TSG-RAN Meeting #17 Biarritz, France, 3 - 6 September 2002

Title: Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.331

Source: TSG-RAN WG2

Agenda item: 7.2.3

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Versio	Versio
R2-022433	agreed	25.331	1671	1	R99	SRNS relocation with integrity	F	3.11.0	3.12.0
R2-022410	agreed	25.331	1672		Rel-4	SRNS relocation with integrity	Α	4.5.0	4.6.0
R2-022411	agreed	25.331	1673		Rel-5	SRNS relocation with integrity	Α	5.1.0	5.2.0
R2-022427	agreed	25.331	1674		R99	Reception of MEASUREMENT CONTROL in state CELL_FACH	F	3.11.0	3.12.0
R2-022428	agreed	25.331	1675		Rel-4	Reception of MEASUREMENT CONTROL in state CELL FACH		4.5.0	4.6.0
R2-022429	agreed	25.331	1676		Rel-5	Reception of MEASUREMENT CONTROL in state CELL_FACH	Α	5.1.0	5.2.0
R2-022430	agreed	25.331	1677		R99	Unsupported configuration	F	3.11.0	3.12.0
R2-022431	agreed	25.331	1678		Rel-4	Unsupported configuration	Α	4.5.0	4.6.0
R2-022432	agreed	25.331	1679		Rel-5	Unsupported configuration		5.1.0	5.2.0
R2-022434	agreed	25.331	1680		R99	Handover corrections		3.11.0	3.12.0
R2-022435	agreed	25.331	1681		Rel-4	Handover corrections	Α	4.5.0	4.6.0
R2-022436	agreed	25.331	1682		Rel-5	Handover corrections	Α	5.1.0	5.2.0

		CHANG	GE REQ	UES1	-		CR-Form-v7
*	25.331	CR 1671	жrev	1 **	Current version:	3.11.0	ж
For HFI P	on using this for	m see hottom of	f this nage or	look at th	ne non-un text ove	or the # syn	nhols

ж.	25.331 CR 1671
For <u>HELP</u> on us	ing this form, see bottom of this page or look at the pop-up text over the ℜ symbols.
Proposed change a	ffects: UICC apps業 ME Radio Access Network X Core Network X
Title: #	SRNS relocation with integrity
Source: #	TSG-RAN WG2
Work item code: ₩	TEI 09/8/2002
	Release: # R99 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) P (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. R90 R90 R90 R90 R90 Release 1999 R90 Release 4) Rel-5 Rel-6 Release 5) Rel-6 Release 6)
Reason for change.	With the current standard the IE "integrity check info" is supposed to be calculated by the source SRNC in the case of a SRNS relocation "UE involved". However the source SRNC is not always able to calculate this if the target SRNC uses a message format that the source SRNC does not understand (i.e. Rel 4 message, or a non critical extension that is not known by the source SRNC). Also the target SRNC could choose an integrity protection algorithm that is not
Summary of change	A TargetSRNC-to-SourceSRNC-Transparent-Container-Extension is defined that carries the calculated MAC-I, the RB Id the RRC-SN and the amount of padding that exists in the RRC-container defined in RANAP A spare entry in the RRC IE "Target RNC to Source RNC Transparent Container" which includes the entirely compiled downlink message. An additional optional IE giving the RB Id on which the relocation message will be transmitted to the UE is added to the IE "SRNS RELOCATION INFO". Absence of this IE indicates that the source SRNC expects a formerly defined entry and it will calculate the MAC-I itself (if possible). Impact analysis: The problem resolved is the SRNS relocation with integrity active between two RNCs that use different versions of the protocol for the case of "UE involved". There is no backwards incompatibility problems between two RNCs where one implements the change and the other one doesn't. The changes only affect the RNC and the CN.
Consequences if	It is not possible to apply integrity protection in the case of SRNS relocation of

the type "UE involved" in case the target and the source RNC do not support the

same messages, and though the SRNS relocation is not possible in all cases.

Clauses affected:	第 <mark>11.5, 14.12.2, 14.12.4.2</mark>
Other specs affected:	Y N X Other core specifications
Other comments:	x

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.

11.5 RRC information between network nodes

```
Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN
IMPORTS
    HandoverToUTRANCommand,
    MeasurementReport,
    PhysicalChannelReconfiguration,
    RadioBearerReconfiguration,
    RadioBearerRelease,
   RadioBearerSetup,
    RRC-FailureInfo,
    TransportChannelReconfiguration
FROM PDU-definitions
-- Core Network IEs :
    CN-DomainIdentity,
    CN-DomainInformationList,
    CN-DRX-CycleLengthCoefficient,
   NAS-SystemInformationGSM-MAP,
-- UTRAN Mobility IEs :
   CellIdentity,
    URA-Identity,
-- User Equipment IEs :
    C-RNTI,
    DL-PhysChCapabilityFDD-v380ext,
    FailureCauseWithProtErr,
    RRC-MessageSequenceNumber,
    STARTList,
    STARTSingle,
    START-Value,
    U-RNTI,
    UE-RadioAccessCapability,
   {\tt UE-RadioAccessCapability-v370ext}\,,
    UE-RadioAccessCapability-v380ext,
    UE-RadioAccessCapability-v3a0ext,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RB-Identity,
    SRB-InformationSetupList.
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-AddReconfTransChInfoList,
   DRAC-StaticInformationList,
    UL-CommonTransChInfo,
    UL-AddReconfTransChInfoList,
-- Measurement IEs :
   MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    AdditionalMeasurementID-List,
   PositionEstimate,
-- Other IEs :
    InterRAT-UE-RadioAccessCapabilityList
FROM InformationElements
    maxCNdomains,
    maxNoOfMeas,
    maxRB,
   maxSRBsetup
FROM Constant-definitions;
-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is tranferred in the same direction and across the same path is grouped
__ ***************************
-- RRC information, to target RNC
```

```
__ ****************************
-- RRC Information to target RNC sent either from source RNC or from another RAT
ToTargetRNC-Container ::= CHOICE {
       interRAThandover
                                                                       InterRATHandoverInfoWithInterRATCapabilities,
       srncRelocation
                                                                       SRNC-RelocationInfo,
       extension
}
__ ****************************
-- RRC information, target RNC to source RNC
__ ***************
TargetRNC-ToSourceRNC-Container::= CHOICE {
      radioBearerSetup RadioBearerSetup,
radioBearerReconfiguration RadioBearerReconfiguration,
      radioBearerRelease
                                                                      RadioBearerRelease,
      transportChannelReconfiguration
physicalChannelReconfiguration
physicalChannelReconfiguration
physicalChannelReconfiguration
physicalChannelReconfiguration,
physicalChannelReconfiguration,
physicalChannelReconfiguration,
physicalChannelReconfiguration,
physicalChannelReconfiguration,
physicalChannelReconfiguration
physicalChannelReconfigur
                                                                     TransportChannelReconfiguration,
                                                                 OCTET STRINGextension
      dL-DCCHmessage
-- Part2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
-- In alphabetical order
__ **************
-- Handover to UTRAN information
__ ****************
InterRATHandoverInfoWithInterRATCapabilities ::= CHOICE {
                                                               SEOUENCE {
               -- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
                - includes non critical extensions
             interRATHandoverInfoWithInterRATCapabilities-v390ext
       InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
                     -- Reserved for future non critical extension
                     nonCriticalExtensions
                                                                              SEQUENCE {} OPTIONAL
              }
                            OPTIONAL
       criticalExtensions
                                                              SEQUENCE {}
}
InterRATHandoverInfoWithInterRATCapabilities-r3-IEs::=
                                                                                                        SEQUENCE {
              -- The order of the IEs may not reflect the tabular format
               -- but has been chosen to simplify the handling of the information in the BSC
       -- Other IEs
              ue-RATSpecificCapability
                                                                      InterRAT-UE-RadioAccessCapabilityList
              -- interRATHandoverInfo, Octet string is used to obtain 8 bit length field prior to
-- actual information. This makes it possible for BSS to transparently handle information
-- received via GSM air interface even when it includes non critical extensions.
              -- The octet string shall include the InterRATHandoverInfo information
               -- The BSS can re-use the 04.18 length field received from the MS
              interRATHandoverInfo
                                                                      OCTET STRING (SIZE (0..255))
}
InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs ::= SEQUENCE {
      -- User equipment IEs
             failureCauseWithProtErr
                                                                                                                                                      OPTIONAL
                                                                             FailureCauseWithProtErr
}
__ ****************
-- SRNC Relocation information
************
SRNC-RelocationInfo ::= CHOICE {
                                                                SEOUENCE {
```

```
sRNC-RelocationInfo-r3
                                        SRNC-RelocationInfo-r3-IEs,
        v380NonCriticalExtensions
                                            SEQUENCE {
            sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
            -- Reserved for future non critical extension
            v390NonCriticalExtensions
                                                 SEQUENCE {
                sRNC-RelocationInfo-v390ext
                                                    SRNC-RelocationInfo-v390ext-IEs,
                v3a0NonCriticalExtensions
                                                     SEQUENCE {
                    sRNC-RelocationInfo-v3a0ext
                                                         SRNC-RelocationInfo-v3a0ext-IEs,
                    v3b0NonCriticalExtensions
                                                         SEQUENCE {
                        sRNC-RelocationInfo-v3b0ext
                                                             SRNC-RelocationInfo-v3b0ext-IEs,
                                                             SEQUENCE {
                        v3c0NonCriticalExtensions
                            SRNC-RelocationInfo-v3c0ext
                                                                 SRNC-RelocationInfo-v3c0ext-IEs,
                             -- Reserved for future non critical extension
                            nonCriticalExtensions
                                                             SEQUENCE {} OPTIONAL
                                OPTIONAL
                            OPTIONAL
                        OPTIONAL
                    OPTIONAL
                OPTIONAL
    },
    criticalExtensions
                                    SEQUENCE {}
SRNC-RelocationInfo-r3-IEs ::=
                                            SEQUENCE {
    -- Non-RRC IEs
       stateOfRRC
                                        StateOfRRC.
        stateOfRRC-Procedure
                                        StateOfRRC-Procedure,
    -- Ciphering related information IEs
    -- If the extension v380 is included use the extension for the ciphering status per CN domain
        cipheringStatus
                                        CipheringStatus,
        calculationTimeForCiphering
                                        CalculationTimeForCiphering
                                                                             OPTIONAL,
        cipheringInfoPerRB-List
                                        CipheringInfoPerRB-List
                                                                             OPTIONAL,
        count-C-List
                                        COUNT-C-List
                                                                             OPTIONAL,
        integrityProtectionStatus
                                        IntegrityProtectionStatus,
        srb-SpecificIntegrityProtInfo
                                        SRB-SpecificIntegrityProtInfoList,
        implementationSpecificParams
                                        ImplementationSpecificParams
                                                                             OPTIONAL,
    -- User equipment IEs
        u-RNTI
                                        U-RNTI,
        c-RNTI
                                        C-RNTI
                                                                             OPTIONAL,
        ue-RadioAccessCapability
                                        UE-RadioAccessCapability,
        ue-Positioning-LastKnownPos
                                        UE-Positioning-LastKnownPos
                                                                             OPTIONAL,
    -- Other IEs
        ue-RATSpecificCapability
                                        InterRAT-UE-RadioAccessCapabilityList
                                                                                OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity
                                        URA-Identity
                                                                             OPTIONAL,
     - Core network IEs
        cn-CommonGSM-MAP-NAS-SysInfo
                                        NAS-SystemInformationGSM-MAP.
        cn-DomainInformationList
                                        CN-DomainInformationList
                                                                             OPTIONAL.
    -- Measurement IEs
       ongoingMeasRepList
                                        OngoingMeasRepList
                                                                             OPTIONAL,
    -- Radio bearer IEs
        {\tt predefinedConfigStatusList}
                                        PredefinedConfigStatusList,
        srb-InformationList
                                        SRB-InformationSetupList,
        rab-InformationList
                                        RAB-InformationSetupList
                                                                             OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo
                                        UL-CommonTransChInfo
                                                                             OPTIONAL.
        ul-TransChInfoList
                                        UL-AddReconfTransChInfoList
                                                                             OPTIONAL,
        modeSpecificInfo
                                        CHOICE {
            fdd
                                            SEQUENCE {
                cpch-SetID
                                                 CPCH-SetID
                                                                             OPTIONAL.
                                                 DRAC-StaticInformationList OPTIONAL
                transChDRAC-Info
            },
            tdd
        dl-CommonTransChInfo
                                        DL-CommonTransChInfo
                                                                             OPTIONAL.
        dl-TransChInfoList
                                        DL-AddReconfTransChInfoList
                                                                             OPTIONAL,
    -- Measurement report
                                        MeasurementReport
                                                                             OPTIONAL
       measurementReport
}
SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
     - Ciphering related information IEs
        cn-DomainIdentity
                                             CN-DomainIdentity,
        cipheringStatusList
                                            CipheringStatusList
}
SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
        cn-DomainInformationList-v390ext
                                            CN-DomainInformationList-v390ext
                                                                                     OPTIONAL,
```

```
ue-RadioAccessCapability-v370ext
                                            UE-RadioAccessCapability-v370ext
                                                                                     OPTIONAL.
        ue-RadioAccessCapability-v380ext
                                            UE-RadioAccessCapability-v380ext
                                                                                     OPTIONAL,
        dl-PhysChCapabilityFDD-v380ext
                                            DL-PhysChCapabilityFDD-v380ext,
        failureCauseWithProtErr
                                            FailureCauseWithProtErr
                                                                                     OPTIONAL
}
SRNC-RelocationInfo-v3a0ext-IEs ::= SEQUENCE {
        cipheringInfoForSRB1-v3a0ext
                                            CipheringInfoPerRB-List-v3a0ext,
        ue-RadioAccessCapability-v3a0ext
                                            UE-RadioAccessCapability-v3a0ext
                                                                                     OPTIONAL,
        -- cn-domain identity for IE startValueForCiphering-v3a0ext is specified
        -- in subsequent extension (SRNC-RelocationInfo-v3b0ext-IEs)
                                            START-Value
        startValueForCiphering-v3a0ext
}
SRNC-RelocationInfo-v3b0ext-IEs ::= SEQUENCE {
        -- cn-domain identity for IE startValueForCiphering-v3a0ext included in previous extension
        cn-DomainIdentity
                                       CN-DomainIdentity,
        -- the remaining start values are contained in IE startValueForCiphering-v3b0ext
        startValueForCiphering-v3b0ext
                                            STARTList2
}
SRNC-RelocationInfo-v3c0ext-IEs ::= SEQUENCE {
-- RB Identity on which the source SRNC will send the message contained in the
-- IE "TargetRNC-ToSourceRNC-Container". Only included if type is "UE involved"
       rb-Identity
                                        RB-Identity
                                                            OPTIONAL
STARTList 2 ::=
                                    SEQUENCE (SIZE (2..maxCNdomains)) OF
                                        STARTSingle
CipheringInfoPerRB-List-v3a0ext ::= SEQUENCE {
                                        BIT STRING (SIZE (7))
        dl-UM-SN
}
CipheringStatusList ::=
                                    SEQUENCE (SIZE (1..maxCNdomains)) OF
                                        CipheringStatusCNdomain
CipheringStatusCNdomain ::=
                                    SEQUENCE {
        cn-DomainIdentity
                                        CN-DomainIdentity,
       cipheringStatus
                                        CipheringStatus
}
-- IE definitions
CalculationTimeForCiphering ::=
                                    SEOUENCE {
    cell-Id
                                        CellIdentity,
    sfn
                                        INTEGER (0..4095)
}
CipheringInfoPerRB ::=
                                    SEOUENCE {
    dl-HFN
                                        BIT STRING (SIZE (20..25)),
                                        BIT STRING (SIZE (20..25))
    ul-HFN
}
-- TABULAR: CipheringInfoPerRB-List, multiplicity value numberOfRadioBearers
-- has been replaced with maxRB.
CipheringInfoPerRB-List ::=
                                    SEQUENCE (SIZE (1..maxRB)) OF
                                        CipheringInfoPerRB
CipheringStatus ::=
                                    ENUMERATED {
                                       started, notStarted }
CN-DomainInformation-v390ext ::=
                                        SECUENCE {
    cn-DRX-CycleLengthCoeff
                                        CN-DRX-CycleLengthCoefficient
                                        SEQUENCE (SIZE (1..maxCNdomains)) OF
CN-DomainInformationList-v390ext ::=
                                        CN-DomainInformation-v390ext
COUNT-C-List ::=
                                        SEQUENCE (SIZE (1..maxCNdomains)) OF
                                        COUNT-CSingle
COUNT-CSingle ::=
                                        SEQUENCE {
                                        CN-DomainIdentity,
    cn-DomainIdentity
    count-C
                                        BIT STRING (SIZE (32))
```

```
ImplementationSpecificParams ::=
                                    BIT STRING (SIZE (1..512))
IntegrityProtectionStatus ::=
                                    ENUMERATED {
                                        started, notStarted }
MeasurementCommandWithType ::= CHOICE {
    setup
                                        MeasurementType,
    modify
                                        NULL,
    release
                                        NULL
OngoingMeasRep ::=
                                    SEQUENCE {
   measurementIdentity
                                MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType
   measurementCommandWithType MeasurementCommandWithType,
measurementReportingMode MeasurementReportingMode
additionalMeasurementID-List AdditionalMeasurementID-List
                                                                            OPTIONAL,
}
OngoingMeasRepList ::=
                                    SEQUENCE (SIZE (1..maxNoOfMeas)) OF
                                        OngoingMeasRep
{\tt SRB-SpecificIntegrityProtInfo} ::= {\tt SEQUENCE} \ \{
                                   BIT STRING (SIZE (28)),
    ul-RRC-HFN
    dl-RRC-HFN
                                        BIT STRING (SIZE (28)),
    ul-RRC-SequenceNumber
                                        RRC-MessageSequenceNumber,
    dl-RRC-SequenceNumber
                                        RRC-MessageSequenceNumber
SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
                                        SRB-SpecificIntegrityProtInfo
StateOfRRC ::=
                                    ENUMERATED {
                                        cell-DCH, cell-FACH,
                                        cell-PCH, ura-PCH }
StateOfRRC-Procedure ::=
                                    ENUMERATED {
                                        awaitNoRRC-Message,
                                        awaitRRC-ConnectionRe-establishmentComplete,
                                        awaitRB-SetupComplete,
                                        awaitRB-ReconfigurationComplete,
                                        awaitTransportCH-ReconfigurationComplete,
                                         awaitPhysicalCH-ReconfigurationComplete,
                                        awaitActiveSetUpdateComplete,
                                         awaitHandoverComplete,
                                         sendCellUpdateConfirm,
                                        sendUraUpdateConfirm,
                                        sendRrcConnectionReestablishment,
                                        otherStates
}
UE-Positioning-LastKnownPos ::= SEQUENCE {
                                        INTEGER (0..4095),
        sfn
        cell-id
                                        CellIdentity,
        positionEstimate
                                        PositionEstimate
}
END
```

14.12.2 RRC information, target RNC to source RNC

There are 2 possible cases for RNC relocation:

- 1. The UE is already under control of target RNC; and
- 2. The SRNC Relocation with Hard Handover (UE still under control of SRNC), but UE is moving to a location controlled by the target RNC (based on measurement information).

In case 1 the relocation is transparent to the UE and there is no "reverse" direction container. The SRNC just assigns the 'serving' function to the target RNC, which then becomes the Serving RNC.

In case 2 the relocation is initiated by SRNC, which also provides the RRC Initialisation Information to the target RNC. Base on this information, the target RNC prepares the Hard Handover Message ("Physical channel reconfiguration" (subclause 8.2.6), "radio bearer establishment" (subclause 8.2.1), "Radio bearer reconfiguration" (subclause 8.2.2), "Radio bearer release" (subclause 8.2.3) or "Transport channel reconfiguration" (subclause 8.2.4).

The IE "DL DCCH message" may be chosen and should contain the DL DCCH message that should be transmitted transparently to the UE by the source SRNC in case the IE "RB Id for handover message" has been received by the target SRNC in the IE "SRNS Relocation Info". If the target SRNC did not receive the IE "RB Id for handover message" in the IE "SRNS Relocation Info" the target SRNC should use another choice.

The source RNC then transmits the Handover Message to the UE, which then performs the handover.

In the successful case, the UE transmits an XXX COMPLETE message, using the new configuration, to the target RNC.

In case of failure, the UE transmits an XXX FAILURE, using the old configuration, to the source RNC and the RRC context remains unchanged (has to be confirmed and checked with the SRNS relocation procedure).

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE RRC message	MP			At least one spare choice, Criticality: Reject, is needed
>RADIO BEARER SETUP			RADIO BEARER SETUP 10.2.31	
>RADIO BEARER RECONFIGURATION			RADIO BEARER RECONFIG URATION 10.2.25	
>RADIO BEARER RELEASE			RADIO BEARER RELEASE 10.2.28	
>TRANSPORT CHANNEL RECONFIGURATION			TRANSPOR T CHANNEL RECONFIG URATION 10.2.51	
>PHYSICAL CHANNEL RECONFIGURATION			PHYSICAL CHANNEL RECONFIG URATION 10.2.20	
>RRC FAILURE INFO			RRC FAILURE INFO 10.2.41 a	
>DL DCCH message			OCTET STRING	

14.12.4.2 SRNS RELOCATION INFO

This RRC message is sent between network nodes when preparing for an SRNS relocation.

With the presence or absence of the IE "RB identity for Hard Handover message" the source SRNC can indicate to the target SRNC whether the source RNC expects to receive the choice "DL DCCH message" in the IE "RRC information, target RNC to source RNC" in case the SRNS relocation is of type "UE involved". Furtheremore the target RNC may use this information for the calculation of the MAC-I

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC IEs				
RB identity for Handover message	<u>OP</u>		RB identity 10.3.4.16	Gives the id of the radio bearer on which the sourc RNC will transmit the RRC message in the case the relocation is of type "UE involved".
>State of RRC	MP		RRC state indicator, 10.3.3.35a	
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfigurat ion Complete, await RB Release Complete, await Transport CH Reconfigurat ion Complete, await Physical CH Reconfigurat ion Complete, await Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, send URA Update Confirm, others)	
Ciphering related information >Ciphering status for each CN domain	MP	<1 to maxCNDo mains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>>START	MP		START 10.3.3.38	START value to be used in this CN domain.
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering	CV-			Time when the ciphering

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
related information	Ciphering			information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(040 95)	
>COUNT-C list	CV- Ciphering	1 to <maxcndo mains></maxcndo 		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxrb></maxrb>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Downlink SN	CV-SRB1		Bit String(7)	VT(US) of RLC UM
>>Uplink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV-IP	4 to <maxsrbs etup></maxsrbs 	,	
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0 15)	
>>Downlink RRC Message sequence number	MP		Integer (0 15)	
>Implementation specific parameters	OP		Bit string (1512)	
RRC IEs				
VE Information elements >U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer (04095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.

>>>Ellipsoid Point: 10.3.8.4a	Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Point: 10.3.8.4a		MP			
>>>Ellipsoid point with uncertainty circle Sellipsoid point with uncertainty circle Ellipsoid point with uncertainty ellipse 10.3.8.4d	>>>Ellipsoid Point				
>>>Ellipsoid point with uncertainty circle >>>Ellipsoid point with uncertainty circle >>>Ellipsoid point with uncertainty ellipse					
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>>Measurement Reporting Mode	OP		Measuremen t reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional measuremen ts list 10.3.7.1	
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>>>Intra-frequency reporting quantity	OP		Intra- frequency reporting quantity 10.3.7.41	
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Criteria 10.3.7.53 10.3.7.53 10.3.7.53 10.3.7.53 10.3.7.53 10.3.7.53 10.3.7.53 10.3.7.76 10.3.7.70 10.3.7.70 10.3.7.70 10.3.7.70 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.71 10.3.7.74 10.3.					
>>>>No reporting >>>Traffic Volume >>>Traffic volume Object Traffic measurement Object OP Traffic volume measuremen t object 10.3.7.70 >>>>Traffic volume measurement quantity OP Traffic volume measuremen t quantity 10.3.7.71 >>>>Traffic volume reporting quantity OP Traffic volume measuremen t quantity 10.3.7.71 >>>>Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria >>>>Traffic volume measuremen Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria Traffic volume measurement reporting criteria Traffic volume measurement reporting criteria Traffic volume measurement reporting criteria measuremen				criteria	
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>>>>Traffic volume measurement Object Traffic volume measuremen t object 10.3.7.70 >>>>Traffic volume measuremen t object 10.3.7.70 >>>>Traffic volume measurement quantity Traffic volume measuremen t quantity 10.3.7.71 >>>>Traffic volume reporting quantity OP Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria >>>>>Traffic volume measuremen Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria >>>>>Traffic volume measurement reporting criteria Traffic volume measurement reporting criteria				NULL	
measurement Object Volume measuremen t object 10.3.7.70 >>>>Traffic volume measurement quantity Traffic measuremen t quantity 10.3.7.71 >>>>Traffic volume reporting quantity OP Traffic volume reporting quantity Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria P>>>>>Traffic volume measurement reporting criteria Traffic volume measurement reporting criteria Measuremen Traffic volume measuremen measuremen		OD		Traffia	
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t quantity 10.3.7.71 >>>>Traffic volume reporting quantity Traffic volume reporting quantity 10.3.7.74 >>>>CHOICE report criteria >>>>>Traffic volume Traffic volume Traffic volume measurement volume reporting criteria Traffic volume measuremen					
>>>Traffic volume reporting quantity OP Traffic volume reporting quantity reporting quantity 10.3.7.74 >>>>CHOICE report criteria >>>>Traffic volume Traffic volume measurement volume reporting criteria Traffic volume measuremen	quantity				
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>>>>CHOICE report criteria OP >>>>Traffic volume Traffic volume reporting criteria measuremen measuremen				quantity	
>>>>Traffic volume measurement reporting criteria Traffic volume measuremen	0110105	0.0		10.3.7.74	
measurement volume reporting criteria volume measuremen		UP UP		Troffic	
reporting criteria measuremen					
	. 5				

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			criteria 10.3.7.72	
>>>>Periodical reporting			Periodical	
chouldar reporting			reporting	
			criteria	
			10.3.7.53	
>>>>No reporting			NULL	
>>>Quality				
>>>Quality measurement	OP		Quality	
Object			measuremen	
			t object	
>>>>CHOICE report criteria	OP		,	
>>>>Quality measurement			Quality	
reporting criteria			measuremen	
			t reporting	
			criteria	
			10.3.7.58	
>>>>Periodical reporting			Periodical	
			reporting	
			criteria	
			10.3.7.53	
>>>>No reporting			NULL	
>>>UE internal				
>>>>UE internal measurement	OP		UE internal	
quantity			measuremen	
'			t quantity	
			10.3.7.79	
>>>>UE internal reporting	OP		UE internal	
quantity			reporting	
'			quantity	
			10.3.7.82	
>>>>CHOICE report criteria	OP			
>>>>UE internal measurement			UE internal	
reporting criteria			measuremen	
			t reporting	
			criteria	
			10.3.7.80	
>>>>Periodical reporting			Periodical	
			reporting	
			criteria	
			10.3.7.53	
>>>>No reporting			NULL	
>>>UE positioning				
>>>>LCS reporting quantity	OP		LCS	
			reporting	
			quantity	
011015	<u> </u>		10.3.7.111	
>>>CHOICE report criteria	OP		1.00	
>>>>LCS reporting criteria			LCS	
			reporting	
			criteria	
			10.3.7.110	
>>>>Periodical reporting			Periodical	
	1		reporting	
	1		criteria	
No see est	1		10.3.7.53	
>>>>No reporting	1			
Radio Bearer Information				
Elements	0.0		D 1 " .	
>Predefined configuration status	OP		Predefined	
information	1		configuration	
	1		status	
			information	
Cignalling DD information list	MP	1 to	10.3.4.5a	For each signaling radio
>Signalling RB information list	IVIE	1 to		For each signalling radio

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
		<maxsrbs etup></maxsrbs 		bearer
>>Signalling RB information	MP	ешр	Signalling RB information to setup 10.3.4.24	
>RAB information list	OP	1 to <maxrabs etup></maxrabs 	10.0.1.21	Information for each RAB
>>RAB information	MP		RAB information to setup 10.3.4.10	
Transport Channel Information Elements				
Uplink transport channels				
>UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
>UL transport channel information list	OP	1 to <maxtrch ></maxtrch 		
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2	
>CHOICE mode	OP			
>>FDD >>>CPCH set ID	OP		CPCH set ID	
>>>Transport channel information for DRAC list	OP	1 to <maxtrch< td=""><td>10.3.5.5</td><td></td></maxtrch<>	10.3.5.5	
>>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>>TDD				(no data)
>Dunlink transport channels >DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
>DL transport channel information list	OP	1 to <maxtrch ></maxtrch 		
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1	
>Measurement report	OP		MEASUREM ENT REPORT 10.2.17	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Other Information elements				
Failure cause	OP		Failure cause 10.3.3.13	Diagnostics information related to an earlier SRNC Relocation request (see NOTE 2 in 14.12.0a)
Protocol error information	CV-ProtErr		Protocol error information 10.3.8.12	

Multi Bound	Explanation
MaxNoOfMeas	Maximum number of active measurements, upper
	limit 16

Condition	Explanation
Setup	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
Ciphering	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
IP	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.
SRB1	The IE is mandatory present for RB1. Otherwise it is not needed.

