

**TSG-RAN Meeting #11
Palm Springs, CA, USA, 13 - 16 March 2001**

RP-010042

Title: Agreed CRs (Release 4) for WI "DSCH power control improvement in soft handover"

Source: TSG-RAN WG2

Agenda item: 6.6.9

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio	Workitem
R2-010738	agreed	25.331	683	1	Rel-4	Modification of "SSDT Information" IE parameters to indicate if SSDT is used in the UL only	C	3.5.0	4.0.0	RInImp-DSCHsho

CHANGE REQUEST

⌘ **25.331 CR 683** ⌘ rev **r1** ⌘ Current version: **3.5.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Extension of IE "SSDT Information" to indicate if SSDT is used in the UL only		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ RinImp-DSCHsho		Date: ⌘ March 7, 2001
Category:	⌘ C		Release: ⌘ REL-4
<p><i>Use one of the following categories:</i></p> <p>F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p><i>Use one of the following releases:</i></p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p>	

Reason for change:	⌘ The change to 25.331 was approved during RAN#10 and should be implemented according to the approved TR 25.841 V2.0.0 (outcome of study for Rel-4 from WG1 on "DSCH power control improvement in soft handover").
Summary of change:	⌘ Based on the approved TR, an extension to an existing IE has been made which indicates whether SSDT signalling is used in UL only or UL+DL.
Consequences if not approved:	⌘ The implementation of the approved WI for Rel-4 on "DSCH power control improvement in soft handover" will be incomplete.

Clauses affected:	⌘ 10.3.6.77, 11.1, 11.2, 11.3		
Other specs Affected:	⌘ <input type="checkbox"/> Other core specifications		⌘
	<input type="checkbox"/> Test specifications		
	<input type="checkbox"/> 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/3G_Specs/CRs.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://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

10.3.6.77 SSDD information

NOTE: Only for FDD.

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

Diversity Transmit power control (SSDD). It is used to change the SSDD 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 reference	Semantics description	Version
S field	MP		Integer (1, 2)	In bits	
Code Word Set	MP		Enumerated (long, medium, shortSSDD off)		
<u>SSDD UL</u>	<u>OP</u>		<u>Enumerated</u> (UL, ULandDL)		<u>REL-4</u>

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

11.1 General message structure

Class-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

```

ActiveSetUpdate-r43,
ActiveSetUpdateComplete,
ActiveSetUpdateFailure,
AssistanceDataDelivery-r3,
CellChangeOrderFromUTRAN-r3,
CellChangeFailureFromUTRAN,
CellUpdate,
CellUpdateConfirm-CCCH-r43,
CellUpdateConfirm-r43,
CounterCheck-r3,
CounterCheckResponse,
DownlinkDirectTransfer-r3,
HandoverToUTRANCommand-r4,
HandoverToUTRANComplete,
InitialDirectTransfer,
HandoverFromUTRANCommand-GSM-r3,
HandoverFromUTRANCommand-CDMA2000-r3,
HandoverFromUTRANFailure,
MeasurementControl-r3,
MeasurementControlFailure,
MeasurementReport,
PagingType1,
PagingType2,
PhysicalChannelReconfiguration-r43,
PhysicalChannelReconfigurationComplete,
PhysicalChannelReconfigurationFailure,
PhysicalSharedChannelAllocation-r3,
PUSCHCapacityRequest,
RadioBearerReconfiguration-r43,
RadioBearerReconfigurationComplete,
RadioBearerReconfigurationFailure,
RadioBearerRelease-r43,
RadioBearerReleaseComplete,
RadioBearerReleaseFailure,
RadioBearerSetup-r43,
RadioBearerSetupComplete,
RadioBearerSetupFailure,
RRCConnectionReject-r3,
RRCConnectionRelease-r3,
RRCConnectionRelease-CCCH-r3,
RRCConnectionReleaseComplete,
RRCConnectionRequest,
RRCConnectionSetup-r43,
RRCConnectionSetupComplete,
RRCStatus,
SecurityModeCommand-r3,

