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

RP-050307
agenda item 7.7.2

Source: **TSG-RAN WG2.**

Title: **CRs (Rel-5 & Rel-6) to WG2 specifications for the removal of SSDT**

The following CRs are in RP-050307:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	2584	-	Rel-5	Feature Clean Up: Removal of SSDT	C	5.12.1	5.13.0	R2-051601	TEI5
25.331	2585	-	Rel-6	Feature Clean Up: Removal of SSDT	C	6.5.0	6.6.0	R2-051602	TEI5
25.922	0032	-	Rel-6	Feature Clean Up: Removal of SSDT	C	6.0.1	6.1.0	R2-051603	TEI5

3GPP TSG-RAN WG2 Meeting #47
Athens, Greece, 9th – 13th of May 2005

Tdoc ⌘R2-051601

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.331** **CR** **2584** ⌘ **rev** **-** ⌘ Current version: **5.12.1** ⌘

*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:	⌘	Feature Clean Up: Removal of SSDT
Source:	⌘	RAN WG2
Work item code:	⌘	TEI5
Date:	⌘	03/05/2005
Category:	⌘	**C**
Release:	⌘	Rel-5

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

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	RAN#27 decided with RP-050144 to remove SSDT from Rel5 onwards.
Summary of change:	⌘	SSDT is removed from the specification. **Isolated impact analysis:** The CR has isolated impact as it only affects the feature SSDT itself by being removed and other features so that they cannot be used together with SSDT.
Consequences if not approved:	⌘	RAN#27 decision would be violated.

Clauses affected:	⌘	3.2, 8.3.6.2, 8.6.6.25, 8.6.6.27, 10.2.1, 10.3.6.21, 10.3.6.24, 10.3.6.76, 10.3.6.77, 11.2, 11.3

	Y	N			
Other specs affected:	X		Other core specifications	⌘	25.211, 25.214, 25.922, 25.423, 25.433, 25.931, 25.104, 25.141, 25.101
		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.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACK	Acknowledgement
AICH	Acquisition Indicator CHannel
AM	Acknowledged Mode
AS	Access Stratum
ASC	Access Service Class
ASN.1	Abstract Syntax Notation.1
BCCH	Broadcast Control Channel
BCFE	Broadcast Control Functional Entity
BER	Bit Error Rate
BLER	BLock Error Rate
BSS	Base Station Sub-system
CCCH	Common Control Channel
CCPCH	Common Control Physical CHannel
CH	Conditional on history
CM	Connection Management
CN	Core Network
CPCH	Common Packet CHannel
C-RNTI	Cell RNTI
CTCH	Common Traffic CHannel
CTFC	Calculated Transport Format Combination
CV	Conditional on value
DCA	Dynamic Channel Allocation
DCCH	Dedicated Control Channel
DCFE	Dedicated Control Functional Entity
DCH	Dedicated Channel
DC-SAP	Dedicated Control SAP
DGPS	Differential Global Positioning System
DL	Downlink
DRAC	Dynamic Resource Allocation Control
DSCH	Downlink Shared Channel
DTCH	Dedicated Traffic Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
GC-SAP	General Control SAP
GERAN	GSM/EDGE Radio Access Network
GRA	GERAN Registration Area
G-RNTI	GERAN Radio Network Temporary Identity
HCS	Hierarchical Cell Structure
HFN	Hyper Frame Number
H-RNTI	HS-DSCH RNTI
HS-DSCH	High Speed Downlink Shared Channel
ID	Identifier
IDNNS	Intra Domain NAS Node Selector
IE	Information element
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISCP	Interference on Signal Code Power
L1	Layer 1
L2	Layer 2
L3	Layer 3
LAI	Location Area Identity
MAC	Media Access Control
MCC	Mobile Country Code
MD	Mandatory default
MM	Mobility Management

MNC	Mobile Network Code
MP	Mandatory present
NACC	Network Assisted Cell Change
NAS	Non Access Stratum
Nt-SAP	Notification SAP
NW	Network
OP	Optional
PCCH	Paging Control Channel
PCH	Paging Channel
PDCP	Packet Data Convergence Protocol
PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PNFE	Paging and Notification Control Functional Entity
PRACH	Physical Random Access CHannel
PSI	Packet System Information
P-TMSI	Packet Temporary Mobile Subscriber Identity
PUSCH	Physical Uplink Shared Channel
QoS	Quality of Service
RAB	Radio access bearer
RACH	Random Access CHannel
RAI	Routing Area Identity
RAT	Radio Access Technology
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
SCTD	Space Code Transmit Diversity
SF	Spreading Factor
SHCCH	Shared Control Channel
SI	System Information
SIR	Signal to Interference Ratio
S-RNTI	SRNC - RNTI
~~SSDT~~	~~Site Selection Diversity Transmission~~
TDD	Time Division Duplex
TF	Transport Format
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TM	Transparent Mode
TME	Transfer Mode Entity
TMSI	Temporary Mobile Subscriber Identity
Tr	Transparent
Tx	Transmission
UE	User Equipment
UL	Uplink
UM	Unacknowledged Mode
URA	UTRAN Registration Area
U-RNTI	UTRAN-RNTI
USCH	Uplink Shared Channel
UTRAN	Universal Terrestrial Radio Access Network

8.3.6 Inter-RAT handover to UTRAN

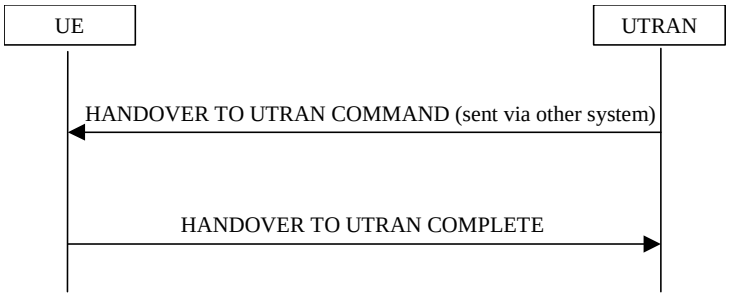

Figure 8.3.6-1: Inter-RAT handover to UTRAN, successful case

8.3.6.1 General

The purpose of the inter-RAT handover procedure is to, under the control of the network, transfer a connection between the UE and another radio access technology (e.g. GSM) to UTRAN.

8.3.6.2 Initiation

The procedure is initiated when a radio access technology other than UTRAN, e.g. GSM, using radio access technology-specific procedures, orders the UE to make a handover to UTRAN.

A HANDOVER TO UTRAN COMMAND message is sent to the UE via the radio access technology from which inter-RAT handover is performed.

In case UTRAN decides to uses a predefined or default radio configuration that is stored in the UE, it should include the following information in the HANDOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the IE "Predefined configuration identity", to indicate which pre-defined configuration of RB, transport channel and physical channel parameters shall be used; or
- the IE "Default configuration mode" and IE "Default configuration identity", to indicate which default configuration of RB, transport channel and physical channel parameters shall be used;
- PhyCH information elements.

NOTE 1: When using a predefined or default configuration during handover to UTRAN, UTRAN can only assign values of IEs "New U-RNTI" and "scrambling code" that are within the special subranges defined exclusively for this procedure. UTRAN may re- assign other values after completion of the handover procedure.

NOTE 2: When using a predefined or default configuration during handover to UTRAN, fewer IEs are signalled; when using this signalling option some parameters e.g. concerning compressed mode, DSCH~~, SSDT~~ can not be configured. In this case, the corresponding functionality can not be activated immediately.

NOTE 3: When using a predefined or default configuration, the HANDOVER TO UTRAN COMMAND should not include more than one radio link. If UTRAN includes more than one radio link in the HANDOVER TO UTRAN COMMAND using a predefined or default configuration, the UE behaviour is unspecified.

In case UTRAN does not use a predefined radio configuration that is stored in the UE, it should include the following information in the HANDOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the complete set of RB, TrCH and PhyCH information elements to be used.

8.6.6.25 ~~SSDT Information~~Void

~~If the IE "SSDT Information" is included the UE shall:~~

~~1> configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";~~

~~1> if the IE "Code Word Set" has the value "long", "medium" or "short":~~

~~2> use the length of the temporary cell ID code for SSDT indicated in the IE "Code Word Set".~~

~~1> if the IE "Code Word Set" has the value "SSDT off":~~

~~2> terminate SSDT.~~

8.6.6.27 Downlink information common for all radio links

If the IE "Downlink information common for all radio links " is included the UE shall:

1> if the IE "Downlink DPCH info common for all RL" is included:

2> perform actions as specified in subclause 8.6.6.28.

1> if the IE choice "mode" is set to 'FDD':

2> perform actions for the IE "DPCH compressed mode info" as specified in subclause 8.6.6.15;

2> perform actions for the IE "Tx Diversity mode" as specified in subclause 8.6.6.24.~~;~~

~~2> if the IE "SSDT information" is included:~~

~~3> perform actions as specified in subclause 8.6.6.25.~~

1> if the IE "Default DPCH Offset value" is included:

2> perform actions as specified in the subclause 8.6.6.21.

1> if the IE "MAC-hs reset indicator" is included:

2> if the serving HS-DSCH radio link is the same radio link as prior to the reception of the message:

3> the UE behaviour is unspecified.

2> reset the MAC-hs entity [15].

10.2 Radio Resource Control messages

10.2.1 ACTIVE SET UPDATE

NOTE: Only for FDD.

This message is used by UTRAN to add, replace or delete radio links in the active set of the UE.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE information					

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Activation time	MD		Activation time 10.3.3.1	Default value is "now".	
New U-RNTI	OP		U-RNTI 10.3.3.47		
CN information elements					
CN Information info	OP		CN Information info 10.3.1.3		
Phy CH information elements					
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing "maximum UL TX power.	
Downlink radio resources					
Radio link addition information	OP	1 to <maxRL-1>		Radio link addition information required for each RL to add	
>Radio link addition information	MP		Radio link addition information 10.3.6.68		
Radio link removal information	OP	1 to <maxRL>		Radio link removal information required for each RL to remove	
>Radio link removal information	MP		Radio link removal information 10.3.6.69		
TX Diversity Mode	MD		TX Diversity Mode 10.3.6.86	Default value is the TX diversity mode currently used in all or part of the active set.	
~~SSDT information~~	~~OP~~		~~SSDT information 10.3.6.77~~		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
DPC Mode	OP		Enumerated (Single TPC, TPC triplet in soft)	"Single TPC" is DPC_Mode=0 and "TPC triplet in soft" is DPC_mode=1 in [29].	REL-5

10.3.6.21 Downlink DPCH info for each RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE *mode*	MP				
>FDD					
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.62		
>>DPCH frame offset	MP		Integer(0..38144 by step of 256)	Offset (in number of chips) between the beginning of the P-CCPCH frame and the beginning of the DPCH frame This is called $\tau_{DPCH,n}$ in [26]	
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.73		
>>DL channelisation code	MP	1 to <maxDPCH-DLchan>		For the purpose of physical channel mapping [27] the DPCHs are numbered, starting from DPCH number 1, according to the order that they are contained in this IE.	
>>>Secondary scrambling code	MD		Secondary scrambling code 10.3.6.74	Default is the same scrambling code as for the Primary CPICH	
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-AndCodenumber with "code number" in ASN.1	
>>>Code number	MP		Integer(0..Spreading factor - 1)		
>>>Scrambling code change	CH-*SF/2*		Enumerated (code change, no code change)	Indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.	
>>TPC combination index	MP		TPC combination index 10.3.6.85		
>>Power offset $P_{TPC-DPDCH}$	OP		Integer (0..24)	Power offset equals P_{TPC}- P_{DPDCH}, range 0..6 dB, in steps of 0.25 dB	REL-5

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
~~>>SSDT Cell Identity~~	~~OP~~		~~SSDT Cell Identity 10.3.6.76~~		
>>Closed loop timing adjustment mode	CH-*TxDiversity Mode*		Integer(1, 2)	It is present if Tx Diversity is used in the radio link.	
>TDD					
>>DL CCTrCh List	OP	1..<max CCTrCH>		DL physical channels to establish or reconfigure list.	
>>>TFCS ID	MD		Integer(1..8)	Identity of this CCTrCh. Default value is 1	
>>>Time info	MP		Time Info 10.3.6.83		
>>>Common timeslot info	MD		Common Timeslot Info 10.3.6.10	Default is the current Common timeslot info	
>>>Downlink DPCH timeslots and codes	MD		Downlink Timeslots and Codes 10.3.6.32	Default is to use the old timeslots and codes.	
>>>UL CCTrCH TPC List	MD	0..<max CCTrCH>		UL CCTrCH identities for TPC commands associated with this DL CCTrCH. Default is previous list or all defined UL CCTrCHs. This list is not required for 1.28 Mcps TDD and is to be ignored by the UE.	
>>>>UL TPC TFCS Identity	MP		Transport Format Combination Set Identity 10.3.5.21		
>>DL CCTrCH List to Remove	OP	1..<max CCTrCH>		DL physical channels to remove list.	
>>>TFCS ID	MP		Integer(1..8)		

Condition	Explanation
SF/2	The information element is mandatory present if the UE has a compressed mode pattern sequence configured in variable TGPS_IDENTITY or included in the message including IE "Downlink DPCH info for each RL", which is using compressed mode method "SF/2". Otherwise the IE is not needed.
TxDiversity Mode	This IE is mandatory present if any TX Diversity Mode is used on the radio link, i.e. if STTD, "closed loop mode 1" or "closed loop mode 2" is used on the radio link. Otherwise the IE is not needed.

