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Contents

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group <TSG name>.

The contents of this TS may be subject to continuing work within the 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.t.e

where:

m indicates [major version number]

x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

y the third digit is incremented when editorial only changes have been incorporated into the specification.

1 Scope

The present document …

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1]

[2]

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the [following] terms and definitions [given in ... and the following] apply.

<defined term>: <definition>.

example: text used to clarify abstract rules by applying them literally.

3.2 Symbols

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

<symbol> <Explanation>

3.3 Abbreviations

<ACRONYM> <Explanation>

4 General

[Editor´s note: This chapter should describe requirements on RNSAP forward/backward compatibility, error handling principles, message coding principles etc.]

The issue of the transport layer address is FFS.

5 RNSAP Services

The RNSAP offers the following services:

5.1 RNSAP procedure modules

The Iur interface RNSAP procedures are divided into three modules as follows:

1. RNSAP Basic Mobility Procedures
2. RNSAP DCH Procedures
3. RNSAP CCH Procedures

The Basic Procedures module contains procedures used to handle the mobility within UTRAN. If procedures from this module are not used, then the cell level mobility will not be supported between corresponding RNS, and those RNSs are considered to belong to different UTRANs.

The DCH Procedures module contains procedures that are used to handle DCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH traffic between corresponding RNSs is not possible. If this category is supported then the existence of Iur user plane for DCH is also assumed.

The CCH Procedures module contains procedures that are used to control common channel data streams over Iur interface. If the procedures within this module are not used on a specific Iur, then the common channel data can not be transported between corresponding UTRANs. This Iur module is considered to be optional.

6 Services expected from signalling transport

7 Functions of RNSAP

8 Elementary RNSAP procedures

[Editor´s note: This chapter should list RNSAP procedures, including a text describing the procedure (triggering events, successful and unsuccessful outcome. Message sequences should be provided (using Word pictures for simple editing).
]

8.1 Basic mobility procedures

8.1.1 Uplink Transfer

[Editor's note/proposal: Maybe the whole procedure should be renamed Uplink Transfer and not distinguish between different RRC messages. The two first paragraphs of this procedure could then be removed. It is not within the scope of the RNSAP specification to describe RRC procedures anyhow. What action is taken at reception of Cell-/URA Update (1 or 2 above) is also an internal matter for the SRNC and should not be described in the RNSAP specification, but perhaps by WG2. The DRNC does not have to be aware of the previously transferred RRC Cell Update message at reception of an SRNS Relocation Commit message.

Conclusion: The only text that would be left is the note "The Uplink Transfer message is used to also transfer radio interface messages containing s-RNTI and SRNC ID to the Serving RNC." as agreed in Nynäshamn.]

The Uplink Transfer message is used to transfer radio interface messages containing s-RNTI and SRNC ID as UE addressing information from the CRNC to the Serving RNC.

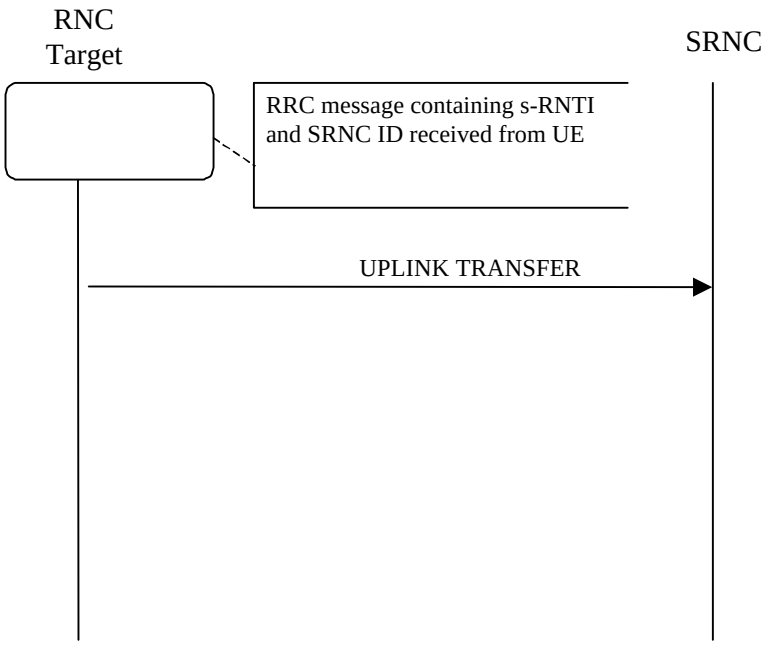


Figure 9-8: An example RNSAP message flow at I_{ur} interface for Uplink Transfer

8.1.2 SRNC Relocation Commit

The SRNC RELOCATION COMMIT procedure is part of the SRNC Relocation procedure described in YY.02 UTRAN Functions, Examples on Signalling Procedures [10].

The source RNC sends the SRNC RELOCATION COMMIT message to the target RNC when it has received an indication that it can proceed with the SRNC Relocation procedure from all the involved CN nodes [10].

At reception of the SRNC RELOCATION COMMIT message from the source RNC the target RNC executes the DL and UL switch for all RABs belonging to the UE at the earliest suitable time instance.

Prior to reception of the SRNC RELOCATION COMMIT message the target RNC has received a request to perform SRNC Relocation from all the involved CN nodes and responded to the CN nodes with a proceeding indication. The Iu transport bearers for each radio access bearer have also been established between the target RNC and all CN nodes.

Fig. 9-14: SRNC Relocation Commit

8.1.3 URA Paging Request

This procedure is used by the SRNC to indicate to the Controlling RNC that a UE should be paged in a URA. The UE is identified by its RNTI, and the SRNC indicates in the message the URA identity as well as potential information that may be needed (e.g. DRX parameters).

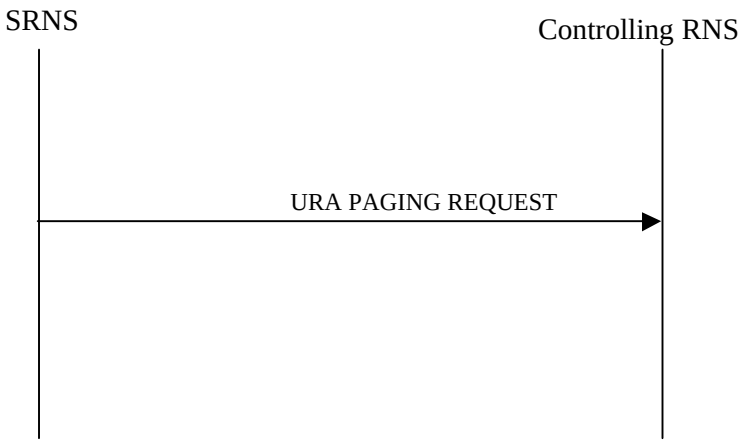


Figure 9-13. URA Paging Request

8.2 DCH procedures

8.2.1 Radio Link Setup

When the serving RNS makes an algorithmic decision to add the first cell or set of cells from another RNS (a drift RNS) to the active set of a specific RRC connection, the RNSAP message RADIO LINK SETUP REQUEST is sent to the corresponding drift RNS to request setup of the radio link(s). This message contains essentially RL identifier(s), the target cell identifier(s), transport format sets (TFSs) for each active DCH and desired radio resources for each radio link. The serving RNS also indicates when several radio links are to be setup in the drift RNS, either that

1. the radio links may be combined by the DRNS, or
2. the radio links must not be combined.

Additional information is FFS.

Since the drift RNS is responsible for its own radio resources the load control (Admission control) must be performed due to the request, In successful case (the load is not too high) the drift RNS allocates requested type of channelisation codes for each RL and assigns a binding identifier and a transmission address (e.g. ATM Address) for each DCH. This information is sent to the serving RNS in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully setup. The drift RNS also provides the serving RNS with the:

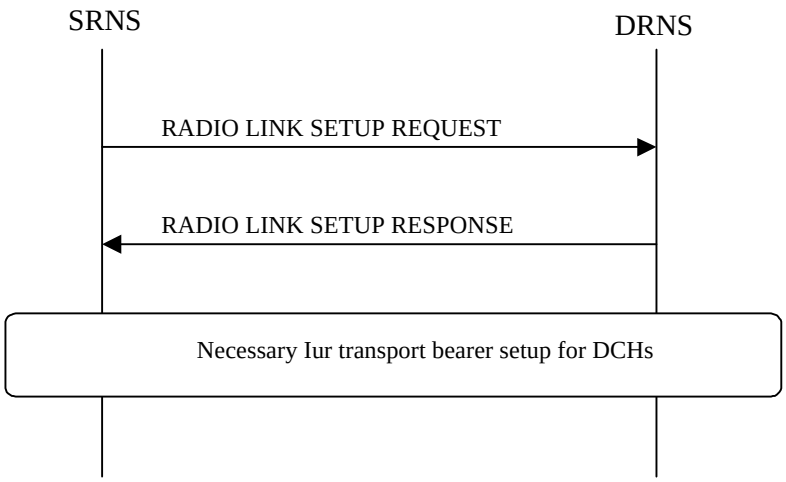
- Cell identity of all neighboring cells to the cell(s) where the radio link(s) is added.
- Information related to neighboring cells necessary for the serving RNS (the exact parameters are FFS), and the Signaling Address of any RNC controlling neighboring cells not controlled by the drift RNS.

Mechanisms to reduce the amount of information to be transported are FFS.

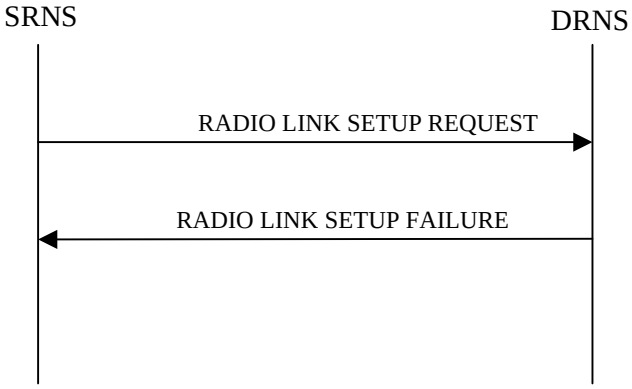
The serving RNS is responsible for setting up the I_{ur} transport bearers for each DCH. The transport bearers are setup towards the address indicated in the RADIO LINK SETUP RESPONSE message from the drift RNS. Also the setup messages should include the corresponding binding identifier, which will be used by the drift RNS to map each transport bearer to the corresponding DCH.