```

```

SecurityModeComplete,
SecurityModeFailure,
SignallingConnectionRelease-r3,
SignallingConnectionReleaseRequest,
SystemInformation-BCH,
SystemInformation-FACH,
SystemInformationChangeIndication,
TransportChannelReconfiguration-r43,
TransportChannelReconfigurationComplete,
TransportChannelReconfigurationFailure,
TransportFormatCombinationControl,
TransportFormatCombinationControlFailure,
UECapabilityEnquiry-r3,
UECapabilityInformation,
UECapabilityInformationConfirm-r3,
UplinkDirectTransfer,
UplinkPhysicalChannelControl-r3,
URAUpdate,
URAUpdateConfirm-r3,
URAUpdateConfirm-CCCH-r3,
UTRANMobilityInformation,
UTRANMobilityInformationConfirm,
UTRANMobilityInformationFailure
FROM PDU-definitions

```

```

-- User Equipment IEs :
  IntegrityCheckInfo
FROM InformationElements;

```

```

--*****
--
-- Downlink DCCH messages
--
--*****

```

```

DL-DCCH-Message ::= SEQUENCE {
  integrityCheckInfo IntegrityCheckInfo OPTIONAL,
  message DL-DCCH-MessageType
}

```

```

DL-DCCH-MessageType ::= CHOICE {
  activeSetUpdate ActiveSetUpdate-r43,
  assistanceDataDelivery AssistanceDataDelivery-r3,
  cellChangeOrderFromUTRAN CellChangeOrderFromUTRAN-r3,
  cellUpdateConfirm CellUpdateConfirm-r3,
  counterCheck CounterCheck-r3,
  downlinkDirectTransfer DownlinkDirectTransfer-r3,
  handoverFromUTRANCommand-GSM HandoverFromUTRANCommand-GSM-r3,
  handoverFromUTRANCommand-CDMA2000 HandoverFromUTRANCommand-CDMA2000-r3,
  handoverToUTRANCommand HandoverToUTRANCommand-r4,
  measurementControl MeasurementControl-r3,
  pagingType2 PagingType2,
  physicalChannelReconfiguration PhysicalChannelReconfiguration-r43,
  physicalSharedChannelAllocation PhysicalSharedChannelAllocation-r3,
  radioBearerReconfiguration RadioBearerReconfiguration-r43,
  radioBearerRelease RadioBearerRelease-r43,
  radioBearerSetup RadioBearerSetup-r43,
  rrcConnectionRelease RRCConnectionRelease-r3,
  securityModeCommand SecurityModeCommand-r3,
  signallingConnectionRelease SignallingConnectionRelease-r3,
  transportChannelReconfiguration TransportChannelReconfiguration-r43,
  transportFormatCombinationControl TransportFormatCombinationControl,
  ueCapabilityEnquiry UECapabilityEnquiry-r3,
  ueCapabilityInformationConfirm UECapabilityInformationConfirm-r3,
  uplinkPhysicalChannelControl UplinkPhysicalChannelControl-r3,
  uraUpdateConfirm URAUpdateConfirm-r3,
  utranMobilityInformation UTRANMobilityInformation,
  extension NULL
}

```

```

--*****
--
-- Uplink DCCH messages
--
--*****

```

```

UL-DCCH-Message ::= SEQUENCE {
  integrityCheckInfo IntegrityCheckInfo OPTIONAL,
  message UL-DCCH-MessageType
}

```

```

UL-DCCH-MessageType ::= CHOICE {
  activeSetUpdateComplete ActiveSetUpdateComplete,