10.3.6.24 Downlink information common for all radio links

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Downlink DPCH info common	OP		Downlink		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
for all RL			DPCH info common for all RL 10.3.6.18		
CHOICE *mode*	MP				
>FDD					
>>DPCH compressed mode info	OP		DPCH compressed mode info 10.3.6.33		
>>TX Diversity Mode	MD		TX Diversity Mode 10.3.6.86	Default value is the existing value of TX Diversity mode	
~~>>SSDT information~~	~~OP~~		~~SSDT information 10.3.6.77~~		
>TDD				(no data)	
>>CHOICE *TDD option*	MP				REL-4
>>>3.84 Mcps TDD				(no data)	REL-4
>>>1.28 Mcps TDD					REL-4
>>>>TSTD indicator	MP		TSTD indicator 10.3.6.85a		REL-4
Default DPCH Offset Value	OP		Default DPCH Offset Value, 10.3.6.16		
MAC-hs reset indicator	CV-*messageType*		Enumerated (true)	TRUE Indicates the MAC-hs entity needs to be reset.	REL-5

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

10.3.6.76 ~~SSDT cell identity~~Void

~~NOTE: Only for FDD.~~

~~This IE is used to associate a cell identity with a given radio link.~~

~~Information Element/Group name~~	~~Need~~	~~Multi~~	~~Type and reference~~	~~Semantics description~~
~~SSDT cell id~~	~~MP~~		~~Enumerated (a, b, c, d, e, f, g, h)~~	

10.3.6.77 ~~SSDT information~~Void

~~NOTE: Only for FDD.~~

~~This information element indicates the status (e.g. initiated/terminated) of the Site Selection.~~

~~Diversity Transmit power control (SSDT). It is used to change the SSDT status. The parameter 'code word set' indicates how cell identities are coded (using many bits or few, values are long, medium, or short).~~

Information Element/Group name	Need	Multi	Type and	Semantics description	Versi
S field	MP		Integer	In bits	
Code Word Set	MP		Enumera		

Information Element/Group name	Need	Multi	Type and	Semantics description	Versi
SSDT UL	OP		Enumera		REL

NOTE: These parameters shall be set optionally associated with DL DPCH info but not for each RL.

11.2 PDU definitions

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

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS

-- Core Network IEs :
    CN-DomainIdentity,
    CN-InformationInfo,
    CN-InformationInfoFull,
    NAS-Message,
    PagingRecordTypeID,
-- UTRAN Mobility IEs :
    CellIdentity,
    CellIdentity-PerRL-List,
    URA-Identity,
-- User Equipment IEs :
```

```
    AccessStratumReleaseIndicator,
    ActivationTime,
    C-RNTI,
    CapabilityUpdateRequirement,
    CapabilityUpdateRequirement-r4,
    CapabilityUpdateRequirement-r4-ext,
    CapabilityUpdateRequirement-r5,
    CellUpdateCause,
    CipheringAlgorithm,
    CipheringModeInfo,
    DSCH-RNTI,
    EstablishmentCause,
    FailureCauseWithProtErr,
    FailureCauseWithProtErrTrId,
    GroupReleaseInformation,
    H-RNTI,
    UESpecificBehaviourInformation1idle,
    UESpecificBehaviourInformation1interRAT,
    InitialUE-Identity,
    IntegrityProtActivationInfo,
    IntegrityProtectionModeInfo,
    N-308,
    PagingCause,
    PagingRecordList,
    PagingRecord2List-r5,
    ProtocolErrorIndicator,
    ProtocolErrorIndicatorWithMoreInfo,
    RadioFrequencyBandTDDList,
    Rb-timer-indicator,
    RedirectionInfo,
    RejectionCause,
    ReleaseCause,
    RF-CapabilityComp,
    RRC-StateIndicator,
    RRC-TransactionIdentifier,
    SecurityCapability,
    START-Value,
    STARTList,
    SystemSpecificCapUpdateReq-v590ext,
    U-RNTI,
    U-RNTI-Short,
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
    UE-RadioAccessCapability-v380ext,
    UE-RadioAccessCapability-v3a0ext,
    UE-RadioAccessCapability-v3g0ext,
    UE-RadioAccessCapability-v4b0ext,
    UE-RadioAccessCapability-v590ext,
    UE-RadioAccessCapability-v5c0ext,
    UE-RadioAccessCapabilityComp,
    DL-PhysChCapabilityFDD-v380ext,
    UE-ConnTimersAndConstants,
    UE-ConnTimersAndConstants-v3a0ext,
    UE-ConnTimersAndConstants-r5,
    UE-SecurityInformation,
    URA-UpdateCause,
    UTRAN-DRX-CycleLengthCoefficient,
    WaitTime,
-- Radio Bearer IEs :
    DefaultConfigIdentity,
    DefaultConfigIdentity-r4,
    DefaultConfigIdentity-r5,
    DefaultConfigMode,
    DL-CounterSynchronisationInfo,
    DL-CounterSynchronisationInfo-r5,
    PredefinedConfigIdentity,
    PredefinedConfigStatusList,
    PredefinedConfigStatusListComp,
    PredefinedConfigSetWithDifferentValueTag,
    RAB-Info,
    RAB-Info-Post,
    RAB-InformationList,
    RAB-InformationReconfigList,
    RAB-InformationSetupList,
    RAB-InformationSetupList-r4,
    RAB-InformationSetupList-r5,
    RB-ActivationTimeInfoList,
    RB-COUNT-C-InformationList,
```

```
    RB-COUNT-C-MSB-InformationList,
    RB-IdentityList,
    RB-InformationAffectedList,
    RB-InformationAffectedList-r5,
    RB-InformationReconfigList,
    RB-InformationReconfigList-r4,
    RB-InformationReconfigList-r5,
    RB-InformationReleaseList,
    RB-PDCPContextRelocationList,
    SRB-InformationSetupList,
    SRB-InformationSetupList-r5,
    SRB-InformationSetupList2,
    UL-CounterSynchronisationInfo,
-- Transport Channel IEs:
    CPCH-SetID,
    DL-AddReconfTransChInfo2List,
    DL-AddReconfTransChInfoList,
    DL-AddReconfTransChInfoList-r4,
    DL-AddReconfTransChInfoList-r5,
    DL-CommonTransChInfo,
    DL-CommonTransChInfo-r4,
    DL-DeletedTransChInfoList,
    DL-DeletedTransChInfoList-r5,
    DRAC-StaticInformationList,
    TFC-Subset,
    TFCS-Identity,
    UL-AddReconfTransChInfoList,
    UL-CommonTransChInfo,
    UL-CommonTransChInfo-r4,
    UL-DeletedTransChInfoList,
-- Physical Channel IEs :
    Alpha,
    CCTrCH-PowerControlInfo,
    CCTrCH-PowerControlInfo-r4,
    CCTrCH-PowerControlInfo-r5,
    ConstantValue,
    ConstantValueTdd,
    CPCH-SetInfo,
    DL-CommonInformation,
    DL-CommonInformation-r4,
    DL-CommonInformation-r5,
    DL-CommonInformationPost,
    DL-HSPDSCH-Information,
    DL-InformationPerRL-List,
    DL-InformationPerRL-List-r4,
    DL-InformationPerRL-List-r5,
    DL-InformationPerRL-List-r5bis,
    DL-InformationPerRL-ListPostFDD,
    DL-InformationPerRL-PostTDD,
    DL-InformationPerRL-PostTDD-LCR-r4,
    DL-PDSCH-Information,
    DL-TPC-PowerOffsetPerRL-List,
    DPC-Mode,
    DPCH-CompressedModeStatusInfo,
    FrequencyInfo,
    FrequencyInfoFDD,
    FrequencyInfoTDD,
    HS-SICH-Power-Control-Info-TDD384,
    MaxAllowedUL-TX-Power,
    OpenLoopPowerControl-IPDL-TDD-r4,
    PDSCH-CapacityAllocationInfo,
    PDSCH-CapacityAllocationInfo-r4,
    PDSCH-Identity,
    PrimaryCPICH-Info,
    PrimaryCCPCH-TX-Power,
    PUSCH-CapacityAllocationInfo,
    PUSCH-CapacityAllocationInfo-r4,
    PUSCH-Identity,
    PUSCH-SysInfoList-HCR-r5,
    PDSCH-SysInfoList-HCR-r5,
    RL-AdditionInformationList,
    RL-RemovalInformationList,
    SpecialBurstScheduling,
    SSDT-Information,
    TFC-ControlDuration,
    SSDT-UL,
    TimeslotList,
    TimeslotList-r4,
```

```
    TX-DiversityMode,
    UL-ChannelRequirement,
    UL-ChannelRequirement-r4,
    UL-ChannelRequirement-r5,
    UL-ChannelRequirementWithCPCH-SetID,
    UL-ChannelRequirementWithCPCH-SetID-r4,
    UL-ChannelRequirementWithCPCH-SetID-r5,
    UL-DPCH-Info,
    UL-DPCH-Info-r4,
    UL-DPCH-Info-r5,
    UL-DPCH-InfoPostFDD,
    UL-DPCH-InfoPostTDD,
    UL-DPCH-InfoPostTDD-LCR-r4,
    UL-SynchronisationParameters-r4,
    UL-TimingAdvance,
    UL-TimingAdvanceControl,
    UL-TimingAdvanceControl-r4,
-- Measurement IEs :
    AdditionalMeasurementID-List,
    DeltaRSCP,
    Frequency-Band,
    EventResults,
    Inter-FreqEventCriteriaList-v590ext,
    Intra-FreqEventCriteriaList-v590ext,
    IntraFreqReportingCriteria-1b-r5,
    IntraFreqEvent-1d-r5,
    InterFreqEventResults-LCR-r4-ext,
    InterRATCellInfoIndication,
    InterRAT-TargetCellDescription,
    MeasuredResults,
    MeasuredResults-v390ext,
    MeasuredResults-v590ext,
    MeasuredResultsList,
    MeasuredResultsList-LCR-r4-ext,
    MeasuredResultsOnRACH,
    MeasurementCommand,
    MeasurementCommand-r4,
    MeasurementIdentity,
    MeasurementReportingMode,
    PrimaryCCPCH-RSCP,
    SFN-Offset-Validity,
    TimeslotListWithISCP,
    TrafficVolumeMeasuredResultsList,
    UE-Positioning-GPS-AssistanceData,
    UE-Positioning-Measurement-v390ext,
    UE-Positioning-OTDOA-AssistanceData,
    UE-Positioning-OTDOA-AssistanceData-r4ext,
    UE-Positioning-OTDOA-AssistanceData-UEB,
-- Other IEs :
    BCCH-ModificationInfo,
    CDMA2000-MessageList,
    GERANIu-MessageList,
    GERAN-SystemInformation,
    GSM-MessageList,
    InterRAT-ChangeFailureCause,
    InterRAT-HO-FailureCause,
    InterRAT-UE-RadioAccessCapabilityList,
    InterRAT-UE-RadioAccessCapability-v590ext,
    InterRAT-UE-SecurityCapList,
    IntraDomainNasNodeSelector,
    ProtocolErrorMoreInformation,
    Rplmn-Information,
    Rplmn-Information-r4,
    SegCount,
    SegmentIndex,
    SFN-Prime,
    SIB-Data-fixed,
    SIB-Data-variable,
    SIB-Type
FROM InformationElements

    maxSIBperMsg,
    maxURNTI-Group
FROM Constant-definitions;