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F											
Reason for change	e: #	Howe uses mess Also	lated by ever the samessa a messa sage, or a the targe	the source source SF ge formate non critic t SRNC c	e SRNC i RNC is no t that the s cal extens	the calway source ion that see an	ase on seasons as	neck info" is so of a SRNS re le to calculate IC does not unot known by prity protection	locati e this unders the s	ion "UE in if the targ stand (i.e. source SR	et SRNC Rel 4 NC).
Summary of chang	je: ૠ	A spa which An ac be tra Abse entry Impa The p RNC incor	are entry h includes dditional of ansmitted ence of the c and it with act analys problem r s that use mpatibility	in the RR is the entire optional II I to the UI is IE indic II calculat is: esolved is edifferent optional reproblems	C IE "Tar rely comp E giving the E is added that the MAC s the SRN t versions s between	get RN led do ne RB d to the the so C-I itse	wnlind on e IE " urce elf (if catio	Source RNC nk message. which the re SRNS RELO SRNC expect possible).	location CATION	ion messa ION INFO ormerly de ive betwee ackwards	ige will ". efined en two
				one does							
Consequences if not approved:	#	the ty	ype "UE i	nvolved" i	n case th	e targe	et and	in the case of the source I cation is not	RNC	do not sup	oport the
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Other specs	ж	Y N X		ore specif		ж					

	X O&M Specifications	
Other comments:	x	

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.

11.5 RRC information between network nodes

```
Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN
IMPORTS
    HandoverToUTRANCommand,
    MeasurementReport,
    PhysicalChannelReconfiguration,
    RadioBearerReconfiguration,
    RadioBearerRelease,
    RadioBearerSetup,
    RRC-FailureInfo-r3-IEs,
    TransportChannelReconfiguration
FROM PDU-definitions
-- Core Network IEs :
    CN-DomainIdentity,
    CN-DomainInformationList,
    CN-DRX-CycleLengthCoefficient,
    NAS-SystemInformationGSM-MAP,
-- UTRAN Mobility IEs :
    CellIdentity,
    URA-Identity
-- User Equipment IEs :
    C-RNTI,
    DL-PhysChCapabilityFDD-v380ext,
    FailureCauseWithProtErr,
    RRC-MessageSequenceNumber,
    STARTList,
    STARTSingle,
    START-Value,
    U-RNTI.
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
    UE-RadioAccessCapability-v380ext,
    UE-RadioAccessCapability-v3a0ext,
    UE-RadioAccessCapability-v4xyext,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RAB-Identity,
    SRB-InformationSetupList,
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-AddReconfTransChInfoList,
    DRAC-StaticInformationList,
    III.-CommonTransChInfo.
    UL-AddReconfTransChInfoList,
-- Measurement IEs :
    MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    MeasurementType-r4,
    AdditionalMeasurementID-List,
    PositionEstimate,
    UE-Positioning-IPDL-Parameters-TDD-r4-ext,
-- Other IEs :
InterRAT-UE-RadioAccessCapabilityList
FROM InformationElements
    maxCNdomains,
    maxNoOfMeas,
    maxRB,
    maxSRBsetup
FROM Constant-definitions
-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
```

```
-- Information that is tranferred in the same direction and across the same path is
grouped
__ *****************
-- RRC information, to target RNC
__ ***************
-- RRC Information to target RNC sent either from source RNC or from another RAT
ToTargetRNC-Container ::= CHOICE {
   interRATHandoverInfo
                                      InterRATHandoverInfoWithInterRATCapabilities-
   srncRelocation
                                      SRNC-RelocationInfo-r3,
   extension
                                      NULL
}
__ ****************************
-- RRC information, target RNC to source RNC
__ ******************************
Target-RNC-ToSourceRNC-Container ::= CHOICE {
                                   RadioBearerSetup,
   radioBearerSetup
   radioBearerReconfiguration
                                     RadioBearerReconfiguration,
   radioBearerRelease RadioBearerRelease, transportChannelReconfiguration physicalChannelReconfiguration procedureInfo RRC-FailureInfo RRC-FailureInfo
                                      OCTET STRINGextension
   dL-DCCHmessage
                                                                                   NULL
}
-- Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC
messages
-- In alphabetical order
__ ***************************
-- Handover to UTRAN information
__ **************
InterRATHandoverInfoWithInterRATCapabilities-r3 ::= CHOICE {
                                  SEQUENCE {
        -- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
        -- includes non critical extensions
                                    InterRATHandoverInfoWithInterRATCapabilities-
       interRATHandoverInfo-r3
r3-IEs,
       v390NonCriticalExtensions
                                          SEQUENCE
           interRATHandoverInfoWithInterRATCapabilities-v390ext
    InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
           -- Reserved for future non critical extension
           nonCriticalExtensions
                                          SEQUENCE {} OPTIONAL
       }
              OPTIONAL
    },
    criticalExtensions
                                 SEOUENCE {}
}
InterRATHandoverInfoWithInterRATCapabilities-r3-IEs::=
                                                         SEQUENCE {
       \mbox{--} The order of the IEs may not reflect the tabular format
        -- but has been chosen to simplify the handling of the information in the BSC
    -- Other IEs
       ue-RATSpecificCapability
                                      InterRAT-UE-RadioAccessCapabilityList
    OPTIONAL,
        -- interRATHandoverInfo, Octet string is used to obtain 8 bit length field
        -- actual information. This makes it possible for BSS to transparently handle
information
        -- received via GSM air interface even when it includes non critical
extensions.
       -- The octet string shall include the InterRATHandoverInfo information
        -- The BSS can re-use the 04.18 length field received from the \ensuremath{\text{MS}}
       interRATHandoverInfo
                                      OCTET STRING (SIZE (0..255))
}
```

```
InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs ::= SEQUENCE {
   -- User equipment IEs
       failureCauseWithProtErr
                                         FailureCauseWithProtErr
   OPTIONAL
}
__ ***************
-- SRNC Relocation information
__ ****************************
SRNC-RelocationInfo-r3 ::= CHOICE {
                                   SEQUENCE {
       sRNC-RelocationInfo-r3
                                      SRNC-RelocationInfo-r3-IEs,
                                               SEQUENCE {
           v380NonCriticalExtensions
               sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
               -- Reserved for future non critical extension
                                                  SEQUENCE {
               v390NonCriticalExtensions
                   sRNC-RelocationInfo-v390ext
                                                      SRNC-RelocationInfo-v390ext-
IEs,
                   v3a0NonCriticalExtensions
                                                      SEQUENCE {
                       sRNC-RelocationInfo-v3a0ext
                                                          SRNC-RelocationInfo-
v3a0ext-IEs.
                                                           SEQUENCE {
                       v3b0NonCriticalExtensions
                           sRNC-RelocationInfo-v3b0ext
                                                              SRNC-RelocationInfo-
v3b0ext-IEs,
                           v3c0NonCriticalExtensions
                                                              SEQUENCE {
                               sRNC-RelocationInfo-v3c0ext
                                                                  SRNC-
RelocationInfo-v3c0ext-IEs,
                               v4xyNonCriticalExtensions
                                                                  SEQUENCE {
                                   sRNC-RelocationInfo-v4xyext
                                                                      SRNC-
RelocationInfo-v4xyext-IEs,
                                       -- Reserved for future non critical extension
                                       nonCriticalExtensions
                                                                      SEQUENCE {}
   OPTIONAL
                                       OPTIONAL
                                   OPTIONAL
                               OPTIONAL
                           OPTIONAL
                       OPTIONAL.
                   OPTIONAL
   criticalExtensions
                                   SEOUENCE { }
}
SRNC-RelocationInfo-r3-IEs ::=
                                 SEQUENCE {
    -- Non-RRC IEs
       stateOfRRC
                                       StateOfRRC,
       stateOfRRC-Procedure
                                      StateOfRRC-Procedure,
    -- Ciphering related information IEs
    -- If the extension v380 is included use the extension for the ciphering status
per CN domain
       cipheringStatus
                                       CipheringStatus,
       calculationTimeForCiphering
                                       CalculationTimeForCiphering
                                                                          OPTIONAL,
       cipheringInfoPerRB-List
                                       CipheringInfoPerRB-List
                                                                          OPTIONAL,
       count-C-List
                                       COUNT-C-List
                                                                          OPTIONAL,
       integrityProtectionStatus
                                       IntegrityProtectionStatus,
       srb-SpecificIntegrityProtInfo
                                       SRB-SpecificIntegrityProtInfoList,
       implementationSpecificParams
                                       ImplementationSpecificParams
                                                                          OPTIONAL,
    -- User equipment IEs
       u-RNTI
                                       U-RNTI.
       c-RNTI
                                       C-RNTI
                                                                          OPTIONAL,
       ue-RadioAccessCapability
                                       UE-RadioAccessCapability,
       ue-Positioning-LastKnownPos
                                      UE-Positioning-LastKnownPos
                                                                          OPTIONAL.
   -- Other IEs
                                       InterRAT-UE-RadioAccessCapabilityList
       ue-RATSpecificCapability
   OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity
                                      URA-Identity
                                                                          OPTIONAL,
    -- Core network IEs
       cn-CommonGSM-MAP-NAS-SysInfo
                                      NAS-SystemInformationGSM-MAP,
       cn-DomainInformationList
                                      CN-DomainInformationList
                                                                          OPTIONAL,
    -- Measurement IEs
       ongoingMeasRepList
                                      OngoingMeasRepList
                                                                          OPTIONAL.
    -- Radio bearer IEs
```

```
predefinedConfigStatusList
                                       PredefinedConfigStatusList,
                                       SRB-InformationSetupList,
        srb-InformationList
       rab-InformationList
                                       RAB-InformationSetupList
                                                                           OPTIONAL,
    -- Transport channel IEs
       ul-CommonTransChInfo
                                       UL-CommonTransChInfo
                                                                           OPTIONAL,
                                       UL-AddReconfTransChInfoList
       ul-TransChInfoList
                                                                           OPTIONAL.
                                       CHOICE {
       modeSpecificInfo
            fdd
                                           SEQUENCE {
               cpch-SetID
                                               CPCH-SetID
               transChDRAC-Info
                                               DRAC-StaticInformationList OPTIONAL
            },
            tdd
                                           NIII.I.
       dl-CommonTransChInfo
                                      DL-CommonTransChInfo
                                                                           OPTIONAL,
       dl-TransChInfoList
                                       DL-AddReconfTransChInfoList
                                                                           OPTIONAL,
    -- Measurement report
       measurementReport
                                       MeasurementReport
                                                                           OPTIONAL ,
       nonCriticalExtensions
                                       SEQUENCE {
            -- In case of TDD only up-Ipdl-Parameters-TDD is present, otherwise
            -- this IE is absent
           up-Ipdl-Parameters-TDD
                                           UE-Positioning-IPDL-Parameters-TDD-r4-ext
                                                                                        OPTIONAL,
        -- Extension mechanism for non- release4 information
                                           SEQUENCE {}
           nonCriticalExtensions
                                                                                        OPTIONAL
                                                                           OPTIONAL
}
SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
    -- Ciphering related information IEs
       cn-DomainIdentity
                                           CN-DomainIdentity,
        cipheringStatusList
                                           CipheringStatusList
}
SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
       cn-DomainInformationList-v390ext
                                           CN-DomainInformationList-v390ext
    OPTIONAL,
       ue-RadioAccessCapability-v370ext
                                           UE-RadioAccessCapability-v370ext
    OPTIONAL.
       ue-RadioAccessCapability-v380ext
                                           UE-RadioAccessCapability-v380ext
    OPTIONAL,
       dl-PhysChCapabilityFDD-v380ext
                                           DL-PhysChCapabilityFDD-v380ext,
        failureCauseWithProtErr
                                           FailureCauseWithProtErr
    OPTIONAL.
}
SRNC-RelocationInfo-v3a0ext-IEs ::= SEQUENCE {
        -- cn-domain identity for IE startValueForCiphering-v3a0ext is specified
        -- in subsequent extension (SRNC-RelocationInfo-v3b0ext-IEs)
        startValueForCIphering-v3a0ext START-Value,
       cipheringInfoForSRB1-v3a0ext
                                           CipheringInfoForSRB1-v3a0ext,
       ue-RadioAccessCapability-v3a0ext UE-RadioAccessCapability-v3a0ext
    OPTIONAL
SRNC-RelocationInfo-v3b0ext-IEs ::= SEQUENCE {
        -- cn-domain identity for IE startValueForCiphering-v3a0ext included in
previous extension
       cn-DomainIdentity
                                       CN-DomainIdentity,
        -- the remaining start values are contained in IE startValueForCiphering-
v3b0ext
       startValueForCiphering-v3b0ext STARTList2
}
SRNC-RelocationInfo-v3c0ext-IEs ::= SEQUENCE {
 - RB Identity on which the source SRNC will send the message contained in the
 - IE "TargetRNC-ToSourceRNC-Container". Only included if type is "UE involved"
       rb-Identity
                                       RB-Identity
                                                           OPTIONAL
STARTList2 ::=
                                   SEQUENCE (SIZE (2..maxCNdomains)) OF
                                       STARTSingle
SRNC-RelocationInfo-v4xyext-IEs ::= SEQUENCE {
       ue-RadioAccessCapability-v4xyext
                                           UE-RadioAccessCapability-v4xyext
```

}

```
CipheringInfoForSRB1-v3a0ext ::= SEQUENCE {
                                            BIT STRING (SIZE (7))
        dl-IIM-SN
CipheringStatusList ::=
                                SEQUENCE (SIZE (1..maxCNdomains)) OF
                                        CipheringStatusCNdomain
CipheringStatusCNdomain ::=
                                        SEQUENCE {
                                        CN-DomainIdentity,
       cn-DomainIdentity
        cipheringStatus
                                        CipheringStatus
}
SRNC-RelocationInfo-r4 ::=
                                    SEQUENCE {
    -- Non-RRC IEs
                                        RB-Identity
       rb-Identity
                                                                            OPTIONAL,
       stateOfRRC
                                        StateOfRRC,
        stateOfRRC-Procedure
                                        StateOfRRC-Procedure,
        cipheringStatus
                                        CipheringStatus,
        calculationTimeForCiphering
                                        CalculationTimeForCiphering
                                                                            OPTIONAL.
        cipheringInfoPerRB-List
                                                                            OPTIONAL,
                                        CipheringInfoPerRB-List
        integrityProtectionStatus
                                        IntegrityProtectionStatus,
        srb-SpecificIntegrityProtInfo
                                        SRB-SpecificIntegrityProtInfoList,
        implementationSpecificParams
                                        ImplementationSpecificParams
                                                                            OPTIONAL,
    -- User equipment IEs
       u-RNTI
                                        U-RNTI,
        c-RNTI
                                        C-RNTI
                                                                            OPTIONAL,
       ue-RadioAccessCapability
                                        UE-RadioAccessCapability,
       ue-Positioning-LastKnownPos
                                        UE-Positioning-LastKnownPos
                                                                            OPTIONAL.
    -- Other IEs
       ue-RATSpecificCapability
                                        InterRAT-UE-RadioAccessCapabilityList
    OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity
                                        URA-Identity
                                                                            OPTIONAL,
    -- Core network IEs
       cn-CommonGSM-MAP-NAS-SysInfo
                                        NAS-SystemInformationGSM-MAP,
       cn-DomainInformationList
                                        CN-DomainInformationList
                                                                            OPTIONAL,
    -- Measurement IEs
       ongoingMeasRepList
                                        OngoingMeasRepList-r4
                                                                            OPTIONAL,
    -- Radio bearer IEs
       predefinedConfigStatusList
                                        PredefinedConfigStatusList,
                                        SRB-InformationSetupList,
        srb-InformationList
       rab-InformationList
                                        RAB-InformationSetupList
                                                                            OPTIONAL.
    -- Transport channel IEs
       ul-CommonTransChInfo
                                        UL-CommonTransChInfo
                                                                            OPTIONAL,
       ul-TransChInfoList
                                        UL-AddReconfTransChInfoList
                                                                            OPTIONAL,
       modeSpecificInfo
                                        CHOICE {
            fdd
                                            SEQUENCE {
                cpch-SetID
                                                CPCH-SetID
                                                                            OPTIONAL,
                transChDRAC-Info
                                                DRAC-StaticInformationList OPTIONAL
            tdd
                                            NULL
       dl-CommonTransChInfo
                                        DL-CommonTransChInfo
                                                                            OPTIONAL.
       dl-TransChInfoList
                                        DL-AddReconfTransChInfoList
                                                                            OPTIONAL,
    -- Measurement report
       measurementReport
                                        MeasurementReport
                                                                            OPTIONAL,
       nonCriticalExtensions
                                        SEQUENCE {
            -- In case of TDD only up-Ipdl-Parameters-TDD is present, otherwise
            -- this IE is absent
            up-Ipdl-Parameters-TDD
                                            UE-Positioning-IPDL-Parameters-TDD-r4-ext
                                                                                        OPTIONAL.
        -- Extension mechanism for non- release4 information
                                            SEQUENCE {}
                                                                                         OPTIONAL
           nonCriticalExtensions
                                                                            OPTIONAL
}
-- IE definitions
CalculationTimeForCiphering ::=
                                    SEOUENCE {
                                        CellIdentity,
   cell-Id
                                        INTEGER (0..4095)
    sfn
CipheringInfoPerRB ::=
                                    SEQUENCE {
   dl-HFN
                                        BIT STRING (SIZE (20..25)),
    ul-HFN
                                        BIT STRING (SIZE (20..25))
}
```

```
-- TABULAR: CipheringInfoPerRB-List, multiplicity value numberOfRadioBearers
-- has been replaced with maxRB.
                                      SEQUENCE (SIZE (1..maxRB)) OF
CipheringInfoPerRB-List ::=
                                         CipheringInfoPerRB
CipheringStatus ::=
                                     ENUMERATED {
                                         started, notStarted }
CN-DomainInformation-v390ext ::=
                                          SEOUENCE {
                                          {\tt CN-DRX-CycleLengthCoefficient}
    {\tt cn-DRX-CycleLengthCoeff}
CN-DomainInformationList-v390ext ::=
                                         SEQUENCE (SIZE (1..maxCNdomains)) OF
                                          CN-DomainInformation-v390ext
COUNT-C-List ::=
                                          SEQUENCE (SIZE (1..maxCNdomains)) OF
                                          COUNT-CSingle
COUNT-CSingle ::=
                                          SEOUENCE {
    cn-DomainIdentity
                                          CN-DomainIdentity,
    count-C
                                          BIT STRING (SIZE (32))
}
                                   BIT STRING (SIZE (1..512))
ImplementationSpecificParams ::=
IntegrityProtectionStatus ::=
                                     ENUMERATED {
                                          started, notStarted }
MeasurementCommandWithType ::=
                                      CHOICE {
                                         MeasurementType,
    setup
    modify
                                          NULL,
    release
                                          NULL
MeasurementCommandWithType-r4 ::= CHOICE {
                                          MeasurementType-r4,
    setup
    modify
                                          NULL,
   release
                                          NULL
}
OngoingMeasRep ::=
                                      SEQUENCE {
   measurementIdentity
                                MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType
   measurementCommandWithType MeasurementCommandWithType measurementReportingMode MeasurementReportingMode additionalMeasurementID-List AdditionalMeasurementID-I
                                         MeasurementCommandWithType,
                                                                              OPTIONAL,
                                        AdditionalMeasurementID-List
                                                                             OPTIONAL
}
OngoingMeasRep-r4 ::=
                                     SEQUENCE {
   measurementIdentity
                               MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType-r4.
    {\tt measurementCommandWithType} \qquad {\tt MeasurementCommandWithType-r4},
    measurementReportingMode
                                         MeasurementReportingMode
                                                                                OPTIONAL,
    additionalMeasurementID-List
                                         AdditionalMeasurementID-List
                                                                               OPTIONAL
}
                                      SEQUENCE (SIZE (1..maxNoOfMeas)) OF
OngoingMeasRepList ::=
                                         OngoingMeasRep
OngoingMeasRepList-r4 ::=
                                      SEQUENCE (SIZE (1..maxNoOfMeas)) OF
                                          OngoingMeasRep-r4
SRB-SpecificIntegrityProtInfo ::= SEQUENCE {
    ul-RRC-HFN
                                         BIT STRING (SIZE (28)),
    dl-RRC-HFN
                                          BIT STRING (SIZE (28)),
    ul-RRC-SequenceNumber
                                          RRC-MessageSequenceNumber,
   dl-RRC-SequenceNumber
                                         RRC-MessageSeguenceNumber
}
SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
                                          SRB-SpecificIntegrityProtInfo
StateOfRRC ::=
                                      ENUMERATED {
```

```
cell-DCH, cell-FACH,
                                        cell-PCH, ura-PCH }
StateOfRRC-Procedure ::=
                                    ENUMERATED {
                                        awaitNoRRC-Message,
                                        awaitRRC-ConnectionRe-establishmentComplete,
                                        awaitRB-SetupComplete,
                                        awaitRB-ReconfigurationComplete,
                                        awaitTransportCH-ReconfigurationComplete,
                                        awaitPhysicalCH-ReconfigurationComplete,
                                        awaitActiveSetUpdateComplete,
                                        awaitHandoverComplete,
                                        sendCellUpdateConfirm,
                                        sendUraUpdateConfirm,
                                        sendRrcConnectionReestablishment,
                                        otherStates
}
UE-Positioning-LastKnownPos ::= SEQUENCE {
                                     INTEGER (0..4095),
       sfn
        cell-id
                                        CellIdentity,
       positionEstimate
                                      PositionEstimate
}
```

END

14.12.2 RRC information, target RNC to source RNC

There are 2 possible cases for RNC relocation:

- 1. The UE is already under control of target RNC; and
- 2. The SRNC Relocation with Hard Handover (UE still under control of SRNC), but UE is moving to a location controlled by the target RNC (based on measurement information).

In case 1 the relocation is transparent to the UE and there is no "reverse" direction container. The SRNC just assigns the 'serving' function to the target RNC, which then becomes the Serving RNC.

In case 2 the relocation is initiated by SRNC, which also provides the RRC Initialisation Information to the target RNC. Base on this information, the target RNC prepares the Hard Handover Message ("Physical channel reconfiguration" (subclause 8.2.6), "radio bearer establishment" (subclause 8.2.1), "Radio bearer reconfiguration" (subclause 8.2.2), "Radio bearer release" (subclause 8.2.3) or "Transport channel reconfiguration" (subclause 8.2.4).

The IE "DL DCCH message" may be chosen and should contain the DL DCCH message that should be transmitted transparently to the UE by the source SRNC in case the IE "RB Id for handover message" has been received by the target SRNC in the IE "SRNS Relocation Info". If the target SRNC did not receive the IE "RB Id for handover message" in the IE "SRNS Relocation Info" the target SRNC should use another choice.

The source RNC then transmits the Handover Message to the UE, which then performs the handover.

In the successful case, the UE transmits an XXX COMPLETE message, using the new configuration, to the target RNC.

In case of failure, the UE transmits an XXX FAILURE, using the old configuration, to the source RNC and the RRC context remains unchanged (has to be confirmed and checked with the SRNS relocation procedure).