```

```

activeSetUpdateFailure      ActiveSetUpdateFailure,
cellChangeFailureFromUTRAN  CellChangeFailureFromUTRAN,
counterCheckResponse        CounterCheckResponse,
handoverToUTRANComplete     HandoverToUTRANComplete,
initialDirectTransfer        InitialDirectTransfer,
handoverFromUTRANFailure    HandoverFromUTRANFailure,
measurementControlFailure    MeasurementControlFailure,
measurementReport            MeasurementReport,
physicalChannelReconfigurationComplete
                             PhysicalChannelReconfigurationComplete,
physicalChannelReconfigurationFailure
                             PhysicalChannelReconfigurationFailure,
radioBearerReconfigurationComplete
                             RadioBearerReconfigurationComplete,
radioBearerReconfigurationFailure
                             RadioBearerReconfigurationFailure,
radioBearerReleaseComplete  RadioBearerReleaseComplete,
radioBearerReleaseFailure    RadioBearerReleaseFailure,
radioBearerSetupComplete    RadioBearerSetupComplete,
radioBearerSetupFailure      RadioBearerSetupFailure,
rrcConnectionReleaseComplete
                             RRCConnectionReleaseComplete,
rrcConnectionSetupComplete  RRCConnectionSetupComplete,
rrcStatus                    RRCStatus,
securityModeComplete         SecurityModeComplete,
securityModeFailure          SecurityModeFailure,
signallingConnectionReleaseRequest
                             SignallingConnectionReleaseRequest,
transportChannelReconfigurationComplete
                             TransportChannelReconfigurationComplete,
transportChannelReconfigurationFailure
                             TransportChannelReconfigurationFailure,
transportFormatCombinationControlFailure
                             TransportFormatCombinationControlFailure,
ueCapabilityInformation       UECapabilityInformation,
uplinkDirectTransfer          UplinkDirectTransfer,
utranMobilityInformationConfirm
                             UTRANMobilityInformationConfirm,
utranMobilityInformationFailure
                             UTRANMobilityInformationFailure,
extension                     NULL
}

```

```

--*****
--
-- Downlink CCCH messages
--
--*****

```

```

DL-CCCH-Message ::= SEQUENCE {
    integrityCheckInfo      IntegrityCheckInfo      OPTIONAL,
    message                  DL-CCCH-MessageType
}

DL-CCCH-MessageType ::= CHOICE {
|   cellUpdateConfirm      CellUpdateConfirm-CCCH-r43,
|   rrcConnectionReject    RRCConnectionReject-r3,
|   rrcConnectionRelease   RRCConnectionRelease-CCCH-r3,
|   rrcConnectionSetup     RRCConnectionSetup-r43,
|   uraUpdateConfirm        URAUpdateConfirm-CCCH-r3,
|   extension               NULL
}

```

```

--*****
--
-- Uplink CCCH messages
--
--*****

```

```

UL-CCCH-Message ::= SEQUENCE {
    integrityCheckInfo      IntegrityCheckInfo      OPTIONAL,
    message                  UL-CCCH-MessageType
}

UL-CCCH-MessageType ::= CHOICE {
|   cellUpdate              CellUpdate,
|   rrcConnectionRequest    RRCConnectionRequest,
|   uraUpdate                URAUpdate,
|   extension               NULL
}

```

```

--*****
--
-- PCCH messages
--
--*****

```

```

PCCH-Message ::= SEQUENCE {
    message                  PCCH-MessageType
}

```

```

}
PCCH-MessageType ::= CHOICE {
    pagingType1          PagingType1,
    extension            NULL
}
--*****
--
-- Downlink SHCCH messages
--
--*****

DL-SHCCH-Message ::= SEQUENCE {
    message              DL-SHCCH-MessageType
}

DL-SHCCH-MessageType ::= CHOICE {
    physicalSharedChannelAllocation PhysicalSharedChannelAllocation-r3,
    extension            NULL
}
--*****
--
-- Uplink SHCCH messages
--
--*****

UL-SHCCH-Message ::= SEQUENCE {
    message              UL-SHCCH-MessageType
}

UL-SHCCH-MessageType ::= CHOICE {
    puschCapacityRequest PUSCHCapacityRequest,
    extension            NULL
}
--*****
--
-- BCCH messages sent on FACH
--
--*****

BCCH-FACH-Message ::= SEQUENCE {
    message              BCCH-FACH-MessageType
}

BCCH-FACH-MessageType ::= CHOICE {
    systemInformation          SystemInformation-FACH,
    systemInformationChangeIndication SystemInformationChangeIndication,
    extension            NULL
}
--*****
--
-- BCCH messages sent on BCH
--
--*****

BCCH-BCH-Message ::= SEQUENCE {
    message              SystemInformation-BCH
}
}
END