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

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

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

ActiveSetUpdate-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        -- dummy and dummy2 are not used in this version of the specification, they should
        -- not be sent and if received they should be ignored.
        dummy                       IntegrityProtectionModeInfo         OPTIONAL,
        dummy2                      CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        newU-RNTI                       U-RNTI                              OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        -- dummy3 is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        dummy3                      DL-CounterSynchronisationInfo       OPTIONAL,
    -- Physical channel IEs
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        rl-AdditionInformationList      RL-AdditionInformationList          OPTIONAL,
        rl-RemovalInformationList       RL-RemovalInformationList           OPTIONAL,
        tx-DiversityMode                TX-DiversityMode                    OPTIONAL,
        -- dummy4 is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-Informationdummy4              SSDT-Information                    OPTIONAL
}

ActiveSetUpdate-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information. FDD only.
        ssdt-UL-r4dummy                     SSDT-UL                             OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE RL-AdditionInformationList included in this message
        cell-id-PerRL-List              CellIdentity-PerRL-List             OPTIONAL
}

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


-- **************************************************
--
-- 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,
                        nonCriticalExtensions               SEQUENCE {} 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,
                        nonCriticalExtensions           SEQUENCE {}     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,
                    nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4       BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove     BOOLEAN,
    -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList          OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
```

```
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information             DL-PDSCH-Information       OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation               OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List           OPTIONAL
}

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

CellUpdateConfirm-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                         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
}

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

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

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

-- **************************************************
--
-- 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,
                        nonCriticalExtensions                   SEQUENCE {} 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,
                    nonCriticalExtensions           SEQUENCE {}     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,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
```

```
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                         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
}

-- **************************************************
--
-- 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,
                        nonCriticalExtensions               SEQUENCE {} OPTIONAL
                    }   OPTIONAL
                }   OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
```

```
                radioBearerReconfiguration-r4   RadioBearerReconfiguration-r4-IEs,
                v4d0NonCriticalExtensions           SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    radioBearerReconfiguration-r4-add-ext       BIT STRING      OPTIONAL,
                    v590NonCriticalExtensions           SEQUENCE {
                        radioBearerReconfiguration-v590ext
                                                    RadioBearerReconfiguration-v590ext-IEs,
                        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,
                    nonCriticalExtensions               SEQUENCE {}     OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        -- NOTE: IE rb-InformationReconfigList should be optional in later versions
        -- of this message
        rb-InformationReconfigList      RB-InformationReconfigList,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                         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
}

-- **************************************************
--
-- 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,
                        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,
                        nonCriticalExtensions           SEQUENCE {}     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,
                    nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

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

```
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- IE ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                         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
}

-- **************************************************
--
-- 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,
                        nonCriticalExtensions           SEQUENCE {} 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,
                        nonCriticalExtensions           SEQUENCE {}     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,
```

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                    nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

RadioBearerSetup-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        srb-InformationSetupList        SRB-InformationSetupList            OPTIONAL,
        rab-InformationSetupList        RAB-InformationSetupList            OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-DeletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
}


-- **************************************************
--
-- 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,
                        nonCriticalExtensions           SEQUENCE {}     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,
                    nonCriticalExtensions           SEQUENCE {}     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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
}

-- **************************************************
--
-- 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,
                        nonCriticalExtensions           SEQUENCE {}     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,
                        nonCriticalExtensions           SEQUENCE {}     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,
                    nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

TransportChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
```

```
}
```

11.3 Information element definitions

```
-- **************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- **************************************************

DL-CommonInformation ::=            SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon          OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
            ssdt-Informationdummy                   SSDT-Information            OPTIONAL
        },
        tdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}

DL-CommonInformation-r4 ::=         SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon-r4       OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
            ssdt-Informationdummy                   SSDT-Information-r4         OPTIONAL
        },
        tdd                                 SEQUENCE {
            tddOption                           CHOICE {
                tdd384                              NULL,
                tdd128                              SEQUENCE {
                    tstd-Indicator                      BOOLEAN
                }
            },
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}

DL-CommonInformation-r5 ::=         SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon-r4           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
            ssdt-Informationdummy                   SSDT-Information-r4         OPTIONAL
        },
        tdd                                 SEQUENCE {
            tddOption                           CHOICE {
                tdd384                              NULL,
                tdd128                              SEQUENCE {
                    tstd-Indicator                      BOOLEAN
                }
            },
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    },
    mac-hsResetIndicator                ENUMERATED { true }         OPTIONAL
}

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

```
}

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

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

DL-DPCH-InfoCommon ::=              SEQUENCE {
    cfnHandling                         CHOICE {
        maintain                            NULL,
        initialise                          SEQUENCE {
            cfntargetsfnframeoffset             Cfntargetsfnframeoffset             OPTIONAL
        }
    },
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo            OPTIONAL,
            powerOffsetPilot-pdpdch             PowerOffsetPilot-pdpdch,
            dl-rate-matching-restriction        Dl-rate-matching-restriction        OPTIONAL,
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot             SF512-AndPilot,
            positionFixedOrFlexible             PositionFixedOrFlexible,
            tfci-Existence                      BOOLEAN
        },
        tdd                                 SEQUENCE {
            dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo            OPTIONAL
        }
    }
}

DL-DPCH-InfoCommon-r4 ::=           SEQUENCE {
    cfnHandling                         CHOICE {
        maintain                            NULL,
        initialise                          SEQUENCE {
            cfntargetsfnframeoffset             Cfntargetsfnframeoffset             OPTIONAL
        }
    },
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo            OPTIONAL,
            powerOffsetPilot-pdpdch             PowerOffsetPilot-pdpdch,
            dl-rate-matching-restriction        Dl-rate-matching-restriction        OPTIONAL,
            -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            spreadingFactorAndPilot             SF512-AndPilot,
            positionFixedOrFlexible             PositionFixedOrFlexible,
            tfci-Existence                      BOOLEAN
        },
        tdd                                 SEQUENCE {
            dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo            OPTIONAL
        }
    },
-- The IE mac-d-HFN-initial-value should be absent in the RRCConnectionSetup-r4-IEs or
-- RRCConnectionSetup-r5-IEs or HandoverToUTRANCommand-r4-IEs or HandoverToUTRANCommand-r5-IEs and
-- if the IE is included, the general error handling for conditional IEs applies.
    mac-d-HFN-initial-value             MAC-d-HFN-initial-value             OPTIONAL

}


DL-DPCH-InfoCommonPost ::=          SEQUENCE {
    dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo                OPTIONAL
}

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