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
CHOICE RRC message	MP			At least one spare choice,
				Criticality: Reject, is needed
>RADIO BEARER SETUP			RADIO	
			BEARER	
			SETUP	
			10.2.31	

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
>RADIO BEARER			RADIO	
RECONFIGURATION			BEARER	
			RECONFIG	
			URATION	
			10.2.25	
>RADIO BEARER RELEASE			RADIO	
			BEARER	
			RELEASE	
			10.2.28	
>TRANSPORT CHANNEL			TRANSPOR	
RECONFIGURATION			T CHANNEL	
			RECONFIG	
			URATION	
			10.2.51	
>PHYSICAL CHANNEL			PHYSICAL	
RECONFIGURATION			CHANNEL	
			RECONFIG	
			URATION	
			10.2.20	
>RRC FAILURE INFO			RRC	
			FAILURE	
			INFO	
			10.2.41	
			a	
>DL DCCH message			<u>OCTET</u>	
			STRING	

14.12.4.2 SRNS RELOCATION INFO

This RRC message is sent between network nodes when preparing for an SRNS relocation.

With the presence or absence of the IE "RB identity for Hard Handover message" the source SRNC can indicate to the target SRNC whether the source RNC expects to receive the choice "DL DCCH message" in the IE "RRC information, target RNC to source RNC" in case the SRNS relocation is of type "UE involved"

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC IEs				
RB identity for Handover message	<u>OP</u>		RB identity 10.3.4.16	Gives the id of the radio bearer on which the sourc RNC will transmit the RRC message in the case the relocation is of type "UE involved".
>State of RRC	MP		RRC state	
			indicator,	
			10.3.3.35a	
>State of RRC procedure	MP		Enumerated	
			(await no	
			RRC	
			message,	
			Complete, await RB	
			Setup	
			Complete,	
			await RB	
			Reconfigurat	
			ion	
			Complete,	
			await RB	
			Release	
			Complete,	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			await Transport CH Reconfigurat ion Complete, await Physical CH Reconfigurat ion Complete, await Active Set Update Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, , others)	
Ciphering related information				
>Ciphering status for each CN domain	MP	<1 to maxCNDo mains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>>START	MP		START 10.3.3.38	START value to be used in this CN domain.
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV- Ciphering			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(040 95)	
>COUNT-C list	CV- Ciphering	1 to <maxcndo mains></maxcndo 		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxrb></maxrb>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Downlink SN	CV-SRB1		Bit String(7)	VT(US) of RLC UM

Information Element/Group	Need	Multi	Type and	Semantics description
Name			reference	
>>Uplink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV-IP	4 to <maxsrbs etup></maxsrbs 		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0 15)	
>>Downlink RRC Message sequence number	MP		Integer (0 15)	
>Implementation specific parameters RRC IEs	OP		Bit string (1512)	
UE Information elements				
>U-RNTI	MP		U-RNTI	
>C-RNTI	OP		10.3.3.47 C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability 10.3.3.42	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP		1010101124	
>>SFN	MP		Integer (04095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.
>>CHOICE Position estimate	MP			
>>>Ellipsoid Point			Ellipsoid Point; 10.3.8.4a	
>>>Ellipsoid point with uncertainty circle			Ellipsoid point with uncertainty circle 10.3.8.4d	
>>>Ellipsoid point with uncertainty ellipse			Ellipsoid point with uncertainty ellipse 10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid point with altitude 10.3.8.4b	
>>>Ellipsoid point with altitude and uncertainty ellipsoid			Ellipsoid point with altitude and uncertainty ellipsoid	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Other Information elements			10.3.8.4c	
>UE system specific capability	OP	1 to <maxsyste mCapabilit y></maxsyste 		
>>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
UTRAN Mobility Information elements				
>URA Identifier	OP		URA identity 10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS system information	MP		NAS system information (GSM-MAP) 10.3.1.9	
>CN domain related information	OP	1 to <maxcndo mains></maxcndo 		CN related information to be provided for each CN domain
>>CN domain identity	MP			
>>CN domain specific GSM- MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	
>>CN domain specific DRX cycle length coefficient	MP		CN domain specific DRX cycle length coefficient, 10.3.3.6	
Measurement Related Information elements				
>For each ongoing measurement reporting	OP	1 to <maxnoof Meas></maxnoof 		
>>Measurement Identity	MP		Measuremen t identity 10.3.7.48	
>>Measurement Command	MP		Measuremen t command 10.3.7.46	
>>Measurement Type	CV-Setup		Measuremen t type 10.3.7.50	
>>Measurement Reporting Mode	OP		Measuremen t reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional measuremen ts list 10.3.7.1	
>>CHOICE Measurement >>>Intra-frequency	OP			
>>>>Intra-frequency cell info	OP		Intra- frequency cell info list 10.3.7.33	
>>>>Intra-frequency measurement quantity	OP		Intra- frequency measuremen	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Numo			t quantity	
			10.3.7.38	
>>>>Intra-frequency reporting	OP		Intra-	
quantity			frequency	
			reporting	
			quantity	
	0.0		10.3.7.41	
>>>Reporting cell status	OP		Reporting cell status	
			10.3.7.61	
>>>Measurement validity	OP		Measuremen	
// validity			t validity	
			10.3.7.51	
>>>>CHOICE report criteria	OP			
>>>>Intra-frequency			Intra-	
measurement			frequency	
reporting criteria			measuremen	
			t reporting	
			criteria	
			10.3.7.39	
>>>>Periodical reporting			Periodical	
			reporting criteria	
			10.3.7.53	
>>>>No reporting			NULL	
>>Inter-frequency			NOLL	
>>>Inter-frequency cell info	OP		Inter-	
			frequency	
			cell info list	
			10.3.7.13	
>>>>Inter-frequency	OP		Inter-	
measurement			frequency	
quantity			measuremen	
			t quantity	
lates for some series	OD		10.3.7.18	
>>>Inter-frequency reporting	OP		Inter-	
quantity			frequency reporting	
			quantity	
			10.3.7.21	
>>>Reporting cell status	OP		Reporting	
3			cell status	
			10.3.7.61	
>>>>Measurement validity	OP		Measuremen	
			t validity	
0110105	<u> </u>		10.3.7.51	
>>>>CHOICE report criteria	OP		.	
>>>>Inter-frequency			Inter-	
measurement			frequency measuremen	
reporting criteria			t reporting	
			criteria	
			10.3.7.19	
>>>>Periodical reporting	1		Periodical	
			reporting	
			criteria	
			10.3.7.53	
>>>>No reporting			NULL	
>>>Inter-RAT	1			
>>>Inter-RAT cell info	OP		Inter-RAT	
			cell info list	
Inter DAT	OD		10.3.7.23	
>>>Inter-RAT measurement	OP		Inter-RAT	
quantity	I	l	measuremen	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description				
			t quantity					
lates DAT assessing	OD		10.3.7.29					
>>>Inter-RAT reporting	OP		Inter-RAT					
quantity			reporting quantity					
			10.3.7.32					
>>>Reporting cell status	OP		Reporting					
>>> Keporting cen status	01		cell status					
			10.3.7.61					
>>>Measurement validity	OP		Measuremen					
,			t validity					
			10.3.7.51					
>>>>CHOICE report criteria	OP							
>>>>Inter-RAT measurement			Inter-RAT					
reporting criteria			measuremen					
			t reporting					
			criteria					
			10.3.7.30					
>>>>Periodical reporting			Periodical					
			reporting					
			criteria					
			10.3.7.53					
>>>>No reporting			NULL					
>>>Traffic Volume	0.0		T ("					
>>>>Traffic volume	OP		Traffic					
measurement			volume					
Object			measuremen t object					
			10.3.7.70					
>>>>Traffic volume	OP		Traffic					
measurement			volume					
quantity			measuremen					
quanty			t quantity					
			10.3.7.71					
>>>>Traffic volume reporting	OP		Traffic					
quantity			volume					
			reporting					
			quantity					
			10.3.7.74					
>>>>CHOICE report criteria	OP							
>>>>Traffic volume			Traffic					
measurement			volume					
reporting criteria			measuremen					
			t reporting					
			criteria 10.3.7.72					
>>>>Periodical reporting			Periodical					
>>r enouldal reporting			reporting					
			criteria					
			10.3.7.53					
>>>>No reporting			NULL					
>>>Quality			· · ·					
>>>Quality measurement	OP		Quality					
Object Object	-		measuremen					
•			t object					
>>>>CHOICE report criteria	OP							
>>>>Quality measurement			Quality					
reporting criteria			measuremen					
			t reporting					
			criteria					
			10.3.7.58					
>>>>Periodical reporting								

Information Element/Group Name	Need	Multi	Type and reference	Semantics description				
			10.3.7.53					
>>>>No reporting			NULL					
>>>UE internal								
>>>UE internal measurement	OP		UE internal					
quantity			measuremen					
			t quantity					
			10.3.7.79					
>>>UE internal reporting	OP		UE internal					
quantity			reporting					
			quantity					
0.1.0.0			10.3.7.82					
>>>CHOICE report criteria	OP							
>>>>UE internal measurement			UE internal					
reporting criteria			measuremen					
			t reporting					
			criteria					
			10.3.7.80					
>>>>Periodical reporting			Periodical					
			reporting					
			criteria					
			10.3.7.53					
>>>>No reporting			NULL					
>>>UE positioning								
>>>LCS reporting quantity	OP		LCS					
			reporting					
			quantity					
			10.3.7.111					
>>>>CHOICE report criteria	OP							
>>>>LCS reporting criteria			LCS					
			reporting					
			criteria					
			10.3.7.110					
>>>>Periodical reporting			Periodical					
			reporting					
			criteria					
			10.3.7.53					
>>>>No reporting								
Radio Bearer Information Elements								
>Predefined configuration status	OP		Predefined					
information			configuration					
			status					
			information					
			10.3.4.5a					
>Signalling RB information list	MP	1 to		For each signalling radio				
		<maxsrbs< td=""><td></td><td>bearer</td></maxsrbs<>		bearer				
		etup>						
>>Signalling RB information	MP		Signalling					
			RB					
			information					
			to setup					
		1	10.3.4.24					
>RAB information list	OP	1 to		Information for each RAB				
		<maxrabs< td=""><td></td><td></td></maxrabs<>						
>> DAD information	MP	etup>	RAB					
>>RAB information	IVIP		· · · · · · · · · · · · · · · · · · ·					
			information					
			to setup					
Transport Charrel		+	10.3.4.10					
Transport Channel Information Elements		1						
Uplink transport channels		1						
>UL Transport channel	OP	+	UL Transport					
information common for all	OF .		channel					
	J		GIAIIIEI					

Information Element/Group Name	Need	Multi	Type and reference	Semantics description				
transport channels			information common for all transport channels 10.3.5.24					
>UL transport channel information list	OP	1 to <maxtrch ></maxtrch 						
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2					
>CHOICE mode	OP							
>>FDD								
>>>CPCH set ID	OP		CPCH set ID 10.3.5.5					
>>>Transport channel information for DRAC list	OP	1 to <maxtrch ></maxtrch 						
>>>DRAC static information	MP		DRAC static information 10.3.5.7					
>>TDD				(no data)				
Downlink transport channels								
>DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6					
>DL transport channel information list	OP	1 to <maxtrch ></maxtrch 						
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1					
>Measurement report	OP		MEASUREM ENT REPORT 10.2.17					
Other Information elements	OB		Foilure	Diagnostics information unless t				
Failure cause	OP		Failure cause 10.3.3.13	Diagnostics information related to an earlier SRNC Relocation request (see NOTE 2 in 14.12.0a)				
Protocol error information	CV-ProtErr		Protocol error information 10.3.8.12					

Multi Bound	Explanation						
MaxNoOfMeas	Maximum number of active measurements, upper						
	limit 16						

Condition	Explanation					
Setup	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.					
Ciphering	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.					
IP	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.					
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.					
SRB1	The IE is mandatory present for RB1. Otherwise it is not needed.					

														CR-Form-v7
CHANGE REQUEST														
*	25	.331	CR	1673	я	rev	-	Ж	Curren	nt vers	sion:	5.1	.0	¥
For <u>HELP</u> on u	sing t	this fo	rm, see	bottom	of this p	age or	look	at th	е рор-и	p text	over	the #	Ssyn	nbols.
Proposed change	affec	ts:	UICC a	pps#		ME	Rad	A oib	ccess N	letwo	rk X	Cor	e Ne	twork
Title: ж	SRI	NS rel	ocation	with inte	grity									
Source: #	TS	G-RAI	NWG2											
Work item code: ₩	TEI								Da	ıte: ૠ	09/	8/200	2	
Category: ж	Α								Relea	se: #	Re	l-5		
outogo.y.	Use			wing cate	egories:				Use <u>c</u>	one of	the fo	llowin		ases:
			rection)	ls to a co	rrection i	in an aa	rlior re	doss	2 a) P(96	•	A Phas ease 1	,	
				feature),	rection	ii aii ca	inoi ie	1003		97	•	ease 1		
		C (fun	ctional i	nodificati		iture)				98	(Rele	ease 1	998)	
	Doto	D (edi	itorial m	odification	1) abaya a	oto aorio				99 al 1		ease 1		
				ns of the R 21.900		ategorie	s can			el-4 el-5		ease 4 _, ease 5 _,		
	5010	ana m	· ·	11 211000	<u>.</u>					el-6		ease 6		
Reason for change	e: #	How uses mes Also	ulated be ever the a mes sage, o the tar	rrent star by the so e source sage for or a non o get SRN ed by the	ource SF SRNC mat tha critical e C could	RNC in is not a the so extension of the so	the calway ource on that e an	ase of sab SRN of is r	of a SRI le to cal IC does not knov	NS rel culate not u vn by	locati this inders the s	on "U if the stand ource	E inv targe (i.e. SRN	et SRNC Rel 4 NC).
Summary of chang	ye: ₩	which An a be transported to the	th included diddition in the cansmitted and it and it act analogous that unpatibi	des the eal option ted to the this IE in will calcon yes: yes: n resolve use diffe lity probl	entirely of all IE gives all IE	compile ving the added that the MAC- SRNS sions o	ed dove RB I to the ne sou I itse Freloo	wnlind on a left of the left o	nk mess which to SRNS F SRNC of possible on with in ocol. The	age. the rel RELO expec e). htegrit ere is	locati CATI ts a fo	on me ON IN ormer ive be	essa NFO" ly de etwee	fined en two
		and	the oth	er one d	oesn't.									
Consequences if not approved:	*	the t	ype "Ul	sible to a E involve ages, ar	ed" in ca	se the	targe	t and	d the so	urce F	RNC	do no	t sup	port the
Clauses affected:	ж	11 E	1/ 10	.2, 14.12	112									
Ciauses affected:	Ф	11.3	, 14.1Z	.८, 14.12	+.∠									
		YN]											
Other specs affected:	¥	X	-	core specifica		ons	æ							

	X O&M Specifications
Other comments:	X

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.

11.5 RRC information between network nodes

```
Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN
IMPORTS
    HandoverToUTRANCommand,
    MeasurementReport,
    PhysicalChannelReconfiguration,
    RadioBearerReconfiguration,
    RadioBearerRelease,
    RadioBearerSetup,
    RRC-FailureInfo-r3-IEs,
    TransportChannelReconfiguration
FROM PDU-definitions
-- Core Network IEs :
    CN-DomainIdentity,
    CN-DomainInformationList,
    {\tt CN-DRX-CycleLengthCoefficient,}
    NAS-SystemInformationGSM-MAP,
-- UTRAN Mobility IEs :
    CellIdentity,
    URA-Identity
-- User Equipment IEs :
    C-RNTI,
    DL-PhysChCapabilityFDD-v380ext,
    FailureCauseWithProtErr,
    RRC-MessageSequenceNumber,
    STARTList,
    STARTSingle,
    START-Value,
    U-RNTI.
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
    UE-RadioAccessCapability-v380ext,
    UE-RadioAccessCapability-v3a0ext,
    UE-RadioAccessCapability-v4xyext,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RAB-Identity,
    RB-Identity,
    SRB-InformationSetupList,
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-AddReconfTransChInfoList,
    DRAC-StaticInformationList,
    UL-CommonTransChInfo,
    UL-AddReconfTransChInfoList,
-- Measurement IEs :
   MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    MeasurementType-r4,
    AdditionalMeasurementID-List,
    PositionEstimate,
UE-Positioning-IPDL-Parameters-TDD-r4-ext,
-- Other IEs :
InterRAT-UE-RadioAccessCapabilityList
FROM InformationElements
    maxCNdomains,
    maxNoOfMeas,
    maxRB,
   maxRBallRABs,
    maxRFC3095-CID,
    maxSRBsetup
FROM Constant-definitions
```

```
-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is tranferred in the same direction and across the same path is
__ ***************
-- RRC information, to target RNC
__ *************
-- RRC Information to target RNC sent either from source RNC or from another RAT
ToTargetRNC-Container ::= CHOICE {
   interRATHandoverInfo
                                    InterRATHandoverInfoWithInterRATCapabilities-
   srncRelocation
                                     SRNC-RelocationInfo-r3,
                                     RFC3095-ContextInfo-r5,
   rfc3095-ContextInfo
   extension
                                     NULL
}
__ ***************
-- RRC information, target RNC to source RNC
Target-RNC-ToSourceRNC-Container ::= CHOICE {
    radioBearerSetup
                                     RadioBearerSetup,
    radioBearerReconfiguration
                                     RadioBearerReconfiguration,
   radioBearerRelease
                                     RadioBearerRelease,
   transportChannelReconfiguration physicalChannelReconfiguration PhysicalChannelReconfiguration,
    rrc-FailureInfo
                                     RRC-FailureInfo-r3-IEs,
                                    OCTET STRINGextension
   dL-DCCHmessage
}
-- Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC
-- In alphabetical order
__ ****************
-- Handover to UTRAN information
InterRATHandoverInfoWithInterRATCapabilities-r3 ::= CHOICE {
                                  SEQUENCE {
       -- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
        -- includes non critical extensions
       interRATHandoverInfo-r3
                                    InterRATHandoverInfoWithInterRATCapabilities-
r3-IEs,
       v390NonCriticalExtensions
                                         SEOUENCE {
           interRATHandoverInfoWithInterRATCapabilities-v390ext
    InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
          -- Reserved for future non critical extension
          nonCriticalExtensions
                                         SEQUENCE {} OPTIONAL
       }
              OPTIONAL
    criticalExtensions
                                 SEQUENCE {}
}
InterRATHandoverInfoWithInterRATCapabilities-r3-IEs::=
       -- The order of the IEs may not reflect the tabular format
        -- but has been chosen to simplify the handling of the information in the BSC
    -- Other IEs
       ue-RATSpecificCapability
                                     InterRAT-UE-RadioAccessCapabilityList
    OPTIONAL,
       -- interRATHandoverInfo, Octet string is used to obtain 8 bit length field
        -- actual information. This makes it possible for BSS to transparently handle
information
       -- received via GSM air interface even when it includes non critical
extensions.
        -- The octet string shall include the InterRATHandoverInfo information
```

```
-- The BSS can re-use the 04.18 length field received from the MS
                                      OCTET STRING (SIZE (0..255))
       interRATHandoverInfo
}
InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs ::= SEQUENCE {
   -- User equipment IEs
       failureCauseWithProtErr
                                         FailureCauseWithProtErr
   OPTIONAL
}
-- RFC3095 context, source RNC to target RNC
RFC3095-ContextInfo-r5 ::= CHOICE {
                                  SEQUENCE {
                                  RFC3095-ContextInfoList-r5,
       rFC3095-ContextInfoList-r5
       -- Reserved for future non critical extension
       nonCriticalExtensions
                             SEQUENCE {} OPTIONAL
   criticalExtensions
                                  SEQUENCE {}
}
RFC3095-ContextInfoList-r5 ::=
                                  SEQUENCE (SIZE (1..maxRBallRABs)) OF
                                      RFC3095-ContextInfo
__ *****************
-- SRNC Relocation information
SRNC-RelocationInfo-r3 ::= CHOICE {
                                  SEQUENCE {
   r3
                                    SRNC-RelocationInfo-r3-IEs,
       sRNC-RelocationInfo-r3
                                             SEQUENCE {
           v380 \\ Non Critical Extensions
               sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
               -- Reserved for future non critical extension
                                              SEQUENCE {
               v390NonCriticalExtensions
                   sRNC-RelocationInfo-v390ext
                                                    SRNC-RelocationInfo-v390ext-
IEs,
                   v3a0NonCriticalExtensions
                                                    SEQUENCE {
                                                        SRNC-RelocationInfo-
                       sRNC-RelocationInfo-v3a0ext
v3a0ext-IEs,
                       v3b0NonCriticalExtensions
                                                        SEQUENCE {
                          sRNC-RelocationInfo-v3b0ext
                                                           SRNC-RelocationInfo-
v3b0ext-IEs,
                          v3c0NonCriticalExtensions
                                                             SEQUENCE {
                              sRNC-RelocationInfo-v3c0ext
RelocationInfo-v3c0ext-IEs,
                              v4xyNonCriticalExtensions
                                                                SEQUENCE {
                                 sRNC-RelocationInfo-v4xyext
RelocationInfo-v4xyext-IEs,
                                      -- Reserved for future non critical extension
                                                                    SEQUENCE {}
                                     nonCriticalExtensions
   OPTIONAL
                                     OPTIONAL
                                  OPTIONAL
                              OPTIONAL
                          OPTIONAL
                   }
                      OPTIONAL
                   OPTIONAL
   criticalExtensions
                                 SEQUENCE {}
}
SRNC-RelocationInfo-r3-IEs ::= SEQUENCE {
   -- Non-RRC IEs
       stateOfRRC
                                      StateOfRRC.
       stateOfRRC-Procedure
                                      StateOfRRC-Procedure,
   -- Ciphering related information IEs
   -- If the extension v380 is included use the extension for the ciphering status
per CN domain
       cipheringStatus
                                      CipheringStatus,
```

```
calculationTimeForCiphering
                                        CalculationTimeForCiphering
                                                                            OPTIONAL,
        cipheringInfoPerRB-List
                                        CipheringInfoPerRB-List
                                                                            OPTIONAL.
        count-C-List
                                        COUNT-C-List
                                                                            OPTIONAL,
        integrityProtectionStatus
                                        {\tt IntegrityProtectionStatus},
        srb-SpecificIntegrityProtInfo
                                        SRB-SpecificIntegrityProtInfoList,
                                        ImplementationSpecificParams
        implementationSpecificParams
                                                                            OPTIONAL.
    -- User equipment IEs
       u-RNTI
                                        U-RNTI.
       c-RNTI
                                        C-RNTI
                                                                            OPTIONAL,
       ue-RadioAccessCapability
                                        UE-RadioAccessCapability,
        ue-Positioning-LastKnownPos
                                        UE-Positioning-LastKnownPos
                                                                            OPTIONAL,
    -- Other IEs
        ue-RATSpecificCapability
                                        InterRAT-UE-RadioAccessCapabilityList
    OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity
                                        URA-Identity
                                                                             OPTIONAL,
    -- Core network IEs
        cn-CommonGSM-MAP-NAS-SysInfo
                                        NAS-SystemInformationGSM-MAP,
        cn-DomainInformationList
                                        CN-DomainInformationList
                                                                            OPTIONAL.
    -- Measurement IEs
        ongoingMeasRepList
                                        OngoingMeasRepList
                                                                            OPTIONAL,
    -- Radio bearer IEs
       predefinedConfigStatusList
                                        PredefinedConfigStatusList,
        srb-InformationList
                                        SRB-InformationSetupList,
       rab-InformationList
                                        RAB-InformationSetupList
                                                                            OPTIONAL,
    -- Transport channel IEs
       ul-CommonTransChInfo
                                        UL-CommonTransChInfo
                                                                            OPTIONAL,
        ul-TransChInfoList
                                        UL-AddReconfTransChInfoList
                                                                            OPTIONAL,
        modeSpecificInfo
                                        CHOICE {
            fdd
                                            SEQUENCE {
                cpch-SetID
                                                CPCH-Set.ID
                                                                             OPTIONAL.
                                                DRAC-StaticInformationList OPTIONAL
                transChDRAC-Info
            },
            tdd
                                            NULL
        dl-CommonTransChInfo
                                        DL-CommonTransChInfo
                                                                             OPTIONAL,
       dl-TransChInfoList
                                        DL-AddReconfTransChInfoList
                                                                            OPTIONAL.
    -- Measurement report
       measurementReport
                                        MeasurementReport
                                                                             OPTIONAL ,
       nonCriticalExtensions
                                       SEQUENCE {
            -- In case of TDD only up-Ipdl-Parameters-TDD is present, otherwise
            -- this IE is absent
            up-Ipdl-Parameters-TDD
                                            UE-Positioning-IPDL-Parameters-TDD-r4-ext
                                                                                         OPTIONAL,
         - Extension mechanism for non- release4 information
           nonCriticalExtensions
                                            SEQUENCE {}
                                                                                         OPTIONAL
        }
                                                                            OPTIONAL
SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
    -- Ciphering related information IEs
        cn-DomainIdentity
                                            CN-DomainIdentity,
        cipheringStatusList
                                            CipheringStatusList
}
SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
        cn-DomainInformationList-v390ext
                                            CN-DomainInformationList-v390ext
    OPTIONAL,
       ue-RadioAccessCapability-v370ext
                                            UE-RadioAccessCapability-v370ext
    OPTIONAL,
       ue-RadioAccessCapability-v380ext
                                            UE-RadioAccessCapability-v380ext
    OPTIONAL,
       dl-PhysChCapabilityFDD-v380ext
                                            DL-PhysChCapabilityFDD-v380ext,
        failureCauseWithProtErr
                                            FailureCauseWithProtErr
    OPTIONAL
}
SRNC-RelocationInfo-v3a0ext-IEs ::= SEOUENCE {
        -- cn-domain identity for IE startValueForCiphering-v3a0ext is specified
        -- in subsequent extension (SRNC-RelocationInfo-v3b0ext-IEs)
        startValueForCIphering-v3a0ext
                                            START-Value,
        cipheringInfoForSRB1-v3a0ext
                                            CipheringInfoForSRB1-v3a0ext,
        ue-RadioAccessCapability-v3a0ext
                                            UE-RadioAccessCapability-v3a0ext
    OPTIONAL
}
SRNC-RelocationInfo-v3b0ext-IEs ::= SEQUENCE {
```

```
-- cn-domain identity for IE startValueForCiphering-v3a0ext included in
previous extension
       cn-DomainIdentity
                                     CN-DomainIdentity,
        -- the remaining start values are contained in IE startValueForCiphering-
v3b0ext
       startValueForCiphering-v3b0ext
                                         STARTList2
   OPTIONAL
SRNC-RelocationInfo-v3c0ext-IEs ::= SEQUENCE {
-- RB Identity on which the source SRNC will send the message contained in the
-- IE "TargetRNC-ToSourceRNC-Container". Only included if type is "UE involved"
                                                        OPTIONAL
       rb-Identity
                                     RB-Identity
STARTList2 ::=
                                  SEQUENCE (SIZE (2..maxCNdomains)) OF
                                      STARTSingle
SRNC-RelocationInfo-v4xyext-IEs ::= SEQUENCE {
       ue-RadioAccessCapability-v4xyext UE-RadioAccessCapability-v4xyext
CipheringInfoForSRB1-v3a0ext ::= SEQUENCE {
                                          BIT STRING (SIZE (7))
       dl-UM-SN
CipheringStatusList ::=
                              SEQUENCE (SIZE (1..maxCNdomains)) OF
                                      CipheringStatusCNdomain
CipheringStatusCNdomain ::=
                                      SEOUENCE {
       cn-DomainIdentity
                                      CN-DomainIdentity,
       cipheringStatus
                                      CipheringStatus
}
SRNC-RelocationInfo-r4 ::=
                                  SEQUENCE {
    -- Non-RRC IEs
  RB Identity on which the source SRNC will send the message contained in the
-- IE "TargetRNC-ToSourceRNC-Container". Only included if type is "UE involved"
       rb-Identity
                                     RB-Identity
                                                                        OPTIONAL,
       stateOfRRC
                                      StateOfRRC,
       stateOfRRC-Procedure
                                      StateOfRRC-Procedure,
       cipheringStatus
                                      CipheringStatus,
       calculationTimeForCiphering
                                      CalculationTimeForCiphering
                                                                        OPTIONAL.
       cipheringInfoPerRB-List integrityProtectionStatus
                                    CipheringInfoPerRB-List
                                                                         OPTIONAL,
                                      IntegrityProtectionStatus,
       srb-SpecificIntegrityProtInfo SRB-SpecificIntegrityProtInfoList,
       OPTIONAL.
    -- User equipment IEs
       u-RNTI
                                      U-RNTI,
       c-RNTI
                                      C-RNTI
                                                                         OPTIONAL.
       ue-RadioAccessCapability
                                      UE-RadioAccessCapability,
       ue-Positioning-LastKnownPos
                                     UE-Positioning-LastKnownPos
                                                                         OPTIONAL,
    -- Other IEs
       ue-RATSpecificCapability
                                     InterRAT-UE-RadioAccessCapabilityList
   OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity
                                     URA-Identity
                                                                         OPTIONAL,
    - Core network IEs
       cn-CommonGSM-MAP-NAS-SysInfo NAS-SystemInformationGSM-MAP,
       cn-DomainInformationList
                                     CN-DomainInformationList
                                                                         OPTIONAL.
   -- Measurement IEs
       ongoingMeasRepList
                                      OngoingMeasRepList-r4
                                                                         OPTIONAL,
    -- Radio bearer IEs
       predefinedConfigStatusList
                                      PredefinedConfigStatusList,
       srb-InformationList
                                      SRB-InformationSetupList,
       rab-InformationList
                                      RAB-InformationSetupList
                                                                        OPTIONAL,
    -- Transport channel IEs
       ul-CommonTransChInfo
                                      UL-CommonTransChInfo
                                                                         OPTIONAL,
       ul-TransChInfoList
                                      UL-AddReconfTransChInfoList
                                                                         OPTIONAL,
       modeSpecificInfo
                                      CHOICE {
                                          SEQUENCE {
           fdd
               cpch-SetID
                                              CPCH-Set ID
                                                                         OPTIONAL.
               transChDRAC-Info
                                              DRAC-StaticInformationList OPTIONAL
           },
           tdd
                                          NULL
                                     DL-CommonTransChInfo
       dl-CommonTransChInfo
                                                                         OPTIONAL,
```

```
dl-TransChInfoList
                                      DL-AddReconfTransChInfoList
                                                                           OPTIONAL,
    -- Measurement report
       measurementReport
                                       MeasurementReport
                                                                           OPTIONAL,
       nonCriticalExtensions
                                       SEQUENCE {
           -- In case of TDD only up-Ipdl-Parameters-TDD is present, otherwise
           -- this IE is absent
           up-Ipdl-Parameters-TDD
                                           UE-Positioning-IPDL-Parameters-TDD-r4-ext
                                                                                       OPTIONAL.
        -- Extension mechanism for non- release4 information
                                          SEQUENCE {}
           nonCriticalExtensions
                                                                                       OPTIONAL
                                                                           OPTIONAL
       }
}
-- IE definitions
                                   SEQUENCE {
CalculationTimeForCiphering ::=
    cell-Id
                                       CellIdentity,
                                       INTEGER (0..4095)
}
CipheringInfoPerRB ::=
                                   SEQUENCE {
   dl-HFN
                                       BIT STRING (SIZE (20..25)),
   ul-HFN
                                       BIT STRING (SIZE (20..25))
}
-- TABULAR: CipheringInfoPerRB-List, multiplicity value numberOfRadioBearers
-- has been replaced with maxRB.
CipheringInfoPerRB-List ::=
                                   SEQUENCE (SIZE (1..maxRB)) OF
                                       CipheringInfoPerRB
CipheringStatus ::=
                                   ENUMERATED {
                                       started, notStarted }
CN-DomainInformation-v390ext ::=
                                       SEQUENCE {
    cn-DRX-CycleLengthCoeff
                                       CN-DRX-CycleLengthCoefficient
CN-DomainInformationList-v390ext ::=
                                       SEQUENCE (SIZE (1..maxCNdomains)) OF
                                       CN-DomainInformation-v390ext
COUNT-C-List ::=
                                       SEQUENCE (SIZE (1..maxCNdomains)) OF
                                       COUNT-CSingle
COUNT-CSingle ::=
                                       SEQUENCE {
                                       CN-DomainIdentity,
   cn-DomainIdentity
    count.-C
                                       BIT STRING (SIZE (32))
-- The structure of DL-RFC3095-Context is FFS
                            SEQUENCE {
DL-RFC3095-Context ::=
   rfc3095-Context-Identity
                                       INTEGER (0..16383),
    dl-mode
                                       ENUMERATED {u, o, r}
}
ImplementationSpecificParams ::= BIT STRING (SIZE (1..512))
IntegrityProtectionStatus ::=
                                   ENUMERATED {
                                       started, notStarted }
MeasurementCommandWithType ::=
                                   CHOICE {
                                       MeasurementType,
   setup
   modify
                                       NULL,
   release
                                       NULL
}
MeasurementCommandWithType-r4 ::=
                                   CHOICE {
   setup
                                       MeasurementType-r4,
   modify
                                       NULL,
   release
                                       NULL
}
OngoingMeasRep ::=
                                   SEQUENCE {
   measurementIdentity
                              MeasurementIdentity,
    -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType
```

