open loop procedure as for initial transmissions

The UE shall select which of the above methods to apply. For short transmission pauses method (i) should be used.

CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **TS 25.331 CR 2535** | ⌘**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: ⌘	Improvements to uplink closed-loop power control for 1.28Mcps TDD	
Source: ⌘	RAN WG2	
Work item code: ⌘	LCRTDD-L23	**Date:** ⌘ 10/01/2004
Category: ⌘ **C**		**Release:** ⌘ Rel-6

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

Use <u>one</u> 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: ⌘	1) Uplink power control performance can be improved if the UE is allowed to take available pathloss information into account when calculating uplink transmit power. 2) Existing procedures during uplink transmission pauses may cause continual reset of the TPC loop due to UL DTX. 3) Uplink power control improvements have already been agreed with respect to TS 25.224 for Rel-6 and these improvements need to be reflected in 25.331.
Summary of change: ⌘	A new flag, "Beacon PL Est." (Beacon Path Loss Estimation), is included in "PUSCH Power Cotrol Info." and "Uplink DPCH Power Control Info." IEs. This flag indicates to the UE if it is permitted to take into account path loss estimated from beacon function physical channels, in addition to TPC commands, when calculating transmit power. The new flag is included in addition to other parameters in "PUSCH Power Control Info." and is stored by the UE in the variable PHYSICAL SHARED CHANNEL CONFIGURATION. The new flag is included in addition to "TPC step dsize" in the "Uplink DPCH Info." IE. Procedures "Reception of a PHYSCAL SHARED CHANNEL ALLOCATION message by the UE" and "Uplink DPCH power control info" are updated to take account of the new flag.
Consequences if not approved: ⌘	1) Achievable uplink capacity improvements will not be realised. 2) Uplink power control operation will be inefficient in the presence of

		transmission pauses (eg: DTX, fractionated DPCH's and uplink shared channels).

Clauses affected:	⌘	8.2.7.3, 8.6.6.11, 10.3.6.65, 10.3.6.91, 11.2		

		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	TS25.224
				Test specifications		
				O&M Specifications		

Other comments:	⌘	Impacts TDD 1.28 Mcps only

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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.

8.2.7.3 Reception of a PHYSICAL SHARED CHANNEL ALLOCATION message by the UE

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

1> check the DSCH-RNTI to see if the UE is addressed by the message;

1> if the UE is addressed by the message, or if the message is received on the downlink DCCH:

2> perform the following actions.

1> otherwise:

2> ignore the message.

1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:

1> if the IE "ISCP Timeslot list" is included:

2> store the timeslot numbers given there for future Timeslot ISCP measurements and reports in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION.

1> if the IE "PDSCH capacity allocation info" is included:

2> configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:

3> if the CHOICE "Configuration" has the value "Old configuration":

4> if the UE has stored a PDSCH configuration in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION with the identity given by the IE "PDSCH Identity":

5> configure the physical resources according to that configuration.

4> otherwise:

5> ignore the IE "PDSCH capacity allocation info".

3> if the CHOICE "Configuration" has the value "New configuration":

4> configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":

5> reuse the configuration stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION for this CCTrCH.

4> if the IE "PDSCH Identity" is included:

5> store the new configuration in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION using that identity.

2> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";

2> if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":

3> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.

1> if the IE "PUSCH capacity allocation info" is included:

    2> stop the timer T310, if running;

    2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":

        3> start the timer T311.

    2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":

        3> stop the timer T311, if running;

        3> configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:

            4> if the CHOICE "Configuration" has the value "Old configuration":

                5> if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity" in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION:

                    6> configure the physical resources according to that configuration.

                5> otherwise:

                    6> ignore the IE "PUSCH capacity allocation info".

            4> if the CHOICE "Configuration" has the value "New configuration", the UE shall:

                5> configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":

                  6> reuse the configuration stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION for this CCTrCH.

                5> if the IE "PUSCH Identity" is included:

                  6> store the new configuration in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION using that identity.