```
}

DL-DPCH-InfoPerRL ::=               CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList                   OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r4 ::=            CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList-r4                OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r5 ::=            CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        powerOffsetTPC-pdpdch               PowerOffsetTPC-pdpdch           OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList-r4                OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}
```

3GPP TSG-RAN WG2 Meeting #47
Athens, Greece, 9th – 13th of May 2005

Tdoc ⌘R2-051602

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.331** **CR** **2585** ⌘ **rev** **-** ⌘ Current version: **6.5.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Feature Clean Up: Removal of SSDT
Source:	⌘	RAN WG2
Work item code:	⌘	TEI5
Date:	⌘	03/05/2005
Category:	⌘	**C**
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	RAN#27 decided with RP-050144 to remove SSDT from Rel5 onwards.
Summary of change:	⌘	SSDT is removed from the specification. **Isolated impact analysis:** The CR has isolated impact as it only affects the feature SSDT itself by being removed and other features so that they cannot be used together with SSDT.
Consequences if not approved:	⌘	RAN#27 decision would be violated.

Clauses affected:	⌘	3.2, 8.3.6.2, 8.6.6.25, 8.6.6.27, 10.2.1, 10.3.6.21, 10.3.6.24, 10.3.6.76, 10.3.6.77, 11.2, 11.3

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	25.211, 25.214, 25.922, 25.423, 25.433, 25.931, 25.104, 25.141, 25.101
			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.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACK	Acknowledgement
AICH	Acquisition Indicator CHannel
AM	Acknowledged Mode
AS	Access Stratum
ASC	Access Service Class
ASN.1	Abstract Syntax Notation.1
BCCH	Broadcast Control Channel
BCFE	Broadcast Control Functional Entity
BER	Bit Error Rate
BLER	BLock Error Rate
BSS	Base Station Sub-system
CCCH	Common Control Channel
CCPCH	Common Control Physical CHannel
CH	Conditional on history
CM	Connection Management
CN	Core Network
CPCH	Common Packet CHannel
C-RNTI	Cell RNTI
CTCH	Common Traffic CHannel
CTFC	Calculated Transport Format Combination
CV	Conditional on value
DCA	Dynamic Channel Allocation
DCCH	Dedicated Control Channel
DCFE	Dedicated Control Functional Entity
DCH	Dedicated Channel
DC-SAP	Dedicated Control SAP
DDI	Data Description Indicator
DGPS	Differential Global Positioning System
DL	Downlink
DRAC	Dynamic Resource Allocation Control
DSCH	Downlink Shared Channel
DTCH	Dedicated Traffic Channel
E-AGCH	E-DCH Absolute Grant Channel
E-DCH	Enhanced uplink DCH
E-DPCCH	E-DCH Dedicated Physical Control Channel
E-DPDCH	E-DCH Dedicated Physical Data Channel
E-HICH	E-DCH HARQ Acknowledgement Indicator Channel
E-RGCH	E-DCH Relative Grant Channel
E-RNTI	E-DCH RNTI
FACH	Forward Access Channel
FDD	Frequency Division Duplex
F-DPCH	Fractional DPCH
GC-SAP	General Control SAP
GERAN	GSM/EDGE Radio Access Network
GRA	GERAN Registration Area
G-RNTI	GERAN Radio Network Temporary Identity
HCS	Hierarchical Cell Structure
HFN	Hyper Frame Number
H-RNTI	HS-DSCH RNTI
HS-DSCH	High Speed Downlink Shared Channel
ID	Identifier
IDNNS	Intra Domain NAS Node Selector
IE	Information element
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol

ISCP	Interference on Signal Code Power
L1	Layer 1
L2	Layer 2
L3	Layer 3
LAI	Location Area Identity
MAC	Media Access Control
MBMS	Multimedia Broadcast Multicast Service
MCC	Mobile Country Code
MCCH	MBMS point-to-multipoint Control Channel
MD	Mandatory default
MICH	MBMS notification Indicator Channel
MM	Mobility Management
MNC	Mobile Network Code
MP	Mandatory present
MTCH	MBMS point-to-multipoint Traffic Channel
MSCH	MBMS point-to-multipoint Scheduling Channel
NACC	Network Assisted Cell Change
NAS	Non Access Stratum
Nt-SAP	Notification SAP
NW	Network
OP	Optional
PCCH	Paging Control Channel
PCH	Paging Channel
PDCP	Packet Data Convergence Protocol
PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PNFE	Paging and Notification Control Functional Entity
PRACH	Physical Random Access CHannel
PSI	Packet System Information
p-t-m	Point-to-Multipoint
P-TMSI	Packet Temporary Mobile Subscriber Identity
p-t-p	Point-to-Point
PUSCH	Physical Uplink Shared Channel
QoS	Quality of Service
RAB	Radio access bearer
RACH	Random Access CHannel
RAI	Routing Area Identity
RAT	Radio Access Technology
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
SCTD	Space Code Transmit Diversity
SF	Spreading Factor
SHCCH	Shared Control Channel
SI	System Information
SIR	Signal to Interference Ratio
S-RNTI	SRNC - RNTI
~~SSDT~~	~~Site Selection Diversity Transmission~~
TDD	Time Division Duplex
TF	Transport Format
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TM	Transparent Mode

TME	Transfer Mode Entity
TMSI	Temporary Mobile Subscriber Identity
Tr	Transparent
Tx	Transmission
UE	User Equipment
UL	Uplink
UM	Unacknowledged Mode
URA	UTRAN Registration Area
U-RNTI	UTRAN-RNTI
USCH	Uplink Shared Channel
UTRAN	Universal Terrestrial Radio Access Network

8.3.6 Inter-RAT handover to UTRAN

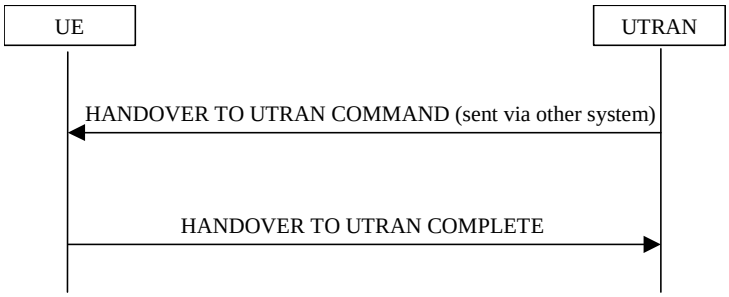

Figure 8.3.6-1: Inter-RAT handover to UTRAN, successful case

8.3.6.1 General

The purpose of the inter-RAT handover procedure is to, under the control of the network, transfer a connection between the UE and another radio access technology (e.g. GSM) to UTRAN.

8.3.6.2 Initiation

The procedure is initiated when a radio access technology other than UTRAN, e.g. GSM, using radio access technology-specific procedures, orders the UE to make a handover to UTRAN.

A HANDOVER TO UTRAN COMMAND message is sent to the UE via the radio access technology from which inter-RAT handover is performed.

In case UTRAN decides to uses a predefined or default radio configuration that is stored in the UE, it should include the following information in the HANDOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the IE "Predefined configuration identity", to indicate which pre-defined configuration of RB, transport channel and physical channel parameters shall be used; or
- the IE "Default configuration mode" and IE "Default configuration identity", to indicate which default configuration of RB, transport channel and physical channel parameters shall be used;
- PhyCH information elements.

NOTE 1: When using a predefined or default configuration during handover to UTRAN, UTRAN can only assign values of IEs "New U-RNTI" and "scrambling code" that are within the special subranges defined exclusively for this procedure. UTRAN may re- assign other values after completion of the handover procedure.

NOTE 2: When using a predefined or default configuration during handover to UTRAN, fewer IEs are signalled; when using this signalling option some parameters e.g. concerning compressed mode, DSCH~~, SSDT~~ can not be configured. In this case, the corresponding functionality can not be activated immediately.

NOTE 3: When using a predefined or default configuration, the HANDOVER TO UTRAN COMMAND should not include more than one radio link. If UTRAN includes more than one radio link in the HANDOVER TO UTRAN COMMAND using a predefined or default configuration, the UE behaviour is unspecified.

In case UTRAN does not use a predefined radio configuration that is stored in the UE, it should include the following information in the HANDOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the complete set of RB, TrCH and PhyCH information elements to be used.

8.3.6.3 Reception of HANDOVER TO UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

The UE shall act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following.

The UE may:

1> maintain a list of the set of cells to which the UE has Radio Links if the IE "Cell ID" is present.

The UE shall:

1> store a U-RNTI value (32 bits), which is derived by the IEs "SRNC identity" (12 bits) and "S-RNTI 2" (10 bits) included in IE "U-RNTI-short". In order to produce a full size U-RNTI value, a full size "S-RNTI" (20 bits) shall be derived by padding the IE "S-RNTI 2" with 10 zero bits in the most significant positions; and

1> initialise the variable ESTABLISHED_SIGNALLING_CONNECTIONS with the signalling connections that remains after the handover according to the specifications of the source RAT;

1> initialise the variable UE_CAPABILITIES_TRANSFERRED with the UE capabilities that have been transferred to the network up to the point prior to the handover, if any;

1> initialise the variable TIMERS_AND_CONSTANTS to the default values and start to use those timer and constants values;

1> if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Predefined configuration":

2> initiate the radio bearer and transport channel configuration in accordance with the predefined parameters identified by the IE "Predefined configuration identity";

2> initiate the physical channels in accordance with the predefined parameters identified by the IE "Predefined radio configuration identity" and the received physical channel information elements;

2> store information about the established radio access bearers and radio bearers according to the IE "Predefined configuration identity"; and

2> set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314".

1> if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Default configuration":

2> initiate the radio bearer and transport channel configuration in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity";

2> initiate the physical channels in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity" and the received physical channel information elements;

NOTE: IE "Default configuration mode" specifies whether the FDD or TDD version of the default configuration shall be used.

2> set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314".

1> if IE "Specification mode" is set to "Preconfiguration":

2> use the following values for parameters that are neither signalled within the HANDOVER TO UTRAN COMMAND message nor included within pre-defined or default configuration:

3> 0 dB for the power offset $P_{Pilot\text{-}DPDCH}$ bearer in FDD;

3> calculate the Default DPCH Offset Value using the following formula:

3> in FDD:

Default DPCH Offset Value = (SRNTI 2 mod 600) * 512

3> in TDD:

Default DPCH Offset Value = (SRNTI 2 mod 7)

3> handle the above Default DPCH Offset Value as if an IE with that value was included in the message, as specified in subclause 8.6.6.21.

1> if IE "Specification mode" is set to "Complete specification":

2> initiate the radio bearer, transport channel and physical channel configuration in accordance with the received radio bearer, transport channel and physical channel information elements.

1> perform an open loop estimation to determine the UL transmission power according to subclause 8.5.3;

1> set the IE "START" for each CN domain, in the IE "START list" in the HANDOVER TO UTRAN COMPLETE message equal to the START value for each CN domain stored in the USIM if the USIM is present, or as stored in the UE for each CN domain if the SIM is present;

NOTE: Keys received while in another RAT are not regarded as "new" (i.e.do not trigger the actions in subclause 8.1.12.3.1) in a subsequent security control procedure in UTRAN, irrespective of whether the keys are already being used in the other RAT or not. If the UE has received new keys in the other RAT before handover, then the START values in the USIM (sent in the HANDOVER TO UTRAN COMPLETE message and in the INTER_RAT_HANDOVER_INFO sent to the BSS while in the other RAT) will not reflect the receipt of these new keys. At a subsequent security mode control procedure in UTRA, UE activates ciphering and/or integrity protection using the key set stored in the USIM/SIM.

1> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the 20 MSBs of the value stored in the USIM [50] for the maximum value of START for each CN Domain, or to the default value in [40] if the SIM is present;

1> if ciphering has been activated and ongoing in the radio access technology from which inter- RAT handover is performed:

2> for the CN domain included in the IE "CN domain identity" which is included in the IE "RAB info" of the IE "RAB information to setup", or the CS domain when these IEs are not present:

3> set the variable LATEST_CONFIGURED_CN_DOMAIN to the value indicated in the IE "CN domain identity", or to the CS domain when this IE is not present;

3> set the 20 MSB of the HFN component of the COUNT-C variable for all radio bearers using RLC-TM and all signalling radio bearers to the "START" value included in the IE "UE security information" in the variable "INTER_RAT_HANDOVER_INFO_TRANSFERRED";

3> set the remaining LSBs of the HFN component of COUNT-C for all radio bearers using RLC-TM and all signalling radio bearers to zero;

3> not increment the HFN component of COUNT-C for radio bearers using RLC-TM, i.e. keep the HFN value fixed without incrementing every CFN cycle;

3> set the CFN component of the COUNT-C variable to the value of the CFN as calculated in subclause 8.5.15;

3> set the IE "Status" in the variable CIPHERING_STATUS to "Started";

3> apply the algorithm according to IE "Ciphering Algorithm" with the ciphering key set stored in the USIM/SIM and apply ciphering immediately upon reception of the HANDOVER TO UTRAN COMMAND.

NOTE: If ciphering has been activated and ongoing in the radio access technology from which inter RAT handover is performed, UTRAN should not include the IE "Ciphering mode info" in the SECURITY MODE COMMAND message that starts Integrity protection.

1> if ciphering has not been activated and ongoing in the radio access technology from which inter-RAT handover is performed:

2> for the CN domain included in the IE "CN domain identity" which is included in the IE "RAB info" of the IE "RAB information to setup", or the CS domain when these IEs are not present:

3> set the IE "Status" in the variable CIPHERING_STATUS to "Not Started".

If the UE succeeds in establishing the connection to UTRAN, it shall:

1> indicate to upper layers that no CN system information is available for any domain other then the CS domain;

1> if the USIM or SIM is present:

2> set the START value stored in the USIM [50] if present, and as stored in the UE if the SIM is present for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.

1> if the IE "Status" in the variable CIPHERING_STATUS of a CN domain is set to "Started" and transparent mode radio bearers have been established by this procedure for that CN domain:

2> include the IE "COUNT-C activation time" in the response message and specify a CFN value for this IE other than the default, "Now", that is a multiple of 8 frames (CFN mod 8 =0) and lies at least 200 frames ahead of the CFN in which the response message is first transmitted;

2> at the CFN value as indicated in the response message in the IE "COUNT-C activation time" for radio bearers using RLC-TM:

3> set the 20 MSB of the HFN component of the COUNT-C variable common for all transparent mode radio bearers of this CN domain to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and

3> set the remaining LSBs of the HFN component of COUNT-C to zero;

3> increment the HFN component of the COUNT-C variable by one even if the "COUNT-C activation time" is equal to zero;

3> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;

3> step the COUNT-C variable, as normal, at each CFN value. The HFN component is no longer fixed in value but incremented at each CFN cycle.

1> if the IE "Status" in the variable CIPHERING_STATUS of a CN domain is set to "Not Started" and transparent mode radio bearers have been established by this procedure for that CN domain:

2> initialise the 20 MSB of the HFN component of COUNT-C common for all transparent mode radio bearers of this CN domain with the START value as indicated in the IE "START list" of the response message for the relevant CN domain;

2> set the remaining LSBs of the HFN component of COUNT-C to zero;

2> do not increment the COUNT-C value common for all transparent mode radio bearers for this CN domain.

1> transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH, using, if ciphering has been started, the new ciphering configuration;

1> when the HANDOVER TO UTRAN COMPLETE message has been submitted to lower layers for transmission:

2> enter UTRA RRC connected mode in state CELL_DCH;

2> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;

2> update the variable UE_CAPABILITY_TRANSFERRED with the UE capabilities stored in the variable INTER_RAT_HANDOVER_INFO_TRANSFERRED;

2> for all radio bearers using RLC-AM or RLC-UM:

3> set the 20 MSB of the HFN component of the uplink and downlink COUNT-C variable to the START value indicated in the IE "START list" of the response message for the relevant CN domain; and

3> set the remaining LSBs of the HFN component of COUNT-C to zero;

3> increment the HFN component of the COUNT-C variable by one;

3> start incrementing the COUNT-C values.

1> and the procedure ends.

8.3.6.4 Invalid Handover to UTRAN command message

If the UE receives a HANDOVER TO UTRAN COMMAND message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling according to the source radio access technology. The UE shall:

1> if allowed by the source RAT:

2> transmit an RRC FAILURE INFO message to the source radio access technology; and

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> Other details may be provided in the specifications related to the source radio access technology.

NOTE: The other RAT may include the above diagnostics information in a subsequent handover request towards the same RNC.

8.3.6.4a Unsupported configuration in HANDOVER TO UTRAN COMMAND message

If the UE does not support the configuration included in the HANDOVER TO UTRAN COMMAND message, e.g., the message includes a pre-defined configuration that the UE has not stored, the UE shall:

1> continue the connection using the other radio access technology; and

1> indicate the failure to the other radio access technology.

8.3.6.5 UE fails to perform handover