MeasurementCommandWithType,

 ${\tt measurementCommandWithType}$

```
MeasurementReportingMode OPTIONAL, AdditionalMeasurementID-List OPTIONAL
    measurementReportingMode
                                           MeasurementReportingMode
    additionalMeasurementID-List
OngoingMeasRep-r4 ::=
                                       SEQUENCE {
    oingMeasRep-r4 ::= SEQUENCE {
    measurementIdentity MeasurementIdentity,
     -- TABULAR: The CHOICE Measurement in the tabular description is included
    -- in MeasurementCommandWithType-r4.
    measurementCommandWithType MeasurementCommandWithType-r4, measurementReportingMode MeasurementReportingMode additionalMeasurementID-List AdditionalMeasurementID-List
                                           MeasurementReportingMode
AdditionalMeasurementID-List
                                                                                     OPTIONAL,
                                                                                    OPTIONAL
OngoingMeasRepList ::=
                                      SEQUENCE (SIZE (1..maxNoOfMeas)) OF
                                            OngoingMeasRep
OngoingMeasRepList-r4 ::=
                                      SEQUENCE (SIZE (1..maxNoOfMeas)) OF
                                            OngoingMeasRep-r4
RFC3095-ContextInfo ::=
                                      SEQUENCE {
    rb-Identity
                                            RB-Identity,
    rfc3095-Context-List
                                            RFC3095-Context-List
                                  SEQUENCE (SIZE (1..maxRFC3095-CID)) OF SEQUENCE {
RFC3095-Context-List ::=
                                           DL-RFC3095-Context OPTIONAL, UL-RFC3095-Context OPTIONAL
    dl-RFC3095-Context
    ul-RFC3095-Context
SRB-SpecificIntegrityProtInfo ::= SEQUENCE {
    ul-RRC-HFN
                                            BIT STRING (SIZE (28)),
                                            BIT STRING (SIZE (28)),
    dl-RRC-HFN
    ul-RRC-SequenceNumber
                                            RRC-MessageSequenceNumber,
    dl-RRC-SequenceNumber
                                            RRC-MessageSequenceNumber
SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
                                             SRB-SpecificIntegrityProtInfo
StateOfRRC ::=
                                        ENUMERATED {
                                             cell-DCH, cell-FACH,
                                             cell-PCH, ura-PCH }
StateOfRRC-Procedure ::=
                                        ENUMERATED {
                                            awaitNoRRC-Message,
                                             awaitRRC-ConnectionRe-establishmentComplete,
                                             awaitRB-SetupComplete,
                                             awaitRB-ReconfigurationComplete,
                                             awaitTransportCH-ReconfigurationComplete,
                                             awaitPhysicalCH-ReconfigurationComplete,
                                             awaitActiveSetUpdateComplete,
                                             awaitHandoverComplete,
                                             sendCellUpdateConfirm,
                                             sendUraUpdateConfirm,
                                             sendRrcConnectionReestablishment,
                                             otherStates
{\tt UE-Positioning-LastKnownPos} ::= \\ {\tt SEQUENCE} \ \{
                                      INTEGER (0..4095),
        sfn
        cell-id
                                            CellIdentity,
        positionEstimate
                                            PositionEstimate
-- The structure of UL-RFC3095-Context is FFS
UL-RFC3095-Context ::= SEQUENCE {
    rfc3095-Context-Identity INTEGER (0..16383),
    ul-mode ENUMERATED {11.0.r
                                            ENUMERATED {u, o, r}
    ul-mode
}
```

14.12.2 RRC information, target RNC to source RNC

There are 2 possible cases for RNC relocation:

- 1. The UE is already under control of target RNC; and
- 2. The SRNC Relocation with Hard Handover (UE still under control of SRNC), but UE is moving to a location controlled by the target RNC (based on measurement information).

In case 1 the relocation is transparent to the UE and there is no "reverse" direction container. The SRNC just assigns the 'serving' function to the target RNC, which then becomes the Serving RNC.

In case 2 the relocation is initiated by SRNC, which also provides the RRC Initialisation Information to the target RNC. Base on this information, the target RNC prepares the Hard Handover Message ("Physical channel reconfiguration" (subclause 8.2.6), "radio bearer establishment" (subclause 8.2.1), "Radio bearer reconfiguration" (subclause 8.2.2), "Radio bearer release" (subclause 8.2.3) or "Transport channel reconfiguration" (subclause 8.2.4).

The IE "DL DCCH message" may be chosen and should contain the DL DCCH message that should be transmitted transparently to the UE by the source SRNC in case the IE "RB Id for handover message" has been received by the target SRNC in the IE "SRNS Relocation Info". If the target SRNC did not receive the IE "RB Id for handover message" in the IE "SRNS Relocation Info" the target SRNC should use another choice.

The source RNC then transmits the Handover Message to the UE, which then performs the handover.

In the successful case, the UE transmits an XXX COMPLETE message, using the new configuration, to the target RNC.

In case of failure, the UE transmits an XXX FAILURE, using the old configuration, to the source RNC and the RRC context remains unchanged (has to be confirmed and checked with the SRNS relocation procedure).

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE RRC message	MP			At least one spare choice, Criticality: Reject, is needed
>RADIO BEARER SETUP			RADIO BEARER SETUP 10.2.31	
>RADIO BEARER RECONFIGURATION			RADIO BEARER RECONFIG URATION 10.2.25	
>RADIO BEARER RELEASE			RADIO BEARER RELEASE 10.2.28	
>TRANSPORT CHANNEL RECONFIGURATION			TRANSPOR T CHANNEL RECONFIG URATION 10.2.51	
>PHYSICAL CHANNEL RECONFIGURATION			PHYSICAL CHANNEL RECONFIG URATION 10.2.20	
>RRC FAILURE INFO			RRC FAILURE INFO 10.2.41 a	
>DL DCCH message			OCTET STRING	

14.12.4.2 SRNS RELOCATION INFO

This RRC message is sent between network nodes when preparing for an SRNS relocation.

With the presence or absence of the IE "RB identity for Hard Handover message" the source SRNC can indicate to the target SRNC whether the source RNC expects to receive the choice "DL DCCH message" in the IE "RRC information, target RNC to source RNC" in case the SRNS relocation is of type "UE involved"

Direction: source RAT→target RNC

Information Element/Group	Need	Multi	Type and	Semantics description
Name			reference	
Non RRC IEs RB identity for Hard Handover	<u>OP</u>		RB identity	Cives the id of the radio bearer
message	<u>OF</u>		10.3.4.16	Gives the id of the radio bearer on which the sourc RNC will transmit the RRC message in the case the relocation is of type "UE involved".
>State of RRC	MP		RRC state indicator,	STED SE INTENSOS.
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfigurat ion Complete, await RB Release Complete, await Transport CH Reconfigurat ion Complete, await Transport CH Reconfigurat ion Complete, await Heconfigurat ion Complete, await Complete, await Complete, await Complete, await Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, others)	
Cimboning valety distanced			, others)	
Ciphering related information	MD	11 to		
>Ciphering status for each CN domain	MP	<1 to maxCNDo mains>		
>>CN domain identity	MP		CN domain	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>>START	MP		START 10.3.3.38	START value to be used in this CN domain.
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV- Ciphering			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(040 95)	
>COUNT-C list	CV- Ciphering	1 to <maxcndo mains></maxcndo 		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxrb></maxrb>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Downlink SN	CV-SRB1		Bit String(7)	VT(US) of RLC UM
>>Uplink HFN	MP		Bit string(2025	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV-IP	4 to <maxsrbs etup></maxsrbs 		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0 15)	
>>Downlink RRC Message sequence number	MP		Integer (0 15)	
>Implementation specific parameters	OP		Bit string (1512)	
RRC IEs				
UE Information elements				
>U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	

	T	1	1	Ta
Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>UE radio access Capability	MP		UE radio	
γ ,			access	
			capability	
			10.3.3.42	
>UE radio access capability	OP		UE radio	
extension	0.		access	
extension			capability	
			extension	
			10.3.3.42a	
. Look known LIC position	OD		10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer	Time when position was
			(04095)	estimated
>>Cell ID	MP		Cell identity;	Indicates the cell, the SFN is
			10.3.2.2	valid for.
>>CHOICE Position estimate	MP			
>>>Ellipsoid Point			Ellipsoid	
			Point;	
			10.3.8.4a	
>>>Ellipsoid point with			Ellipsoid	
uncertainty circle			point with	
uncertainty circle				
			uncertainty	
			circle	
	1		10.3.8.4d	
>>>Ellipsoid point with			Ellipsoid	
uncertainty ellipse			point with	
			uncertainty	
			ellipse	
			10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid	
			point with	
			altitude	
			10.3.8.4b	
>>>Ellipsoid point with altitude		+	Ellipsoid	
and uncertainty ellipsoid			point with	
			altitude and	
			uncertainty	
			ellipsoid	
			10.3.8.4c	
Other Information elements				
>UE system specific capability	OP	1 to		
, , ,		<maxsyste< td=""><td></td><td></td></maxsyste<>		
		mCapabilit		
		у>		
>>Inter-RAT UE radio access	MP	<u> </u>	Inter-RAT	
	IVII		UE radio	
capability				
			access	
			capability	
			10.3.8.7	
UTRAN Mobility Information				
elements				
>URA Identifier	OP		URA identity	
			10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS	MP		NAS system	
system information			information	
			(GSM-MAP)	
			10.3.1.9	
>CN domain related information	OP	1 to		CN related information to be
2 ST GOTTANT TOLATOG INTORNIGHOUT]	<maxcndo< td=""><td></td><td>provided for each CN domain</td></maxcndo<>		provided for each CN domain
		mains>		provided for each on domain
>> CN domain identify	MP	111011152	+	
>>CN domain identity			NAC	
>>CN domain specific GSM-	MP		NAS system	
MAP NAS system info			information	
			(GSM-MAP)	

Information Floresus/Cross	Need	N 414:	Tuna and	Compating description
Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Name			10.3.1.9	
>>CN domain specific DRX	MP		CN domain	
cycle length coefficient	1411		specific DRX	
eyele length ecomolonic			cycle length	
			coefficient,	
			10.3.3.6	
Measurement Related Information elements				
>For each ongoing	OP	1 to		
measurement reporting		<maxnoof< td=""><td></td><td></td></maxnoof<>		
3		Meas>		
>>Measurement Identity	MP		Measuremen	
			t identity	
			10.3.7.48	
>>Measurement Command	MP		Measuremen	
			t command	
	0) (0 (10.3.7.46	
>>Measurement Type	CV-Setup		Measuremen	
			t type	
Magaziroment Departing	OP		10.3.7.50	
>>Measurement Reporting Mode	UP		Measuremen t reporting	
Mode			mode	
			10.3.7.49	
>>Additional Measurements list	OP		Additional	
>>/taditional Wodod official list	01		measuremen	
			ts list	
			10.3.7.1	
>>CHOICE Measurement	OP			
>>>Intra-frequency				
>>>Intra-frequency cell info	OP		Intra-	
			frequency	
			cell info list	
lates fee even as	OP		10.3.7.33	
>>>Intra-frequency measurement	UP		Intra- frequency	
quantity			measuremen	
quantity			t quantity	
			10.3.7.38	
>>>Intra-frequency reporting	OP		Intra-	
quantity			frequency	
			reporting	
			quantity	
			10.3.7.41	
>>>Reporting cell status	OP		Reporting	
			cell status	
Manage 4 P.P.	OD		10.3.7.61	
>>>Measurement validity	OP		Measuremen	
			t validity 10.3.7.51	
>>>>CHOICE report criteria	OP		10.3.7.31	
>>>>Intra-frequency	<u> </u>		Intra-	
measurement			frequency	
reporting criteria			measuremen	
			t reporting	
			criteria	
			10.3.7.39	
>>>>Periodical reporting			Periodical	
			reporting	
1			criteria	
Nie ne d'			10.3.7.53	
>>>>No reporting			NULL	
>>>Inter-frequency				

Information Element/Group	Need	Multi	Type and	Semantics description
Name	Need	Widiti	reference	Gernantics description
>>>Inter-frequency cell info	OP		Inter-	
			frequency	
			cell info list	
			10.3.7.13	
>>>Inter-frequency	OP		Inter-	
measurement			frequency	
quantity			measuremen	
			t quantity 10.3.7.18	
>>>Inter-frequency reporting	OP		Inter-	
quantity	01		frequency	
quanty			reporting	
			quantity	
			10.3.7.21	
>>>>Reporting cell status	OP		Reporting	
			cell status	
			10.3.7.61	
>>>Measurement validity	OP		Measuremen	
			t validity	
OLIOIOE manage antiquia	0.0		10.3.7.51	
>>>CHOICE report criteria >>>>Inter-frequency	OP		Inter-	
measurement			frequency	
reporting criteria			measuremen	
reporting criteria			t reporting	
			criteria	
			10.3.7.19	
>>>>Periodical reporting			Periodical	
			reporting	
			criteria	
			10.3.7.53	
>>>>No reporting	<u> </u>		NULL	
>>>Inter-RAT			L. DAT	
>>>Inter-RAT cell info	OP		Inter-RAT cell info list	
			10.3.7.23	
>>>Inter-RAT measurement	OP		Inter-RAT	
quantity	01		measuremen	
quartity			t quantity	
			10.3.7.29	
>>>Inter-RAT reporting	OP		Inter-RAT	
quantity			reporting	
			quantity	
			10.3.7.32	
>>>Reporting cell status	OP		Reporting	
			cell status	
be a Magazinam and validity	+ OD		10.3.7.61 Measuremen	
>>>Measurement validity	OP		t validity	
			10.3.7.51	
>>>CHOICE report criteria	OP		10.0.7.01	
>>>>Inter-RAT measurement	† -		Inter-RAT	
reporting criteria			measuremen	
			t reporting	
			criteria	
			10.3.7.30	
>>>>Periodical reporting			Periodical	
			reporting	
			criteria	
No roportina			10.3.7.53	
>>>>No reporting >>>Traffic Volume	+		NULL	
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t object					
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>>>>No reporting >>>>Quality >>>>Quality >>>>CUBE report criteria >>>>Periodical reporting >>>>UE internal measurement quantity >>>>CHOICE report criteria >>>>>UE internal reporting quantity >>>>UE internal measurement reporting criteria >>>>UE internal measurement reporting criteria >>>>>UE internal measurement reporting criteria 10.3.7.89 >>>>>UE internal reporting >>>>>UE internal reporting >>>>>UE internal measurement reporting quantity >>>>>UE internal measurement reporting >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>					
>>>>No reporting >>>>Quality >>>Quality measurement Object Object OP Quality measuremen t object >>>>CHOICE report criteria >>>>Quality measuremen t reporting criteria >>>>Periodical reporting ->>>Veriodical reporting ->>>Veriodical reporting ->>>UE internal measurement reporting criteria OP UE internal ->>>UE internal reporting quantity ->>>>UE internal measurement reporting criteria ->>>>UE internal measurement reporting criteria ->>>>UE internal measurement reporting criteria ->>>>UE internal measurement reporting criteria ->>>>UE internal measurement reporting criteria ->>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>					
>>>Quality >>>>Quality measurement OP Quality measuremen t object >>>>CHOICE report criteria OP >>>>Periodical reporting criteria 10.3.7.58 >>>>Periodical reporting Periodical reporting criteria 10.3.7.53 >>>>UE internal measurement quantity >>>>UE internal reporting OP UE internal reporting quantity >>>>UE internal reporting quantity 10.3.7.79 >>>>UE internal reporting Quantity 10.3.7.82 >>>>CHOICE report criteria OP >>>>UE internal measurement reporting quantity 10.3.7.82 >>>>UE internal measurement reporting quantity 10.3.7.80 >>>>>Periodical reporting QP UE internal reporting quantity 10.3.7.80 >>>>>Periodical reporting OP Periodical reporting criteria 10.3.7.80 >>>>>No reporting Periodical reporting criteria 10.3.7.53	>>>> No reporting				
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F	T			
Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>LCS reporting quantity	OP		LCS	
			reporting	
			quantity	
			10.3.7.111	
>>>>CHOICE report criteria	OP			
>>>>LCS reporting criteria			LCS	
			reporting	
			criteria	
			10.3.7.110	
>>>>Periodical reporting			Periodical	
			reporting	
			criteria	
No see estino			10.3.7.53	
>>>>No reporting Radio Bearer Information				
Radio Bearer Information				
>Predefined configuration status	OP		Predefined	
information	•		configuration	
			status	
			information	
			10.3.4.5a	
>Signalling RB information list	MP	1 to		For each signalling radio
		<maxsrbs< td=""><td></td><td>bearer</td></maxsrbs<>		bearer
		etup>		
>>Signalling RB information	MP		Signalling	
			RB	
			information	
			to setup	
			10.3.4.24	
>RAB information list	OP	1 to		Information for each RAB
		<maxrabs< td=""><td></td><td></td></maxrabs<>		
DAD information	MD	etup>	RAB	
>>RAB information	MP		information	
			to setup	
			10.3.4.10	
Transport Channel			10.5.4.10	
Information Elements				
Uplink transport channels				
>UL Transport channel	OP		UL Transport	
information common for all	•		channel	
transport channels			information	
			common for	
			all transport	
			channels	
			10.3.5.24	
>UL transport channel	OP	1 to		
information list		<maxtrch< td=""><td></td><td></td></maxtrch<>		
		>		
>>UL transport channel	MP		Added or	
information			reconfigured	
			UL TrCH	
			information	
>CHOICE mode	OP		10.3.5.2	
>>FDD	UF			
>>>CPCH set ID	OP	1	CPCH set ID	
			10.3.5.5	
>>>Transport channel	OP	1 to		
information for DRAC list		<maxtrch< td=""><td></td><td></td></maxtrch<>		
		>		
>>>>DRAC static information	MP		DRAC static	
			information	
			10.3.5.7	

Information Element/Group	Need	Multi	Type and	Semantics description
Name			reference	·
>>TDD				(no data)
Downlink transport channels				
>DL Transport channel	OP		DL Transport	
information common for all			channel	
transport channels			information	
			common for	
			all transport	
			channels	
			10.3.5.6	
>DL transport channel	OP	1 to		
information list		<maxtrch< td=""><td></td><td></td></maxtrch<>		
		>		
>>DL transport channel	MP		Added or	
information			reconfigured	
			DL TrCH	
			information	
	0.0		10.3.5.1	
>Measurement report	OP		MEASUREM	
			ENT REPORT	
			10.2.17	
Other Information elements			10.2.17	
	OD		F-9	Discussed as information male to d
Failure cause	OP		Failure	Diagnostics information related
			cause	to an earlier SRNC Relocation
			10.3.3.13	request (see NOTE 2 in
Protocol error information	CV-ProtErr		Protocol	14.12.0a)
Fiolocol error information	GV-PIOLETT		error	
			information	
			10.3.8.12	
			10.3.0.12	

Multi Bound	Explanation
MaxNoOfMeas	Maximum number of active measurements, upper
	limit 16

Condition	Explanation
Setup	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
Ciphering	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
IP	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.
SRB1	The IE is mandatory present for RB1. Otherwise it is not needed.