In unsuccessful case (i.e. one or more RLs can not be setup) an RNSAP message RADIO LINK SETUP FAILURE is returned, indicating among other things the reason for failure.

An example of a corresponding message flow at the Iur interface is presented in Figure 9-1.



(Successful Case)



(Unsuccessful Case)

Figure 9-1. An example RNSAP message flow at I_{ur} interface for RL setup.

8.2.2 Radio Link Addition

When the serving RNS makes an algorithmic decision to add an additional cell or set of cells from another RNS (a drift RNS) to the active set of a specific RRC connection, the RNSAP message RADIO LINK ADDITION REQUEST is sent to the corresponding drift RNS to request addition of a radio link. This message contains essentially RL identifier, the target cell identifier, transport format sets (TFSs) for each active DCH and desired radio resources for each radio link. The serving RNS also indicates either that

1. the new radio link may be combined with already existing radio links for this RRC connection, or

2. the new radio link must not be combined with already existing radio links for this RRC connection.

Additional information is ffs.

Since the drift RNS is responsible for its own radio resources the load control (Admission control) must be performed due to the request. In successful case (the load is not too high) the drift RNS allocates requested type of channelisation codes for each RL and assigns a binding identifier and a transmission address (e.g. AAL2 address) for each DCH. The time at which the DRNS allocates the channelisation code is FFS. This information is sent to the Serving RNS in the message RL ADDITION RESPONSE when all RLs have been successfully setup. The drift RNS also provides the SRNC with the:

- Cell Identity of all neighboring cells to the cell(s) where the radio link(s) is added,
- information related to neighboring cells necessary for the SRNC (the exact parameters are FFS), and
- the Signaling Address of any RNC controlling neighboring cells not controlled by the drift RNC

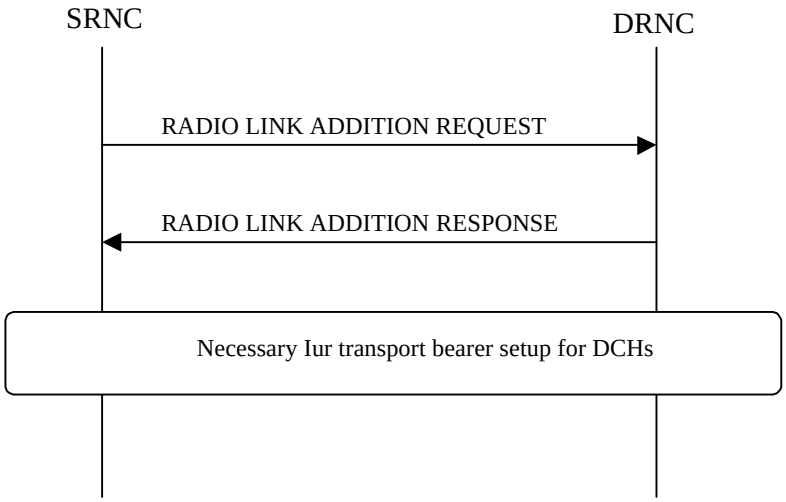
Mechanisms to reduce the amount of information to be transported is FFS.

The serving RNS is responsible for setting up the I_{ur} transport bearers for each DCH. The transport bearers are setup towards the address indicated in the RL ADDITION RESPONSE message from the drift RNS. Also the setup messages should include the corresponding binding identifier, which will be used by the drift RNS to map each transport bearer to the corresponding DCH.

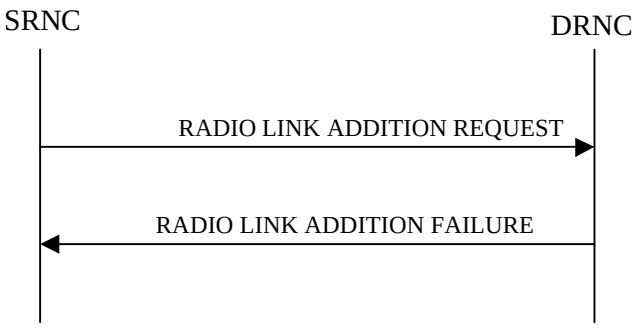
In case the serving RNS has indicated that the new radio link may be combined with already existing radio links for this RRC connection, the drift RNS may instead of assigning binding identifiers and transport addresses in the RL ADDITION RESPONSE message indicate that the already existing I_{ur} transport bearers can be used also for the new radio link. In such a case the response includes the ATM Binding ID of the already existing AAL2 connection. If old transport bearers are used, then the serving RNS does not perform additional transport bearer setups.

In unsuccessful case (i.e. one or more RLs can not be added) an RNSAP message RADIO LINK ADDITION FAILURE is returned, indicating among other things the reason for failure.

An example of a corresponding message flow at I_{ur} interface is presented in figure 9-2.



(Successful case)



(Unsuccessful case)

Figure 9-2. An example RNSAP protocol message flow at I_{ur} interface for inter RNS RL addition.

8.2.3 Radio Link Deletion

When the serving RNS makes an algorithmic decision to delete a cell from another RNS (drift RNS) from the active set of a specific RRC connection, the message RL DELETION to request deletion of radio link is sent to the corresponding drift RNS. The message contains essentially the RL identifier to be deleted. Upon reception of the message, the Drift RNS should immediately delete the radio link and all related allocations within the drift RNS and acknowledge the deletion to the Serving RNS by the message RL DELETION RESPONSE.

The serving RNS is responsible to release the corresponding I_{ur} transport bearers, if they are not used by other radio links.

An example of a corresponding message flow at I_{ur} interface is presented in figure 9-3.

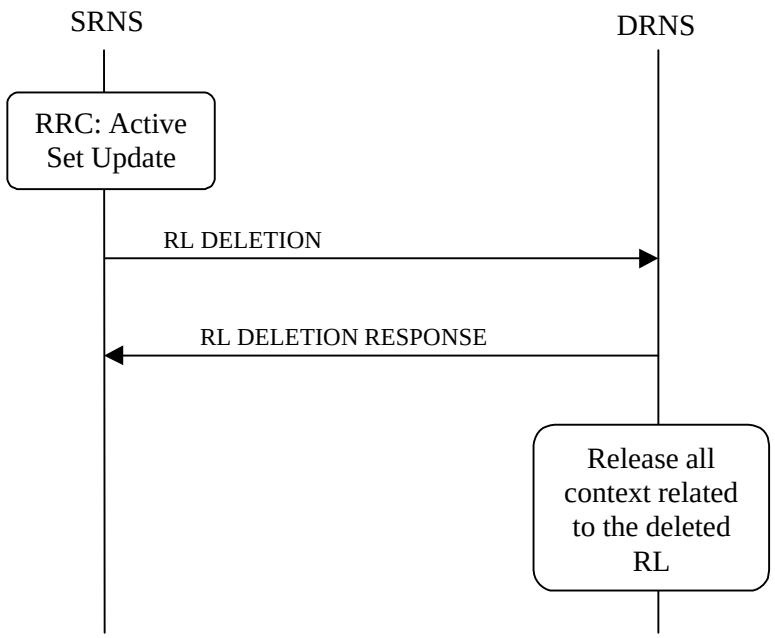


Figure 9-3. An example RNSAP protocol message flow at I_{ur} interface for interRNS RL deletion.

8.2.4 Radio Link Reconfiguration (synchronised)

RL Reconfiguration procedure is used to reconfigure radio links related to one UE-UTRAN connection within one DRNS. The procedure can be used to add, delete or modify a DCH, or to perform physical channel reconfiguration.

The RL Reconfiguration procedure is initiated by the serving RNS by sending the RNSAP message RL RECONFIGURATION PREPARE to the DRNS. The message is sent using the relevant signalling connection.

The message includes essentially the desired radio link parameters for the radio links after completion of this procedure. The following parameters can be specified (the list is to be considered as an incomplete example):

Possible parameters related to all radio links after completion of the procedure:

- DL channelisation code type(s)
- New UL channelisation type
- New TFCS
- IDs of the DCHs to be added / deleted or modified
- Priority of the added/modified DCH
- TFS of the added/modified DCH

If the proposed modifications are allowed by the DRNS resource management algorithms, and the DRNS has successfully reserved the required resources it responds to the SRNS with RL RECONFIGURATION READY message.

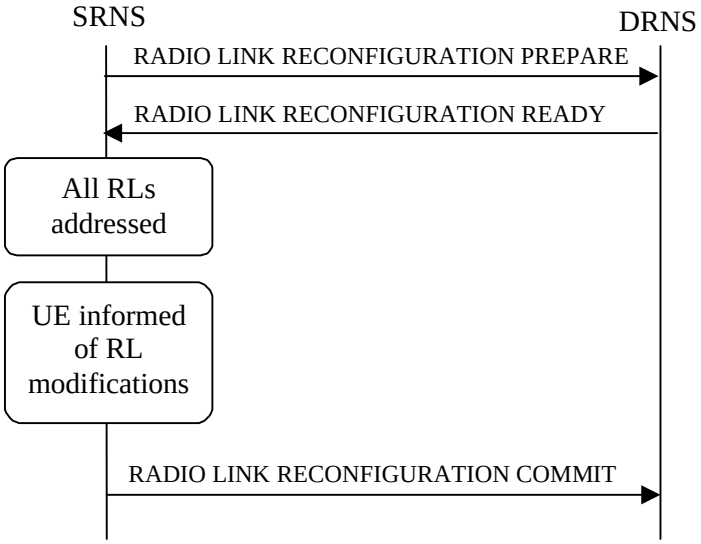
If the requested reconfiguration fails for one or more RLs the DRNS sends the RNSAP message RL RECONFIGURATION FAILURE to the SRNS, indicating among other things the reason for failure.