If the UE does not succeed in establishing the connection to UTRAN, it shall:

1> terminate the procedure including release of the associated resources;

1> resume the connection used before the handover; and

1> indicate the failure to the other radio access technology.

Upon receiving an indication about the failure from the other radio access technology, UTRAN should release the associated resources and the context information concerning this UE.

8.3.6.6 Reception of message HANDOVER TO UTRAN COMPLETE by the UTRAN

Upon receiving a HANDOVER TO UTRAN COMPLETE message, UTRAN should consider the inter-RAT handover procedure as having been completed successfully and indicate this to the Core Network.

8.6.6.25 ~~SSDT Information~~Void

~~If the IE "SSDT Information" is included the UE shall:~~

~~1> configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";~~

~~1> if the IE "Code Word Set" has the value "long", "medium" or "short":~~

~~2> use the length of the temporary cell ID code for SSDT indicated in the IE "Code Word Set".~~

~~1> if the IE "Code Word Set" has the value "SSDT off":~~

~~2> terminate SSDT.~~

8.6.6.27 Downlink information common for all radio links

If the IE "Downlink information common for all radio links " is included the UE shall:

1> if the IE "Downlink DPCH info common for all RL" is included:

2> perform actions as specified in subclause 8.6.6.28.

1> if the IE "Downlink F-DPCH info common for all RL" is included:

2> perform actions as specified in subclause 8.6.6.28a.

1> if the IE choice "mode" is set to 'FDD':

2> perform actions for the IE "DPCH compressed mode info" as specified in subclause 8.6.6.15;

2> perform actions for the IE "Tx Diversity mode" as specified in subclause 8.6.6.24.~~:~~

~~2> if the IE "SSDT information" is included:~~

~~3> perform actions as specified in subclause 8.6.6.25.~~

1> if the IE "Default DPCH Offset value" is included:

2> perform actions as specified in the subclause 8.6.6.21.

1> if the IE "MAC-hs reset indicator" is included:

2> if the serving HS-DSCH radio link is the same radio link as prior to the reception of the message:

3> the UE behaviour is unspecified;

2> reset the MAC-hs entity [15].

10.2 Radio Resource Control messages

10.2.1 ACTIVE SET UPDATE

NOTE: Only for FDD.

This message is used by UTRAN to add, replace or delete radio links in the active set of the UE.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE information elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Activation time	MD		Activation time 10.3.3.1	Default value is "now".	
New U-RNTI	OP		U-RNTI 10.3.3.47		
CN information elements					
CN Information info	OP		CN Information info 10.3.1.3		
Phy CH information elements					
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing "maximum UL TX power.	
Downlink radio resources					
Radio link addition information	OP	1 to <maxRL-1>		Radio link addition information required for each RL to add	
>Radio link addition information	MP		Radio link addition information 10.3.6.68		
Radio link removal information	OP	1 to <maxRL>		Radio link removal information required for each RL to remove	
>Radio link removal information	MP		Radio link removal information 10.3.6.69		
TX Diversity Mode	MD		TX Diversity Mode 10.3.6.86	Default value is the TX diversity mode currently used in all or part of the active set.	
~~SSDT information~~	~~OP~~		~~SSDT information 10.3.6.77~~		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
DPC Mode	OP		Enumerated (Single TPC, TPC triplet in soft)	"Single TPC" is DPC_Mode=0 and "TPC triplet in soft" is DPC_mode=1 in [29].	REL-5

10.3.6.21 Downlink DPCH info for each RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE *mode*	MP				
>FDD					
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.62		
>>DPCH frame offset	MP		Integer(0..38144 by step of 256)	Offset (in number of chips) between the beginning of the P-CCPCH frame and the beginning of the DPCH frame This is called $\tau_{DPCH,n}$ in [26]	
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.73		
>>DL channelisation code	MP	1 to <maxDPCH-DLchan>		For the purpose of physical channel mapping [27] the DPCHs are numbered, starting from DPCH number 1, according to the order that they are contained in this IE.	
>>>Secondary scrambling code	MD		Secondary scrambling code 10.3.6.74	Default is the same scrambling code as for the Primary CPICH	
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-AndCodenumber with "code number" in ASN.1	
>>>Code number	MP		Integer(0..Spreading factor - 1)		
>>>Scrambling code change	CH-*SF/2*		Enumerated (code change, no code change)	Indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.	
>>TPC combination index	MP		TPC combination index 10.3.6.85		
>>Power offset $P_{TPC-DPDCH}$	OP		Integer (0..24)	Power offset equals P_{TPC}- P_{DPDCH}, range 0..6 dB, in steps of 0.25 dB	REL-5

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
~~>>SSDT Cell Identity~~	~~OP~~		~~SSDT Cell Identity 10.3.6.76~~		
>>Closed loop timing adjustment mode	CH-*TxDiversity Mode*		Integer(1, 2)	It is present if Tx Diversity is used in the radio link.	
>TDD					
>>DL CCTrCh List	OP	1..<max CCTrCH>		DL physical channels to establish or reconfigure list.	
>>>TFCS ID	MD		Integer(1..8)	Identity of this CCTrCh. Default value is 1	
>>>Time info	MP		Time Info 10.3.6.83		
>>>Common timeslot info	MD		Common Timeslot Info 10.3.6.10	Default is the current Common timeslot info	
>>>Downlink DPCH timeslots and codes	MD		Downlink Timeslots and Codes 10.3.6.32	Default is to use the old timeslots and codes.	
>>>UL CCTrCH TPC List	MD	0..<max CCTrCH>		UL CCTrCH identities for TPC commands associated with this DL CCTrCH. Default is previous list or all defined UL CCTrCHs. This list is not required for 1.28 Mcps TDD and is to be ignored by the UE.	
>>>>UL TPC TFCS Identity	MP		Transport Format Combination Set Identity 10.3.5.21		
>>DL CCTrCH List to Remove	OP	1..<max CCTrCH>		DL physical channels to remove list.	
>>>TFCS ID	MP		Integer(1..8)		

Condition	Explanation
SF/2	The information element is mandatory present if the UE has a compressed mode pattern sequence configured in variable TGPS_IDENTITY or included in the message including IE "Downlink DPCH info for each RL", which is using compressed mode method "SF/2". Otherwise the IE is not needed.
TxDiversity Mode	This IE is mandatory present if any TX Diversity Mode is used on the radio link, i.e. if STTD, "closed loop mode 1" or "closed loop mode 2" is used on the radio link. Otherwise the IE is not needed.

10.3.6.24 Downlink information common for all radio links

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE *DPCH info*	OP				REL-6

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>Downlink DPCH info common for all RL	MP		Downlink DPCH info common for all RL 10.3.6.18		
>Downlink F-DPCH info common for all RL	MP		Downlink F-DPCH info common for all RL 10.3.6.23oa		REL-6
CHOICE *mode*	MP				
>FDD					
>>DPCH compressed mode info	OP		DPCH compressed mode info 10.3.6.33		
>>TX Diversity Mode	MD		TX Diversity Mode 10.3.6.86	Default value is the existing value of TX Diversity mode	
~~>>SSDT information~~	~~OP~~		~~SSDT information 10.3.6.77~~		
>TDD				(no data)	
>>CHOICE *TDD option*	MP				REL-4
>>>3.84 Mcps TDD				(no data)	REL-4
>>>1.28 Mcps TDD					REL-4
>>>>TSTD indicator	MP		TSTD indicator 10.3.6.85a		REL-4
Default DPCH Offset Value	OP		Default DPCH Offset Value, 10.3.6.16		
MAC-hs reset indicator	CV-*messageType*		Enumerated (true)	TRUE Indicates the MAC-hs entity needs to be reset.	REL-5

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

10.3.6.76 ~~SSDT cell identity~~Void

~~NOTE: Only for FDD.~~

~~This IE is used to associate a cell identity with a given radio link.~~

~~Information Element/Group name~~	~~Need~~	~~Multi~~	~~Type and reference~~	~~Semantics description~~
~~SSDT cell id~~	~~MP~~		~~Enumerated (a, b, c, d, e, f, g, h)~~	

10.3.6.77 ~~SSDT information~~Void

~~NOTE: Only for FDD.~~

~~This information element indicates the status (e.g. initiated/terminated) of the Site Selection.~~

Diversity Transmit power control (SSDT). It is used to change the SSDT status. The parameter 'code word set' indicates how cell identities are coded (using many bits or few, values are long, medium, or short).

Information Element/Group name	Need	Multi	Type and	Semantics description	Versi
S field	MP		Integer	In bits	
Code Word Set	MP		Enumera		

Information Element/Group name	Need	Multi	Type and	Semantics description	Versi
SSDT UL	OP		Enumera		REL

NOTE: These parameters shall be set optionally associated with DL DPCH info but not for each RL.

11.2 PDU definitions

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

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS

-- Core Network IEs :
    CN-DomainIdentity,
    CN-InformationInfo,
    CN-InformationInfoFull,
    NAS-Message,
    PagingRecordTypeID,
    PLMN-Identity,
-- UTRAN Mobility IEs :
    CellIdentity,
    CellIdentity-PerRL-List,
    URA-Identity,
```

```
-- User Equipment IEs :
    UE-RadioAccessCapabBandFDDList2,
    UE-RadioAccessCapabBandFDDList-ext,
    AccessStratumReleaseIndicator,
    ActivationTime,
    C-RNTI,
    CapabilityUpdateRequirement,
    CapabilityUpdateRequirement-r4,
    CapabilityUpdateRequirement-r4-ext,
    CapabilityUpdateRequirement-r5,
    CellUpdateCause,
    CellUpdateCause-ext,
    CipheringAlgorithm,
    CipheringModeInfo,
    DSCH-RNTI,
    E-RNTI,
    EstablishmentCause,
    FailureCauseWithProtErr,
    FailureCauseWithProtErrTrId,
    GroupReleaseInformation,
    H-RNTI,
    UESpecificBehaviourInformation1idle,
    UESpecificBehaviourInformation1interRAT,
    InitialUE-Identity,
    IntegrityProtActivationInfo,
    IntegrityProtectionModeInfo,
    N-308,
    PagingCause,
    PagingRecordList,
    PagingRecord2List-r5,
    ProtocolErrorIndicator,
    ProtocolErrorIndicatorWithMoreInfo,
    RadioFrequencyBandTDDList,
    Rb-timer-indicator,
    RedirectionInfo,
    RedirectionInfo-r6,
    RejectionCause,
    ReleaseCause,
    RF-CapabilityComp,
    RRC-StateIndicator,
    RRC-TransactionIdentifier,
    SecurityCapability,
    START-Value,
    STARTList,
    SystemSpecificCapUpdateReq-v590ext,
    U-RNTI,
    U-RNTI-Short,
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
    UE-RadioAccessCapability-v380ext,
    UE-RadioAccessCapability-v3a0ext,
    UE-RadioAccessCapability-v3g0ext,
    UE-RadioAccessCapability-v4b0ext,
    UE-RadioAccessCapability-v590ext,
    UE-RadioAccessCapability-v5c0ext,
    UE-RadioAccessCapability-v650ext,
    UE-RadioAccessCapabilityComp,
    DL-PhysChCapabilityFDD-v380ext,
    UE-ConnTimersAndConstants,
    UE-ConnTimersAndConstants-v3a0ext,
    UE-ConnTimersAndConstants-r5,
    UE-SecurityInformation,
    URA-UpdateCause,
    UTRAN-DRX-CycleLengthCoefficient,
    WaitTime,
-- Radio Bearer IEs :
    DefaultConfigIdentity,
    DefaultConfigIdentity-r4,
    DefaultConfigIdentity-r5,
    DefaultConfigMode,
    DL-CounterSynchronisationInfo,
    DL-CounterSynchronisationInfo-r5,
    PredefinedConfigIdentity,
    PredefinedConfigStatusList,
    PredefinedConfigStatusListComp,
    PredefinedConfigSetWithDifferentValueTag,
    RAB-Info,
    RAB-Info-Post,
```

```
    RAB-InformationList,
    RAB-InformationReconfigList,
    RAB-InformationSetupList,
    RAB-InformationSetupList-r4,
    RAB-InformationSetupList-r5,
    RAB-InformationSetupList-r6-ext,
    RAB-InformationSetupList-r6,
    RB-ActivationTimeInfoList,
    RB-COUNT-C-InformationList,
    RB-COUNT-C-MSB-InformationList,
    RB-IdentityList,
    RB-InformationAffectedList,
    RB-InformationAffectedList-r5,
    RB-InformationAffectedList-r6,
    RB-InformationReconfigList,
    RB-InformationReconfigList-r4,
    RB-InformationReconfigList-r5,
    RB-InformationReconfigList-r6,
    RB-InformationReleaseList,
    RB-PDCPContextRelocationList,
    SRB-InformationSetupList,
    SRB-InformationSetupList-r5,
    SRB-InformationSetupList-r6,
    SRB-InformationSetupList2,
    UL-CounterSynchronisationInfo,
-- Transport Channel IEs:
    CPCH-SetID,
    DL-AddReconfTransChInfo2List,
    DL-AddReconfTransChInfoList,
    DL-AddReconfTransChInfoList-r4,
    DL-AddReconfTransChInfoList-r5,
    DL-CommonTransChInfo,
    DL-CommonTransChInfo-r4,
    DL-DeletedTransChInfoList,
    DL-DeletedTransChInfoList-r5,
    DRAC-StaticInformationList,
    TFC-Subset,
    TFCS-Identity,
    UL-AddReconfTransChInfoList,
    UL-AddReconfTransChInfoList-r6,
    UL-CommonTransChInfo,
    UL-CommonTransChInfo-r4,
    UL-DeletedTransChInfoList,
    UL-DeletedTransChInfoList-r6,
-- Physical Channel IEs :
    Alpha,
    BEACON-PL-Est,
    CCTrCH-PowerControlInfo,
    CCTrCH-PowerControlInfo-r4,
    CCTrCH-PowerControlInfo-r5,
    ConstantValue,
    ConstantValueTdd,
    CPCH-SetInfo,
    DL-CommonInformation,
    DL-CommonInformation-r4,
    DL-CommonInformation-r5,
    DL-CommonInformation-r6,
    DL-CommonInformationPost,
    DL-HSPDSCH-Information,
    DL-InformationPerRL-List,
    DL-InformationPerRL-List-r4,
    DL-InformationPerRL-List-r5,
    DL-InformationPerRL-List-r5bis,
    DL-InformationPerRL-List-r6,
    DL-InformationPerRL-ListPostFDD,
    DL-InformationPerRL-PostTDD,
    DL-InformationPerRL-PostTDD-LCR-r4,
    DL-PDSCH-Information,
    DL-TPC-PowerOffsetPerRL-List,
    DPC-Mode,
    DPCH-CompressedModeStatusInfo,
    FrequencyInfo,
    FrequencyInfoFDD,
    FrequencyInfoTDD,
    HARQ-Preamble-Mode,
    HS-SICH-Power-Control-Info-TDD384,
    MaxAllowedUL-TX-Power,
    OpenLoopPowerControl-IPDL-TDD-r4,
```

```
    PDSCH-CapacityAllocationInfo,
    PDSCH-CapacityAllocationInfo-r4,
    PDSCH-Identity,
    PrimaryCPICH-Info,
    PrimaryCCPCH-TX-Power,
    PUSCH-CapacityAllocationInfo,
    PUSCH-CapacityAllocationInfo-r4,
    PUSCH-Identity,
    PUSCH-SysInfoList-HCR-r5,
    PDSCH-SysInfoList-HCR-r5,
    RL-AdditionInformationList,
    RL-AdditionInformationList-r6,
    RL-RemovalInformationList,
    SpecialBurstScheduling,
    SSDT-Information,
    SSDT-Information-r4,
    TFC-ControlDuration,
    SSDT-UL,
    TimeslotList,
    TimeslotList-r4,
    TX-DiversityMode,
    UL-ChannelRequirement,
    UL-ChannelRequirement-r4,
    UL-ChannelRequirement-r5,
    UL-ChannelRequirement-r6,
    UL-ChannelRequirementWithCPCH-SetID,
    UL-ChannelRequirementWithCPCH-SetID-r4,
    UL-ChannelRequirementWithCPCH-SetID-r5,
    UL-ChannelRequirementWithCPCH-SetID-r6,
    UL-DPCH-Info,
    UL-DPCH-Info-r4,
    UL-DPCH-Info-r5,
    UL-DPCH-Info-r6,
    UL-DPCH-InfoPostFDD,
    UL-DPCH-InfoPostTDD,
    UL-DPCH-InfoPostTDD-LCR-r4,
    UL-EDCH-Information-r6,
    UL-SynchronisationParameters-r4,
    UL-TimingAdvance,
    UL-TimingAdvanceControl,
    UL-TimingAdvanceControl-r4,
-- Measurement IEs :
    AdditionalMeasurementID-List,
    DeltaRSCP,
    Frequency-Band,
    EventResults,
    Inter-FreqEventCriteriaList-v590ext,
    Intra-FreqEventCriteriaList-v590ext,
    IntraFreqReportingCriteria-1b-r5,
    IntraFreqEvent-1d-r5,
    InterFreqEventResults-LCR-r4-ext,
    InterRATCellInfoIndicator,
    InterRAT-TargetCellDescription,
    MeasuredResults,
    MeasuredResults-v390ext,
    MeasuredResults-v590ext,
    MeasuredResultsList,
    MeasuredResultsList-LCR-r4-ext,
    MeasuredResultsOnRACH,
    MeasurementCommand,
    MeasurementCommand-r4,
    MeasurementIdentity,
    MeasurementReportingMode,
    PrimaryCCPCH-RSCP,
    SFN-Offset-Validity,
    TimeslotListWithISCP,
    TrafficVolumeMeasuredResultsList,
    UE-Positioning-GPS-AssistanceData,
    UE-Positioning-Measurement-v390ext,
    UE-Positioning-OTDOA-AssistanceData,
    UE-Positioning-OTDOA-AssistanceData-r4ext,
    UE-Positioning-OTDOA-AssistanceData-UEB,
-- Other IEs :
    BCCH-ModificationInfo,
    CDMA2000-MessageList,
    GSM-TargetCellInfoList,
    GERANIu-MessageList,
    GERAN-SystemInformation,
    GSM-MessageList,
```

```
    InterRAT-ChangeFailureCause,
    InterRAT-HO-FailureCause,
    InterRAT-UE-RadioAccessCapabilityList,
    InterRAT-UE-RadioAccessCapability-v590ext,
    InterRAT-UE-SecurityCapList,
    IntraDomainNasNodeSelector,
    ProtocolErrorMoreInformation,
    Rplmn-Information,
    Rplmn-Information-r4,
    SegCount,
    SegmentIndex,
    SFN-Prime,
    SIB-Data-fixed,
    SIB-Data-variable,
    SIB-Type,
-- MBMS IEs:
    MBMS-CellGroupIdentity-r6,
    MBMS-CommonRBInformationList-r6,
    MBMS-CurrentCell-SCCPCHList-r6,
    MBMS-JoinedInformation-r6,
    MBMS-MICHConfigurationInfo-r6,
    MBMS-ModifedServiceList-r6,
    MBMS-MSCHConfigurationInfo-r6,
    MBMS-NeighbouringCellSCCPCHList-r6,
    MBMS-PhyChInformationList-r6,
    MBMS-PL-ServiceRestrictInfo-r6,
    MBMS-PreferredFreqRequest-r6,
    MBMS-PreferredFrequencyList-r6,
    MBMS-ServiceAccessInfoList-r6,
    MBMS-ServiceSchedulingInfoList-r6,
    MBMS-SIBType5-SCCPCHList-r6,
    MBMS-TimersAndCouneters-r6,
    MBMS-TranspChInfoForEachCCTrCh-r6,
    MBMS-TranspChInfoForEachTrCh-r6,
    MBMS-UnmodifiedServiceList-r6
FROM InformationElements

    maxSIBperMsg,
    maxURNTI-Group
FROM Constant-definitions;

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

ActiveSetUpdate ::= CHOICE {
    r3                              SEQUENCE {
        activeSetUpdate-r3              ActiveSetUpdate-r3-IEs,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            activeSetUpdate-r3-add-ext      BIT STRING      OPTIONAL,
            v4b0NonCriticalExtensions       SEQUENCE {
                activeSetUpdate-v4b0ext     ActiveSetUpdate-v4b0ext-IEs,
                v590NonCriticalExtensions       SEQUENCE {
                    activeSetUpdate-v590ext         ActiveSetUpdate-v590ext-IEs,
                    v6xyNonCriticalExtensions       SEQUENCE {
                        activeSetUpdate-v6xyext         ActiveSetUpdate-v6xyext-IEs,
                        nonCriticalExtensions           SEQUENCE {} OPTIONAL
                    }   OPTIONAL
                }   OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r6                              SEQUENCE {
                activeSetUpdate-r6              ActiveSetUpdate-r6-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

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