        3> if the IE "PUSCH power control info" is present in this message and includes the parameter "UL target SIR" for 3.84 Mcps TDD, or the parameters "PRX$_{PUSCHdes}$" and "Beacon PL Est. " and "TPC Step Size" for 1.28 Mcps TDD, or the parameters are stored in the variable PHYSICAL SHARED CHANNEL CONFIGURATION for this CCTrCH:

            4> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration".

        3> otherwise:

            4> ignore the IE "PUSCH capacity allocation info".

        3> if the IE "PUSCH power control info" is present in this message and includes the parameter "UL target SIR" for 3.84 Mcps TDD, or the parameters "PRX$_{PUSCHdes}$" and/or "Beacon PL Est. " and/or "TPC Step Size" for 1.28 Mcps TDD:

            4> replace the parameters "UL target SIR" or "PRX$_{PUSCHdes}$" or "TPC Step Size" stored in the variable PHYSICAL SHARED CHANNEL CONFIGURATION for this CCTrCH with the signalled values.

        3> if the IE "Traffic volume report request " is included:

> 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".

> 3> if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":

>> 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.

> 3> determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;

> 3> configure the MAC-c/sh in the UE with this TFCS restriction if necessary;

> 3> transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.

NOTE: If the UE has just entered a new cell and System Information Block Type 6 has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

> 1> clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;

> 1> and the procedure ends.

--------------------------------------- **2nd Change** ---------------------------------------

8.6.6.11 Uplink DPCH power control info

The UE shall:

> 1> in FDD:

>> 2> if the IE "Uplink DPCH power control info" is included:

>>> 3> if a synchronisation procedure A is performed according to [29]:

>>>> 4> calculate and set an initial uplink transmission power;

>>>> 4> start inner loop power control as specified in subclause 8.5.3;

>>>> 4> for the UL inner loop power control:

>>>>> 5> use the parameters specified in the IE.

>>> 3> else:

>>>> 4> ignore the IEs "DPCCH Power offset", "PC Preamble" and "SRB delay";

>>>> 4> act on the IE "Power control algorithm" and the IE "TPC step size", if included.

>>> 3> act on the IEs "Δ_{ACK}", "Δ_{NACK}" and "Ack-Nack repetition factor", if included;

>>> 3> use the procedure for transmitting HS-DPCCH preamble and postamble according to [29], if the IE "HARQ_preamble_mode" is set to 1.

> 1> in 3.84 Mcps TDD:

>> 2> if the IE "Uplink DPCH power control info" is included:

>>> 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.

2> else:

3> use the current uplink transmission power.

1> in 1.28 Mcps TDD:

2> if the CHOICE UL OL PC info is set to 'Broadcast UL OL PC info':

3> set the variable INVALID_CONFIGURATION to true.

2> if the IE "Uplink DPCH power control info"is included in the UPLINK PHYSICAL CHANNEL CONTROL message:

3> use "Beacon PL Est. " and the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.

3> if the IE " UL target SIR " is included:

4> use this value for parameter $PRX_{DPCHdes}$ for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].

2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":

3> use the "Beacon PL Est. " and TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;

3> if the IE " UL target SIR " is included ignore the parameter.

1> both in FDD and TDD;

2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:

3> set the variable INVALID_CONFIGURATION to true.

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

-- 3rd Change --

10.3.6.65   PUSCH power control info

NOTE: Only for TDD.

Interference level measured for a frequency at the UTRAN access point used by UE to set PUSCH output power.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
UL target SIR	MP		Real (-11 .. 20 by step of 0.5 dB)		
				For 1.28 Mcps TDD this parameter represents $PRX_{PUSCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
CHOICE TDD option	MP				REL-4
>3.84 Mcps TDD				(no data)	REL-4
>1.28 Mcps TDD					REL-4
>>Beacon PL Est.	OP		Enumerated (true)	The presence of this IE indicates that UE	REL-6

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
				may take into account path loss estimated from beacon function physical channels. The absence indicates that UE may not take into account path loss estimated from beacon function physical channels.	
>>TPC Step Size	OP		Integer (1, 2, 3)	In dB	REL-4

<p style="text-align:center">-------------------------------------- 4th Change --</p>