The RL RECONFIGURATION READY message contains the downlink channelisation codes for each radio link (if changed), a Binding Identifier (BID) and transmission address (e.g. AAL2 address) for each new Iur transport bearer (if any).

SRNS informs the UE about the changes in radio links (RL) with the relevant RRC message(s) and sends the RL RECONFIGURATION COMMIT message to DRNSs.

SRNC is responsible for releasing unnecessary Iur transport bearers (if any).

Note. A mechanism for synchronising the switch from the old to the new configuration in the UE and the DRNS in needed and FFS.



(Successful case)

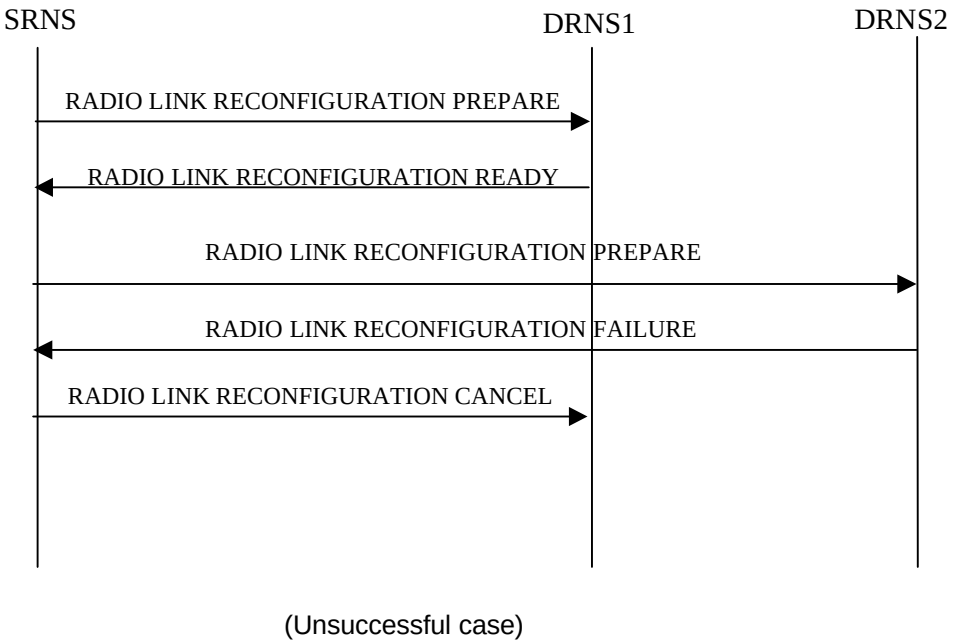


Figure 9-4. RL Reconfiguration procedure (synchronised)

8.2.5 Radio Link Reconfiguration (unsynchronised)

RL Reconfiguration procedure is used to reconfigure radio links related to one UE-UTRAN connection within one DRNS. The procedure can be used to add, delete or modify a DCH or to perform transport channel reconfiguration.

The Unsynchronised RL Reconfiguration is used when there is no need to synchronise the time of the switching from the old to the new configuration in the NodeBs used by the UE-UTRAN connection. This is the case when new TFCs are added or old TFCs are deleted without changing the TFCI values of the TFCs that are maintained during the reconfiguration.

The RL Reconfiguration procedure (unsynchronised) is initiated by the serving RNS by sending the RNSAP message RL RECONFIGURATION to the DRNS. The message is sent using the relevant signalling connection.

The message includes essentially the desired radio link parameters for the radio links after completion of this procedure. The following parameters can be specified (the list is to be considered as an incomplete example):

Possible parameters related to all radio links after completion of the procedure:

- New TFCS
- IDs of the DCHs to be added / deleted or modified
- Priority of the added/modified DCH
- TFS of the added/modified DCH

If the proposed modifications are allowed by the DRNS resource management algorithms, and the DRNS has successfully reserved the required resources it responds to the SRNS with RL RECONFIGURATION RESPONSE message.

If the requested reconfiguration fails for one or more RLs the DRNS sends the RNSAP message RL RECONFIGURATION FAILURE to the SRNS, indicating among other things the reason for failure.

The RL RECONFIGURATION RESPONSE message contains the downlink spreading codes for each radio link (if changed), a Binding Identifier (BID) and transmission address (e.g. AAL2 address) for each new Iur transport bearer (if any).

SRNC is responsible for releasing unnecessary Iur transport bearers (if any).

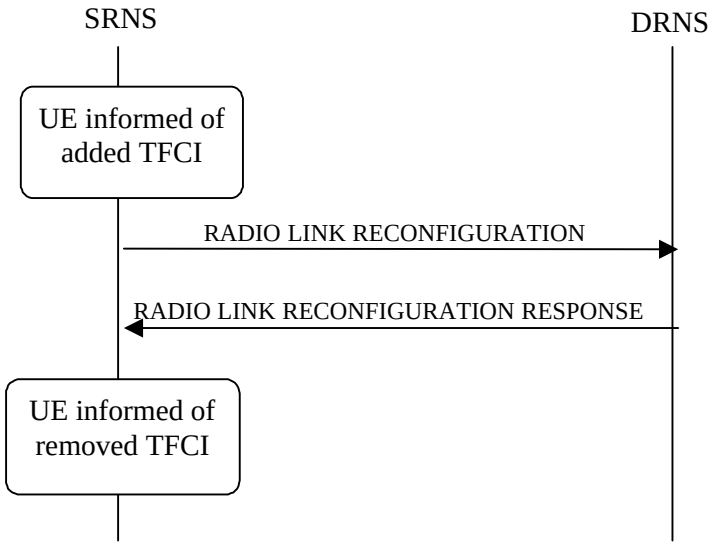


Figure 9-5. RL Reconfiguration procedure (unsynchronised)

8.2.6 Down Link Code Reconfiguration

DL Code Reconfiguration is used to change the DL channelisation codes of radio link(s) related to one UE-UTRAN connection. The spreading factor can not be changed and this procedure is used only to defragment the DL channelisation code pool.

Code reconfiguration procedure is initiated by the DRNS, when it detects unwanted fragmentation in the DL channelisation code pool(s). DRNC sends DL CODE RECONFIGURATION REQUEST to the SRNC via the appropriate dedicated connection. The message includes the radio link ID(s) and proposal for the new DL channelisation codes for them.

SRNC decides appropriate execution time for the change. SRNC sends relevant RRC message(s) to the UE and RNSAP DL CODE RECONFIGURATION COMMAND to the DRNS.

DRNS makes the switch to the new codes and releases the old DL channelisation codes.

If the SRNC can not accept the DL code reconfiguration request it will send the DL CODE RECONFIGURATION FAILURE message to the DRNS.

If the DRNS receives RL RECONFIGURATION PREPARE, RL RECONFIGURATION or RL DELETION it should also be interpreted as a DL code reconfiguration failure. These messages thus override the DRNS request for DL code reconfiguration.

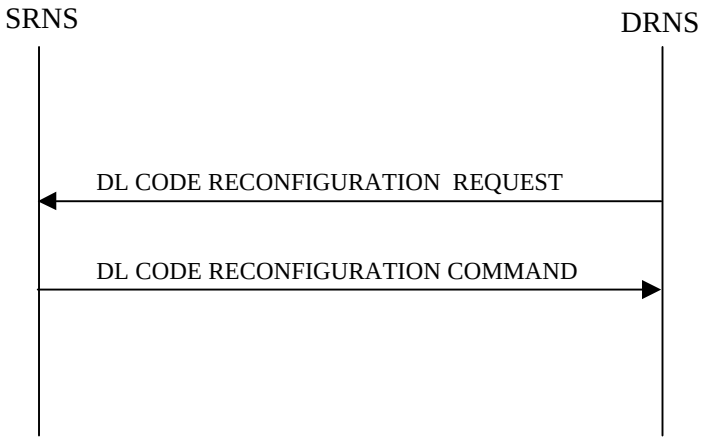


Figure 9-6. DL Code Reconfiguration procedure

8.2.7 Radio Link Failure

This procedure is started by the drift RNS when a radio link is no longer available. The reasons for this is a DRNS internal failure or congestion (in the RNC or in the Node B or in the interfaces) or lost radio interface synchronisation due to bad radio condition. Other reasons are FFS.

As consequence the SRNC sends the RNSAP message RL FAILURE to the SRNC. The message is sent using the relevant signalling connection.

The message specifies at least:

- RL ID(s): The message may address all the radio links of the drift RNC
- A reason code for the release (ex: cell congestion, hardware failures, etc.)

At reception of the RL FAILURE the SRNS could perform the following actions:

- Inform the MS that the radio link has to be removed.
- Perform relevant procedures (RL Deletion) in order to release all the resources allocated in the DRNS to the removed RL(s), including the transmission resources on the Iur interface.

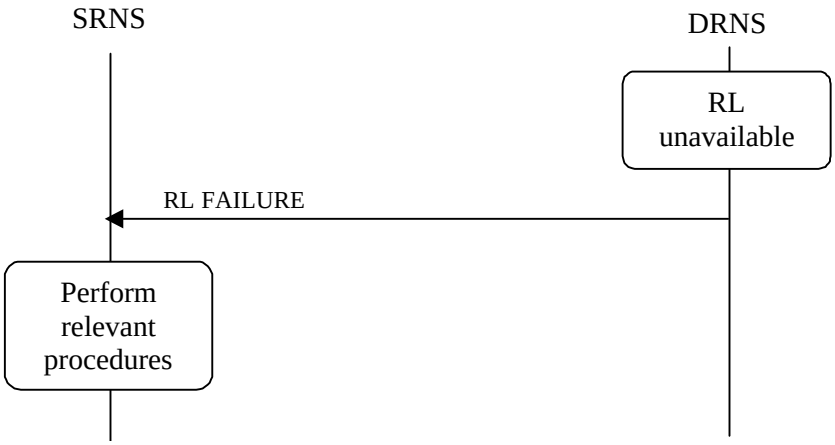


Figure 9-11. RL Failure procedure

Whether this procedure can also be used to notify dropping of DCH(s) is FFS.