```
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        -- dummy and dummy2 are not used in this version of the specification, they should
        -- not be sent and if received they should be ignored.
        dummy                       IntegrityProtectionModeInfo         OPTIONAL,
        dummy2                      CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        newU-RNTI                       U-RNTI                              OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        -- dummy3 is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        dummy3                      DL-CounterSynchronisationInfo       OPTIONAL,
    -- Physical channel IEs
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        rl-AdditionInformationList      RL-AdditionInformationList          OPTIONAL,
        rl-RemovalInformationList       RL-RemovalInformationList           OPTIONAL,
        tx-DiversityMode                TX-DiversityMode                    OPTIONAL,
        -- dummy4 is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-Informationdummy4              SSDT-Information                    OPTIONAL
}

ActiveSetUpdate-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information. FDD only.
        ssdt-UL-r4dummy                         SSDT-UL                             OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE RL-AdditionInformationList included in this message
        cell-id-PerRL-List              CellIdentity-PerRL-List             OPTIONAL
}

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

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

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



-- **************************************************
--
-- 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              CHOICE {
                    r6                              SEQUENCE {
                        cellUpdateConfirm-r6            CellUpdateConfirm-r6-IEs,
                        -- Container for adding non critical extensions after freezing REL-7
                        cellUpdateConfirm-r6-add-ext    BIT STRING      OPTIONAL,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    },
                    criticalExtensions              SEQUENCE {}
                }
            }
        }
    }
}

CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4       BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove     BOOLEAN,
    -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList          OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
```

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

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

CellUpdateConfirm-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 SSDT-UL                                 OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List              CellIdentity-PerRL-List             OPTIONAL
}

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

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

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

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

CellUpdateConfirm-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        new-H-RNTI                      H-RNTI                              OPTIONAL,
        new-E-RNTI                      E-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
```

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

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

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

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

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


-- **************************************************
--
-- 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              CHOICE {
                    r6                              SEQUENCE {
                        physicalChannelReconfiguration-r6
                                                PhysicalChannelReconfiguration-r6-IEs,
                        -- Container for adding non critical extensions after freezing REL-7
                        physicalChannelReconfiguration-r6-add-ext       BIT STRING      OPTIONAL,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    },
                    criticalExtensions              SEQUENCE {}
                }
            }
        }
    }
}

PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                     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-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        new-H-RNTI                      H-RNTI                              OPTIONAL,
        new-E-RNTI                      E-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
        plmn-Identity                   PLMN-Identity                       OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo-r5    OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        -- TABULAR: UL-ChannelRequirementWithCPCH-SetID-r6 contains the choice
        -- between UL DPCH info, CPCH SET info and CPCH set ID.
        ul-ChannelRequirement           UL-ChannelRequirementWithCPCH-SetID-r6  OPTIONAL,
        ul-EDCH-Information              UL-EDCH-Information-r6              OPTIONAL,
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-HSPDSCH-Information          DL-HSPDSCH-Information              OPTIONAL,
        dl-CommonInformation            DL-CommonInformation-r6             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r6         OPTIONAL,
    -- MBMS IEs
        mbms-PL-ServiceRestrictInfo     MBMS-PL-ServiceRestrictInfo-r6
}

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

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

RadioBearerReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerReconfiguration-r3   RadioBearerReconfiguration-r3-IEs,
        -- Prefix "v3ao" is used (in one instance) to keep alignment with R99
        v3aoNonCriticalExtensions       SEQUENCE {
            radioBearerReconfiguration-v3a0ext  RadioBearerReconfiguration-v3a0ext,
            laterNonCriticalExtensions      SEQUENCE {
                -- Container for additional R99 extensions
                radioBearerReconfiguration-r3-add-ext       BIT STRING      OPTIONAL,
                v4b0NonCriticalExtensions           SEQUENCE {
                    radioBearerReconfiguration-v4b0ext
                                                    RadioBearerReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtensions           SEQUENCE {
                        radioBearerReconfiguration-v590ext
                                                        RadioBearerReconfiguration-v590ext-IEs,
                        v6xyNonCriticalExtensions       SEQUENCE {
```

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

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        -- NOTE: IE rb-InformationReconfigList should be optional in later versions
        -- of this message
        rb-InformationReconfigList      RB-InformationReconfigList,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-DeletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
```

```
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        new-H-RNTI                      H-RNTI                              OPTIONAL,
        new-E-RNTI                      E-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
        plmn-Identity                   PLMN-Identity                       OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Specification mode information
        specificationMode               CHOICE {
            complete                        SEQUENCE {
            -- Radio bearer IEs
                rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
                rb-InformationReconfigList      RB-InformationReconfigList-r6       OPTIONAL,
                rb-InformationAffectedList      RB-InformationAffectedList-r6       OPTIONAL,
                rb-PDCPContextRelocationList    RB-PDCPContextRelocationList        OPTIONAL,
            -- Transport channel IEs
                ul-CommonTransChInfo            UL-CommonTransChInfo-r4             OPTIONAL,
                ul-deletedTransChInfoList       UL-DeletedTransChInfoList-r6        OPTIONAL,
                ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList-r6      OPTIONAL,
                modeSpecificTransChInfo         CHOICE {
                    fdd                             SEQUENCE {
                        cpch-SetID                      CPCH-SetID                  OPTIONAL,
                        addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
                    },
                    tdd                             NULL
                }                                                                   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-r6            OPTIONAL,
        ul-EDCH-Information             UL-EDCH-Information-r6              OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-HSPDSCH-Information          DL-HSPDSCH-Information              OPTIONAL,
        dl-CommonInformation            DL-CommonInformation-r6             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r6         OPTIONAL,
    -- MBMS IEs
        mbms-PL-ServiceRestrictInfo     MBMS-PL-ServiceRestrictInfo-r6
}

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

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

RadioBearerRelease ::= CHOICE {
    r3                          SEQUENCE {
        radioBearerRelease-r3           RadioBearerRelease-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            radioBearerRelease-v3a0ext      RadioBearerRelease-v3a0ext,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            radioBearerRelease-r3-add-ext       BIT STRING      OPTIONAL,
                v4b0NonCriticalExtensions       SEQUENCE {
                    radioBearerRelease-v4b0ext      RadioBearerRelease-v4b0ext-IEs,
                    v590NonCriticalExtensions       SEQUENCE {
                        radioBearerRelease-v590ext      RadioBearerRelease-v590ext-IEs,
                        v6xyNonCriticalExtensions       SEQUENCE {
                            radioBearerRelease-v6xyext      RadioBearerRelease-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {} OPTIONAL
                        }       OPTIONAL
                    }   OPTIONAL
                }   OPTIONAL
            }   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              CHOICE {
                    r6                              SEQUENCE {
                        radioBearerRelease-r6           RadioBearerRelease-r6-IEs,
                        -- Container for adding non critical extensions after freezing REL-7
                        radioBearerRelease-r6-add-ext   BIT STRING      OPTIONAL,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    },
                    criticalExtensions              SEQUENCE {}
                }
            }
        }
    }
}

RadioBearerRelease-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
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        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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- IE ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
```

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        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
```

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        },
        dl-HSPDSCH-Information          DL-HSPDSCH-Information              OPTIONAL,
        dl-CommonInformation            DL-CommonInformation-r5             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r5         OPTIONAL
}

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

RadioBearerRelease-r6-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        new-H-RNTI                      H-RNTI                              OPTIONAL,
        new-E-RNTI                      E-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
        plmn-Identity                   PLMN-Identity                       OPTIONAL,
        signallingConnectionRelIndication   CN-DomainIdentity               OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReleaseList       RB-InformationReleaseList,
        rb-InformationAffectedList      RB-InformationAffectedList-r6       OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo-r5    OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo-r4             OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList-r6        OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList-r6      OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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-r6            OPTIONAL,
        ul-EDCH-Information             UL-EDCH-Information-r6              OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-HSPDSCH-Information          DL-HSPDSCH-Information              OPTIONAL,
        dl-CommonInformation            DL-CommonInformation-r5r6               OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r6         OPTIONAL,
    -- MBMS IEs
        mbms-PL-ServiceRestrictInfo     MBMS-PL-ServiceRestrictInfo-r6,
        mbms-RB-ListReleasedToChangeTransferMode
                                        RB-InformationReleaseList           OPTIONAL
}

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

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

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

RadioBearerSetup-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Core network IEs
```

```
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        srb-InformationSetupList        SRB-InformationSetupList            OPTIONAL,
        rab-InformationSetupList        RAB-InformationSetupList            OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
        primary-plmn-Identity           PLMN-Identity                   OPTIONAL,
    -- Physical channel IEs
        harq-Preamble-Mode              HARQ-Preamble-Mode              OPTIONAL,
```

```
        beaconPLEst                     BEACON-PL-Est                       OPTIONAL,
    -- Radio bearer IEs
        rab-InformationSetupList        RAB-InformationSetupList-r6-ext     OPTIONAL,
    -- MBMS IEs
        mbms-PL-ServiceRestrictInfo     MBMS-PL-ServiceRestrictInfo-r6      OPTIONAL
}

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

-- **************************************************
--
-- 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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
}

-- **************************************************
--
-- 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              CHOICE {
                    r6                              SEQUENCE {
                        transportChannelReconfiguration-r6
                                                        TransportChannelReconfiguration-r6-IEs,
                        -- Container for adding non critical extensions after freezing REL-7
                        transportChannelReconfiguration-r6-add-ext      BIT STRING      OPTIONAL,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    },
```

```
                    criticalExtensions              SEQUENCE {}
                }
            }
        }
    }
}

TransportChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   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
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4dummy                 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
        primary-plmn-Identity           PLMN-Identity                       OPTIONAL,
    -- Physical channel IEs
        harq-Preamble-Mode              HARQ-Preamble-Mode                  OPTIONAL,
        beaconPLEst                     BEACON-PL-Est                       OPTIONAL,
    -- MBMS IEs
        mbms-PL-ServiceRestrictInfo     MBMS-PL-ServiceRestrictInfo-r6      OPTIONAL
}

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

11.3 Information element definitions

```
-- **************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- **************************************************

DL-CommonInformation ::=            SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon          OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
```

```
            ssdt-Informationdummy                   SSDT-Information            OPTIONAL
        },
        tdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}

DL-CommonInformation-r4 ::=         SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon-r4       OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
            ssdt-Informationdummy                   SSDT-Information-r4         OPTIONAL
        },
        tdd                                 SEQUENCE {
            tddOption                           CHOICE {
                tdd384                              NULL,
                tdd128                              SEQUENCE {
                    tstd-Indicator                      BOOLEAN
                }
            },
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    }
}


DL-CommonInformation-r5 ::=         SEQUENCE {
    dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon-r4           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
            ssdt-Informationdummy                   SSDT-Information-r4         OPTIONAL
        },
        tdd                                 SEQUENCE {
            tddOption                           CHOICE {
                tdd384                              NULL,
                tdd128                              SEQUENCE {
                    tstd-Indicator                      BOOLEAN
                }
            },
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    },
    mac-hsResetIndicator                ENUMERATED { true }         OPTIONAL
}

DL-CommonInformation-r6 ::=         SEQUENCE {
    dl-dpchInfoCommon                   CHOICE {
        dl-DPCH-InfoCommon                  DL-DPCH-InfoCommon-r4,
        dl-FDPCH-InfoCommon                 DL-FDPCH-InfoCommon-r6
    }                                                                       OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueFDD  OPTIONAL,
            dpch-CompressedModeInfo             DPCH-CompressedModeInfo     OPTIONAL,
            tx-DiversityMode                    TX-DiversityMode            OPTIONAL,
            ssdt-Information                    SSDT-Information-r4         OPTIONAL
        },
        tdd                                 SEQUENCE {
            tddOption                           CHOICE {
                tdd384                              NULL,
                tdd128                              SEQUENCE {
                    tstd-Indicator                      BOOLEAN
                }
            },
            defaultDPCH-OffsetValue             DefaultDPCH-OffsetValueTDD  OPTIONAL
        }
    },
```

```
    mac-hsResetIndicator                ENUMERATED { true }         OPTIONAL
}


DL-DPCH-InfoPerRL ::=               CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList                   OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r4 ::=            CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList-r4                OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r5 ::=            CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        powerOffsetTPC-pdpdch               PowerOffsetTPC-pdpdch           OPTIONAL,
        -- dummy is not used in this version of the specification, it should
        -- not be sent and if received it should be ignored.
        ssdt-CellIdentitydummy                  SSDT-CellIdentity               OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList-r4                OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r6 ::=            CHOICE {
    fdd                                 SEQUENCE {
        pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
        dpch-FrameOffset                    DPCH-FrameOffset,
        secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
        dl-ChannelisationCodeList           DL-ChannelisationCodeList,
        tpc-CombinationIndex                TPC-CombinationIndex,
        powerOffsetTPC-pdpdch               PowerOffsetTPC-pdpdch           OPTIONAL,
        closedLoopTimingAdjMode             ClosedLoopTimingAdjMode         OPTIONAL
    },
    tdd                                 SEQUENCE {
        dl-CCTrChListToEstablish            DL-CCTrChList-r4                OPTIONAL,
        dl-CCTrChListToRemove               DL-CCTrChListToRemove           OPTIONAL
    }
}

DL-FDPCH-InfoPerRL-r6 ::=           SEQUENCE {
    pCPICH-UsageForChannelEst           PCPICH-UsageForChannelEst,
    fdpch-FrameOffset                   DPCH-FrameOffset,
```