10.3.6.91 Uplink DPCH power control info

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control in FDD and 1.28 Mcps TDD and parameters for uplink open loop power control in 3.84 Mcps TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE *mode*	MP				
>FDD					
>>DPCCH Power offset	MP		Integer(-164,..-6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (0..7)	In number of frames	
>>SRB delay	MP		Integer(0..7)	In number of frames	
>>Power Control Algorithm	MP		Enumerated (algorithm 1, algorithm 2)	Specifies algorithm to be used by UE to interpret TPC commands	
>>TPC step size	CV-*algo*		Integer (1, 2)	In dB	
>>Δ_{ACK}	OP		Integer (0..8)	Refer to quantization of the power offset in [28]	REL-5
>>Δ_{NACK}	OP		Integer (0..8)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(1..4)		REL-5
>>HARQ_preamble_mode	OP		Integer (0, 1)	1 indicates that preamble and postamble are used on the HS-DPCCH – see [29]	REL-6
>TDD					
>>>>UL target SIR	OP		Real (-11 ..	In dB	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			20 by step of 0.5dB)	For 1.28 Mcps TDD this parameter represents $PRX_{DPCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
>>CHOICE *UL OL PC info*	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE *TDD option*	MP				REL-4
>>>>>3.84 Mcps TDD					REL-4
>>>>>>Individual timeslot interference info	MP	1 to \<maxTS>			
>>>>>>>Individual timeslot interference	MP		Individual timeslot interference 10.3.6.38		
>>>>>>DPCH Constant Value	OP		Constant Value TDD 10.3.6.11a	Quality Margin	
>>>>>1.28 Mcps TDD					REL-4
>>>>>>Beacon PL Est.	CV-houtran		Enumerated (true)	The presence of this IE indicates that UE may take into account path loss estimated from beacon function physical channels. The absence indicates that UE may not take into account path loss estimated from beacon function physical channels.	REL-6
>>>>>>TPC step size	MP		Integer(1,2,3)		REL-4
>>>>Primary CCPCH Tx Power	OP		Primary CCPCH Tx Power 10.3.6.59	For Pathloss Calculation	

Condition	Explanation
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed
houtran	This IE is optional in Cell Update Confirm, Physical Channel Reconfiguration, Radio Bearer Reconfiguration, Radio Bearer Release, Radio Bearer Setup, Transport Channel Reconfiguration and Uplink Physical Channel Control. The IE is not included in the Handover To UTRAN Command

```
---------------------------------------- 5th Change ----------------------------------------

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

CellUpdateConfirm ::= CHOICE {
    r3                              SEQUENCE {
        cellUpdateConfirm-r3            CellUpdateConfirm-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            cellUpdateConfirm-v3a0ext       CellUpdateConfirm-v3a0ext,
            laterNonCriticalExtensions      SEQUENCE {
                -- Container for additional R99 extensions
                cellUpdateConfirm-r3-add-ext   BIT STRING  OPTIONAL,
                v4b0NonCriticalExtensions       SEQUENCE {
                    cellUpdateConfirm-v4b0ext       CellUpdateConfirm-v4b0ext-IEs,
                    v590NonCriticalExtenstions      SEQUENCE {
                        cellUpdateConfirm-v590ext       CellUpdateConfirm-v590ext-IEs,
                        v6xyNonCriticalExtensions       SEQUENCE {
                            cellUpdateConfirm-v6xyext       CellUpdateConfirm-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {} OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                cellUpdateConfirm-r4            CellUpdateConfirm-r4-IEs,
                v4d0NonCriticalExtensions       SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    cellUpdateConfirm-r4-add-ext   BIT STRING       OPTIONAL,
                    v590NonCriticalExtenstions      SEQUENCE {
                        cellUpdateConfirm-v590ext       CellUpdateConfirm-v590ext-IEs,
                        v6xyNonCriticalExtensions       SEQUENCE {
                            cellUpdateConfirm-v6xyext       CellUpdateConfirm-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions              CHOICE {
                r5                              SEQUENCE {
                    cellUpdateConfirm-r5            CellUpdateConfirm-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    cellUpdateConfirm-r5-add-ext   BIT STRING       OPTIONAL,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        cellUpdateConfirm-v6xyext       CellUpdateConfirm-v6xyext-IEs,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4       BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove     BOOLEAN,
    -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
```