8.2.8 Load Indication

[Editor´s note: First paragraph of this chapter is added by the editor, based on Tdoc SMG2 UMTS-ARC 145/98. Minor editorial changes has been mabde to the bulleted list].

Load Indication procedure is triggered by the Drift RNS. It is used to indicate to the Serving RNS about the necessity to modify some DCH parameters within the Drift RNS.

Although the subsequent actions of the SRNS after the Load Indication procedure are out of the scope of this contribution, following examples can be assumed to be carried out by the SRNS.

- DCH modification procedure
- Ignoring the command,
- Performing an handover,
- Radio link deletion procedure
- Triggering the renegotiation of the bearer quality of service
- Release the bearer

8.2.9 Radio Measurements Reporting

This procedure is used by the DRNS to report its radio measurements to the SRNS.

Figure 9-12. Radio Measurements Reporting

Note. It is FFS whether the reporting is done in the u-plane (inband) or in the c-plane (RNSAP).

8.2.10 Down Link Power Control

[Editor's note: This procedure is FFS. Study item Iur/1 from TTC/ARIB-ETSI merging: Out-band or in-band Power Control (both UL and DL).]

The purpose of this procedure is to balance the DL transmission powers of the radio links used for the related RRC connection within the NodeB. The DL POWER CONTROL procedure is initiated by the Serving RNC by sending a DL POWER CONTROL message to the DRNC, which contains the desired power range for the radio links within the NodeB of the DRNS.

Figure 9-15: DL POWER CONTROL Procedure.

8.2.11 Up Link Outer Loop Power Control

[Editor's note: This procedure is FFS. Study item Iur/1 from TTC/ARIB-ETSI merging: Out-band or in-band Power Control (both UL and DL).]

This procedure is used to provide the DRNC with a new quality target value (Eb/I0) for the UL quality.

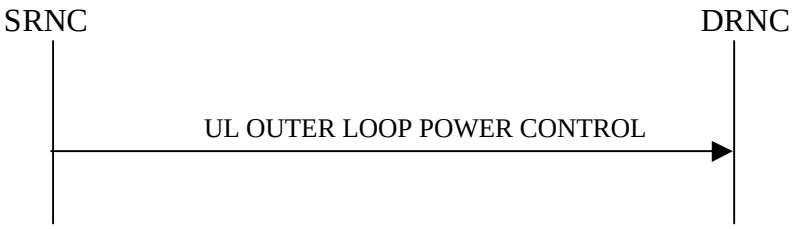


Figure 9-16: Outer loop Control Procedure

8.3 CCH procedures

8.3.1 CCHT Release Request

This procedure is used by the SRNS to request release of the Common Channel Traffic Context Identity for a given UE in the DRNS.

Figure 9-17: CCHT Release Request

9 Elements for RNSAP communication

9.1 Message functional definition and content

[Editor's note: The contents of sub chapters 9.1.18-9.1.30 are FFS. Sub chapters 9.1.1-9.1.17 were agreed at WG3#2 in Nynäshamn, Sweden.]

This chapter defines the structure of the messages required for the RNSAP protocols.

For each message there is, a table listing the signaling elements in their order of appearance in the transmitted message.

All the RNSAP messages are listed in the following table:

Message name	Reference
RADIO LINK SETUP REQUEST	9.1.2
RADIO LINK SETUP RESPONSE	9.1.3
RADIO LINK SETUP FAILURE	9.1.4
RADIO LINK ADDITION	9.1.5
RADIO LINK ADDITION RESPONSE	9.1.6
RADIO LINK ADDITION FAILURE	9.1.7
RADIO LINK DELETION	9.1.8
RADIO LINK DELETION RESPONSE	9.1.9
RADIO LINK RECONFIGURATION PREPARE	9.1.10
RADIO LINK RECONFIGURATION READY	9.1.11
RADIO LINK RECONFIGURATION COMMIT	9.1.12
RADIO LINK RECONFIGURATION FAILURE	9.1.13
RADIO LINK RECONFIGURATION CANCEL	9.1.14
RADIO LINK RECONFIGURATION	9.1.15
RADIO LINK RECONFIGURATION RESPONSE	9.1.16
DL POWER CONTROL	9.1.18
UL OUTER LOOP POWER CONTROL	9.1.19
DL USER DATA RETRIEVAL	
DL USER DATA RETRIEVAL RESPONSE	
RNC RELOCATION REQUEST	
RRC CONTEXT RETRIEVAL	
RRC CONTEXT RETRIEVAL RESPONSE	
DL CODE RECONFIGURATION REQUEST	
RESET (FFS)	
RESET ACKNOWLEDGE (FFS)	
CONFUSION (FFS)	

9.1.1 Message Contents

An information element can be of the following *types*:

M	The information element is mandatory, i.e. always present in the message

O	The information element is optional, i.e. may or may not be present in the message independently on the presence or value of other information elements in the same message
C#	The presence of the information element is conditional to the presence or to the value of another information element, as reported in the correspondent note below the message description.

In case of an information element group, the group is preceded by a name for the info group (in bold). It is also indicated whether the group is mandatory, optional or conditional. Each group may be also repeated within one message. The presence field of the information elements inside one group defines if the information element is mandatory, optional or conditional if the group is present.

Note 1: The proposed tables with the message contents do not include the length and direction columns proposed by TTC.

Note 2: The proposed message structure does not include the 'length' and 'compatibility information' parameters that are proposed by TTC, because they will be specified by the formal language.

9.1.2 RADIO LINK SETUP REQUEST

This message is sent from the serving RNC to the drift RNC via the relevant RNSAP Signalling Bearer connection in order to request the drift RNC to assign radio resources for new branches.

Information element	Reference	Type
Message type	9.2.24	M
Transaction ID	9.2.44	FFS
S-RNTI	9.2.42	M
DCH information		M
DCH ID	9.2.10	M
DCH Type	9.2.12	M
Transport format set (DL)	9.2.47	M
Transport format set (UL)	9.2.47	M
TFCS (UL)	9.2.46	M
TFCS (DL)	9.2.46	M
Uplink scrambling code		M
UL Channelisation Codes		**M**
Channelisation code length (UL)	9.2.6	M
DL Channelisation Codes		**M**
Channelisation code length (DL)	9.2.6	M
RL information		**M**
RL-ID	9.2.39	M
Cell-ID	9.2.3	M
OFF	9.2.31	M
Chip offset	9.2.7	M
Diversity control field	9.2.13	C2
Perch channel Ec/Io	9.2.34	M
Uplink Eb/No Setpoint	9.2.52	FFS
Uplink Eb/No Adjustment parameters	9.2.51	FFS
Maximum Uplink Eb/No	9.2.23	FFS
Minimum Uplink Eb/No	9.2.25	FFS
DL reference power	9.2.18	M

C2=present only if *# of RL* >1

9.1.3 RADIO LINK SETUP RESPONSE

RL SETUP RESPONSE is sent as a response to the RL SETUP from the serving RNC when all the RLs have been successfully setup. The transaction ID for this message is taken from the corresponding RL SETUP message.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
C-RNTI		M
RL information response		**M**
RL-ID		M
Diversity Indication		C1
Reference RL-ID		C2
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		**C3**
DCH ID		M
Binding ID		M
Transport Address		FFS
Neighbouring cell information		**O**
Cell ID		O
CRNC ID		O
UARFCN		M
Primary CCPCH scrambling code		M
Frame Offset		O

C1=present only if *# of RL* >1

C2=present only if *Diversity Indication* is 'ON'

C3= present only if *Diversity Indication* is 'OFF'

9.1.4 RADIO LINK SETUP FAILURE

RL SETUP FAILURE is sent form the drift RNC to the Serving RNC if one or more RLs can not be set up. The transaction ID for this message is taken from the corresponding RL SETUP message.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL not setup		**M**
RL ID		M
RL Failure Cause		M
RL information response (RL successfully setup)		**O**
RL-ID		M
Diversity Indication		C1
Reference RL-ID		C2
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH successfully setup		**C3**
DCH ID		M
Binding ID		M
Transport Address		O
Neighbouring cell information		**O**
Cell ID		O
CRNC Address		O
UARFCN		M
Primary CCPCH scrambling code		M
Frame Offset		O

C1=present only if *# of RL* >1

C2=present only if *Diversity Indication* is 'ON'

C3= present only if *Diversity Indication* is 'OFF'

9.1.5 RADIO LINK ADDITION

This message is sent from the serving RNC to the drift RNC via the relevant RNSAP signalling bearer connection in order to request the drift RNC to assign radio resources for additional branches in the DRNS. If the PC parameters are not specified, the value already in use is maintained.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL information		**M**
RL-ID		M
Cell-ID		M
OFF		M
Chip offset		M
Diversity Control field		M
Perch channel Ec/Io		M
Uplink Eb/No Setpoint		FFS
Uplink Eb/No Adjustment parameters		FFS
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		O

9.1.6 RADIO LINK ADDITION RESPONSE

RL ADDITION RESPONSE is sent as a response to the RL ADDITION from the serving RNC when all radio links have been successfully added. The transaction ID for this message is taken from the corresponding RL ADDITION message.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL information response		**M**
RL-ID		M
Diversity Indication		M
Reference RL-ID		C1
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		C2
DCH ID		M
Binding ID		M
Transport Address		FFS
Neighbouring cell information		**O**
Cell ID		M
CRNC Address		O
UARFCN		M
Primary CCPCH scrambling code		M
Frame Offset		O

C1=present only if *Diversity Indication* is 'ON'

C2= present only if *Diversity Indication* is 'OFF'

9.1.7 RADIO LINK ADDITION FAILURE

RL ADDITION FAILURE is sent form the drift RNC to the Serving RNC if one or more of the requested radio links can not be added. The transaction ID for this message is taken from the corresponding RL ADDITION message.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL not setup		**M**
RL-ID		M
RL Failure cause		M
RL information response (RL successfully setup)		**M**
RL-ID		M
Diversity Indication		M
Reference RL-ID		C1
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		C2
DCH ID		M
Binding ID		M
Transport Address		O
Neighbouring cell information		**O**
Cell ID		M
CRNC Address		O
UARFCN		M
Primary CCPCH scrambling code		M
Frame Offset		O

Note1: The message has the same contents of the RL SETUP FAILURE message, and may be not needed.