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		CHANG	E REQ	UEST	-		CR-Form-v7
ж	25.331	CR 1674	⊭rev	- %	Current version:	3.11.0	¥
r UEL D			<i>(I. '</i>	1 1 (()	a non un toxt ovo		-11-

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

Proposed chang	ge a	affects:	UICC apps#	ME X Radio Acc	cess Networ	k X Core Network
Title:	*	Recept	ion of MEASUREMEN	T CONTROL in state	CELL FAC	:H
		•			_	
Source:	\mathfrak{R}	TSG-R	AN WG2			
Work item code	<i>:</i> Ж	TEI			Date: ૠ	20/08/2002
_		_				
Category:	\mathfrak{R}	F			Release: ₩	R99
		Use <u>one</u>	of the following categorie	s:	Use <u>one</u> of	the following releases:
		F (0	correction)		2	(GSM Phase 2)
		A (0	corresponds to a correction	n in an earlier release)	R96	(Release 1996)
		B (8	addition of feature),	ŕ	R97	(Release 1997)
		c (1	functional modification of	feature)	R98	(Release 1998)
		D (6	editorial modification)	,	R99	(Release 1999)
		١,	explanations of the above	categories can	Rel-4	(Release 4)
			in 3GPP TR 21.900.		Rel-5	(Release 5)
					Rel-6	(Release 6)

Reason for change: # UE behaviour is unclear in the following situations:

- 1. Reception of MEASUREMENT CONTROL in CELL_FACH for intra, inter frequency and interRAT measurements
- 2. It is not clear what should be in the UE's CELL_INFO_LIST following a transition to CELL_FACH/PCH (on a return to CELL_DCH).
- 3. It is not clear that intra-frequency measurements cannot be requested as an additional measurement for reporting in CELL_FACH.

Summary of change: ₩

- The UE is no longer required to store MEASUREMENT CONTROL in CELL_FACH/PCH for intra, inter and interRAT measurements, but may reply with MEASUREMENT CONTROL FAILURE.
- The UE should always delete CELL_INFO_LIST and MEASUREMENT_IDENTITY (for intra / inter / inter-RAT measurements) on transition to CELL_FACH/PCH. Clarifications on updates to CELL_INFO_LIST and MEASUREMENT_IDENTITY are in R2-022295.
- 3. <u>In section 8.7.6.1 it is clarified that if measurement validity is present, UE behaviour is unspecified if its value is not set to CELL_DCH.</u>

Impact Analysis:

Impact is isolated only to intra, inter and interRAT measurements in (or transition to) CELL_FACH:

- Correction to a function where the specification was
 - o Unclear

Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.

Consequences if	\mathfrak{H}	1.	Requirement that the UE must support storage of MEASUREMENT
not approved:			CONTROL in CELL_FACH.
		2.	Unclear what the contents of CELL_INFO_LIST are following
			CELL_DCH=>CELL_FACH=>CELL_DCH with no change of cell.
		3.	Unclear that additional intra-frequency measurements cannot be configured
			in CELL_FACH.

Clauses affected:	8 .4.1.3, 8.4.1.6.1, 8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 8.4.1.7.1, 8.4.1.7.2, 8.4.1.8.1, <u>8.6.7.1, 13.4.0</u>
Other specs affected:	Y N X Other core specifications
Other comments:	x

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

8.4.1 Measurement control



Figure 8.4.1-1: Measurement Control, normal case

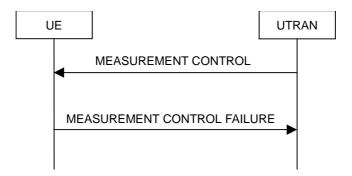


Figure 8.4.1-2: Measurement Control, failure case

8.4.1.1 General

The purpose of the measurement control procedure is to setup, modify or release a measurement in the UE.

8.4.1.2 Initiation

The UTRAN may request a measurement by the UE to be setup, modified or released with a MEASUREMENT CONTROL message, which is transmitted on the downlink DCCH using AM RLC.

The UTRAN should take the UE capabilities into account when a measurement is requested from the UE.

When a new measurement is created, UTRAN should set the IE "Measurement identity" to a value, which is not used for other measurements. UTRAN may use several "Measurement identity" for the same "Measurement type". In case of setting several "Measurement identity" within a same "Measurement type", the measurement object or the list of measurement objects can be set differently for each measurement with different "Measurement identity".

When a current measurement is modified or released, UTRAN should set the IE "Measurement identity" to the value, which is used for the measurement being modified or released. In case of modifying IEs within a "Measurement identity", it is not needed for UTRAN to indicate the IEs other than modified IEs, and the UE continues to use the current values of the IEs that are not modified. UTRAN should not use "modify" to change the type of measurement stored in the variable MEASUREMENT_IDENTITY for a given measurement identity.

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

- 2> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 3> if the UE is in CELL FACH state:
 - 4> the UE behaviour is not specified.

3> otherwise

- 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
- 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.
- $1\!\!>$ if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 5> if the UE is in CELL_FACH state:

6> the UE behaviour is not specified

5> otherwise

6> if the measurement is valid in the current RRC state of the UE:

- 7> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
- 7> resume the measurements according to the new stored measurement control information.
- 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
- 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
- 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag") in the variable TGPS_IDENTITY):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message;
- 4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".
- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message.
- NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
 - 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS_IDENTITY to "active"; and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:
 - 4> start the concerned pattern sequence immediately at that CFN.
 - 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS:
- 1> if the UE "Additional Measurement List" is present:
 - 2> if the received measurement configuration in this MEASUREMENT CONTROL message, or any measurement identities in the "Additional Measurement List" do not all have the same validity:
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:

- 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.4.1.6 Measurements after transition from CELL_DCH to CELL FACH/CELL PCH/URA PCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state:

8.4.1.6.1 Intra-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop intra-frequency type measurement reporting;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type intra-frequency associated with the variable MEASUREMENT_IDENTITY.
 - 1> begin monitoring cells listed in the IE "intra-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11).

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern.

- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
 - 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT_IDENTITY;
- 1> delete all compressed mode patterns associated with inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

8.4.1.7 Measurements after transition from CELL_FACH to CELL_DCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_FACH to CELL_DCH state:

8.4.1.7.1 Intra-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> retrieve each set of measurement control information of measurement type "intra-frequency" stored in the variable MEASUREMENT_IDENTITY;
 - 1> resume the measurement reporting;
- 1> if no intra-frequency measurements applicable to CELL_DCH state are stored in the variable MEASUREMENT IDENTITY:
 - 2> continue monitoring the list of neighbouring cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
 - 2> if the IE "intra-frequency measurement reporting criteria" was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 3> send the MEASUREMENT REPORT message when reporting criteria in IE "Reporting information for state CELL_DCH" are fulfilled.

8.4.1.7.2 Inter-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> stop monitoring the list of cells assigned in the IE "inter-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> retrieve each set of measurement control information of measurement type "inter-frequency" stored in the variable MEASUREMENT_IDENTITY; and
- 1> resume the measurement reporting.

8.4.1.8 Measurements after transition from idle mode to CELL DCH state

The UE shall obey the following rules for different measurement types after transiting from idle mode to CELL_DCH state:

8.4.1.8.1 Intra-frequency measurement

Upon transition from idle mode to CELL_DCH state, the UE shall:

- 1> begin or continue monitoring the list of cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> if the "intra-frequency measurement reporting criteria" IE was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 2> begin measurement reporting according to the IE.

8.6.7.1 Measurement validity

If the IE "measurement validity" for a given measurement has not been included in measurement control information, the UE shall delete the measurement associated with the variable MEASUREMENT_IDENTITY after the UE makes a transition to a new state.

If the IE "measurement validity" for this measurement has been included in measurement control information, the UE shall save the measurement associated with the variable MEASUREMENT_IDENTITY. The IE "UE state" defines the scope of resuming the measurement.

If the "UE state" is defined as "all states", the UE shall continue the measurement after making a transition to a new state. This scope is assigned for traffic volume measurement type and UE positioning measurement type. For traffic volume measurement type this scope can only be applied by the UE if the IE " traffic volume measurement object" has been included in measurement control information. If the IE " traffic volume measurement object" has not been included in measurement control information, the UE shall not save the measurement control information in variable MEASUREMENT_IDENTITY, but shall send a MEASUREMENT CONTROL FAILURE message to the UTRAN with failure cause "Configuration incomplete".

If the "UE state" is defined as "all states except CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition from CELL_DCH state to any of the other states in connected mode. This scope is assigned for traffic volume measurement type or UE positioning measurement type.

If the "UE state" is defined as "CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition to CELL_DCH state.

If the "measurement type" received in MEASUREMENT CONTROL is set to "inter-frequency measurement" or "intra-frequency measurement" and the IE "measurement validity" is present and is set to a value other than "CELL DCH" the UE behaviour is unspecified.

13.4 UE variables

13.4.0 CELL_INFO_LIST

This variable contains cell information on intra-frequency, inter-frequency and inter-RAT cells, as received in messages System Information Block Type 11, System Information Block Type 12, and MEASUREMENT CONTROL.

The first position in Intra-frequency cell info list corresponds to Intra-frequency cell id 0, the second to Intra-frequency cell id 1, etc.

The first position in Inter-frequency cell info list corresponds to Inter-frequency cell id 0, the second to Inter-frequency cell id 1, etc.

The first position in Inter-RAT cell info list corresponds to Intra-frequency cell id 0, the second to Inter-RAT cell id 1, etc.

This variable shall be cleared at cell re-selection, when leaving UTRA RRC connected mode, when switched off as well as at selection of a new PLMN.

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
Intra-frequency cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-frequency cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>Frequency info	MP		Frequency info 10.3.6.36	
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-RAT cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>CHOICE Radio Access Technology				
>>>GSM				
>>>>Cell selection and reselection info	MP		Cell selection and re- selection info for SIB11/12 10.3.2.4	
>>>>BSIC	MP		BSIC 10.3.8.2	
>>>>BCCH ARFCN	MP		Integer	[43]

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			(01023)	
>>>IS-2000 >>>>System specific			enumerated	For IS-2000, use fields from
measurement info			(frequency, timeslot, colour code, output power, PN offset)	TIA/EIA/IS-2000.5, subclause 3. 7.3.3.2.27, Candidate Frequency Neighbour List Message
>>Vacant				No data

13.4.00 Void

Tdoc # R2-02428

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		CHANG	E REQ	UE:	ST			CR-Form-v7
ж	25.331	CR 1675	≋ rev	-	¥	Current version:	4.5.0	ж
For HF I	IP on using this for	m see hottom of	this nage or	look s	at th	e non-un text over	rtha 9f sv	mhole

Proposed chang	ge a	affects:	UICC apps#	MI	E X Radio Acc	cess Networ	k X Core	Network
Title:	¥	Recept	ion of MEASUREM	ENT CO	NTROL in state	CELL_FAC	:H	
		·						
Source:	\mathfrak{R}	TSG-R	AN WG2					
Work item code	<i>:</i>	TEI				Date: ♯	22/08/2002	2
Category:	¥	Α				Release: ♯	Rel-4	
			of the following categ	ories:			the following i	
			correction) corresponds to a corre	ection in a	n earlier release)	2 R96	(GSM Phase (Release 199	,
		•	addition of feature),	70ti011 ii1 di	round rollado)	R97	(Release 199	•
		C (t	functional modification	of feature	e)	R98	(Release 199	8)
		•	editorial modification)			R99	(Release 199	9)
			explanations of the ab	ove categ	ories can	Rel-4	(Release 4)	
		be found	in 3GPP <u>TR 21.900</u> .			Rel-5	(Release 5)	

Reason for change: ₩ UE behaviour is unclear in the following situations:

- 1. Reception of MEASUREMENT CONTROL in CELL_FACH for intra, inter frequency and interRAT measurements
- 2. It is not clear what should be in the UE's CELL_INFO_LIST following a transition to CELL_FACH/PCH (on a return to CELL_DCH).
- It is not clear that intra-frequency measurements cannot be requested as an additional measurement for reporting in CELL_FACH.

Summary of change: ₩

- 1. The UE is no longer required to store MEASUREMENT CONTROL in CELL FACH/PCH for intra, inter and interRAT measurements, but may reply with MEASUREMENT CONTROL FAILURE.
- 2. The UE should always delete CELL_INFO_LIST and MEASUREMENT_IDENTITY (for intra / inter / inter-RAT measurements) on transition to CELL_FACH/PCH.Clarifications on updates to CELL_INFO_LIST and MEASUREMENT_IDENTITY are in R2-022296.
- In section 8.7.6.1 it is clarified that if measurement validity is present, UE behaviour is unspecified if its value is not set to CELL_DCH.

Impact Analysis:

Impact is isolated only to intra, inter and interRAT measurements in (or transition to) CELL_FACH:

- Correction to a function where the specification was
 - Unclear

Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.

Consequences if	\mathfrak{R}	1.	Requirement that the UE must support storage of MEASUREMENT
not approved:			CONTROL in CELL_FACH.
		2.	Unclear what the contents of CELL_INFO_LIST are following
			CELL_DCH=>CELL_FACH=>CELL_DCH with no change of cell.
		3.	Unclear that additional intra-frequency measurements cannot be configured
			in CELL_FACH.

Clauses affected:	* 8.4.1.3, 8.4.1.6.1, 8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 8.4.1.7.1, 8.4.1.7.2, 8.4.1.8.1, <u>8.6.7.1</u> <u>13.4.0</u>
Other specs affected:	Y N X Other core specifications X Test specifications 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 \$\mathbb{X}\$ contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.4.1 Measurement control



Figure 8.4.1-1: Measurement Control, normal case

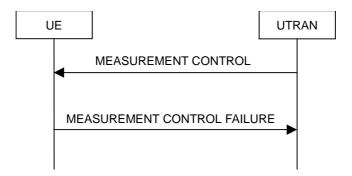


Figure 8.4.1-2: Measurement Control, failure case

8.4.1.1 General

The purpose of the measurement control procedure is to setup, modify or release a measurement in the UE.

8.4.1.2 Initiation

The UTRAN may request a measurement by the UE to be setup, modified or released with a MEASUREMENT CONTROL message, which is transmitted on the downlink DCCH using AM RLC.

The UTRAN should take the UE capabilities into account when a measurement is requested from the UE.

When a new measurement is created, UTRAN should set the IE "Measurement identity" to a value, which is not used for other measurements. UTRAN may use several "Measurement identity" for the same "Measurement type". In case of setting several "Measurement identity" within a same "Measurement type", the measurement object or the list of measurement objects can be set differently for each measurement with different "Measurement identity".

When a current measurement is modified or released, UTRAN should set the IE "Measurement identity" to the value, which is used for the measurement being modified or released. In case of modifying IEs within a "Measurement identity", it is not needed for UTRAN to indicate the IEs other than modified IEs, and the UE continues to use the current values of the IEs that are not modified. UTRAN should not use "modify" to change the type of measurement stored in the variable MEASUREMENT_IDENTITY for a given measurement identity.

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

- 2> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 3> if the UE is in CELL FACH state:
 - 4> the UE behaviour is not specified.

3> otherwise

- 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
- 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.
- 1> if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 5> if the UE is in CELL_FACH state:

6> the UE behaviour is not specified.

5> otherwise

6> if the measurement is valid in the current RRC state of the UE:

- 7> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
- 7> resume the measurements according to the new stored measurement control information.
- 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
- 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
- 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag") in the variable TGPS_IDENTITY):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message;
- 4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".
- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message.
- NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
 - 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS_IDENTITY to "active"; and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:
 - 4> start the concerned pattern sequence immediately at that CFN.
 - 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS:
- 1> if the UE "Additional Measurement List" is present:
 - 2> if the received measurement configuration in this MEASUREMENT CONTROL message, or any measurement identities in the "Additional Measurement List" do not all have the same validity:
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:

- 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.4.1.6 Measurements after transition from CELL_DCH to CELL FACH/CELL PCH/URA PCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state:

8.4.1.6.1 Intra-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop intra-frequency type measurement reporting;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type intra-frequency associated with the variable MEASUREMENT_IDENTITY.
- 1> begin monitoring cells listed in the IE "intra-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11).

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern.
- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:

2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT IDENTITY;
- 1> delete all compressed mode patterns associated with inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

8.4.1.7 Measurements after transition from CELL_FACH to CELL_DCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_FACH to CELL_DCH state:

8.4.1.7.1 Intra-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> retrieve each set of measurement control information of measurement type "intra-frequency" stored in the variable MEASUREMENT_IDENTITY;
- 1> resume the measurement reporting;
- 1> if no intra-frequency measurements applicable to CELL_DCH state are stored in the variable MEASUREMENT_IDENTITY:
 - 2> continue monitoring the list of neighbouring cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
 - 2> if the IE "intra-frequency measurement reporting criteria" was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 3> send the MEASUREMENT REPORT message when reporting criteria in IE "Reporting information for state CELL_DCH" are fulfilled.

8.4.1.7.2 Inter-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> stop monitoring the list of cells assigned in the IE "inter-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> retrieve each set of measurement control information of measurement type "inter-frequency" stored in the variable MEASUREMENT_IDENTITY; and
- 1> resume the measurement reporting.

8.4.1.8 Measurements after transition from idle mode to CELL DCH state

The UE shall obey the following rules for different measurement types after transiting from idle mode to CELL_DCH state:

8.4.1.8.1 Intra-frequency measurement

Upon transition from idle mode to CELL_DCH state, the UE shall:

- 1> begin or continue monitoring the list of cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> if the "intra-frequency measurement reporting criteria" IE was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 2> begin measurement reporting according to the IE.

8.6.7.1 Measurement validity

If the IE "measurement validity" for a given measurement has not been included in measurement control information, the UE shall delete the measurement associated with the variable MEASUREMENT_IDENTITY after the UE makes a transition to a new state.

If the IE "measurement validity" for this measurement has been included in measurement control information, the UE shall save the measurement associated with the variable MEASUREMENT_IDENTITY. The IE "UE state" defines the scope of resuming the measurement.

If the "UE state" is defined as "all states", the UE shall continue the measurement after making a transition to a new state. This scope is assigned for traffic volume measurement type and UE positioning measurement type. For traffic volume measurement type this scope can only be applied by the UE if the IE " traffic volume measurement object" has been included in measurement control information. If the IE " traffic volume measurement object" has not been included in measurement control information, the UE shall not save the measurement control information in variable MEASUREMENT_IDENTITY, but shall send a MEASUREMENT CONTROL FAILURE message to the UTRAN with failure cause "Configuration incomplete".

If the "UE state" is defined as "all states except CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition from CELL_DCH state to any of the other states in connected mode. This scope is assigned for traffic volume measurement type or UE positioning measurement type.

If the "UE state" is defined as "CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition to CELL_DCH state.

If the "measurement type" received in MEASUREMENT CONTROL is set to "inter-frequency measurement" or "intra-frequency measurement" and the IE "measurement validity" is present and is set to a value other than "CELL DCH" the UE behaviour is unspecified.

13.4.0 CELL_INFO_LIST

This variable contains cell information on intra-frequency, inter-frequency and inter-RAT cells, as received in messages System Information Block Type 11, System Information Block Type 12, and MEASUREMENT CONTROL.

The first position in Intra-frequency cell info list corresponds to Intra-frequency cell id 0, the second to Intra-frequency cell id 1, etc.

The first position in Inter-frequency cell info list corresponds to Inter-frequency cell id 0, the second to Inter-frequency cell id 1, etc.

The first position in Inter-RAT cell info list corresponds to Intra-frequency cell id 0, the second to Inter-RAT cell id 1, etc.

This variable shall be cleared at cell re-selection, when leaving UTRA RRC connected mode, when switched off as well as at selection of a new PLMN.

Information Element/Group	Need	Multi	Type and reference	Semantics description
Intra-frequency cell info	OP	1 <maxcel< td=""><td>reference</td><td></td></maxcel<>	reference	
intra-frequency cell into	Oi	IMeas>		
>CHOICE position status	MP	IIVICU32		
>>Occupied				
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-frequency cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>Frequency info	MP		Frequency info 10.3.6.36	
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-RAT cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>CHOICE Radio Access Technology				
>>>GSM				
>>>>Cell selection and re- selection info	MP		Cell selection and re- selection info for SIB11/12 10.3.2.4	
>>>>BSIC	MP		BSIC 10.3.8.2	
>>>>BCCH ARFCN	MP		Integer (01023)	[43]
>>>IS-2000				
>>>>System specific measurement info			enumerated (frequency,	For IS-2000, use fields from TIA/EIA/IS-2000.5,

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
			timeslot, colour code, output power, PN offset)	subclause 3. 7.3.3.2.27, Candidate Frequency Neighbour List Message
>>Vacant				No data

13.4.00 Void

3GPP TSG-RAN WG2 Meeting #31 Stockholm, Sweden, 19th – 23rd August 2002

CHANGE REQUEST										
*	25.331 CR 1676									
- 455										

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the \$\mathbb{K}\$ symbols.

Proposed chang	ge a	affects:	UICC apps#	ME X Radio Acc	cess Netwo	rk X Core Network
Title:	¥	Recept	ion of MEASUREMENT C	ONTROL in state	CELL_FAC	CH
Source:	ж	TSG-R	AN WG2			
Work item code	<i>:</i>	TEI			Date: ♯	22/08/2002
Category:	æ	Use <u>one</u> F (c A (c B (a C (t) D (c Detailed	of the following categories: correction) corresponds to a correction in addition of feature), functional modification of feat editorial modification) explanations of the above cat in 3GPP TR 21.900.	an earlier release) ure)	2	Rel-5 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)

Reason for change: # UE behaviour is unclear in the following situations:

- 1. Reception of MEASUREMENT CONTROL in CELL_FACH for intra, inter frequency and interRAT measurements
- 2. It is not clear what should be in the UE's CELL_INFO_LIST following a transition to CELL_FACH/PCH (on a return to CELL_DCH).
- 3. It is not clear that intra-frequency measurements cannot be requested as an additional measurement for reporting in CELL_FACH.

Summary of change: ₩

- The UE is no longer required to store MEASUREMENT CONTROL in CELL_FACH/PCH for intra, inter and interRAT measurements, but may reply with MEASUREMENT CONTROL FAILURE.
- The UE should always delete CELL_INFO_LIST and MEASUREMENT_IDENTITY (for intra / inter / inter-RAT measurements) on transition to CELL_FACH/PCH. Clarifications on updates to CELL_INFO_LIST and MEASUREMENT_IDENTITY are in R2-022295.
- 3. In section 8.7.6.1 it is clarified that if measurement validity is present, UE behaviour is unspecified if its value is not set to CELL_DCH.

Impact Analysis:

Impact is isolated only to intra, inter and interRAT measurements in (or transition to) CELL_FACH:

- Correction to a function where the specification was
 - o Unclear

Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.

Consequences if	\mathfrak{R}	1.	Requirement that the UE must support storage of MEASUREMENT
not approved:			CONTROL in CELL_FACH.
		2.	Unclear what the contents of CELL_INFO_LIST are following
			CELL_DCH=>CELL_FACH=>CELL_DCH with no change of cell.
		3.	Unclear that additional intra-frequency measurements cannot be configured
			in CELL_FACH.

Clauses affected:	8 .4.1.3, 8.4.1.6.1, 8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 8.4.1.7.1, 8.4.1.7.2, 8.4.1.8.1, 8.6.7.113.4.0									
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications									
Other comments:	*									

How to create CRs using this form:

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

8.4.1 Measurement control



Figure 8.4.1-1: Measurement Control, normal case

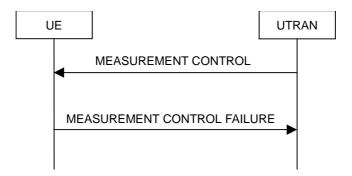


Figure 8.4.1-2: Measurement Control, failure case

8.4.1.1 General

The purpose of the measurement control procedure is to setup, modify or release a measurement in the UE.

8.4.1.2 Initiation

The UTRAN may request a measurement by the UE to be setup, modified or released with a MEASUREMENT CONTROL message, which is transmitted on the downlink DCCH using AM RLC.

The UTRAN should take the UE capabilities into account when a measurement is requested from the UE.

When a new measurement is created, UTRAN should set the IE "Measurement identity" to a value, which is not used for other measurements. UTRAN may use several "Measurement identity" for the same "Measurement type". In case of setting several "Measurement identity" within a same "Measurement type", the measurement object or the list of measurement objects can be set differently for each measurement with different "Measurement identity".

When a current measurement is modified or released, UTRAN should set the IE "Measurement identity" to the value, which is used for the measurement being modified or released. In case of modifying IEs within a "Measurement identity", it is not needed for UTRAN to indicate the IEs other than modified IEs, and the UE continues to use the current values of the IEs that are not modified. UTRAN should not use "modify" to change the type of measurement stored in the variable MEASUREMENT_IDENTITY for a given measurement identity.

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

- 2> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 3> if the UE is in CELL FACH state:
 - 4> the UE behaviour is not specified.

3> otherwise

- 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
- 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
- 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.
- 1> if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> if the measurement type is quality, UE internal, intra-frequency, inter-frequency or inter-RAT
 - 5> if the UE is in CELL_FACH state:

6> the UE behaviour is not specified.

5> otherwise

6> if the measurement is valid in the current RRC state of the UE:

- 7> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
- 7> resume the measurements according to the new stored measurement control information.
- 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
- 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
- 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag") in the variable TGPS_IDENTITY):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message;
- 4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".
- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message.
- NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
 - 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS_IDENTITY to "active"; and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:
 - 4> start the concerned pattern sequence immediately at that CFN.
 - 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS:
- 1> if the UE "Additional Measurement List" is present:
 - 2> if the received measurement configuration in this MEASUREMENT CONTROL message, or any measurement identities in the "Additional Measurement List" do not all have the same validity:
 - 3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:

- 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.4.1.6 Measurements after transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_DCH to CELL FACH/CELL PCH/URA PCH state:

8.4.1.6.1 Intra-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop intra-frequency type measurement reporting;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type intra-frequency associated with the variable MEASUREMENT IDENTITY.
- 1> begin monitoring cells listed in the IE "intra-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11).

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern.
- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);

- 1> in CELL_FACH state:
 - 2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT_IDENTITY;
- 1> delete all compressed mode patterns associated with inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

8.4.1.7 Measurements after transition from CELL_FACH to CELL_DCH state

The UE shall apply the following rules for different measurement types after transiting from CELL_FACH to CELL_DCH state:

8.4.1.7.1 Intra-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> retrieve each set of measurement control information of measurement type "intra-frequency" stored in the variable MEASUREMENT_IDENTITY;
- 1> resume the measurement reporting;
- 1> if no intra-frequency measurements applicable to CELL_DCH state are stored in the variable MEASUREMENT_IDENTITY:
 - 2> continue monitoring the list of neighbouring cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
 - 2> if the IE "intra-frequency measurement reporting criteria" was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 3> send the MEASUREMENT REPORT message when reporting criteria in IE "Reporting information for state CELL_DCH" are fulfilled.