```

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,
  NAS-Message,
  PagingRecordTypeID,
-- UTRAN Mobility IES :
  URA-Identity,
-- User Equipment IES :
  ActivationTime,
  C-RNTI,
  CapabilityUpdateRequirement,
  CellUpdateCause,
  CipheringAlgorithm,
  CipheringModeInfo,
  EstablishmentCause,
  FailureCauseWithProtErr,
  FailureCauseWithProtErrTrId,
  InitialUE-Identity,
  IntegrityProtActivationInfo,
  IntegrityProtectionModeInfo,
  N-308,
  PagingCause,
  PagingRecordList,
  ProtocolErrorIndicator,
  ProtocolErrorIndicatorWithMoreInfo,
  Rb-timer-indicator,
  Re-EstablishmentTimer,
  RedirectionInfo,
  RejectionCause,
  ReleaseCause,
  RRC-StateIndicator,
  RRC-TransactionIdentifier,
  SecurityCapability,
  START-Value,
  STARTList,
  U-RNTI,
  U-RNTI-Short,
  UE-RadioAccessCapability,
  UE-ConnTimersAndConstants,
  URA-UpdateCause,
  UTRAN-DRX-CycleLengthCoefficient,
  WaitTime,
-- Radio Bearer IES :
  PredefinedConfigIdentity,
  RAB-Info,
  RAB-Info-Post,
  RAB-InformationList,
  RAB-InformationReconfigList,
  RAB-InformationSetupList,
  RB-ActivationTimeInfo,
  RB-ActivationTimeInfoList,
  RB-COUNT-C-InformationList,
  RB-COUNT-C-MSB-InformationList,
  RB-IdentityList,
  RB-InformationAffectedList,
  RB-InformationReconfigList,
  RB-InformationReleaseList,
  RB-InformationSetupList,
  RB-WithPDCP-InfoList,
  SRB-InformationSetupList,
  SRB-InformationSetupList2,
-- Transport Channel IES:
  CPCH-SetID,
  DL-AddReconfTransChInfo2List,
  DL-AddReconfTransChInfoList,
  DL-CommonTransChInfo,
  DL-DeletedTransChInfoList,
  DRAC-StaticInformationList,
  TFC-Subset,
  TFCS-Identity,
  UL-AddReconfTransChInfoList,
  UL-CommonTransChInfo,
  UL-DeletedTransChInfoList,
-- Physical Channel IES :
  AllocationPeriodInfo,
  Alpha,

```



```

CCTrCH-PowerControlInfo,
ConstantValue,
CPCH-SetInfo,
DL-CommonInformation,
DL-CommonInformationPost,
DL-InformationPerRL,
DL-InformationPerRL-List,
DL-InformationPerRL-ListPostFDD,
DL-InformationPerRL-PostTDD,
DL-DPCH-PowerControlInfo,
DL-PDSCH-Information,
DPCH-CompressedModeStatusInfo,
FrequencyInfo,
FrequencyInfoFDD,
FrequencyInfoTDD,
IndividualTS-InterferenceList,
MaxAllowedUL-TX-Power,
PDSCH-CapacityAllocationInfo,
PDSCH-Identity,
PDSCH-Info,
PRACH-RACH-Info,
PrimaryCCPCH-TX-Power,
PUSCH-CapacityAllocationInfo,
PUSCH-Identity,
RL-AdditionInformationList,
RL-RemovalInformationList,
SSDT-Information,
SSDT-UL,
-- REL-4
TFC-ControlDuration,
TimeslotList,
TX-DiversityMode,
UL-ChannelRequirement,
UL-ChannelRequirementWithCPCH-SetID,
UL-DPCH-Info,
UL-DPCH-InfoPostFDD,
UL-DPCH-InfoPostTDD,
UL-TimingAdvance,
UL-TimingAdvanceControl,
-- Measurement IEs :
AdditionalMeasurementID-List,
EventResults,
InterRAT-TargetCellDescription,
MeasuredResults,
MeasuredResultsList,
MeasuredResultsOnRACH,
MeasurementCommand,
MeasurementIdentity,
MeasurementReportingMode,
PrimaryCCPCH-RSCP,
TimeslotListWithISCP,
TrafficVolumeMeasuredResultsList,
UP-GPS-AssistanceData,
UP-OTDOA-AssistanceData,
-- Other IEs :
BCCH-ModificationInfo,
CDMA2000-MessageList,
GSM-MessageList,
InterRAT-ChangeFailureCause,
InterRAT-HO-Failure,
InterRAT-UE-RadioAccessCapabilityList,
InterRATMessage,
IntraDomainNasNodeSelector,
ProtocolErrorInformation,
ProtocolErrorMoreInformation,
Rplmn-Information,
SegCount,
SegmentIndex,
SFN-Prime,
SIB-Data-fixed,
SIB-Data-variable,
SIB-Type
FROM InformationElements