9.1.8 RADIO LINK DELETION

RL DELETION is sent from the serving RNC to the drift RNC in order to delete radio links controlled by the drift RNC.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL to delete		**M**
RL-ID		M

9.1.9 RADIO LINK DELETION RESPONSE

RL DELETION RESPONSE is sent to acknowledge the receipt of the RL DELETION. The transaction ID for this message is taken from the corresponding RL DELETION message.

Information element	Reference	Type
Message type		M
Transaction ID		FFS

9.1.10 RADIO LINK RECONFIGURATION PREPARE

The message is sent from SRNC to DRNC, in order to start a synchronised RL reconfiguration procedure.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
DCHs to modify		**O**
DCH ID		M
DCH Type		O
Transport format set (DL)		O
Transport format set (UL)		O
DCHs to add		**O**
DCH ID		M
DCH Type		M
Transport format set (DL)		M
Transport format set (UL)		M
DCHs to delete		**O**
DCH ID		M
TFCS (DL)		M
TFCS (UL)		M
Uplink Scrambling code		O
UL Channelisation Codes		**O**
Channelisation code (UL)		M
DL Channelisation Codes		**O**
Channelisation code length (DL)		M
Uplink Eb/No Setpoint		FFS
Uplink Eb/No Adjustment parameters		FFS
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		FFS

9.1.11 RADIO LINK RECONFIGURATION READY

This message is sent from DRNC to SRNC in synchronised RL reconfiguration. Binding ID are specified only once for the combined RLs.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RLs to be reconfigured (synch)		**O**
RL ID		M
Channelisation Codes (DL)		**O**
Channelisation code (DL)		M
DCH to be setup		**O**
DCH ID		M
Binding ID		M
Transport Address		FFS

9.1.12 RADIO LINK RECONFIGURATION COMMIT

This message is sent from the SRNC to the DRNC in order to complete the synchronised RL reconfiguration procedure.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
CFN		M

9.1.13 RADIO LINK RECONFIGURATION FAILURE

This message is sent from the DRNC to the SRNC if the reconfiguration of at least one RL in the DRNS fails.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
Cause1		M
RLs not reconfigured		**O**
RL ID		M
Cause2		M

9.1.14 RADIO LINK RECONFIGURATION CANCEL

This message is sent from the SRNC to the DRNC in order to abort the synchronised RL reconfiguration procedure.

Information element	Reference	Type
Message type		M
Transaction ID		FFS

9.1.15 RADIO LINK RECONFIGURATION

This message is sent from the serving RNC to the drift RNC via the relevant RNSAP signalling bearer connection in order to request the unsynchronised reconfiguration of the radio links parameters.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
DCHs to modify		O
DCH ID		M
DCH Type		O
Transport format set (DL)		O
Transport format set (UL)		O
DCHs to add		O
DCH ID		M
DCH Type		M
Transport format set (DL)		M
Transport format set (UL)		M
DCHs to delete		O
DCH ID		M
TFCS (DL)		O
TFCS (UL)		O
Uplink Eb/No Setpoint		FFS
Uplink Eb/No Adjustment parameters		FFS
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		O

9.1.16 RADIO LINK RECONFIGURATION RESPONSE

The message is sent from DRNC to SRNC, in unsynchronised RL reconfiguration procedure.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RLs to be reconfigured (unsynch)		**O**
RL ID		M
DCHs to be setup		**M**
DCH ID		M
Binding ID		M
Transport Address		FFS

9.1.17 RADIO LINK FAILURE

This message is sent from the DRNC to the SRNC to inform that a RL is no longer available.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RLs Unavailable		**M**
RL ID		M
Cause for RL failure		M

9.1.18 DL POWER CONTROL

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		SRNC-DRNC	M	
Length			M	
Message Compatibility Information			M	
DL Power Range			M	

9.1.19 UL OUTER LOOP POWER CONTROL

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		SRNC-DRNC	M	
Length			M	
Message Compatibility Information			M	
Target UL Eb/Io			M	

9.1.20 DL USER DATA RETRIEVAL

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		RNC Target-SRNC	M	
Length			M	
Message Compatibility Information			M	
Old RNTI			M	
Old URA ID			M	

9.1.21 DL USER DATA RETRIEVAL RESPONSE

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		SRNC-RNC Target	M	
Length			M	
Message Compatibility Information			M	

9.1.22 RNC RELOCATION REQUEST

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		RNC Target-SRNC	M	
Length			M	
Message Compatibility Information			M	
Old RNTI			M	
Old URA ID			M	

9.1.23 RRC CONTEXT RETRIEVAL

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		RNC Target-SRNC	M	
Length			M	
Message Compatibility Information			M	
Old RNTI			M	
Old URA ID			M	

9.1.24 RRC CONTEXT RETRIEVAL RESPONSE

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Identifier		SRNC-RNC Target	M	
Length			M	
Message Compatibility Information			M	

9.1.25 DL CODE RECONFIGURATION REQUEST

This message is sent from the DRNC to SRNC, on dedicated RNSAP signalling bearer connection, in order to request the reconfiguration of the DL codes in one RL.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
RL ID		M
DL channelisation Codes		**M**
Channelisation code (DL)		M

9.1.26 DL CODE RECONFIGURATION COMMAND

The message is sent from SRNC to DRNC, on dedicated RNSAP signalling bearer connection.

Information element	Reference	Type
Message type		M
Transaction ID		FFS
CFN		M

9.1.27 DL CODE RECONFIGURATION FAILURE

The message is sent from SRNC to DRNC, in order to abort the DL Code Reconfiguration procedure.

Information element	Reference	Type
Message type		M
Transaction ID		M
Cause		FFS

9.1.28 RESET (FFS)

9.1.29 RESET ACKNOWLEDGE (FFS)

9.1.30 CONFUSION (FFS)

9.2 Message Format and Information Element Coding

[Editor's note: The contents of this chapter is FFS. It has not been agreed between ETSI and TTC/ARIB. Study item Iu/7 from TTC/ARIB-ETSI merging: Usage of abstract syntax (ASN.1 with CSN.1 as encoding rules, as recommended by SMG2) versus explicitly coding the transfer syntax (bit matrix, as proposed by TTC/ARIB).]

[Editor's note: The descriptive texts for the following IEs were agreed at WG3#2 in Nynäshamn, Sweden: Transport Address, Binding Id, Cell Id, CFN, Channelisation Code, Channelisation Code Length, Chip Offset, CRNC Address, C-RNTI, DCH Id, DCH Type, Diversity Control Field, Diversity Indication, DL Reference Power, DL Scrambling Code, RL Id, Maximum Uplink Eb/No, Minimum Uplink Eb/No, Perc Channel Ec/Io, Primary CCPCH Scrambling Code, OFF, Reference RL Id, S-RNTI, Transport Format Set, Trnapsort Format Combination Set, Transaction Id, UARFN, UL Scrambling Code, UL Eb/No Adjustment Parameters, UL Eb/No Setpoint]

This paragraph contains the CODING of the signaling elements used.
The following convention are assigned for the sequence of transmission of bits and bytes:
Each bit position is marked as 1 to 8. Bit 1 is the least significant bit and is transmitted first.
In an element octets are identified by number, octet 1 is transmitted first, then octet 2 etc.

Length Indicator

It is desirable to have Length for messages and parameters because future version of protocol may have extension to the present message or parameter, and also variable size can be present in some parameters as well.

In case of message size exceeding 256 byte it is better to have 2 bytes for message LENGTH.

However it is enough to have 1 byte for parameter LENGTH.

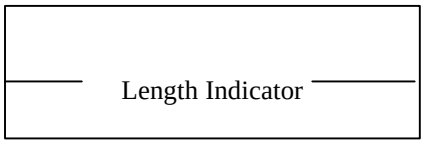


Fig. 3.2.2-1 Length Indicator for Message

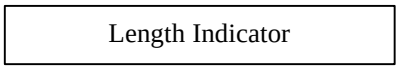


Fig. 3.2.2-2 Length Indicator for Parameter

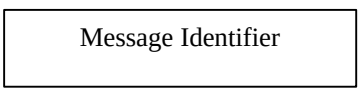
Compatibility Information
Compatibility Information is used in the situation of unrecognized messages or parameter. This parameter should be placed at a certain place then it is easy to pick up this parameter in any circumstances.

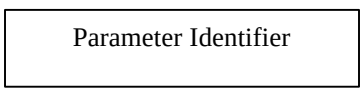
Consequently, the format can be as follow:

Message Identifier / Length / Compatibility Info / parameters

Parameter Identifier / Length / Compatibility Info / Fields

Figure 3 shows the coding format of message and Figure 4 shows the coding format of parameter.





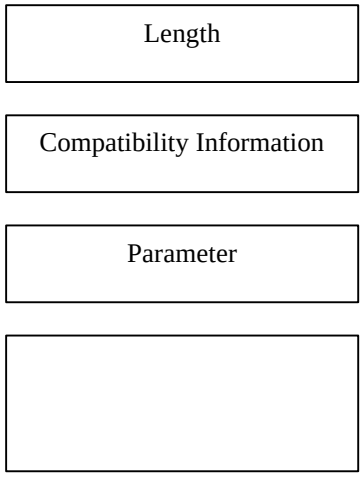


Fig. 3.2.2-3 Message Coding Format

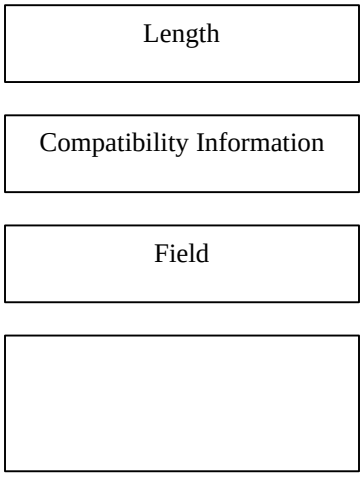


Fig. 3.2.2-4 Parameter Coding Format

Fixed size data and Variable size data in Field

It may have two types of filed i.e. with variable size or fixed size in data of field. It has no any problem to specify the fixed size field. Figure5 shows an example of fixed size data in field.