8.4.1.7.2 Inter-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- 1> stop monitoring the list of cells assigned in the IE "inter-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> retrieve each set of measurement control information of measurement type "inter-frequency" stored in the variable MEASUREMENT_IDENTITY; and
- 1> resume the measurement reporting.

8.6.7.1 Measurement validity

If the IE "measurement validity" for a given measurement has not been included in measurement control information, the UE shall delete the measurement associated with the variable MEASUREMENT_IDENTITY after the UE makes a transition to a new state.

If the IE "measurement validity" for this measurement has been included in measurement control information, the UE shall save the measurement associated with the variable MEASUREMENT_IDENTITY. The IE "UE state" defines the scope of resuming the measurement.

If the "UE state" is defined as "all states", the UE shall continue the measurement after making a transition to a new state. This scope is assigned for traffic volume measurement type and UE positioning measurement type. For traffic volume measurement type this scope can only be applied by the UE if the IE " traffic volume measurement object" has been included in measurement control information. If the IE " traffic volume measurement object" has not been included in measurement control information, the UE shall not save the measurement control information in variable MEASUREMENT_IDENTITY, but shall send a MEASUREMENT CONTROL FAILURE message to the UTRAN with failure cause "Configuration incomplete".

If the "UE state" is defined as "all states except CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition from CELL_DCH state to any of the other states in connected mode. This scope is assigned for traffic volume measurement type or UE positioning measurement type.

If the "UE state" is defined as "CELL_DCH", the UE shall store the measurement to be resumed after a subsequent transition to CELL_DCH state.

If the "measurement type" received in MEASUREMENT CONTROL is set to "inter-frequency measurement" or "intra-frequency measurement" and the IE "measurement validity" is present and is set to a value other than "CELL_DCH" the UE behaviour is unspecified.

8.4.1.8 Measurements after transition from idle mode to CELL_DCH state

The UE shall obey the following rules for different measurement types after transiting from idle mode to CELL_DCH state:

8.4.1.8.1 Intra-frequency measurement

Upon transition from idle mode to CELL_DCH state, the UE shall:

- 1> begin or continue monitoring the list of cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> if the "intra-frequency measurement reporting criteria" IE was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - 2> begin measurement reporting according to the IE.

13.4 UE variables

13.4.0 CELL_INFO_LIST

This variable contains cell information on intra-frequency, inter-frequency and inter-RAT cells, as received in messages System Information Block Type 11, System Information Block Type 12, and MEASUREMENT CONTROL.

The first position in Intra-frequency cell info list corresponds to Intra-frequency cell id 0, the second to Intra-frequency cell id 1, etc.

The first position in Inter-frequency cell info list corresponds to Inter-frequency cell id 0, the second to Inter-frequency cell id 1, etc.

The first position in Inter-RAT cell info list corresponds to Intra-frequency cell id 0, the second to Inter-RAT cell id 1, etc.

This variable shall be cleared at cell re-selection, when leaving UTRA RRC connected mode, when switched off as well as at selection of a new PLMN.

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
Intra-frequency cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-frequency cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>Frequency info	MP		Frequency info 10.3.6.36	
>>>Cell info	MP		Cell info 10.3.7.2	
>>Vacant				No data
Inter-RAT cell info	OP	1 <maxcel IMeas></maxcel 		
>CHOICE position status	MP			
>>Occupied				
>>>CHOICE Radio Access Technology				
>>>GSM				
>>>>Cell selection and reselection info	MP		Cell selection and re- selection info for SIB11/12 10.3.2.4	
>>>>BSIC	MP		BSIC 10.3.8.2	
>>>>BCCH ARFCN	MP		Integer (01023)	[43]
>>>IS-2000			,	
>>>>System specific measurement info			enumerated (frequency,	For IS-2000, use fields from TIA/EIA/IS-2000.5,

Information Element/Group	Need	Multi	Type and	Semantics description
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			timeslot, colour code, output power, PN offset)	subclause 3. 7.3.3.2.27, Candidate Frequency Neighbour List Message
>>Vacant				No data

13.4.00 Void

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

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

[...]

8.5.x Unsupported configuration

The UE should set the variable UNSUPPORTED CONFIGURATION to TRUE if the received message is not according to the UE capabilities.

[...]

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Consequences if not approved:	₩ UE behaviour would be unspecified in many	failure cases.									
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[...]

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How to create CRs using this form:

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

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

[...]

8.5.x Unsupported configuration

The UE should set the variable UNSUPPORTED CONFIGURATION to TRUE if the received message is not according to the UE capabilities.

[...]

3GPP TSG-RAN2 Meeting #31 Arlanda, Sweden, 19-23 August, 2002

		CHANG	E REQ	UEST	-	Cl	R-Form-v7
*	25.331	CR <mark>1680</mark>	≋rev	- #	Current version:	3.11.0 ⁸	¥
- 455							

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the # symbols.		
Proposed change affe	cts: UICC apps# ME X Radio Acc	ess Network X Core Network
Froposeu change ane	in Accordance	ess Network Note Network
Title:	andover corrections	
20 70	20 BANIMOS	
Source: # TS	SG-RAN WG2	
Work item code: ₩ TI	=1	Date: # 19 August 2002
Work item code. 60		Date. 88 13 August 2002
Category: # F	F	Release: # R99
	e <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
	F (correction)	2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)
	B (addition of feature),C (functional modification of feature)	R97 (Release 1997) R98 (Release 1998)
	D (editorial modification)	R99 (Release 1999)
Det	ailed explanations of the above categories can	Rel-4 (Release 4)
	found in 3GPP <u>TR 21.900</u> .	Rel-5 (Release 5)
		Rel-6 (Release 6)
Reason for change: 3		
	clarifying which of the two possible procedures	(A or B) should be applied in
	each case.	
	0.16 % - 1.15	at the land to a small see the
	2. If the UE receives the IE "Frequency info" the	
	frequency, it is not clear if a syncronization pro	cedure has to be applied of hot.
	3. It is not clear if reconfiguration messages ca	on he used to perform soft
	handover	an be used to perform soft
	Halldovel	
Summary of change: \$	1. The use of synchronization procedures A an	nd B is clarified wherever
	applicable.	
	2. If the UE receives the IE "Frequency info" w	
	teshould shall perform synchronization procedu	ure ₿ <u>A,</u> regardless of the actual
	value received.	
	0. 10 2. 12.25 1.0 2.0 2.0	
	3. It is clarified that reconfiguration messages	can not be used to perform soft
	handover.	
	Isolated Impact Change Analysis.	
	isolated illipact charige Allalysis.	
	These changes correct or clarify the handover	procedure.
	The changes are aligning the signalling specs with the physical layer specs	
	and should be seen as a clarification	
	2. If the UE does not implement this change, it	
	appropriate synchronization procedure, resulting	ng in a higher probability of

dropped call.

3. Removal of feature. If the UE does not support this change and UTRAN does, there are no problems, since the soft handover procedure with reconfiguration messages will never be attempted by UTRAN. If the UE supports this and UTRAN does not, the UE behaviour will be unspecified in case UTRAN attempts soft handover with reconfiguration messages. This may result in a dropped call.

It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Impacts to the test specifications

- 1. No impacts
- 2. All tests reviewed assign a new value for "Frequency info". No impacts.
- 3. No impacts

Consequences if not approved:

- 1. UE may apply the wrong synchronization procedure
 - 2. Unspecified behaviour for the UE when the current frequency is included in the IE "Frequency info"
 - 3. Unspecified behaviour of the UE when soft handover is attempted with a reconfiguration message

Clauses affected:	8.1.3.6, 8.2.2.3, 8.3.1.6, 8.3.4.3, 8.6.6.1, 8.6.6.11, 10.2.8, 10.2.22, 10.2.27, 10.2.30, 10.2.33, 10.2.40, 10.2.50	
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications	
Other comments:	lpha	

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

- 1> stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:
 - 3> if the IE "Frequency info" is included:
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 3> select PRACH according to subclause 8.5.17;
 - 3> select Secondary CCPCH according to subclause 8.5.19;
 - 3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.
- 1> if the UE will be in the CELL_DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;
- 1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
 - 2> set the IE "RRC transaction identifier" to:
 - 3> the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 3> clear that entry.
 - 2> if the USIM or SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then
 - 3> 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.
 - 2> if neither the USIM nor SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
 - 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].
 - 2> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - 2> include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

- 2> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
- 2> include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

- 1> if the UE has entered CELL_FACH state:
 - 2> start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS.
- 1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
- 1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- 1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

- 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> apply the hard handover procedure as specified in subclause 8.3.5;
- 1> be able to perform this procedure even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> if the UE will enter the CELL DCH state from any state other than CELL DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.
- NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> in FDD; or
- 1> in TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 2> remove any C-RNTI from MAC;
 - 2> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.
- 1> in TDD:
 - 2> if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 3> remove any C-RNTI from MAC;
 - 3> clear the variable C_RNTI.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "Downlink information per radio link list" containing the mandatory IEs, even if UTRAN does not require the reconfiguration of any RL. In FDD, if the UE receives a RADIO BEARER RECONFIGURATION message where the IE "Downlink information per radio link list" includes only a number of "Primary CPICH Info" IEs, but the correct Primary CPICH for each of the cells in the active set is not included, then the UE behaviour is undefined.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission":
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;

- 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":

- 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
- 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- NOTE: UTRAN should not include the IE "Ciphering mode info" in any reconfiguration messages unless it is also used to perform an SRNS relocation with change of ciphering algorithm.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";

- 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

[...]

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U RNTI; or
- if the message is received on DCCH:

the UE shall:

- 1> stop timer T302;
- 1> in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - 2> includes "RB information elements"; and/or
 - 2> includes "Transport channel information elements"; and/or
 - 2> includes "Physical channel information elements"; and
 - 2> if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - 3> set the variable ORDERED_RECONFIGURATION to TRUE.
- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the IE "Frequency info" is included in the message:
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_FACH" or "CELL_PCH" or URA_PCH":
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 4> act as specified in subclause 8.3.1.12.
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_DCH":
 - 4> act on the IE "Frequency info" as specified in subclause 8.6.6.1.
 - 2> use the transport channel(s) applicable for the physical channel types that is used; and

- 2> if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - 3> use the TFS given in system information.
- 2> if none of the TFS stored is compatible with the physical channel:
 - 3> delete the stored TFS;
 - 3> use the TFS given in system information.
- 2> perform the physical layer synchronisation procedure as specified in [29];
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - 3> re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - 3> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - 4> set the HFN component of the respective COUNT-C values for AM RLC entities with RB identity 2,RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN.
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB5 and upwards)":
 - 3> for radio bearers with RB identity 5 and upwards:
 - 4> re-establish the AM RLC entities;
 - 4> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - 5> set the HFN component of the respective COUNT-C values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS.
- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY MODIFICATION to "Affected".
- 1> enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.
- If the UE after state transition enters CELL_DCH state, it shall:
 - 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
 - 1> not prohibit periodical status transmission in RLC.
- If the UE after state transition remains in CELL_FACH state, it shall
 - 1> start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
 - 1> select PRACH according to subclause 8.5.17;
 - 1> select Secondary CCPCH according to subclause 8.5.19;
 - 1> not prohibit periodical status transmission in RLC;

- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.

If the UE after state transition enters URA_PCH or CELL_PCH state, it shall:

- 1> prohibit periodical status transmission in RLC;
- 1> clear the variable C_RNTI;
- 1> stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- 1> start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging Occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2 in CELL_PCH state.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.

If the UE after the state transition remains in CELL FACH state; and

1> the contents of the variable C_RNTI are empty:

it shall check the value of V302; and:

- 1> if V302 is equal to or smaller than N302:
 - 2> if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 3> the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - 3> the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - 4> abort the ongoing integrity and/or ciphering reconfiguration;
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 5> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 5> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 5> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 5> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
 - 2> in case of a URA update procedure:
 - 3> stop the URA update procedure; and
 - 3> continue with a cell update procedure.
 - 2> set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;

- 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - 2> in case of a cell update procedure:
 - 3> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> in case of a URA update procedure:
 - 3> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> release all its radio resources;
 - 2> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 2> clear the variable ESTABLISHED RABS;
 - 2> enter idle mode:
 - 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - 2> and the procedure ends.

If the UE after the state transition remains in CELL_FACH state; and

- a C-RNTI is stored in the variable C_RNTI;

or

- the UE after the state transition moves to another state than the CELL_FACH state:

the UE shall:

- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> in case of a cell update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry.
- 1> in case of a URA update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS: and
 - 2> clear that entry;
- 1> if the variable PDCP SN INFO is non-empty:

- 2> include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO.
- 1> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of the COUNT-C of RB2 to MAX(uplink HFN component of the COUNT-C of RB2, downlink HFN component of the COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of the COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below.
- 1> transmit a response message as specified in subclause 8.3.1.7;
- 1> if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.
- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> clear the variable PDCP_SN_INFO;
- 1> when the response message transmitted per subclause 8.3.1.7 to the UTRAN has been confirmed by RLC:
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 3> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 3> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 3> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 3> set "Uplink RRC Message sequence number" for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO to a value such that next RRC message to be sent on uplink RB0 will use the new integrity protection configuration;
 - 3> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;
 - 3> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE.
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- 1> in case of a cell update procedure:
 - 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
- 1> in case of a URA update procedure:
 - 2> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

- 1> set the variable CELL_UPDATE_STARTED to FALSE;
- 1> clear the variable SECURITY MODIFICATION.

The procedure ends.

[...]

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure <u>B</u> as specified in [29];
- 1> if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - 2> if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - 3> configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set.
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronisation B, specified in [29];
- 1> the procedure ends on the UE side.

[...]

8.6.6.1 Frequency info

If, after completion of the procedure, the UE will be in eell-CELL_DCH state, the UE shall:

- 1> if the IE "Frequency info" is included:
 - 2> if the frequency is different from the currently used stored active frequency, the UE shall:
 - 3> store and use that frequency indicated by the IE "Frequency Info" as the active frequency; and
 - 2> tune to that frequency.
 - 3> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).
 - 2> if the frequency is the same as the stored active curently used frequency:
 - 3> the UE shall:
 - 4> continue to use the stored active currently used frequency.
 - 3> and the UE should:
 - 4> perform the physical layer synchronisation procedure A as specified in [29] (FDD only)
- 1> if the IE "Frequency info" is not included and the UE has a stored active currently used frequency:

2> continue to use the stored activecurrently used frequency.

[...]

8.6.6.11 Uplink DPCH power control info

The UE shall:

1> in FDD:

- 2> if the IE "Uplink DPCH power control info" is included:
 - 3> if a synchronisation procedure A is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
 - 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.

1> in TDD:

- 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.
- 2> else:
 - 3> use the current uplink transmission power.
- 1> both in FDD and TDD;
 - 2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:
 - 3> set the variable INVALID_CONFIGURATION to true.

[...]

10.2.8 CELL UPDATE CONFIRM

This message confirms the cell update procedure and can be used to reallocate new RNTI information for the UE valid in the new cell.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements			71.	
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Integrity check info	СН		Integrity	
			check info	
			10.3.3.16	
Integrity protection mode info	OP		Integrity	
			protection	
			mode info	
Ciphering mode info	OP		10.3.3.19 Ciphering	
Cipriering mode into	OP		mode info	
			10.3.3.5	
Activation time	MD		Activation	Default value is "now"
7 1011 7011011	2		time 10.3.3.1	
New U-RNTI	OP		U-RNTI	
-			10.3.3.47	
New C-RNTI	OP		C-RNTI	
New DSCH-RNTI	OP		10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	
RRC State Indicator	MP		RRC State	
NNC State Indicator	IVIE		Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	OP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
			10.3.3.49	
RLC re-establish indicator (RB2,	MP		RLC re-	
RB3 and RB4)			establish	
			indicator	
			10.3.3.35	
RLC re-establish indicator (RB5	MP		RLC re-	
and upwards)			establish	
			indicator 10.3.3.35	
CN Information Elements			10.3.3.33	
CN Information info	OP		CN	
CIV IIIIOIIIIatioii IIIIO			Information	
			info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity	
-			10.3.2.6	
RB information elements				
RB information to release list	OP	1 to		
		<maxrb></maxrb>		
>RB information to release	MP		RB	
			information	
			to release 10.3.4.19	
RB information to reconfigure list	OP	1 to	10.3.4.19	
112 information to reconligure list		<maxrb></maxrb>		
>RB information to reconfigure	MP		RB	
in a mannager to recorning and	''''		information	
			to	
			reconfigure	
			10.3.4.18	
RB information to be affected list	OP	1 to		
DD information to be affected	MD	<maxrb></maxrb>	DD	
>RB information to be affected	MP		RB	
			information to be	
			affected	
			10.3.4.17	
Downlink counter	OP		10.0.1.17	
synchronisation info				
>RB with PDCP information list	OP	1 to		This IE is needed for each RB
		<maxrball< td=""><td></td><td>having PDCP in the case of</td></maxrball<>		having PDCP in the case of

Information Element/Group name	Need	Multi	Type and reference	Semantics description
	ļ <u>.</u>	RABs>		lossless SRNS relocation
>>RB with PDCP information	MP		RB with	
			PDCP	
			information	
TrCH Information Elements			10.3.4.22	
Uplink transport channels UL Transport channel	OD		III Tuononon	
information common for all	OP		UL Transport channel	
			information	
transport channels			common for	
			all transport	
			channels	
			10.3.5.24	
Deleted TrCH information list	OP	1 to	10.3.3.24	
Deleted Troff Information list	OF	<maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted UL TrCH information	MP	>	Deleted UL	
>Deleted OL TTCTT IIIIOITTIAtion	IVII		TrCH	
			information	
			10.3.5.5	
Added or Reconfigured TrCH	OP	1 to	10.3.3.3	
information list	OF	<maxtrch< td=""><td></td><td></td></maxtrch<>		
וווטוווומנוטוו וואנ		> < CIII CIII		
>Added or Reconfigured UL	MP		Added or	
TrCH information	IVIE		Reconfigure	
TICH IIIIOIIIIalioii			d UL TrCH	
			information	
			10.3.5.2	
CHOICE mode	MP		10.3.3.2	
>FDD	IVII			
>>CPCH set ID	OP		CPCH set ID	
>>CI CIT Set ID	Oi		10.3.5.3	
>>Added or Reconfigured TrCH	OP	1 to	10.0.0.0	
information for DRAC list	OI .	<maxtrch< td=""><td></td><td></td></maxtrch<>		
information for Braine liet		>		
>>>DRAC static information	MP		DRAC static	
			information	
			10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel	OP		DL Transport	
information common for all			channel	
transport channels			information	
•			common for	
			all transport	
			channels	
			10.3.5.6	
Deleted TrCH information list	OP	1 to		
		<maxtrch< td=""><td></td><td></td></maxtrch<>		
		>		
>Deleted DL TrCH information	MP		Deleted DL	
			TrCH	
			information	
			10.3.5.4	
Added or Reconfigured TrCH	OP	1 to		
information list		<maxtrch< td=""><td></td><td></td></maxtrch<>		
		>		
>Added or Reconfigured DL	MP		Added or	
TrCH information			Reconfigure	
			d DL TrCH	
			information	
		1	10.3.5.1	
	1			
PhyCH information elements Frequency info	MDOP		Frequency	Default value is the existing

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			info	value of frequency information
			10.3.6.36	. ,
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88.	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

Condition	Explanation
CCCH	This IE is mandatory present when CCCH is used and
	ciphering is not required and not needed otherwise.

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

This message is used by UTRAN to assign, replace or release a set of physical channels used by a UE.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	СН		Integrity check info	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Integrity protection mode info	OP		Integrity	
integrity protection mode into			protection	
			mode info	
			10.3.3.19	
Ciphering mode info	OP		Ciphering	
			mode info	
			10.3.3.5	
Activation time	MD		Activation	Default value is "now"
			time 10.3.3.1	
New U-RNTI	OP		U-RNTI	
			10.3.3.47	
New C-RNTI	OP		C-RNTI	
			10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI	
			10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
LITDAN DDV	OD		10.3.3.35a	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX	
coenicient			cycle length coefficient	
			10.3.3.49	
CN Information Elements			10.3.3.49	
CN Information info	OP		CN	
CN IIIOIIIation IIIo	OF		Information	
			info 10.3.1.3	
UTRAN mobility information elements			1110 10.0.1.0	
URA identity	OP		URA identity	
,			10.3.2.6	
RB information elements				
Downlink counter	OP			
synchronisation info				
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with	
			PDCP	
			information	
			10.3.4.22	
PhyCH information elements				
Frequency info	MDOP		Frequency	Default value is the existing
			info	value of frequency information
			10.3.6.36	
Uplink radio resources	ME	1	NA	Defaulturali 1 d 1 d
Maximum allowed UL TX power	MD		Maximum	Default value is the existing
			allowed UL	value of the maximum allowed
		1	TX power 10.3.6.39	UL TX power
CHOICE channel requirement	OP	-	10.3.0.39	
>Uplink DPCH info	1 00		Linkale	
>Uplifik DECH IIII0				•
			Uplink	
			DPCH info	
>CPCH SET Info			DPCH info 10.3.6.88	
>CPCH SET Info			DPCH info 10.3.6.88 CPCH SET	
>CPCH SET Info			DPCH info 10.3.6.88 CPCH SET Info	
			DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13	
>CPCH SET Info >CPCH set ID			DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13 CPCH set ID	
>CPCH set ID			DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13	
>CPCH set ID Downlink radio resources	MP		DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13 CPCH set ID	
>CPCH set ID Downlink radio resources CHOICE mode	MP		DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13 CPCH set ID	
>CPCH set ID Downlink radio resources CHOICE mode >FDD			DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13 CPCH set ID 10.3.5.3	
>CPCH set ID Downlink radio resources CHOICE mode	MP OP		DPCH info 10.3.6.88 CPCH SET Info 10.3.6.13 CPCH set ID	

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
			10.3.6.30	
>TDD				(no data)
Downlink information common	OP		Downlink	
for all radio links			information	
			common for	
			all radio links	
			10.3.6.24	
Downlink information per radio	OP	1 to		Send downlink information for
link list		<maxrl></maxrl>		each radio link
>Downlink information for each	MP		Downlink	
radio link			information	
			for each	
			radio link	
			10.3.6.27	

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels.

RLC-SAP: AM or UM Logical channel: DCCH Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
	MP			
Message Type	IMP		Message	
UE lufamostica elemente			Туре	
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	
Integrity protection mode info	OP		Integrity	
			protection	
			mode info	
			10.3.3.19	
Ciphering mode info	OP		Ciphering	
			mode info	
			10.3.3.5	
Activation time	MD		Activation	Default value is "now"
			time 10.3.3.1	
New U-RNTI	OP		U-RNTI	
			10.3.3.47	
New C-RNTI	OP		C-RNTI	
			10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI	
			10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	OP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
			10.3.3.49	
CN information elements				

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information			1110 10.0.1.0	
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RAB information to reconfigure list	OP	1 to < maxRABse tup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	
RB information to reconfigure list	MP	1to <maxrb></maxrb>		Although this IE is not always required, need is MP to align with ASN.1
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP	and to	RB information to be affected 10.3.4.17	
TrCH Information Elements				
Uplink transport channels UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxtrch></maxtrch>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources	L NAD			
CHOICE mode	MP			
>FDD >>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	MP	1 to <maxrl></maxrl>		Although this IE is not always required, need is MP to align with ASN.1
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.30 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels. It can simultaneously indicate release of a signalling connection when UE is connected to more than one CN domain.

RLC-SAP: AM or UM Logical channel: DCCH Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message	
UE Information Elements			Type	
RRC transaction identifier	MP		RRC	
RRC transaction identifier	IVIP			
			transaction identifier	
			10.3.3.36	
Integrity check info	СН		Integrity	
Integrity check into	CIT		check info	
			10.3.3.16	
Integrity protection mode info	OP		Integrity	
Integrity protection mode into	01		protection	
			mode info	
			10.3.3.19	
Ciphering mode info	OP		Ciphering	
C.pgg			mode info	
			10.3.3.5	
Activation time	MD		Activation	Default value is "now"
			time 10.3.3.1	
New U-RNTI	OP		U-RNTI	
			10.3.3.47	
New C-RNTI	OP		C-RNTI	
			10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI	
			10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	OP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
			10.3.3.49	
CN Information Elements				
CN Information info	OP		CN	
			Information	
			info 10.3.1.3	
Signalling Connection release	OP		CN domain	
indication			identity	
			10.3.1.1	
UTRAN mobility information				
elements				
URA identity	OP		URA identity	
-			10.3.2.6	
RB Information Elements				
RAB information to reconfigure	OP	1 to <		
list		maxRABse		
		tup >		
>RAB information to reconfigure	MP		RAB	
			information	
			to "	
			reconfigure	
			10.3.4.11	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information to release list	MP	1 to <maxrb></maxrb>		
>RB information to release	MP	\maxit \begin{align*}	RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD >>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch< td=""><td>7.5.5.5.0</td><td></td></maxtrch<>	7.5.5.5.0	
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>>FDD >>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.33 RADIO BEARER SETUP

This message is sent by UTRAN to the UE to establish new radio bearer(s). It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM
Logical channel: DCCH

Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements			Турс	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	СН		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
Signalling RB information to setup list	OP	1 to <maxsrbs etup></maxsrbs 		For each signalling radio bearer established
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
RAB information to setup list	OP	1 to <maxrabs etup></maxrabs 		For each RAB established
>RAB information for setup	MP		RAB information for setup 10.3.4.10	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD >>CPCH set ID	OP		CPCH set ID	
>>CPCH Set ID	UP		10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10. 3.5.6	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.40 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Initial UE identity	MP		Initial UE identity 10.3.3.15	
RRC transaction identifier	MP		RRC transaction identifier	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.3.36	
Activation time	MD		Activation	Default value is "now"
New U-RNTI	MD		time 10.3.3.1	
New U-RNTI	MP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI	
New O-KINTI	OI		10.3.3.8	
RRC State Indicator	MP		RRC State	
			Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	MP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
On a hillitary and a to an arrivance and	MD		10.3.3.49	Default calcada finadia
Capability update requirement	MD		Capability update	Default value is defined in subclause 10.3.3.2
			requirement	Subclause 10.3.3.2
			10.3.3.2	
RB Information Elements		†	. 5.5.5.2	
Signalling RB information to	MP	3 to 4		
setup list				
>Signalling RB information to	MP		Signalling	
setup			RB	
			information	
			to setup	
TrCH Information Elements			10.3.4.24	
Uplink transport channels				
UL Transport channel	OP		UL Transport	
information common for all			channel	
transport channels			information	
			common for	
			all transport channels	
			10.3.5.24	
Added or Reconfigured TrCH	MP	1 to		Although this IE is not required
information list		<maxtrch< td=""><td></td><td>when the IE "RRC state</td></maxtrch<>		when the IE "RRC state
		>		indicator" is set to
				"CELL_FACH", need is MP to
				align with ASN.1
>Added or Reconfigured UL	MP		Added or	
TrCH information			Reconfigure d UL TrCH	
			information	
			10.3.5.2	
Downlink transport channels			70.0.0.2	
DL Transport channel	OP	1	DL Transport	
information common for all	-		channel	
transport channels			information	
			common for	
			all transport	
			channels	
Added or Decentioused TrOU	MP	1 to	10.3.5.6	Although this IE is not required
Added or Reconfigured TrCH information list	IVIP	<pre>1 to <maxtrch< pre=""></maxtrch<></pre>		Although this IE is not required when the IE "RRC state
inionnation list		> < < < < < < < < < <		indicator" is set to
				"CELL_FACH", need is MP to
				align with ASN.1
>Added or Reconfigured DL TrCH information	MP		Added or	
			Reconfigure d DL TrCH	
			information	
			10.3.5.1	
PhyCH information elements				
Frequency info	MDOP		Frequency	Default value is the existing

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			info 10.3.6.36	value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

This message is used by UTRAN to configure the transport channel of a UE. This also includes a possible reconfiguration of physical channels. The message can also be used to assign a TFC subset and reconfigure physical channel.