```
    secondaryCPICH-Info                 SecondaryCPICH-Info             OPTIONAL,
    secondaryScramblingCode             SecondaryScramblingCode         OPTIONAL,
    dl-ChannelisationCode               INTEGER (0..255),
    tpc-CombinationIndex                TPC-CombinationIndex
}


DL-InformationPerRL ::=             SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info                  PDSCH-SHO-DCH-Info          OPTIONAL,
            pdsch-CodeMapping                   PDSCH-CodeMapping           OPTIONAL
        },
        tdd                                 PrimaryCCPCH-Info
    },
    dl-DPCH-InfoPerRL                   DL-DPCH-InfoPerRL                   OPTIONAL,
    sccpch-InfoforFACH                  SCCPCH-InfoForFACH                  OPTIONAL
}

DL-InformationPerRL-r4 ::=          SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info                  PDSCH-SHO-DCH-Info          OPTIONAL,
            pdsch-CodeMapping                   PDSCH-CodeMapping           OPTIONAL
        },
        tdd                                 PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                   DL-DPCH-InfoPerRL-r4                OPTIONAL,
    sccpch-InfoforFACH                  SCCPCH-InfoForFACH-r4               OPTIONAL,
    cell-id                             CellIdentity                        OPTIONAL
}

DL-InformationPerRL-r5 ::=          SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info                  PDSCH-SHO-DCH-Info          OPTIONAL,
            pdsch-CodeMapping                   PDSCH-CodeMapping           OPTIONAL,
            servingHSDSCH-RL-indicator          BOOLEAN
        },
        tdd                                 PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                   DL-DPCH-InfoPerRL-r5                OPTIONAL,
    sccpch-InfoforFACH                  SCCPCH-InfoForFACH-r4               OPTIONAL,
    cell-id                             CellIdentity                        OPTIONAL
}

DL-InformationPerRL-r5bis ::=       SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info                  PDSCH-SHO-DCH-Info          OPTIONAL,
            pdsch-CodeMapping                   PDSCH-CodeMapping           OPTIONAL
        },
        tdd                                 PrimaryCCPCH-Info-r4
    },
    dl-DPCH-InfoPerRL                   DL-DPCH-InfoPerRL-r5                OPTIONAL,
    sccpch-InfoforFACH                  SCCPCH-InfoForFACH-r4               OPTIONAL,
    cell-id                             CellIdentity                        OPTIONAL
}

DL-InformationPerRL-r6 ::=          SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            pdsch-SHO-DCH-Info                  PDSCH-SHO-DCH-Info          OPTIONAL,
            pdsch-CodeMapping                   PDSCH-CodeMapping           OPTIONAL,
            servingHSDSCH-RL-indicator          BOOLEAN,
            servingEDCH-RL-indicator            BOOLEAN
        },
        tdd                                 PrimaryCCPCH-Info-r4
    },
    dl-dpchInfo                         CHOICE {
        dl-DPCH-InfoPerRL                   DL-DPCH-InfoPerRL-r5r6,
        dl-FDPCH-InfoPerRL                  DL-FDPCH-InfoPerRL-r6
```

```
    }                                                                   OPTIONAL,
    sccpch-InfoforFACH              SCCPCH-InfoForFACH-r4               OPTIONAL,
    e-AGCH-Information              E-AGCH-Information                  OPTIONAL,
    e-HICH-Information              E-HICH-Information                  OPTIONAL,
    e-RGCH-Information              E-RGCH-Information                  OPTIONAL,
    cell-id                         CellIdentity                        OPTIONAL
}

DL-InformationPerRL-List ::=        SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL

DL-InformationPerRL-List-r4 ::=     SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r4

DL-InformationPerRL-List-r5 ::=     SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r5

DL-InformationPerRL-List-r6 ::=     SEQUENCE (SIZE (1..maxRL)) OF
                                        DL-InformationPerRL-r6

DL-InformationPerRL-List-r5bis ::=      SEQUENCE (SIZE (1..maxRL)) OF
                                            DL-InformationPerRL-r5bis
```

3GPP TSG-RAN WG2 Meeting #47
Athens, Greece, 9th – 13th of May 2005

Tdoc ⌘R2-051603

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.922** **CR** **0032** ⌘**rev** **-** ⌘ Current version: **6.0.1** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Feature Clean Up: Removal of SSDT
Source:	⌘	RAN WG2
Work item code:	⌘	TEI5
Date:	⌘	03/05/2005
Category:	⌘	**C**
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	RAN#27 decided with RP-050144 to remove SSDT from Rel5 onwards.
Summary of change:	⌘	SSDT is removed. **Isolated impact analysis:** The CR has isolated impact as it only affects the feature SSDT itself by being removed and other features so that they cannot be used together with SSDT.
Consequences if not approved:	⌘	RAN#27 decision would be violated.

Clauses affected:	⌘	9.2, Annex D			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 25.211, 25.214, 25.331, 25.423, 25.433, 25.931, 25.104, 25.141, 25.101
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.

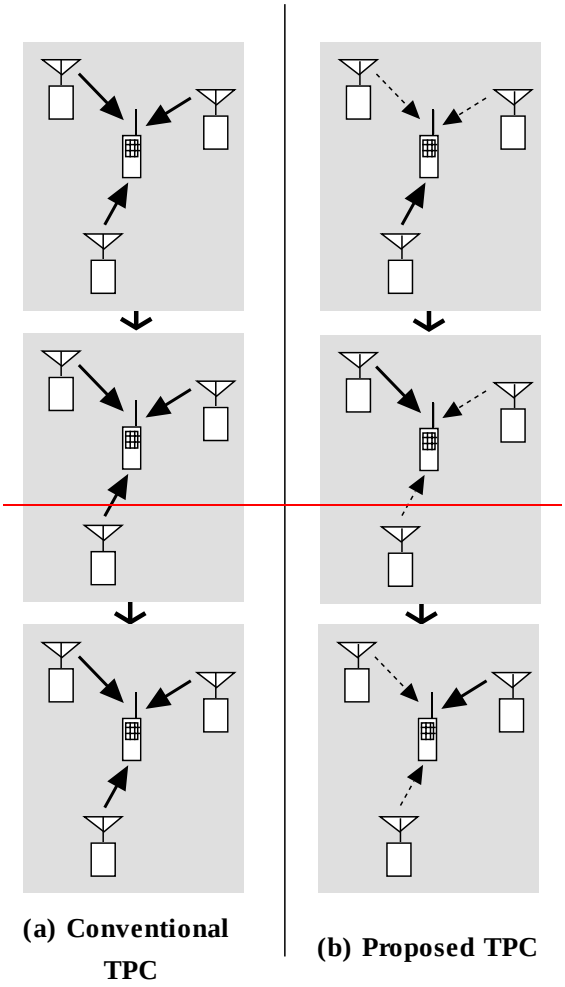
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest 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.

9.2 ~~Site Selection Diversity Power Control (SSDT)~~Void

~~Site Selection Diversity Transmit Power Control (SSDT) is a form of power control for the downlink that can be applied while a UE is in soft handover (SHO). This subclause explains how SSDT works, and provides some examples when SSDT should be used. Simulations have been performed comparing SHO with SSDT to normal SHO: results are presented in Annex D.~~

~~In SHO, a UE has DL connections to more than one cell. Thus, one UE contributes to the DL interference in several cells. SSDT is a power control method that reduces the DL interference generated while the UE is in SHO. The principle of SSDT is that the best cell of the active set is dynamically chosen as the only transmitting site, and the other cells involved turn down their DPDCHs. The DPCCH is transmitted as normally (see figure below).~~



~~Figure 9-1: Principle of SSDT in comparison to conventional SHO~~

~~Each cell is given a temporary identification number. The UE measures the pilot power of the PCCPCHs, and chooses the best one as its 'primary' cell. The temporary id of this primary cell (the 'primary id') is transmitted on the UL DPCCH to all Node Bs of the active set. A cell that has been selected as primary station transmits its dedicated channels with the power necessary to reach the desired SIR target, whereas all other cells switch off their downlink DPDCH transmission. The 'primary id' is updated by the UE at a frequency of 5, 10 or 20ms. The frequency depends on the SSDT mode and is set by the UTRAN.~~

~~In order for the UE to continuously perform measurements and to maintain synchronisation, the 'secondary' cells continue to transmit pilot information on the DPCCH.~~

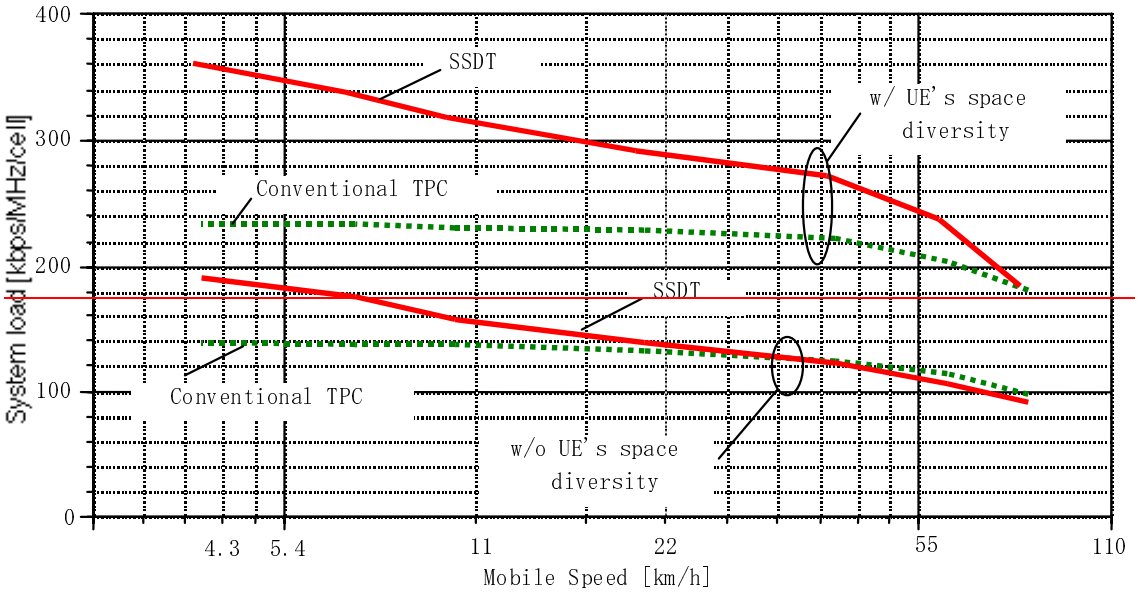
~~The prerequisite for using SSDT during an RRC connection or during a part of an RRC connection is that all Node B involved support SSDT. SSDT is controlled by L3 procedures. The control involves assignment of temporary ids, setting an SSDT mode and switching SSDT on or off. The control information itself (temporary ids) terminates in the L1 of Node B and UE respectively.~~

Annex D:
~~SSDT performance~~Void

~~Site Selection Diversity Transmit Power (SSDT) is described in subclause 10.2.~~

~~Computer simulations were carried out to investigate the behaviour of SSDT under ETSI&ITU-R guidelines for IMT-2000 RTT evaluation. The results are compared to a conventional power control method, where the transmit power of all BS involved is controlled so that the correct target SIR value is reached.~~

~~The figure below shows capacity versus Doppler frequency for SSDT and conventional TPC (normal SHO). The simulations show that SSDT is superior to normal SHO at low speed, and that increases capacity by reducing overall interference. The capacity gains are approximately 40% without UE's diversity and 50% with UE's diversity at walking speed. At high mobile speed, the advantage of SSDT gradually diminishes. The performance degradation of SSDT at higher speed is caused by the limited update frequency of the primary cell id.~~



~~Figure D-1: Capacity versus Doppler frequency for SSDT and conventional TPC (normal SHO)~~