maxSIBperMsg,
maxSystemCapability
FROM Constant-definitions;

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

```

```
| ActiveSetUpdate-r43 ::= CHOICE {
```

```

    r3          SEQUENCE {
        activeSetUpdate-r3          ActiveSetUpdate-r3-IEs,
        nonCriticalExtensions        SEQUENCE {} OPTIONAL
    }
    activeSetUpdate-r4-ext          ActiveSetUpdate-r4-IEs,
    nonCriticalExtensions            SEQUENCE {} OPTIONAL
} OPTIONAL
},
criticalExtensions                SEQUENCE {}
}

ActiveSetUpdate-r3-IEs ::= SEQUENCE {
-- User equipment IEs
rrc-TransactionIdentifier          RRC-TransactionIdentifier,
integrityProtectionModeInfo        IntegrityProtectionModeInfo        OPTIONAL,
cipheringModeInfo                  CipheringModeInfo                    OPTIONAL,
activationTime                      ActivationTime                        OPTIONAL,
newU-RNTI                          U-RNTI                                OPTIONAL,
-- Core network IEs
cn-InformationInfo                  CN-InformationInfo                    OPTIONAL,
-- Radio bearer IEs
rb-WithPDCP-InfoList                RB-WithPDCP-InfoList                OPTIONAL,
-- Physical channel IEs
maxAllowedUL-TX-Power                MaxAllowedUL-TX-Power                OPTIONAL,
rl-AdditionInformationList            RL-AdditionInformationList            OPTIONAL,
rl-RemovalInformationList            RL-RemovalInformationList            OPTIONAL,
tx-DiversityMode                    TX-DiversityMode                    OPTIONAL,
ssdt-Information                    SSDT-Information                    OPTIONAL
}

ActiveSetUpdate-r4-IEs ::= SEQUENCE {
-- Physical channel IEs
-- The following IE extends SSdT-Information. FDD only.
ssdt-UL                              SSdT-UL                              OPTIONAL
}

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

CellUpdateConfirm-r43 ::= CHOICE {
    r3          SEQUENCE {
        cellUpdateConfirm-r3          CellUpdateConfirm-r3-IEs,
        nonCriticalExtensions          SEQUENCE {} OPTIONAL
    }
    cellUpdateConfirm-r4-ext          CellUpdateConfirm-r4-IEs,
    nonCriticalExtensions              SEQUENCE {} OPTIONAL
} OPTIONAL
},
criticalExtensions                    SEQUENCE {}
}

CellUpdateConfirm-r4-IEs ::= SEQUENCE {
-- Physical channel IEs
-- The following IE extends SSdT-Information, which is included in
-- DL-CommonInformation. FDD only.
ssdt-UL                              SSdT-UL                              OPTIONAL
}

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-ResetIndicatorC-Plane            BOOLEAN,
rlc-ResetIndicatorU-Plane            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,
rb-WithPDCP-InfoList                RB-WithPDCP-InfoList                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
}