RLC-SAP: AM or UM Logical channel: DCCH Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	СН		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"

Information Element/Group	Need	Multi	Type and	Semantics description
New U-RNTI	OP		reference U-RNTI	
INGW O-KINTI			10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels UL Transport channel	OP		III Transport	
information common for all transport channels			UL Transport channel information common for all transport channels 10.3.5.24	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD	OD		ODOLL 15	
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels	OD		DI Transissi	
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			channels 10.3.5.6	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

3GPP TSG-RAN2 Meeting #31 Arlanda, Sweden, 19-23 August, 2002

CHANGE REQUEST								
*	25.331 C	R <mark>1681</mark>	жrev	- *	Current version:	4.5.0	ж	
- 450								

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: Ж	Handover corrections							
Source: #	TSG-RAN WG2							
Work item code: ₩	TEI Date: # 19 August 2002							
Category: 第	Release: # Rel-4 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. Release: # Rel-4 Use one of the following releases: 2 (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)							
	Troised by							
Reason for change	 The current procedures only refer to synchronization procedure, without clarifying which of the two possible procedures (A or B) should be applied in each case. If the UE receives the IE "Frequency info" that includes the currently used frequency, it is not clear if a syncronization procedure has to be applied or not. It is not clear if reconfiguration messages can be used to perform soft handover 							
Summary of chang	 1. The use of synchronization procedures A and B is clarified wherever applicable. 2. If the UE receives the IE "Frequency info" while in DCH, it shall perform synchronization procedure BA, regardless of the actual value received. 3. It is clarified that reconfiguration messages can not be used to perform soft handover. Isolated Impact Change Analysis. These changes correct or clarify the handover procedure. 1. The changes are aligning the signalling specs with the physical layer specs and should be seen as a clarification 2. If the UE does not implement this change, it may fail to perform the 							
	appropriate synchronization procedure, resulting in a higher probability of dropped call.							

3. Removal of feature. If the UE does not support this change and UTRAN does, there are no problems, since the soft handover procedure with reconfiguration messages will never be attempted by UTRAN. If the UE supports this and UTRAN does not, the UE behaviour will be unspecified in case UTRAN attempts soft handover with reconfiguration messages. This may result in a dropped call.

It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Impacts to the test specifications

- 1. No impacts
- 2. All tests reviewed assign a new value for "Frequency info". No impacts.
- 3. No impacts

Consequences if not approved:

- # 1. UE may apply the wrong synchronization procedure
 - 2. Unspecified behaviour for the UE when the current frequency is included in the IE "Frequency info"
 - 3. Unspecified behaviour of the UE when soft handover is attempted with a reconfiguration message

Clauses affected:	8.1.3.6, 8.2.2.3, 8.3.1.6, 8.3.4.3, 8.6.6.1, 8.6.6.11<u>, 10.2.8, 10.2.22, 10.2.27</u>, 10.2.30, 10.2.33, 10.2.40, 10.2.50
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications
Other comments:	x

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

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

- 1> stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:
 - 3> if the IE "Frequency info" is included:
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 3> select PRACH according to subclause 8.5.17;
 - 3> select Secondary CCPCH according to subclause 8.5.19;
 - 3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.
- 1> if the UE will be in the CELL_DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;
- 1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
 - 2> set the IE "RRC transaction identifier" to:
 - 3> the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 3> clear that entry.
 - 2> if the USIM or SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then
 - 3> 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.
 - 2> if neither the USIM nor SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
 - 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].
 - 2> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - 2> include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

- 2> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
- 2> include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

- 1> if the UE has entered CELL_FACH state:
 - 2> start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS.
- 1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
- 1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- 1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

- 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> apply the hard handover procedure as specified in subclause 8.3.5;
- 1> be able to perform this procedure even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> if the UE will enter the CELL DCH state from any state other than CELL DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.
- NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> in FDD; or
- 1> in TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 2> remove any C-RNTI from MAC;
 - 2> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.
- 1> in TDD:
 - 2> if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 3> remove any C-RNTI from MAC;
 - 3> clear the variable C_RNTI.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "Downlink information per radio link list" containing the mandatory IEs, even if UTRAN does not require the reconfiguration of any RL. In FDD, if the UE receives a RADIO BEARER RECONFIGURATION message where the IE "Downlink information per radio link list" includes only a number of "Primary CPICH Info" IEs, but the correct Primary CPICH for each of the cells in the active set is not included, then the UE behaviour is undefined.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission":
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;

- 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":

- 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
- 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- NOTE: UTRAN should not include the IE "Ciphering mode info" in any reconfiguration messages unless it is also used to perform an SRNS relocation with change of ciphering algorithm.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";

- 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U RNTI; or
- if the message is received on DCCH:

the UE shall:

- 1> stop timer T302;
- 1> in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - 2> includes "RB information elements"; and/or
 - 2> includes "Transport channel information elements"; and/or
 - 2> includes "Physical channel information elements"; and
 - 2> if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - 3> set the variable ORDERED_RECONFIGURATION to TRUE.
- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the IE "Frequency info" is included in the message:
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_FACH" or "CELL_PCH" or URA_PCH":
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 4> act as specified in subclause 8.3.1.12.
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_DCH":
 - 4> act on the IE "Frequency info" as specified in subclause 8.6.6.1.
 - 2> use the transport channel(s) applicable for the physical channel types that is used; and

- 2> if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - 3> use the TFS given in system information.
- 2> if none of the TFS stored is compatible with the physical channel:
 - 3> delete the stored TFS;
 - 3> use the TFS given in system information.
- 2> perform the physical layer synchronisation procedure as specified in [29];
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - 3> re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - 3> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - 4> set the HFN component of the respective COUNT-C values for AM RLC entities with RB identity 2,RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN.
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB5 and upwards)":
 - 3> for radio bearers with RB identity 5 and upwards:
 - 4> re-establish the AM RLC entities;
 - 4> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - 5> set the HFN component of the respective COUNT-C values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS.
- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY MODIFICATION to "Affected".
- 1> enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.
- If the UE after state transition enters CELL_DCH state, it shall:
 - 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
 - 1> not prohibit periodical status transmission in RLC.
- If the UE after state transition remains in CELL_FACH state, it shall
 - 1> start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
 - 1> select PRACH according to subclause 8.5.17;
 - 1> select Secondary CCPCH according to subclause 8.5.19;
 - 1> not prohibit periodical status transmission in RLC;

- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.

If the UE after state transition enters URA_PCH or CELL_PCH state, it shall:

- 1> prohibit periodical status transmission in RLC;
- 1> clear the variable C_RNTI;
- 1> stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- 1> start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging Occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2 in CELL_PCH state.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.

If the UE after the state transition remains in CELL FACH state; and

1> the contents of the variable C_RNTI are empty:

it shall check the value of V302; and:

- 1> if V302 is equal to or smaller than N302:
 - 2> if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 3> the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - 3> the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - 4> abort the ongoing integrity and/or ciphering reconfiguration;
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 5> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 5> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 5> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 5> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
 - 2> in case of a URA update procedure:
 - 3> stop the URA update procedure; and
 - 3> continue with a cell update procedure.
 - 2> set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;

- 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - 2> in case of a cell update procedure:
 - 3> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> in case of a URA update procedure:
 - 3> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> release all its radio resources;
 - 2> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 2> clear the variable ESTABLISHED RABS;
 - 2> enter idle mode:
 - 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - 2> and the procedure ends.

If the UE after the state transition remains in CELL_FACH state; and

- a C-RNTI is stored in the variable C_RNTI;

or

- the UE after the state transition moves to another state than the CELL_FACH state:

the UE shall:

- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> in case of a cell update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry.
- 1> in case of a URA update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS: and
 - 2> clear that entry;
- 1> if the variable PDCP_SN_INFO is non-empty:

- 2> include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO.
- 1> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of the COUNT-C of RB2 to MAX(uplink HFN component of the COUNT-C of RB2, downlink HFN component of the COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of the COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below.
- 1> transmit a response message as specified in subclause 8.3.1.7;
- 1> if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.
- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> clear the variable PDCP_SN_INFO;
- 1> when the response message transmitted per subclause 8.3.1.7 to the UTRAN has been confirmed by RLC:
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 3> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 3> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 3> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 3> set "Uplink RRC Message sequence number" for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO to a value such that next RRC message to be sent on uplink RB0 will use the new integrity protection configuration;
 - 3> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;
 - 3> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE.
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- 1> in case of a cell update procedure:
 - 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
- 1> in case of a URA update procedure:
 - 2> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

- 1> set the variable CELL_UPDATE_STARTED to FALSE;
- 1> clear the variable SECURITY MODIFICATION.

The procedure ends.

[...]

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure <u>B</u> as specified in [29];
- 1> if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - 2> if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - 3> configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set.
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronisation B, specified in [29];
- 1> the procedure ends on the UE side.

[...]

8.6.6.1 Frequency info

If, after completion of the procedure, the UE will be in eell-CELL_DCH state, the UE shall:

- 1> if the IE "Frequency info" is included:
 - 2> if the frequency is different from the currently used stored active frequency, the UE shall:
 - 3> store and use that frequency indicated by the IE "Frequency Info" as the active frequency; and
 - 2> tune to that frequency.
 - 3> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).
 - 2> if the frequency is the same as the stored active curently used frequency:
 - 3> the UE shall:
 - 4> continue to use the stored active currently used frequency.
 - 3> and the UE shall:
 - 4> perform the physical layer synchronisation procedure A as specified in [29] (FDD only)
- 1> if the IE "Frequency info" is not included and the UE has a stored active currently used frequency:

2> continue to use the stored activecurrently used frequency.

[...]

8.6.6.11 Uplink DPCH power control info

The UE shall:

1> in FDD:

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

- 3> if a synchronisation procedure <u>A</u> is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.

[...]

10.2.8 CELL UPDATE CONFIRM

This message confirms the cell update procedure and can be used to reallocate new RNTI information for the UE valid in the new cell.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements			<u> </u>	
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re- establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re- establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements			L	
URA identity	OP		URA identity 10.3.2.6	
RB information elements	OD	4.4-		
RB information to release list	OP	1 to <maxrb></maxrb>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxrb></maxrb>		
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels	0.5	ļ		
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td>1010101100</td><td></td></maxtrch<>	1010101100	
>Deleted UL TrCH information	MP	>	Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	MP			
>FDD			00011 (10	
>>CPCH set ID	OP OP	4.1-	CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels			D. T.	
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements	MESS		F	Defendancia di di
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info >CPCH SET Info			Uplink DPCH info 10.3.6.88. CPCH SET	
SCPOR SET INIO			Info 10.3.6.13	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Downlink radio resources				
CHOICE mode	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

Condition	Explanation
CCCH	This IE is mandatory present when CCCH is used and
	ciphering is not required and not needed otherwise.

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

This message is used by UTRAN to assign, replace or release a set of physical channels used by a UE.

RLC-SAP: AM or UM
Logical channel: DCCH

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier	
Integrity check info	СН		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
UTRAN DRX cycle length	OP		10.3.3.35a UTRAN DRX	
coefficient			cycle length	
			coefficient	
CN Information Elements			10.3.3.49	
CN Information Elements CN Information info	OP		CN	
ON INIOMIATION INIO	Oi		Information info 10.3.1.3	
UTRAN mobility information elements			1110 10.0.1.0	
URA identity	OP		URA identity	
Crovidentity			10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with	
			PDCP	
			information 10.3.4.22	
PhyCH information elements			10.3.4.22	
Frequency info	MDOP		Frequency	Default value is the existing
			info	value of frequency information
Unlink radio reservess			10.3.6.36	
Uplink radio resources Maximum allowed UL TX power	MD		Maximum	Default value is the existing
waxiiidiii dilowed 62 1% power	IVID		allowed UL TX power 10.3.6.39	value of the maximum allowed UL TX power
CHOICE channel requirement	OP		10.3.0.39	
>Uplink DPCH info	1		Uplink	
·			DPCH info	
ODOLL OFT Lafe			10.3.6.88	
>CPCH SET Info			CPCH SET	
			10.3.6.13	
>CPCH set ID			CPCH set ID	
David link and line and a second			10.3.5.3	
Downlink radio resources CHOICE mode	MP			
>FDD	IVIF			
>>Downlink PDSCH information	OP		Downlink	
			PDSCH	
			information	
>TDD			10.3.6.30	(no data)
Downlink information common	OP		Downlink	(no data)
for all radio links			information	
			common for	
			all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>	10.3.0.24	Send downlink information for each radio link
>Downlink information for each	MP		Downlink	
radio link			information	
			for each radio link	
			10.3.6.27	
L		1	10.0.0.21	1

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels.

RLC-SAP: AM or UM
Logical channel: DCCH

Information Element/Group	Need	Multi	Type and	Semantics	Version
name			reference	description	
Message Type	MP		Message		
			Type		
UE Information elements					
RRC transaction identifier	MP		RRC		
			transaction		
			identifier		
			10.3.3.36		
Integrity check info	СН		Integrity		
3 , 1 11			check info		
			10.3.3.16		
Integrity protection mode info	OP		Integrity		
mognly protoction mode into			protection		
			mode info		
			10.3.3.19		
Ciphering mode info	OP				
Cipileting mode into	UF		Ciphering mode info		
A			10.3.3.5	5 () .	
Activation time	MD		Activation	Default value is	
			time 10.3.3.1	"now"	
New U-RNTI	OP		U-RNTI		
			10.3.3.47		
New C-RNTI	OP		C-RNTI		
			10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI		
			10.3.3.9a		
RRC State Indicator	MP		RRC State		
			Indicator		
			10.3.3.35a		
UTRAN DRX cycle length	OP		UTRAN DRX		
coefficient			cycle length		
			coefficient		
			10.3.3.49		
CN information elements			10.0.0.10		
CN Information info	OP		CN		
CIV IIIIOIIIIauoii IIIIO	Oi		Information		
			info 10.3.1.3		
UTRAN mobility information	+		1110 10.3.1.3		+
elements					
	OP		URA identity		
URA identity	UF				
DD information claments			10.3.2.6		
RB information elements	0.0	1.			
RAB information to reconfigure	OP	1 to <			
list		maxRABse			
		tup >			
>RAB information to reconfigure	MP		RAB		
			information		
			to		
			reconfigure		
			10.3.4.11		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
RB information to reconfigure list	MP	1to <maxrb></maxrb>		Although this IE is not always required, need is MP to align with ASN.1	
	OP				REL-4
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18		
RB information to be affected list	OP	1 to <maxrb></maxrb>			
>RB information to be affected	MP		RB information to be affected 10.3.4.17		
TrCH Information Elements					
Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE mode	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels					
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Deleted DL TrCH information	MP	1	Deleted DL		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	MP	1 to <maxrl></maxrl>		Although this IE is not always required, need is MP to align with ASN.1	
	OP				REL-4
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.30 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels. It can simultaneously indicate release of a signalling connection when UE is connected to more than one CN domain.

RLC-SAP: AM or UM Logical channel: DCCH Direction: UTRAN \rightarrow UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message	
UE Information Elements			Type	
RRC transaction identifier	MP		RRC	
RRC transaction identifier	IVIP			
			transaction identifier	
			10.3.3.36	
Integrity check info	СН		Integrity	
Integrity check into	CIT		check info	
			10.3.3.16	
Integrity protection mode info	OP		Integrity	
Integrity protection mode into	01		protection	
			mode info	
			10.3.3.19	
Ciphering mode info	OP		Ciphering	
C.pgg			mode info	
			10.3.3.5	
Activation time	MD		Activation	Default value is "now"
			time 10.3.3.1	
New U-RNTI	OP		U-RNTI	
			10.3.3.47	
New C-RNTI	OP		C-RNTI	
			10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI	
			10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	OP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
			10.3.3.49	
CN Information Elements				
CN Information info	OP		CN	
			Information	
			info 10.3.1.3	
Signalling Connection release	OP		CN domain	
indication			identity	
			10.3.1.1	
UTRAN mobility information				
elements				
URA identity	OP		URA identity	
-			10.3.2.6	
RB Information Elements				
RAB information to reconfigure	OP	1 to <		
list		maxRABse		
		tup >		
>RAB information to reconfigure	MP		RAB	
			information	
			to "	
			reconfigure	
			10.3.4.11	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information to release list	MP	1 to <maxrb></maxrb>		
>RB information to release	MP	\maxit \begin{align*}	RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD >>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch< td=""><td>7.5.5.5.0</td><td></td></maxtrch<>	7.5.5.5.0	
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>>FDD >>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.33 RADIO BEARER SETUP

This message is sent by UTRAN to the UE to establish new radio bearer(s). It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM
Logical channel: DCCH

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements			Турс	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	СН		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
Signalling RB information to setup list	OP	1 to <maxsrbs etup></maxsrbs 		For each signalling radio bearer established
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
RAB information to setup list	OP	1 to <maxrabs etup></maxrabs 		For each RAB established
>RAB information for setup	MP		RAB information for setup 10.3.4.10	
RB information to be affected list	OP	1 to <maxrb></maxrb>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2	
CHOICE mode	OP			
>FDD >>CPCH set ID	OP		CPCH set ID	
>>CPCH Set ID	UP		10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10. 3.5.6	
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td></maxtrch<>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH	

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
			information	
			10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info	Default value is the existing value of frequency information
			10.3.6.36	value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink	
'			DPCH info	
			10.3.6.88	
>CPCH SET Info			CPCH SET	
			Info	
			10.3.6.13	
Downlink radio resources				
CHOICE mode	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink	
			PDSCH	
			information	
			10.3.6.30	
>TDD				(no data)
Downlink information common	OP		Downlink	
for all radio links			information	
			common for	
			all radio links	
			10.3.6.24	
Downlink information per radio	OP	1 to		Send downlink information for
link list		<maxrl></maxrl>		each radio link
>Downlink information for each	MP		Downlink	
radio link			information	
			for each	
			radio link	
			10.3.6.27	

10.2.40 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
Initial UE identity	MP		Initial UE identity 10.3.3.15		
RRC transaction identifier	MP		RRC transaction identifier		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
A -4:4: 4:	MD		10.3.3.36	Defectional in	
Activation time	MD		Activation	Default value is "now"	
New U-RNTI	MP		time 10.3.3.1 U-RNTI	HOW	
New U-RNTI	IVIE		10.3.3.47		
New C-RNTI	OP		C-RNTI		
New C-IXIVII			10.3.3.8		
RRC State Indicator	MP		RRC State		
Titto otate maleator	1411		Indicator		
			10.3.3.35a		
UTRAN DRX cycle length	MP		UTRAN DRX		
coefficient			cycle length		
			coefficient		
			10.3.3.49		
Capability update requirement	MD		Capability	Default value is	
			update	defined in	
			requirement	subclause	
			10.3.3.2	10.3.3.2	
RB Information Elements					
Signalling RB information to setup list	MP	3 to 4			
>Signalling RB information to	MP		Signalling		
setup			RB		
			information		
			to setup		
T-OU before the Flore to			10.3.4.24		
TrCH Information Elements					
Uplink transport channels UL Transport channel	OP		III Transport		
information common for all	UP UP		UL Transport channel		
transport channels			information		
transport orial mole			common for		
			all transport		
			channels		
			10.3.5.24		
Added or Reconfigured TrCH	MP	1 to		Although this IE is	
information list		<maxtrch< td=""><td></td><td>not required when</td><td></td></maxtrch<>		not required when	
		>		the IE "RRC state	
				indicator" is set to	
				"CELL_FACH",	
				need is MP to	
				align with ASN.1	551.4
Added so D. C. 112	OP	1	A -1 -1 -1		REL-4
>Added or Reconfigured UL	MP	1	Added or		
TrCH information		1	Reconfigure		
			d UL TrCH information		
			10.3.5.2		
Downlink transport channels		1	10.0.0.2		
DL Transport channel	OP	1	DL Transport		
information common for all		1	channel		
transport channels		1	information		
		1	common for		
		1	all transport		
		1	channels		
			10.3.5.6		
Added or Reconfigured TrCH	MP	1 to		Although this IE is	
information list		<maxtrch< td=""><td></td><td>not required when</td><td></td></maxtrch<>		not required when	
		>		the IE "RRC state	
		1		indicator" is set to	
				"CELL_FACH",	
				need is MP to	
				align with ASN.1	
>Added or Reconfigured DL	OP				REL-4
	MP	Ì	Added or	Î	Ī

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
TrCH information			Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

This message is used by UTRAN to configure the transport channel of a UE. This also includes a possible reconfiguration of physical channels. The message can also be used to assign a TFC subset and reconfigure physical channel.

RLC-SAP: AM or UM

Logical channel: DCCH

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	СН		Integrity check info 10.3.3.16	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Integrity protection mode info	OP		Integrity	
			protection	
			mode info	
0:1:	0.0		10.3.3.19	
Ciphering mode info	OP		Ciphering	
			mode info 10.3.3.5	
Activation time	MD		Activation	Default value is "now"
Activation time	IVID		time 10.3.3.1	Default value is flow
New U-RNTI	OP		U-RNTI	
New O-ICIVIT			10.3.3.47	
New C-RNTI	OP		C-RNTI	
New O KIVII	01		10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI	
New Boott Kivii	01		10.3.3.9a	
RRC State Indicator	MP		RRC State	
			Indicator	
			10.3.3.35a	
UTRAN DRX cycle length	OP		UTRAN DRX	
coefficient			cycle length	
			coefficient	
			10.3.3.49	
CN Information Elements				
CN Information info	OP		CN	
			Information	
			info 10.3.1.3	
UTRAN mobility information elements				
	OD		LIDA idamétri	
URA identity	OP		URA identity	
RB information elements			10.3.2.6	
Downlink counter	OP			
synchronisation info	UP			
>RB with PDCP information list	OP	1 to		This IE is needed for each RB
>RB with PDCP information list	OF .	<maxrball< td=""><td></td><td>having PDCP in the case of</td></maxrball<>		having PDCP in the case of
		RABs>		lossless SRNS relocation
>>RB with PDCP information	MP	10,000	RB with	10001000 CTATO TOTOCAROTT
ZZIND WIIIT DOT IIIIOIIII IIII			PDCP	
			information	
			10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel	OP		UL Transport	
information common for all			channel	
transport channels			information	
•			common for	
			all transport	
			channels	
			10.3.5.24	
Added or Reconfigured TrCH	OP	1 to		
information list	Í	<maxtrch< td=""><td></td><td></td></maxtrch<>		
	1			
		>		
>Added or Reconfigured UL	MP	>	Added or	
	MP	>	Reconfigure	
>Added or Reconfigured UL	MP	>	Reconfigure d UL TrCH	
>Added or Reconfigured UL	MP	>	Reconfigure d UL TrCH information	
>Added or Reconfigured UL TrCH information		>	Reconfigure d UL TrCH	
>Added or Reconfigured UL TrCH information	MP	>	Reconfigure d UL TrCH information	
>Added or Reconfigured UL TrCH information CHOICE mode >FDD	OP	>	Reconfigure d UL TrCH information 10.3.5.2	
>Added or Reconfigured UL TrCH information		>	Reconfigure d UL TrCH information 10.3.5.2	
>Added or Reconfigured UL TrCH information CHOICE mode >FDD >>CPCH set ID	OP OP		Reconfigure d UL TrCH information 10.3.5.2	
>Added or Reconfigured UL TrCH information CHOICE mode >FDD >>CPCH set ID >>Added or Reconfigured TrCH	OP	1 to	Reconfigure d UL TrCH information 10.3.5.2	
>Added or Reconfigured UL TrCH information CHOICE mode >FDD >>CPCH set ID	OP OP		Reconfigure d UL TrCH information 10.3.5.2	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
CHOICE channel requirement	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources	L			
CHOICE mode	MP	ļ		
>>FDD >>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

3GPP TSG-RAN2 Meeting #31 Arlanda, Sweden, 19-23 August, 2002

CHANGE REQUEST							CR-Form-v7
*	25.331	CR 1682	жrev	- #	Current version:	5.1.0	ж

	or inc
For HELP on using	this form, see bottom of this page or look at the pop-up text over the # symbols.
,	
Proposed change affec	ts: UICC apps器 ME X Radio Access Network X Core Network
Title: # Ha	ndover corrections
Source: # TS	G-RAN WG2
Work item code:	Date: 第 19 August 2002
Category: # A	Release: ♯ Rel-5
	<u>one</u> of the following categories: Use <u>one</u> of the following releases: (GSM Phase 2)
	F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996)
	B (addition of feature), R97 (Release 1997)
	C (functional modification of feature) R98 (Release 1998)
	D (editorial modification)R99(Release 1999)iled explanations of the above categories canRel-4(Release 4)
	bund in 3GPP TR 21.900. Rel-5 (Release 5)
	Rel-6 (Release 6)
Reason for change: #	 The current procedures only refer to synchronization procedure, without clarifying which of the two possible procedures (A or B) should be applied in each case.
	2. If the UE receives the IE "Frequency info" that includes the currently used frequency, it is not clear if a syncronization procedure has to be applied or not.
	3. It is not clear if reconfiguration messages can be used to perform soft handover
Summary of change: ₩	1. The use of synchronization procedures A and B is clarified wherever applicable.
	2. If the UE receives the IE "Frequency info" while in DCH, it shall perform synchronization procedure BA, regardless of the actual value received.
	3. It is clarified that reconfiguration messages can not be used to perform soft handover.
	Isolated Impact Change Analysis.
	These changes correct or clarify the handover procedure. 1. The changes are aligning the signalling specs with the physical layer specs and should be seen as a clarification
	2. If the UE does not implement this change, it may fail to perform the appropriate synchronization procedure, resulting in a higher probability of dropped call.