CR page 9

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

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

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

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

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

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

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

    CellUpdateConfirm-v6xyext-IEs ::=   SEQUENCE {
        -- Physical channel IEs
            harq-Preamble-Mode              HARQ-Preamble-Mode              OPTIONAL,
            beaconPLEst                     BEACON-PL-Est                   OPTIONAL,
        -- MBMS IEs
            mbms-FLCApplicabilityInfo       MBMS-FLCApplicabilityInfo-r6
```

```
}


------------------------------------------ 6th Change ------------------------------------------


-- **************************************************
--
-- 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,
                v4b0NonCriticalExtenstions              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,
        beaconPLEst                    BEACON-PL-Est                   OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo      MBMS-FLCApplicabilityInfo-r6
}


------------------------------------------- 7th Change -------------------------------------------

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

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

```
}

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

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

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

--------------------------------------- 8th Change ---------------------------------------

```
-- **************************************************
--
-- 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
                    },
                    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,
        beaconPLEst                      BEACON-PL-Est                       OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo        MBMS-FLCApplicabilityInfo-r6
}
```

-- **9th Change** --

```
-- **************************************************
--
-- 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,
        beaconPLEst                      BEACON-PL-Est                    OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo        MBMS-FLCApplicabilityInfo-r6,
        mbms-RB-ListReleasedToChangeTransferMode
                                         RB-InformationReleaseList        OPTIONAL
}


----------------------------------------- 10th Change -----------------------------------------
-- **************************************************
--
-- 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,
            beaconPLEst                     BEACON-PL-Est                           OPTIONAL,
        -- Radio bearer IEs
            rab-InformationSetupList        RAB-InformationSetupList-r6-ext         OPTIONAL,
        -- MBMS IEs
            mbms-FLCApplicabilityInfo       MBMS-FLCApplicabilityInfo-r6
    }
```

-- **11th Change** --
```
__ ************************************************
--
-- RRC CONNECTION SETUP
--
__ ************************************************

RRCConnectionSetup ::= CHOICE {
    r3                              SEQUENCE {
        rrcConnectionSetup-r3           RRCConnectionSetup-r3-IEs,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            rrcConnectionSetup-r3-add-ext   ——BIT STRING      OPTIONAL,
            v4b0NonCriticalExtensions       SEQUENCE {
                rrcConnectionSetup-v4b0ext      RRCConnectionSetup-v4b0ext-IEs,
                v590NonCriticalExtensions       SEQUENCE {
                    rrcConnectionSetup-v590ext      RRCConnectionSetup-v590ext-IEs,
                    nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        }       OPTIONAL
    },
```

```
    later-than-r3                    SEQUENCE {
        initialUE-Identity           InitialUE-Identity,
        rrc-TransactionIdentifier    RRC-TransactionIdentifier,
        criticalExtensions           CHOICE {
            r4                               SEQUENCE {
                rrcConnectionSetup-r4            RRCConnectionSetup-r4-IEs,
                v4d0NonCriticalExtensions          SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    rrcConnectionSetup-r4-add-ext  ————BIT STRING    OPTIONAL,
                    v590NonCriticalExtensions      SEQUENCE {
                        rrcConnectionSetup-v590ext      RRCConnectionSetup-v590ext-IEs,
                        v6xyNonCriticalExtensions        SEQUENCE {
                            rrcConnectionSetup-v6xyext      RRCConnectionSetup-v6xyext-IEs,
                            nonCriticalExtensions              SEQUENCE {}    OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions                  CHOICE {
                r5                               SEQUENCE {
                    rrcConnectionSetup-r5           RRCConnectionSetup-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    rrcConnectionSetup-r5-add-ext  ————BIT STRING    OPTIONAL,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        rrcConnectionSetup-v6xyext      RRCConnectionSetup-v6xyext-IEs,
                        nonCriticalExtensions              SEQUENCE {}    OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions               SEQUENCE {}
            }
        }
    }
}

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

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

RRCConnectionSetup-v590ext-IEs ::= SEQUENCE {
    -- User equipment IEs
        systemSpecificCapUpdateReq   SystemSpecificCapUpdateReq-v590ext      OPTIONAL,
```