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

CellUpdateConfirm-CCCH-r34 ::= 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,
        nonCriticalExtensions              SEQUENCE {} OPTIONAL
        cellUpdateConfirm-r4-ext           CellUpdateConfirm-r4-IEs,
        nonCriticalExtensions              SEQUENCE {} OPTIONAL
    } OPTIONAL
},
criticalExtensions                       SEQUENCE {}
}

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

HandoverToUTRANCommand-r43 ::= CHOICE {
    r3                                     SEQUENCE {
        handoverToUTRANCommand-r3         HandoverToUTRANCommand-r3-IEs,
        nonCriticalExtensions              SEQUENCE {} OPTIONAL
        handoverToUTRANCommand-r4-ext     HandoverToUTRANCommand-r4-IEs,
        nonCriticalExtensions              SEQUENCE {} OPTIONAL
    } OPTIONAL
},
criticalExtensions                       SEQUENCE {}
}

HandoverToUTRANCommand-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    new-U-RNTI                             U-RNTI-Short,
    activationTime                          ActivationTime                          OPTIONAL,
    cipheringAlgorithm                       CipheringAlgorithm                       OPTIONAL,
    -- Radio bearer IEs
    rab-Info                                 RAB-Info-Post,
    -- Specification mode information
    specificationMode                       CHOICE {
        complete                            SEQUENCE {
            srb-InformationSetupList        SRB-InformationSetupList,
            rab-InformationSetupList        RAB-InformationSetupList        OPTIONAL,
            ul-CommonTransChInfo           UL-CommonTransChInfo,
            ul-AddReconfTransChInfoList    UL-AddReconfTransChInfoList,
            dl-CommonTransChInfo           DL-CommonTransChInfo,
            dl-AddReconfTransChInfoList    DL-AddReconfTransChInfoList,
            ul-DPCH-Info                    UL-DPCH-Info,
            modeSpecificInfo                CHOICE {
                fdd                         SEQUENCE {

```

```

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

```

```

HandoverToUTRANCommand-r4-IEs ::= SEQUENCE {
-- Physical channel IEs
-- The following IE extends SSDT-Information, which is included in
-- DL-CommonInformation. FDD only.
ssdt-UL                                     SSDT-UL                                     OPTIONAL
}

```

```

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

```

```

PhysicalChannelReconfiguration-r43 ::= CHOICE {
    r3                                       SEQUENCE {
        physicalChannelReconfiguration-r3
        nonCriticalExtensions                 SEQUENCE {} OPTIONAL
        physicalChannelReconfiguration-r4-ext PhysicalChannelReconfiguration-r4-IEs,
        nonCriticalExtensions                 SEQUENCE {} OPTIONAL
    } OPTIONAL
},
criticalExtensions                         SEQUENCE {}
}

```

```

PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
-- User equipment IEs
    rrc-TransactionIdentifier                RRC-TransactionIdentifier,
    integrityProtectionModeInfo              IntegrityProtectionModeInfo          OPTIONAL,
    cipheringModeInfo                        CipheringModeInfo                    OPTIONAL,
    activationTime                            ActivationTime                        OPTIONAL,
    new-U-RNTI                                U-RNTI                              OPTIONAL,
    new-C-RNTI                                C-RNTI                              OPTIONAL,
    rrc-StateIndicator                       RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff               UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
-- Core network IEs
    cn-InformationInfo                        CN-InformationInfo                  OPTIONAL,
-- UTRAN mobility IEs
    ura-Identity                              URA-Identity                        OPTIONAL,
-- Radio bearer IEs
    rb-WithPDCP-InfoList                     RB-WithPDCP-InfoList                OPTIONAL,
-- Physical channel IEs
    frequencyInfo                             FrequencyInfo                        OPTIONAL,
    maxAllowedUL-TX-Power                     MaxAllowedUL-TX-Power                OPTIONAL,
    ul-ChannelRequirement                     UL-ChannelRequirementWithCPCH-SetID OPTIONAL,
-- TABULAR: UL-ChannelRequirementWithCPCH-SetID contains the choice
-- between UL DPCH info, CPCH SET info and CPCH set ID.

```