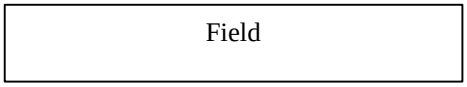


Fig. 3.2.2-5 Format for fixed size field

Regarding the variable size of data

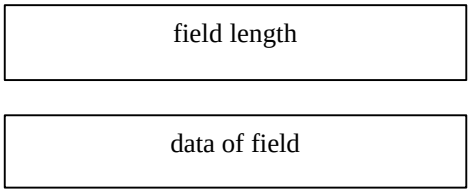


Fig. 3.2.2-6 Length method

The elements used and their CODING are:

Element Identifier Coding	**Element name**	**Reference**
	ATM Binding ID	
	ATM Address	
	No of DCHs	
	DCH ID	
	TFS(for DCH)	

	TFCS(for DCHs)	
	Radio Frequency	
	UL scrambling code	
	UL channelisation code type	
	No. of UL channelisation code	
	UL channelisation code ID	
	UL Interference Level	
	DL channelisation code type	
	No. of DL channelisation code	
	DL channelisation code id	
	Cell Id	
	Neighbor Cell Information	
	Soft Combination Indication	
	Phase Difference	
	Radio Link ID	
	No. of Radio Links	
	Execution Time	
	Slot offset	
	Frame offset	
	Initial DL Power	
	DL Power Range	
	Target UL Eb/Io	
	Old RNTI	
	Old URA ID	
	DCH QoS	

9.2.1 Binding ID

Binding ID is an identifier for an user data stream. The Binding ID is allocated by the Drift RNC and it should be unique among all active transport bearers to/from the related drift RNC.

9.2.2 Cause

This element is used to indicate the reason for a partcular event to have occurred and is coded as shown below.

The cause value is a single octet element if the extension bit (bit 8) is set to 0. If it is set to 1 then the cause value is a 2octet field.

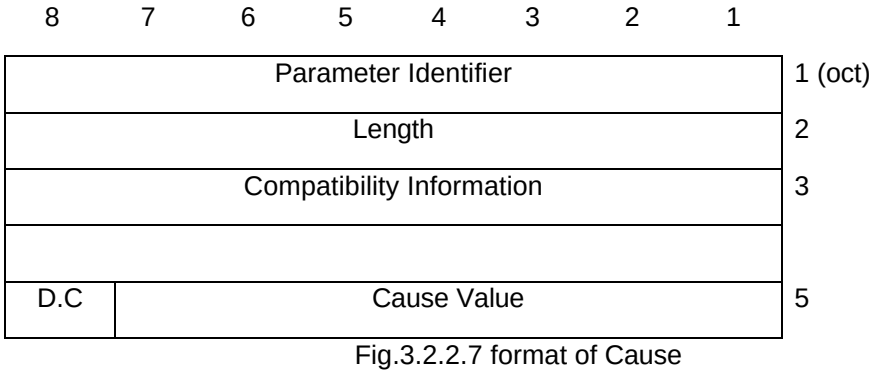


Fig.3.2.2.7 format of Cause

Cause Value:

Class : Normal event

Class: Normal event

Class: Resource unavailable

Class : Service or option not available

Class : Service or option not implemented

Class : invalid message (eg parameter out of range)

Class : protocol error

Class : interworking

The following table shows example of cause value.

Table3.2.2.7 cause value

Cause Value		
Class	value	
765	4321	
		Normal termination Mobile illegal (ex. Authentication NG) O & M intervention Equipment failure Protocol error Message type non-existent or not implemented Information element/parameter non-existent or not implemented Radio link failure BS approach link failure Timer expired Ciphering algorithm not supported Resource unavailable Other values are reserved

9.2.3 Cell ID

Cell ID is an identifier for a cell. A cell is associated to one BCCH. A cell may have different DL scrambling codes, or use different DL scrambling code offsets.

9.2.4 CFN

Connection Frame Number, included in the DCH FP frame. Node B maps the CFN with the cell FN via the Frame offset.

9.2.5 Channelisation code

Channelisation code can be defined e.g. by indicating the level and branch in the code tree.

9.2.6 Channelisation code length

Channelisation code length defines the level of the related channelisation code in the channelisation code tree.

9.2.7 Chip offset

Defines the radio timing offset inside a radio frame. The precision is at chip level.

9.2.8 CRNC address

Address of the CRNC. The exact definition is FFS.

9.2.9 C-RNTI

C-RNTI is the UE context identifier in the DRNC. It is unique in the DRNC and it is released when the UE is not using anymore resources in that DRNS.

9.2.10 DCH ID

DCH ID is an identifier for an active dedicated transport channel. DCH ID should be unique for each active DCH among the active DCHs simultaneously allocated for the same UE.

9.2.11 DCH QoS

9.2.12 DCH Type

Defines a priority level of the transport channel.

9.2.13 Diversity control field

Indicates if the RL may, must not (or must, FFS) be combined with the others.

9.2.14 Diversity indication

Indicates if the RL has been (ON) or has been not (OFF) combined with another RL.

9.2.15 DL channelisation code ID

9.2.16 DL channelisation code type

9.2.17 DL power range

This Information element defines the DL transmission power range to be used for the radio links used for the related RRC connection in the node-Bs within the Drift RNC.

9.2.18 DL reference power

Reference transmission power which is used by the fast downlink closed loop power control to eliminate the power drifting problem.

9.2.19 DL scrambling code

DL scrambling code to be used by the RL. One cell may have multiple DL scrambling codes available.

9.2.20 Execution Time

9.2.21 Information Transfer Capability

This element is included Information Transfer Capability which has been requested by the UE.

[Note: The following should be described the cording format.(The detail is FFS.)]

9.2.22 Initial DL Power

9.2.23 Maximum uplink Eb/No (FFS)

Indicate the maximum allowed Eb/No to be used by the UL inner loop power control.

9.2.24 Message Type

Message Type uniquely identifies the message being sent. It is a single octet element, mandatory in all messages.

8765 4321	
	RADIO LINK SETUP RADIO LINK SETUP RESPONSE RADIO LINK SETUP FAILURE
	RADIO LINK ADDITION RADIO LINK ADDITION RESPONSE RADIO LINK ADDITION FAILURE
	RADIO LINK DELETION RADIO LINK DELETION RESPONSE
	RADIO LINK RECONFIGURATION PREPARE RADIO LINK RECONFIGURATION READY RADIO LINK RECONFIGURATION COMMIT RADIO LINK RECONFIGURATION FAILURE RADIO LINK RECONFIGURATION CANCEL
	POWER CONTROL
	OUTER LOOP POWER CONTROL
	DL USER DATA RETRIEVAL DL USER DATA RETRIEVAL RESPONSE RNC RELOCATION REQUEST RRC CONTEXT RETRIEVAL RRC CONTEXT RETRIEVAL RESPONSE
	DL CODE RECONFIGURATION REQUEST

Message Compatibility Information

Message Compatibility Information is used in the situation of unrecognized messages.

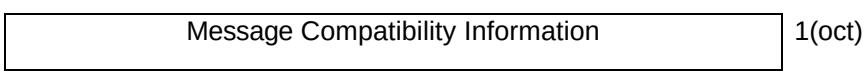


Fig.3.2.2.2 Message Compatibility Information

Table 3.2.2.2 Message Compatibility Information octet

Bit	
8	Reserved
:	
4	Pass On not possible
3	Discard Message
2	Send Notify (1)
1	Release Indicator

9.2.25 Minimum uplink Eb/No (FFS)

Indicate the maximum allowed Eb/No to be used by the UL inner loop power control.

9.2.26 Neighbor Cell Information

9.2.27 No .of DCHs

9.2.28 No. of DL channelisation code

9.2.29 No. of Radio Links

9.2.30 No. of UL channelisation code

9.2.31 OFF

OFF (Frame offset) is the desired offset between dedicated channel downlink transmission frames (CFN, connection frame number) and the broadcast channel frame offset (cell frame number). The frame offset value is UE and cell specific.

9.2.32 Old RNTI

9.2.33 Old URA ID

9.2.34 Perch channel Ec/Io

Signal-to-interference ratio per chip of the perch channel measured by the terminal. The name shall be aligned with WG1&2.

9.2.35 Phase Difference

9.2.36 Primary CCPCH scrambling code

Defines the scrambling code used by the cell to broadcast the BCCH.

9.2.37 Radio Frequency

9.2.38 Reference RL ID

ID of the RL which the RL in question has been combined with.

9.2.39 RL ID

RL ID is an identifier for the corresponding Radio Link for one UE. RL ID is allocated by the serving RNC during the branch allocation, and it should be stored both to the serving- and drift RNCs as long as the said RL exists. RL ID can be used later as a reference to the said RL between the serving- and the drift RNC. RL ID should be unique for each active RL among the active RLs simultaneously allocated for the same UE.

9.2.40 Slot Offset

9.2.41 Soft Combination Indicator

9.2.42 S-RNTI

S-RNTI is the UE context identifier in the SRNC. It is allocated by the SRNC and maintained for all the time the RRC connection is terminating in the SRNC.

9.2.43 Target UL Eb/I0

9.2.44 Transaction ID (FFS)

Transaction ID is a unique identifier among all the messages having the same message type and which are sent using the same RNSAP signalling bearer connection. The identifier must be unique among those messages that are in pending state, i.e. messages that can still be references to in a forthcoming message. Transaction Id for complete-, proceeding-, acknowledge- and confirm-type of messages is the same transaction ID that was used in the message for which the above mentioned type message is related to. FFS.

9.2.45 Transport address

Defines the transport address of the DRNC (fo example the AESA, ATM End System Address). The addressing in UTRAN is FFS.

9.2.46 Transport format combination set

The Transport Format Combinations Set defines the allowed combinations of the transport formats of the transport channels.