```
    -- Physical channel IEs
        dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List        OPTIONAL
}

RRCConnectionSetup-r4-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI,
        new-c-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient,
        -- TABULAR: If capabilityUpdateRequirement is not present, the default value
        -- defined in 10.3.3.2 shall be used.
        capabilityUpdateRequirement     CapabilityUpdateRequirement-r4      OPTIONAL,
    -- Radio bearer IEs
        srb-InformationSetupList        SRB-InformationSetupList2,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo-r4             OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4            OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList-r4      OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        dl-CommonInformation            DL-CommonInformation-r4            OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4        OPTIONAL
}

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

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

-- **12th Change** --

```
-- *************************************************
--
```

```
-- 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,
        beaconPLEst                   BEACON-PL-Est                     OPTIONAL,
    -- MBMS IEs
        mbms-FLCApplicabilityInfo     MBMS-FLCApplicabilityInfo-r6
}
```

-- 13th Change --

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

UplinkPhysicalChannelControl ::= CHOICE {
    r3                            SEQUENCE {
        uplinkPhysicalChannelControl-r3 UplinkPhysicalChannelControl-r3-IEs,
        laterNonCriticalExtensions        SEQUENCE {
            -- Container for additional R99 extensions
            uplinkPhysicalChannelControl-r3-add-ext    BIT STRING    OPTIONAL,
```

```
            v4b0NonCriticalExtensions       SEQUENCE {
                uplinkPysicalChannelControl-v4b0ext    UplinkPhysicalChannelControl-v4b0ext-IEs,
                -- Extension mechanism for non--release_4 information
                noncriticalExtensions           SEQUENCE {}                    OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                uplinkPhysicalChannelControl-r4 UplinkPhysicalChannelControl-r4-IEs,
                v4d0NonCriticalExtensions           SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    uplinkPhysicalChannelControl-r4-add-ext    BIT STRING      OPTIONAL,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        uplinkPhysicalChannelControl-v6xyext    UplinkPhysicalChannelControl-v6xyext-IEs,
                        nonCriticalExtensions           SEQUENCE {} OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions          CHOICE {
                r5                              SEQUENCE {
                    uplinkPhysicalChannelControl-r5 UplinkPhysicalChannelControl-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    uplinkPhysicalChannelControl-r5-add-ext    BIT STRING      OPTIONAL,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        uplinkPhysicalChannelControl-v6xyext    UplinkPhysicalChsanneslControl-v6xyext-IEs,
                        nonCriticalExtensions           SEQUENCE {} OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions          SEQUENCE {}
            }
        }
    }
}

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

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

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

UplinkPhysicalChannelControl-r5-IEs ::= SEQUENCE {
    -- Physical channel IEs
    ccTrCH-PowerControlInfo         CCTrCH-PowerControlInfo-r5       OPTIONAL,
    specialBurstScheduling          SpecialBurstScheduling          OPTIONAL,
    tddOption                       CHOICE {
        tdd384                          SEQUENCE {
            timingAdvance                   UL-TimingAdvanceControl-r4  OPTIONAL,
```

```
                  alpha                            Alpha                           OPTIONAL,
                  prach-ConstantValue              ConstantValueTdd                OPTIONAL,
                  pusch-ConstantValue              ConstantValueTdd                OPTIONAL,
                  openLoopPowerControl-IPDL-TDD    OpenLoopPowerControl-IPDL-TDD-r4   OPTIONAL,
                  hs-SICH-PowerControl             HS-SICH-Power-Control-Info-TDD384   OPTIONAL
             },
             tdd128                      SEQUENCE {
                  ul-SynchronisationParameters    UL-SynchronisationParameters-r4 OPTIONAL
             }
        }
    }
}

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

-------------------------------------- **14th Change** --

```
-- **************************************************
--
--     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 {
```

CR page 32

```
    -- 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))

BEACON-PL-Est ::=                       ENUMERATED { true }

BurstType ::=                       ENUMERATED {
                                    type1, type2 }
```

CR page 33

```
-- 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-PowerControl4Info
}

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
```

-------------------------------------- **End of Changes** --------------------------------------