```

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-r4-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- The following IE extends SSdT-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL                 SSdT-UL                 OPTIONAL
}

```

```

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

```

```

RadioBearerReconfiguration-r4 ::= CHOICE {
  r3                     SEQUENCE {
    radioBearerReconfiguration-r3  RadioBearerReconfiguration-r3-IEs,
    nonCriticalExtensions           SEQUENCE {} OPTIONAL
  },
  radioBearerReconfiguration-r4-ext  RadioBearerReconfiguration-r4-IEs,
  nonCriticalExtensions             SEQUENCE {} OPTIONAL
} OPTIONAL
},
criticalExtensions                 SEQUENCE {}
}

```

```

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier  RRC-TransactionIdentifier,
  integrityProtectionModeInfo  IntegrityProtectionModeInfo  OPTIONAL,
  cipheringModeInfo          CipheringModeInfo  OPTIONAL,
  activationTime              ActivationTime  OPTIONAL,
  new-U-RNTI                  U-RNTI  OPTIONAL,
  new-C-RNTI                  C-RNTI  OPTIONAL,
  rrc-StateIndicator          RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff  UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
  -- Core network IEs
  cn-InformationInfo          CN-InformationInfo  OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity                URA-Identity  OPTIONAL,
  -- Radio bearer IEs
  rab-InformationReconfigList  RAB-InformationReconfigList  OPTIONAL,
  rb-InformationReconfigList   RB-InformationReconfigList,
  rb-InformationAffectedList   RB-InformationAffectedList  OPTIONAL,
  -- Transport channel IEs
  ul-CommonTransChInfo        UL-CommonTransChInfo  OPTIONAL,
  ul-deletedTransChInfoList    UL-DeletedTransChInfoList  OPTIONAL,
  ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList  OPTIONAL,
  modeSpecificTransChInfo      CHOICE {
    fdd                       SEQUENCE {
      cpch-SetID              CPCH-SetID  OPTIONAL,
      addReconfTransChDRAC-Info  DRAC-StaticInformationList  OPTIONAL
    },
    tdd                       NULL
  },
  dl-CommonTransChInfo        DL-CommonTransChInfo  OPTIONAL,
  dl-DeletedTransChInfoList    DL-DeletedTransChInfoList  OPTIONAL,
  dl-AddReconfTransChInfoList  DL-AddReconfTransChInfo2List  OPTIONAL,
  -- Physical channel IEs
  frequencyInfo               FrequencyInfo  OPTIONAL,
  maxAllowedUL-TX-Power        MaxAllowedUL-TX-Power  OPTIONAL,
  ul-ChannelRequirement        UL-ChannelRequirement  OPTIONAL,
  modeSpecificPhysChInfo      CHOICE {
    fdd                       SEQUENCE {
      dl-PDSCH-Information    DL-PDSCH-Information  OPTIONAL
    },
    tdd                       NULL
  },
  dl-CommonInformation        DL-CommonInformation  OPTIONAL,
  dl-InformationPerRL-List    DL-InformationPerRL-List
}

```

```

RadioBearerReconfiguration-r4-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- The following IE extends SSdT-Information, which is included in

```

```

-- DL-CommonInformation. FDD only.
ssdt-UL SSDT-UL OPTIONAL
}
-- *****
--
-- RADIO BEARER RELEASE
--
-- *****

RadioBearerRelease-r43 ::= CHOICE {
  r3 SEQUENCE {
    radioBearerRelease-r3 RadioBearerRelease-r3-IEs,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
    radioBearerRelease-r4-ext RadioBearerRelease-r4-IEs,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
  } OPTIONAL
},
criticalExtensions SEQUENCE {}
}