9.2.47 Transport format set

Transport format set is a set of transport formats allocated for a DCH. Each transport format defines one combination of parameters that describes 1) the format of the MAC PDU to be transmitted over Iur 2) The procedures that should be done at layer 1 for the MAC-PDUs upon reception.

9.2.48 UARFN

The UTRAN Absolute Radio Frequency Number defines the carrier.

9.2.49 UL channelisation code ID

9.2.50 UL channelisation code type

9.2.51 UL Eb/No adjustment parameters (FFS)

Indicates the steps to be used to increase or decrease the Eb/No setpoint for the outer loop power control. The increase/decrease commands are carried by the FP.

9.2.52 UL Eb/No setpoint (FFS)

Indicates the UL Eb/No target to be used by the UL closed loop power control.

9.2.53 UL interference level

9.2.54 UL scrambling code

Uplink scrambling code is the scrambling code that is used by the UE.

9.3 Timers

10 Handling of unknown, unforeseen and erroneous protocol data

11 Annex A (normative):

12 ANNEX B: Iur Parameters List (informative)

RAB Setup

Parameter Category	Iur Parameters	Iur Message							Note
		DCH to DCH					DCH to RA/FACH		
		PREPARE RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION COMMIT	RADIO LINK RECONFIGURATION FAILURE	RADIO LINK RECONFIGURATION CANCEL (FFS)	RADIO LINK RECONFIGURATION	RADIO LINK DELETION RESPONSE	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	m	-	-	-	-	-	-	
	DCH ID (# 1)	m	-	-	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	m	-	-	-	-	-	-	Set TFS when it is required
	:								
	DCH ID (# n)	m	-	-	-	-	-	-	
	TFS (for DCH ID# n)	m	-	-	-	-	-	-	
	TFCS (for DCHs)	m	-	-	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	-	-	-	-	
	DCH ID (# 1)	-	m	-	-	-	-	-	
	ATM Binding ID	-	m	-	-	-	-	-	(TTC) 1 Binding ID for 1 DCH *1

	ATM Address	-	o	-	-	-	-	-	
	:								
	DCH ID (# n)	-	m	-	-	-	-	-	
	ATM Binding ID	-	m	-	-	-	-	-	
	ATM Address	-	o	-	-	-	-	-	
Radio Frequency Info	Radio Frequency	-	-	-	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	-	-	-	-	-	
UL Radio Resources	UL scrambling code	-	-	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	-	-	-	-	
	No. of UL spreading code	m	-	-	-	-	-	-	
	UL spreading code id(s)	m	-	-	-	-	-	-	
DL Radio Resources	DL spreading code type	m	-	-	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	-	-	m	-	
	Radio Link ID	m	-	-	-	-	m	-	
	Cell ID	-	-	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	-	-	-	-	
	:								
	Radio Link ID	o	-	-	-	-	o	-	
	Cell ID	-	-	-	-	-	-	-	

	Soft Combination Indicator	-	-	-	-	-	-	-	
	Phase Difference	-	-	-	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	-	-	
	Radio Link ID	-	m	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	-	-	
	DL spreading code id #1	-	m	-	-	-	-	-	
	:								
	DL spreading code id #m	-	m	-	-	-	-	-	
	:								
	Radio Link ID	-	o	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	-	-	
	DL spreading code id #1	-	o	-	-	-	-	-	
	:								
	DL spreading code id #m	-	o	-	-	-	-	-	
Execution Time	Execution Time	-	-	m	-	-	-	-	
Offset Values	Slot offset	-	-	-	-	-	-	-	
	Frame offset	-	-	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	-	-	For Correcting DL Power Drifting during DHO

Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	-	m	-	-	-	

m: mandatory, o: optional

*1: In TTC assumption, in the case of intra RFTR RL addition, same Iur ATM connection is used. Therefore, in case of RADIO LINK ADDITION resp.conf.(Inter RFTR), RACFd send existing binding ID to RACFa.

*2: Contents of this information is FFS. It is related to BS addressing scheme.

RAB Reconfiguration

Parameter Category	Iur Parameters	Iur Message					Note
		DCH to DCH					
		PREPARE RADIO LINK RECONFIGURATION	RADIO LINK READY RECONFIGURATION	RADIO LINK COMMIT RECONFIGURATION	RADIO LINK FAILURE RECONFIGURATION	RADIO LINK CANCEL (FFS) RECONFIGURATION	RADIO LINK RECONFIGURATION	
Transport CH Info	No. of DCHs	m	-	-	-	-	
	DCH ID (# 1)	m	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	m	-	-	-	-	Set TFS when it is required
	:						
	DCH ID (# n)	m	-	-	-	-	
	TFS (for DCH ID# n)	m	-	-	-	-	
	TFCS (for DCHs)	m	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	-	-	
	DCH ID (# 1)	-	m	-	-	-	
	ATM Binding ID	-	m	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	-	-	
	:						
	DCH ID (# n)	-	m	-	-	-	

	ATM Binding ID	-	m	-	-	-	
	ATM Address	-	o	-	-	-	
Radio Frequency Info	Radio Frequency	-	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	-	-	-	
UL Radio Resources	UL scrambling code	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	-	-	
	No. of UL spreading code	m	-	-	-	-	
	UL spreading code id(s)	m	-	-	-	-	
DL Radio Resources	DL spreading code type	m	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	-	-	
	Radio Link ID	m	-	-	-	-	
	Cell ID	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	-	-	
	:						
	Radio Link ID	o	-	-	-	-	
	Cell ID	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	

	Phase Difference	-	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	
	Radio Link ID	-	m	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	
	DL spreading code id #1	-	m	-	-	-	
	:						
	DL spreading code id #m	-	m	-	-	-	
	:						
	Radio Link ID	-	o	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	
	DL spreading code id #1	-	o	-	-	-	
	:						
	DL spreading code id #m	-	o	-	-	-	
Execution Time	Execution Time	-	-	m	-	-	
Offset Values	Slot offset	-	-	-	-	-	
	Frame offset	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	For L1 Power Control

Cause	Cause	-	-	-	m	-	

*1,*2: Same as the previous.

RAB Release

Parameter Category	Iur Parameters	Iur Message							Note
		DCH to DCH					DCH to RA/FACH		
		PREPARE RADIO LINK READY RECONFIGURATION	RADIO LINK COMMIT RECONFIGURATION	RADIO LINK FAILURE RECONFIGURATION	RADIO LINK CANCEL (FFS) RECONFIGURATION	RADIO LINK RECONFIGURATION	RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	m	-	-	-	-	-	-	
	DCH ID (# 1)	m	-	-	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	-	-	-	-	-	Set TFS when it is required
	:								
	DCH ID (# n)	m	-	-	-	-	-	-	
	TFS (for DCH ID# n)	-	-	-	-	-	-	-	
	TFCS (for DCHs)	m	-	-	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	-	-	-	-	-	-	
	DCH ID (# 1)	-	-	-	-	-	-	-	
	ATM Binding ID	-	-	-	-	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	-	-	-	-	-	-	
	:								

	DCH ID (# n)	-	-	-	-	-	-	-	
	ATM Binding ID	-	-	-	-	-	-	-	
	ATM Address	-	-	-	-	-	-	-	
Radio Frequency Info	Radio Frequency	-	-	-	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	-	-	-	-	-	
UL Radio Resources	UL scrambling code	-	-	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	-	-	-	-	
	No. of UL spreading code	m	-	-	-	-	-	-	
	UL spreading code id(s)	m	-	-	-	-	-	-	
DL Radio Resources	DL spreading code type	m	-	-	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	-	-	m	-	
	Radio Link ID	m	-	-	-	-	m	-	
	Cell ID	-	-	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	-	-	-	-	
	:								
	Radio Link ID	o	-	-	-	-	o	-	
	Cell ID	-	-	-	-	-	-	-	

	Soft Combination Indicator	-	-	-	-	-	-	-	
	Phase Difference	-	-	-	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	-	-	
	Radio Link ID	-	m	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	-	-	
	DL spreading code id #1	-	m	-	-	-	-	-	
	:								
	DL spreading code id #m	-	m	-	-	-	-	-	
	:								
	Radio Link ID	-	o	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	-	-	
	DL spreading code id #1	-	o	-	-	-	-	-	
	:								
	DL spreading code id #m	-	o	-	-	-	-	-	
Execution Time	Execution Time	-	-	m	-	-	-	-	
Offset Values	Slot offset	-	-	-	-	-	-	-	
	Frame offset	-	-	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	-	-	For Correcting DL Power Drifting during DHO

Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	-	m	-	-	-	

*1,*2: Same as the previous.

RRC Connection Release

Parameter Category	Iur Parameters	Iur Message		Note
		DCH to IDLE		
		RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	Set TFS when it is required
	:			
	DCH ID (# n)	-	-	
	TFS (for DCH ID# n)	-	-	
	TFCS (for DCHs)	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	
	ATM Binding ID	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	-	
	:			
	DCH ID (# n)	-	-	
	ATM Binding ID	-	-	

	ATM Address	-	-	
Radio Frequency Info	Radio Frequency	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	
UL Radio Resources	UL scrambling code	-	-	Set UL Scrambling Code per UE
	UL spreading code type	-	-	
	No. of UL spreading code	-	-	
	UL spreading code id(s)	-	-	
DL Radio Resources	DL spreading code type	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	
	Radio Link ID	m	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	
	:			
	Radio Link ID	o	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	
	Phase Difference	-	-	

DL Radio Resources	No. of Radio Links	-	-	
	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	**FFS***2
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
	:			
	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	FFS
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
Execution Time	Execution Time	-	-	
Offset Values	Slot offset	-	-	
	Frame offset	-	-	
Power Control Info	Initial DL Power	-	-	For Initial DL Power Setting
	DL Power Range	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	For L1 Power Control

*1,*2: Same as the previous.