3. Removal of feature. If the UE does not support this change and UTRAN does, there are no problems, since the soft handover procedure with reconfiguration messages will never be attempted by UTRAN. If the UE supports this and UTRAN does not, the UE behaviour will be unspecified in case UTRAN attempts soft handover with reconfiguration messages. This may result in a dropped call.

It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Impacts to the test specifications

- 1. No impacts
- 2. All tests reviewed assign a new value for "Frequency info". No impacts.
- 3. No impacts

Consequences if not approved:

- # 1. UE may apply the wrong synchronization procedure
 - 2. Unspecified behaviour for the UE when the current frequency is included in the IE "Frequency info"
 - 3. Unspecified behaviour of the UE when soft handover is attempted with a reconfiguration message

Clauses affected:	8.1.3.6, 8.2.2.3, 8.3.1.6, 8.3.4.3, 8.6.6.1, 8.6.6.11<u>, 10.2.8, 10.2.22, 10.2.27</u>, 10.2.30, 10.2.33, 10.2.40, 10.2.50
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications
Other comments:	x

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

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

- 1> stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:
 - 3> if the IE "Frequency info" is included:
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 3> select PRACH according to subclause 8.5.17;
 - 3> select Secondary CCPCH according to subclause 8.5.19;
 - 3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.
- 1> if the UE will be in the CELL_DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;
- 1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
 - 2> set the IE "RRC transaction identifier" to:
 - 3> the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 3> clear that entry.
 - 2> if the USIM or SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then
 - 3> 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.
 - 2> if neither the USIM nor SIM is present:
 - 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
 - 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].
 - 2> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - 2> include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

- 2> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
- 2> include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

- 1> if the UE has entered CELL_FACH state:
 - 2> start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS.
- 1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
- 1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- 1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

- 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> apply the hard handover procedure as specified in subclause 8.3.5;
- 1> be able to perform this procedure even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> if the UE will enter the CELL DCH state from any state other than CELL DCH state at the conclusion of this procedure:
 - 42> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.
- NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> in FDD; or
- 1> in TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 2> remove any C-RNTI from MAC;
 - 2> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.
- 1> in TDD:
 - 2> if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:
 - 3> remove any C-RNTI from MAC;
 - 3> clear the variable C_RNTI.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "Downlink information per radio link list" containing the mandatory IEs, even if UTRAN does not require the reconfiguration of any RL. In FDD, if the UE receives a RADIO BEARER RECONFIGURATION message where the IE "Downlink information per radio link list" includes only a number of "Primary CPICH Info" IEs, but the correct Primary CPICH for each of the cells in the active set is not included, then the UE behaviour is undefined.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission":
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;

- 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":

- 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
- 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists for the CN domain indicated in the IE "CN domain identity" in the IE "RAB info":
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- NOTE: UTRAN should not include the IE "Ciphering mode info" in any reconfiguration messages unless it is also used to perform an SRNS relocation with change of ciphering algorithm.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";

- 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U RNTI; or
- if the message is received on DCCH:

the UE shall:

- 1> stop timer T302;
- 1> in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - 2> includes "RB information elements"; and/or
 - 2> includes "Transport channel information elements"; and/or
 - 2> includes "Physical channel information elements"; and
 - 2> if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - 3> set the variable ORDERED_RECONFIGURATION to TRUE.
- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - 2> if the IE "Frequency info" is included in the message:
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_FACH" or "CELL_PCH" or URA_PCH":
 - 4> select a suitable UTRA cell according to [4] on that frequency;
 - 4> act as specified in subclause 8.3.1.12.
 - 3> if the IE "RRC State Indicator" is set to the value "CELL_DCH":
 - 4> act on the IE "Frequency info" as specified in subclause 8.6.6.1.
 - 2> use the transport channel(s) applicable for the physical channel types that is used; and

- 2> if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - 3> use the TFS given in system information.
- 2> if none of the TFS stored is compatible with the physical channel:
 - 3> delete the stored TFS;
 - 3> use the TFS given in system information.
- 2> perform the physical layer synchronisation procedure as specified in [29];
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - 3> re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - 3> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - 4> set the HFN component of the respective COUNT-C values for AM RLC entities with RB identity 2,RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN.
- 2> if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB5 and upwards)":
 - 3> for radio bearers with RB identity 5 and upwards:
 - 4> re-establish the AM RLC entities;
 - 4> if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - 5> set the HFN component of the respective COUNT-C values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS.
- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY MODIFICATION to "Affected".
- 1> enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.
- If the UE after state transition enters CELL_DCH state, it shall:
 - 1> perform the physical layer synchronisation procedure A as specified in [29] (FDD only);
 - 1> not prohibit periodical status transmission in RLC.
- If the UE after state transition remains in CELL_FACH state, it shall
 - 1> start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
 - 1> select PRACH according to subclause 8.5.17;
 - 1> select Secondary CCPCH according to subclause 8.5.19;
 - 1> not prohibit periodical status transmission in RLC;

- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.

If the UE after state transition enters URA_PCH or CELL_PCH state, it shall:

- 1> prohibit periodical status transmission in RLC;
- 1> clear the variable C_RNTI;
- 1> stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- 1> start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging Occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2 in CELL_PCH state.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.

If the UE after the state transition remains in CELL FACH state; and

1> the contents of the variable C_RNTI are empty:

it shall check the value of V302; and:

- 1> if V302 is equal to or smaller than N302:
 - 2> if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 3> the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - 3> the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - 4> abort the ongoing integrity and/or ciphering reconfiguration;
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 5> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 5> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 4> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 5> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 5> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
 - 2> in case of a URA update procedure:
 - 3> stop the URA update procedure; and
 - 3> continue with a cell update procedure.
 - 2> set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;

- 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - 2> in case of a cell update procedure:
 - 3> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> in case of a URA update procedure:
 - 3> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
 - 2> release all its radio resources;
 - 2> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 2> clear the variable ESTABLISHED RABS;
 - 2> enter idle mode:
 - 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - 2> and the procedure ends.

If the UE after the state transition remains in CELL_FACH state; and

- a C-RNTI is stored in the variable C_RNTI;

or

- the UE after the state transition moves to another state than the CELL_FACH state:

the UE shall:

- 1> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> in case of a cell update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry.
- 1> in case of a URA update procedure:
 - 2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS: and
 - 2> clear that entry;
- 1> if the variable PDCP_SN_INFO is non-empty:

- 2> include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO.
- 1> if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN component of the COUNT-C of RB2 to MAX(uplink HFN component of the COUNT-C of RB2, downlink HFN component of the COUNT-C of RB2);
 - 2> increment by one the downlink and uplink values of the HFN component of the COUNT-C for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below.
- 1> transmit a response message as specified in subclause 8.3.1.7;
- 1> if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.
- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> clear the variable PDCP_SN_INFO;
- 1> when the response message transmitted per subclause 8.3.1.7 to the UTRAN has been confirmed by RLC:
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - 3> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 3> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 3> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 2> if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - 3> set "Uplink RRC Message sequence number" for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO to a value such that next RRC message to be sent on uplink RB0 will use the new integrity protection configuration;
 - 3> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;
 - 3> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE.
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- 1> in case of a cell update procedure:
 - 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.
- 1> in case of a URA update procedure:
 - 2> clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

- 1> set the variable CELL_UPDATE_STARTED to FALSE;
- 1> clear the variable SECURITY MODIFICATION.

The procedure ends.

[...]

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure <u>B</u> as specified in [29];
- 1> if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - 2> if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - 3> configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set.
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronisation B, specified in [29];
- 1> the procedure ends on the UE side.

[...]

8.6.6.1 Frequency info

If, after completion of the procedure, the UE will be in eell-CELL_DCH state, the UE shall:

- 1> if the IE "Frequency info" is included:
 - 2> if the frequency is different from the currently used stored active frequency, the UE shall:
 - 3> store and use that frequency indicated by the IE "Frequency Info" as the active frequency; and
 - 2> tune to that frequency.
 - 3> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).
 - 2> if the frequency is the same as the stored active curently used frequency:
 - 3> the UE shall:
 - 4> continue to use the stored active currently used frequency.
 - 3> and the UE shall:
 - 4> perform the physical layer synchronisation procedure A as specified in [29] (FDD only)
- 1> if the IE "Frequency info" is not included and the UE has a stored active currently used frequency:

2> continue to use the stored activecurrently used frequency.

[...]

8.6.6.11 Uplink DPCH power control info

The UE shall:

1> in FDD:

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

- 3> if a synchronisation procedure <u>A</u> is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.

[...]

10.2.8 CELL UPDATE CONFIRM

This message confirms the cell update procedure and can be used to reallocate new RNTI information for the UE valid in the new cell.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47		
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	СН		Integrity check info 10.3.3.16		
Integrity protection mode info	ОР		Integrity protection mode info 10.3.3.19		
Ciphering mode info	OP		Ciphering mode info 10.3.3.5		
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
RRC State Indicator	MP		RRC State Indicator	•	
			10.3.3.10		
UTRAN DRX cycle length	OP		UTRAN DRX		
coefficient	Oi		cycle length		
			coefficient		
			10.3.3.49		
RLC re-establish indicator (RB2,	MP		RLC re-		
RB3 and RB4)			establish		
,			indicator		
			10.3.3.35		
RLC re-establish indicator (RB5	MP		RLC re-		
and upwards)			establish		
			indicator		
			10.3.3.35		
CN Information Elements					
CN Information info	OP		CN		
			Information		
			info 10.3.1.3		
UTRAN Information Elements					
URA identity	OP		URA identity		
			10.3.2.6		
RB information elements					
RB information to release list	OP	1 to			
5514		<maxrb></maxrb>			
>RB information to release	MP		RB		
			information		
			to release		
DD information to reconfigure list	OD	4.45	10.3.4.19		
RB information to reconfigure list	OP	1 to <maxrb></maxrb>			
>RB information to reconfigure	MP	<iiiaxnb></iiiaxnb>	RB		
>NB information to reconligure	IVIF		information		
			to		
			reconfigure		
			10.3.4.18		
RB information to be affected list	OP	1 to			
		<maxrb></maxrb>			
>RB information to be affected	MP		RB		
			information		
			to be		
			affected		
			10.3.4.17		
Downlink counter	OP				
synchronisation info					
>RB with PDCP information list	OP	1 to			
		<maxrball< td=""><td></td><td></td><td></td></maxrball<>			
DD with DDOD! (ME	RABs>	DD : 34	This IE :	1
>>RB with PDCP information	MP		RB with	This IE is needed	1
			PDCP	for each RB	1
			information	having PDCP in	
			10.3.4.22	the case of	
				lossless SRNS relocation	
	OP			reiocation	REL-5
>>PDCP context relocation info	OP		PDCP	This IE is needed	REL-5
>>1 DOI COMENTIGIOCATION IIIIO			context	for each RB	1.22-3
			relocation	having PDCP and	
			info	performing PDCP	
			10.3.4.1a	context relocation	1
TrCH Information Elements					1
Uplink transport channels					1
UL Transport channel	OP		UL Transport		1
information common for all	-		channel		
	I	I	information	1	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			common for all transport		
			channels 10.3.5.24		
Deleted TrCH information list	OP	1 to	10.0.0.21		
		<maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>Deleted UL TrCH information	MP		Deleted UL TrCH		
			information		
Added or Pecenfigured TrCH	OP	1 to	10.3.5.5		
Added or Reconfigured TrCH information list	OF	<maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information		
CHOICE mode	MP		10.3.5.2		
>FDD			ODCH : IT		
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch></maxtrch>			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD			10.0.0.7	(no data)	
Downlink transport channels					
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch></maxtrch>			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
Uplink radio resources	145				_
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power	
CHOICE channel requirement	OP		10.0.0.0	powor	1
>Uplink DPCH info			Uplink		

Information Element/Group	Need	Multi	Type and	Semantics	Version
name			reference	description	
			DPCH info		
			10.3.6.88.		
>CPCH SET Info			CPCH SET		
			Info		
			10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink		
			PDSCH		
			information		
			10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH	OP		Downlink		REL-5
Information			HS_PDSCH		
			Information		
			10.3.6.23a		
Downlink information common	OP		Downlink		
for all radio links			information		
			common for		
			all radio links		
			10.3.6.24		
Downlink information per radio	OP	1 to		Send downlink	
link list		<maxrl></maxrl>		information for	
				each radio link to	
				be set-up	
>Downlink information for each	MP		Downlink		
radio link			information		
			for each		
			radio link		
			10.3.6.27		

Condition	Explanation
CCCH	This IE is mandatory present when CCCH is used and
	ciphering is not required and not needed otherwise.

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

This message is used by UTRAN to assign, replace or release a set of physical channels used by a UE.

RLC-SAP: AM or UM

Logical channel: DCCH

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	СН		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			mode info		
Ciphoring mode info	OP		10.3.3.19 Ciphering		
Ciphering mode info	OF .		mode info		
			10.3.3.5		
Activation time	MD		Activation	Default value is	
/ totivation time	1415		time 10.3.3.1	"now"	
New U-RNTI	OP		U-RNTI	11000	
Now & Rivin			10.3.3.47		
New C-RNTI	OP		C-RNTI		
			10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI		
			10.3.3.9a		
New H-RNTI	OP		H-RNTI		REL-5
			10.3.3.14a		
RRC State Indicator	MP		RRC State		
			Indicator		
			10.3.3.10		
UTRAN DRX cycle length	OP		UTRAN DRX		
coefficient			cycle length		
			coefficient		
			10.3.3.49		
CN Information Elements					
CN Information info	OP		CN		
			Information		
			info 10.3.1.3		
UTRAN mobility information elements					
URA identity	OP		URA identity		
			10.3.2.6		
RB information elements					
Downlink counter	OP				
synchronisation info					
>RB with PDCP information list	OP	1 to			
		<maxrball< td=""><td></td><td></td><td></td></maxrball<>			
		RABs>			
>>RB with PDCP information	MP		RB with	This IE is needed	
			PDCP	for each RB	
			information	having PDCP in	
			10.3.4.22	the case of	
				lossless SRNS	
				relocation	
	OP				REL-5
>>PDCP context relocation info	OP		PDCP	This IE is needed	REL-5
			context	for each RB	
			relocation	having PDCP and	
			info	performing PDCP	
			10.3.4.1a	context relocation	
PhyCH information elements					
Frequency info	MDOP		Frequency	Default value is	
			info	the existing value	
			10.3.6.36	of frequency	
Hallah andla an		+	-	information	
Uplink radio resources	MD	+	Mandia	Defendent	
Maximum allowed UL TX power	MD		Maximum	Default value is	
			allowed UL	the existing value	
			TX power	of the maximum	
			10.3.6.39	allowed UL TX	
01005	0.0			power	
CHOICE channel requirement	OP		11.2.2		
>Uplink DPCH info			Uplink		
			DPCH info		
	I	1	10.3.6.88	l	
				<u> </u>	1
>CPCH SET Info			CPCH SET		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			10.3.6.13		
>CPCH set ID			CPCH set ID 10.3.5.3		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS_PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels.

RLC-SAP: AM or UM
Logical channel: DCCH

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	СН		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19		
Ciphering mode info	OP		Ciphering mode info 10.3.3.5		
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.10		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN information elements					
CN Information info	OP		CN Information info 10.3.1.3		
UTRAN mobility information elements					
URA identity	ОР		URA identity 10.3.2.6		
RB information elements					
RAB information to reconfigure list	OP	1 to < maxRABse tup >			
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11		
RB information to reconfigure list	MP	1to <maxrb></maxrb>		Although this IE is not always required, need is MP to align with ASN.1	
	OP				REL-4
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18		
RB information to be affected list	OP	1 to <maxrb></maxrb>	10.0.1.10		
>RB information to be affected	MP	and a	RB information to be affected 10.3.4.17		
RB with PDCP context relocation info list	OP	1 to <maxrball RABs></maxrball 		This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
>RB identity	MP		RB identity 10.3.4.16		REL-5
>PDCP context relocation info	MP		PDCP context relocation info 10.3.4.1a		REL-5
TrCH Information Elements					
Uplink transport channels UL Transport channel information common for all transport channels	OP		UL Transport channel information		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			common for all transport channels 10.3.5.24		
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE mode	OP				
>FDD	0.5		0.000:		
>>CPCH set ID	OP OP	1 to	CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	<maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels	0.0		DI T		
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			DPCH info	-	
			10.3.6.88		
>CPCH SET Info			CPCH SET		
			Info		
			10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink		
			PDSCH		
			information		
			10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH	OP		Downlink		REL-5
Information			HS-PDSCH		
			Information		
			10.3.6.23a		
Downlink information common	OP		Downlink		
for all radio links			information		
			common for		
			all radio links		
			10.3.6.24		
Downlink information per radio	MP	1 to		Although this IE is	
link list		<maxrl></maxrl>		not always	
				required, need is	
				MP to align with	
				ASN.1	
	OP				REL-4
>Downlink information for each	MP		Downlink		
radio link			information		
			for each		
			radio link		
			10.3.6.27		

10.2.30 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels. It can simultaneously indicate release of a signalling connection when UE is connected to more than one CN domain.

RLC-SAP: AM or UM

Logical channel: DCCH

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	СН		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
0:1:	0.0		10.3.3.19		
Ciphering mode info	OP		Ciphering mode info		
			10.3.3.5		
Activation time	MD		Activation	Default value is	
/tonvacion time	I WID		time 10.3.3.1	"now"	
New U-RNTI	OP		U-RNTI	-	
			10.3.3.47		
New C-RNTI	OP		C-RNTI		
			10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI		
			10.3.3.9a		
New H-RNTI	OP		H-RNTI		REL-5
RRC State Indicator	MP		10.3.3.14a RRC State		
RRC State indicator	IVIP		Indicator		
			10.3.3.10		
UTRAN DRX cycle length	OP		UTRAN DRX		
coefficient			cycle length		
occinioioni			coefficient		
			10.3.3.49		
CN Information Elements					
CN Information info	OP		CN		
			Information		
			info 10.3.1.3		
Signalling Connection release	OP		CN domain		
indication			identity		
			10.3.1.1		
UTRAN mobility information elements					
URA identity	OP		URA identity		
-			10.3.2.6		
RB Information Elements					
RAB information to reconfigure	OP	1 to <			
list		maxRABse			
DAD: (145	tup >	5.5		
>RAB information to reconfigure	MP		RAB		
			information to		
			reconfigure		
			10.3.4.11		
RB information to release list	MP	1 to	10.0.1.11		
		<maxrb></maxrb>			
>RB information to release	MP		RB		
			information		
			to release		
			10.3.4.19		
RB information to be affected list	OP	1 to			
DD información de la company	MD	<maxrb></maxrb>	DD		
>RB information to be affected	MP		RB		
			information to be		
			affected		
			10.3.4.17		
Downlink counter	OP				
synchronisation info	_				
>RB with PDCP information list	OP	1 to			
		<maxrball< td=""><td></td><td></td><td></td></maxrball<>			
		RABs>			
>>RB with PDCP information	MP		RB with	This IE is needed	
			PDCP	for each RB	
			information	having PDCP in	
	ĺ	1	10.3.4.22	the case of	
				lossless SRNS relocation	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
	OP				REL-5
>>PDCP context relocation info	OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
TrCH Information Elements					
Uplink transport channels UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels		
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td>10.3.5.24</td><td></td><td></td></maxtrch<>	10.3.5.24		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE mode	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch ></maxtrch 			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels					
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD			101010100	(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a	(iii) data)	REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.33 RADIO BEARER SETUP

This message is sent by UTRAN to the UE to establish new radio bearer(s). It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

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		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			identifier 10.3.3.36		
Integrity check info	СН		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19		
Ciphering mode info	OP		Ciphering mode info 10.3.3.5		
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	ОР		DSCH-RNTI 10.3.3.9a		
New H-RNTI	ОР		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.10		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN Information Elements					
CN Information info	OP		CN Information info 10.3.1.3		
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
RB Information Elements					
Signalling RB information to setup list	OP	1 to <maxsrbs etup></maxsrbs 		For each signalling radio bearer established	
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24		
RAB information to setup list	OP	1 to <maxrabs etup></maxrabs 		For each RAB established	
>RAB information for setup	MP		RAB information for setup 10.3.4.10		
RB information to be affected list	OP	1 to <maxrb></maxrb>			
>RB information to be affected	MP		RB information to be affected 10.3.4.17		
Downlink counter synchronisation info	OP				
>RB with PDCP information list	OP	1 to <maxrball RABs></maxrball 			

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
>>PDCP context relocation info	OP OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5 REL-5
TrCH Information Elements Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Deleted TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE mode	OP				
>FDD >>CPCH set ID	OP		CPCH set ID		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch< td=""><td>10.3.5.3</td><td></td><td></td></maxtrch<>	10.3.5.3		
>>>DRAC static information	MP	>	DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10. 3.5.6		
Deleted TrCH information list	OP	1 to <maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch ></maxtrch 			

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.40 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Information Element/Group	Need	Multi	Type and	Semantics	Version
name			reference	description	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type	,	
UE Information Elements			Турс		
Initial UE identity	MP		Initial UE identity 10.3.3.15		
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	MP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	MP		UTRAN DRX cycle length coefficient 10.3.3.49		
Capability update requirement	MD		Capability update requirement 10.3.3.2	Default value is defined in subclause 10.3.3.2	
RB Information Elements					
Signalling RB information to setup list	MP	3 to 4			
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24		
TrCH Information Elements					
Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Added or Reconfigured TrCH information list	MP	1 to <maxtrch ></maxtrch 		Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1	
	OP				REL-4
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Added or Reconfigured TrCH information list	MP	1 to <maxtrch ></maxtrch 		Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1	
	OP				REL-4
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
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	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link to be set-up	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

This message is used by UTRAN to configure the transport channel of a UE. This also includes a possible reconfiguration of physical channels. The message can also be used to assign a TFC subset and reconfigure physical channel.

RLC-SAP: AM or UM

Logical channel: DCCH

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
	<u> </u>		Туре		
UE Information Elements RRC transaction identifier	I MD		DDO		
RRC transaction identifier	MP		RRC		
			transaction identifier		
			10.3.3.36		
Integrity check info	СН		Integrity		
I mognly oncon mile			check info		
			10.3.3.16		
Integrity protection mode info	OP		Integrity		
3 71			protection		
			mode info		
			10.3.3.19		
Ciphering mode info	OP		Ciphering		
			mode info		
			10.3.3.5		
Activation time	MD		Activation	Default value is	
			time 10.3.3.1	"now"	
New U-RNTI	OP		U-RNTI		
Name C DAIT!			10.3.3.47		
New C-RNTI	OP		C-RNTI		
New DSCH-RNTI	OP		10.3.3.8 DSCH-RNTI		
New DSCH-RNTI	UP		10.3.3.9a		
New H-RNTI	OP		H-RNTI		REL-5
I New H-KINTI	OF		10.3.3.14a		KEL-5
RRC State Indicator	MP		RRC State		
Tivo diate maicator	1011		Indicator		
			10.3.3.10		
UTRAN DRX cycle length	OP		UTRAN DRX		
coefficient			cycle length		
			coefficient		
			10.3.3.49		
CN Information Elements					
CN Information info	OP		CN		
			Information		
LITDAN makility information	+		info 10.3.1.3		
UTRAN mobility information elements					
URA identity	OP		URA identity		
ONA Identity	OF		10.3.2.6		
RB information elements			10.3.2.0		
Downlink counter	OP				
synchronisation info					
>RB with PDCP information list	OP	1 to			
		<maxrball< td=""><td></td><td></td><td></td></maxrball<>			
		RABs>			
>>RB with PDCP information	MP		RB with	This IE is needed	
			PDCP	for each RB	
			information	having PDCP in	
			10.3.4.22	the case of	
				lossless SRNS	
				relocation	DE: 5
>> DDCD context releastion info	OP OP		DDCD	Thin IE in neaded	REL-5
>>PDCP context relocation info	05		PDCP context	This IE is needed for each RB	REL-5
			relocation	having PDCP and	
			info	performing PDCP and	
			10.3.4.1a	context relocation	
TrCH Information Elements	1		. 5.5		
Uplink transport channels	1				
UL Transport channel	OP		UL Transport		
information common for all			channel		
transport channels			information		
			common for		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			all transport channels 10.3.5.24	•	
Added or Reconfigured TrCH information list	OP	1 to <maxtrch< td=""><td>10.3.5.24</td><td></td><td></td></maxtrch<>	10.3.5.24		
>Added or Reconfigured UL TrCH information	MP	>	Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE mode	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxtrch< td=""><td></td><td></td><td></td></maxtrch<>			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels		
Added or Reconfigured TrCH information list	OP	1 to <maxtrch< td=""><td>10.3.5.6</td><td></td><td></td></maxtrch<>	10.3.5.6		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure d DL TrCH information 10.3.5.1		
PhyCH information elements			10.0.0.1		†
Frequency info	MD <u>OP</u>		Frequency info 10.3.6.36	Default value is the existing value of frequency information	
Uplink radio resources Maximum allowed UL TX power	MD		Maximum	Default value is	
Maximum allowed OL 17 power	ND		allowed UL TX power 10.3.6.39	the existing maximum UL TX power	
CHOICE channel requirement	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE mode	MP				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD		1		(no data)	<u> </u>
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH		REL-5

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			Information 10.3.6.23a		
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxrl></maxrl>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		