RadioBearerRelease-r3-IEs ::= SEQUENCE {
  -- User equipment IEs
  rrc-TransactionIdentifier RRC-TransactionIdentifier,
  integrityProtectionModeInfo IntegrityProtectionModeInfo OPTIONAL,
  cipheringModeInfo CipheringModeInfo OPTIONAL,
  activationTime ActivationTime OPTIONAL,
  new-U-RNTI U-RNTI OPTIONAL,
  new-C-RNTI C-RNTI OPTIONAL,
  rrc-StateIndicator RRC-StateIndicator,
  utran-DRX-CycleLengthCoeff UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
  -- Core network IEs
  cn-InformationInfo CN-InformationInfo OPTIONAL,
  signallingConnectionRelIndication CN-DomainIdentity OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity URA-Identity OPTIONAL,
  -- Radio bearer IEs
  rab-InformationReconfigList RAB-InformationReconfigList OPTIONAL,
  rb-InformationReleaseList RB-InformationReleaseList,
  rb-InformationAffectedList RB-InformationAffectedList OPTIONAL,
  rb-WithPDCP-InfoList RB-WithPDCP-InfoList 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
}

RadioBearerRelease-r4-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- The following IE extends SSdt-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL SSDT-UL OPTIONAL
}
-- *****
--
-- RADIO BEARER SETUP
--
-- *****

RadioBearerSetup-r43 ::= CHOICE {

```

```

    r3                SEQUENCE {
        radioBearerSetup-r3          RadioBearerSetup-r3-IEs,
        nonCriticalExtensions        SEQUENCE {} OPTIONAL
    }
    radioBearerSetup-r4-ext          RadioBearerSetup-r4-IEs,
    nonCriticalExtensions            SEQUENCE {} OPTIONAL
} OPTIONAL
},
criticalExtensions                SEQUENCE {}
}

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

RadioBearerSetup-r4-IEs ::= SEQUENCE {
-- Physical channel IEs
-- The following IE extends SSDT-Information, which is included in
-- DL-CommonInformation. FDD only.
ssdt-UL                              SSDT-UL                                OPTIONAL
}

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

RRCConnectionSetup-r43 ::= CHOICE {
    r3                SEQUENCE {
        rrcConnectionSetup-r3          RRCConnectionSetup-r3-IEs,
        nonCriticalExtensions          SEQUENCE {} OPTIONAL
    }
    RRCConnectionSetup-r4-ext          RRCConnectionSetup-r4-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,
    capabilityUpdateRequirement CapabilityUpdateRequirement  OPTIONAL,
    -- TABULAR: If the IE is not present, the default value defined in 10.3.3.2 shall
    -- be used.
-- Radio bearer IEs
  srb-InformationSetupList      SRB-InformationSetupList2,
-- Transport channel IEs
  ul-CommonTransChInfo         UL-CommonTransChInfo          OPTIONAL,
  ul-AddReconfTransChInfoList  UL-AddReconfTransChInfoList,
  dl-CommonTransChInfo         DL-CommonTransChInfo          OPTIONAL,
  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-r4-IEs ::= SEQUENCE {
  -- Physical channel IEs
  -- The following IE extends SSDT-Information, which is included in
  -- DL-CommonInformation. FDD only.
  ssdt-UL                      SSDT-UL                      OPTIONAL
}

```

```

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

```

```

TransportChannelReconfiguration-r43 ::= CHOICE {
  r3                            SEQUENCE {
    transportChannelReconfiguration-r3
    nonCriticalExtensions        SEQUENCE {} OPTIONAL
    transportChannelReconfiguration-r4-ext TransportChannelReconfiguration-r4-IEs,
    nonCriticalExtensions        SEQUENCE {} OPTIONAL
  } OPTIONAL
  },
  criticalExtensions            SEQUENCE {}
}

```

```

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

```



```

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

```

```

TransportChannelReconfiguration-r4-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSdT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL          SSdT-UL          OPTIONAL
}

```

11.3 Information element definitions

<cut to Physical channel information elements>

```

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

```

<the following information element to be added in its correct location>

```

-- The following information element is used to extend the
-- SSdT-Information IE from Release 4 onwards.
SSdT-UL ::= ENUMERATED {
    ul, ul-AndDL }

```