Transport CH Reconfiguration

Parameter Category	Iur Parameters	Iur Message							Note
		DCH to DCH					DCH to RA/FACH		
		PREPARE RADIO LINK RECONFIGURATION	RADIO LINK READY RECONFIGURATION	RADIO LINK COMMIT RECONFIGURATION	RADIO LINK FAILURE RECONFIGURATION	RADIO LINK CANCEL (FFS) RECONFIGURATION	RADIO LINK RECONFIGURATION	RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	m	-	-	-	-	-	-	
	DCH ID (# 1)	m	-	-	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	m	-	-	-	-	-	-	Set TFS when it is required
	:								
	DCH ID (# n)	m	-	-	-	-	-	-	
	TFS (for DCH ID# n)	m	-	-	-	-	-	-	
	TFCS (for DCHs)	m	-	-	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	-	-	-	-	
	DCH ID (# 1)	-	m	-		-	-	-	
	ATM Binding ID	-	m	-	-	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	-	-	-	-	
	:								

	DCH ID (# n)	-	m	-	-	-	-	-	
	ATM Binding ID	-	m	-	-	-	-	-	
	ATM Address	-	o	-	-	-	-	-	
Radio Frequency Info	Radio Frequency	-	-	-	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	-	-	-	-	-	
UL Radio Resources	UL scrambling code	-	-	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	-	-	-	-	
	No. of UL spreading code	m	-	-	-	-	-	-	
	UL spreading code id(s)	m	-	-	-	-	-	-	
DL Radio Resources	DL spreading code type	m	-	-	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	-	-	m	-	
	Radio Link ID	m	-	-	-	-	m	-	
	Cell ID	-	-	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	-	-	-	-	
	:								
	Radio Link ID	o	-	-	-	-	o	-	
	Cell ID	-	-	-	-	-	-	-	

	Soft Combination Indicator	-	-	-	-	-	-	-	
	Phase Difference	-	-	-	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	-	-	
	Radio Link ID	-	m	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	-	-	
	DL spreading code id #1	-	m	-	-	-	-	-	
	:								
	DL spreading code id #m	-	m	-	-	-	-	-	
	:								
	Radio Link ID	-	o	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	-	-	
	DL spreading code id #1	-	o	-	-	-	-	-	
	:								
	DL spreading code id #m	-	o	-	-	-	-	-	
Execution Time	Execution Time	-	-	m	-	-	-	-	
Offset Values	Slot offset	-	-	-	-	-	-	-	
	Frame offset	-	-	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	-	-	For Correcting DL Power Drifting during DHO

Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	-	m	-	-	-	

*1,*2: Same as the previous.

Physical CH Reconfiguration

Parameter Category	Iur Parameters	Iur Message							Note
		DCH to DCH					DCH to RA/FACH		
		PREPARE RADIO LINK RECONFIGURATION	RADIO LINK READY RECONFIGURATION	RADIO LINK COMMIT RECONFIGURATION	RADIO LINK FAILURE RECONFIGURATION	RADIO LINK CANCEL (FFS) RECONFIGURATION	RADIO LINK RECONFIGURATION	RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	-	-	-	-	-	-	-	
	DCH ID (# 1)	-	-	-	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	-	-	-	-	-	Set TFS when it is required
	:	-							
	DCH ID (# n)		-	-	-	-	-	-	
	TFS (for DCH ID# n)	-	-	-	-	-	-	-	
	TFCS (for DCHs)	-	-	-	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	-	-	-	-	-	-	
	DCH ID (# 1)	-	-	-	-	-	-	-	
	ATM Binding ID	-	-	-	-	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	-	-	-	-	-	-	
	:								

	DCH ID (# n)	-	-	-	-	-	-	-	
	ATM Binding ID	-	-	-	-	-	-	-	
	ATM Address	-	-	-	-	-	-	-	
Radio Frequency Info	Radio Frequency	-	-	-	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	-	-	-	-	-	
UL Radio Resources	UL scrambling code	o	-	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	o	-	-	-	-	-	-	
	No. of UL spreading code	o	-	-	-	-	-	-	
	UL spreading code id(s)	o	-	-	-	-	-	-	
DL Radio Resources	DL spreading code type	o	-	-	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	o	-	-	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	o	-	-	-	-	m	-	
	Radio Link ID	o	-	-	-	-	m	-	
	Cell ID	-	-	-	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	-	-	-	-	
	:								
	Radio Link ID	o	-	-	-	-	o	-	
	Cell ID	-	-	-	-	-	-	-	

	Soft Combination Indicator	-	-	-	-	-	-	-	
	Phase Difference	-	-	-	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	-	-	
	Radio Link ID	-	m	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	-	-	
	DL spreading code id #1	-	m	-	-	-	-	-	
	:								
	DL spreading code id #m	-	m	-	-	-	-	-	
	:								
	Radio Link ID	-	o	-	-	-	-	-	
	Neighbor Cell Information	-	-	-	-	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	-	-	
	DL spreading code id #1	-	o	-	-	-	-	-	
	:								
	DL spreading code id #m	-	o	-	-	-	-	-	
Execution Time	Execution Time	-	-	m	-	-	-	-	
Offset Values	Slot offset	-	-	-	-	-	-	-	
	Frame offset	-	-	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	-	-	For Correcting DL Power Drifting during DHO

Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	-	m	-	-	-	

*1,*2: Same as the previous.

Cell Update

Parameter Category	Iur Parameters	Iur Message			Note
		RNS RELOCATION REQUEST	RESOURCE STATUS (FFS) RETRIEVAL	DL USER DATA RETRIEVAL	
DL Radio Resources	DL spreading code type	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	
	Radio Link ID	m	-	-	
	Cell ID	-	-	-	
	Soft Combination Indicator	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	
	:				
	Radio Link ID	o	-	-	
	Cell ID	-	-	-	
	Soft Combination Indicator	-	-	-	
	Phase Difference	-	-	-	

Outerloop Power Control Info	Target UL Eb/Io	-	-	-	For L1 Power Control
Signaling Address	Signaling Adress	m	-	-	
RNTI	RNTI	m	m	-	
URA ID	URA ID	m	m	-	

URA Update

Parameter Category	Iur Parameters	Iur Message			Note
		RNS RELOCATION REQUEST	RESOURCE STATUS RETRIEVAL	DL USER DATA RETRIEVAL	
DL Radio Resources	DL spreading code type	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	
	Radio Link ID	m	-	-	
	Cell ID	-	-	-	
	Soft Combination Indicator	-	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	-	
	:				
	Radio Link ID	o	-	-	
	Cell ID	-	-	-	
	Soft Combination Indicator	-	-	-	
	Phase Difference	-	-	-	

Signaling Address	Signaling Address	m	-	-	
RNTI	RNTI	m	m	-	
URA ID	URA ID	m	m	-	

Hard Handover (Inter-NodeB)

Parameter Category	Iur Parameters	Iur Message					Note
		RADIO LINK SETUP	RADIO LINK SETUP	RADIO LINK SETUP	RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	m	-	-	-	-	
	DCH ID (# 1)	m	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	m	-	-	-	-	Set TFS when it is required
	:						
	DCH ID (# n)	m	-	-	-	-	
	TFS (for DCH ID# n)	m	-	-	-	-	
	TFCS (for DCHs)	m	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m		-	-	
	DCH ID (# 1)	-	m	-	-	-	
	ATM Binding ID	-	m	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	-	-	
	:						
	DCH ID (# n)	-	m	-	-	-	
	ATM Binding ID	-	m	-	-	-	
	ATM Address	-	o	-	-	-	

Radio Frequency Info	Radio Frequency	m	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	m	-	-	-	
UL Radio Resources	UL scrambling code	m	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	-	-	
	No. of UL spreading code	m	-	-	-	-	
	UL spreading code id(s)	m	-	-	-	-	
DL Radio Resources	DL spreading code type	m	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	m	-	
	Radio Link ID	m	-	-	m	-	
	Cell ID	m	-	-	-	-	
	Soft Combination Indicator	-	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	m	-	-	-	-	
	:						
	Radio Link ID	o	-	-	o	-	
	Cell ID	o	-	-	-	-	
	Soft Combination Indicator	o	-	-	-	-	
	Phase Difference	o	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	

	Radio Link ID	-	m	-	-	-	
	Neighbor Cell Information	-	m	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	
	DL spreading code id #1	-	m	-	-	-	
	:						
	DL spreading code id #m	-	m	-	-	-	
	:						
	Radio Link ID	-	o	-	-	-	
	Neighbor Cell Information	-	o	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	
	DL spreading code id #1	-	o	-	-	-	
	:						
	DL spreading code id #m	-	o	-	-	-	
Execution Time	Execution Time	-	-	-	-	-	
Offset Values	Slot offset	m	-	-	-	-	
	Frame offset	m	-	-	-	-	
Power Control Info	Initial DL Power	m	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	m	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	m	-	-	

*1,*2: Same as the previous.

Hard Handover (Intra-NodeB)

Parameter Category	Iur Parameters	Iur Message					Note
		RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	RADIO LINK ADDITION	RADIO LINK DELETION RESPONSE	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	-	-	-	-	-	
	DCH ID (# 1)	-	-	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	-	-	-	Set TFS when it is required
	:						
	DCH ID (# n)	-	-	-	-	-	
	TFS (for DCH ID# n)	-	-	-	-	-	
	TFCS (for DCHs)	-	-	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	-	-	
	DCH ID (# 1)	-	m	-	-	-	
	ATM Binding ID	-	m	-	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	-	-	
	:						
	DCH ID (# n)	-	m	-	-	-	
	ATM Binding ID	-	m	-	-	-	
	ATM Address	-	o	-	-	-	

Radio Frequency Info	Radio Frequency	o	-	-	-	-	Set Radio Frequency per UE
	UL Interference Level	-	m	-	-	-	
UL Radio Resources	UL scrambling code	-	-	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	-	-	-	-	-	
	No. of UL spreading code	-	-	-	-	-	
	UL spreading code id(s)	-	-	-	-	-	
DL Radio Resources	DL spreading code type	-	-	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	m	-	
	Radio Link ID	m	-	-	m	-	
	Cell ID	m	-	-	-	-	
	Soft Combination Indicator	m	-	-	-	-	Indicates May, Must, Must not
	Phase Difference	m	-	-	-	-	
	:						
	Radio Link ID	o	-	-	o	-	
	Cell ID	o	-	-	-	-	
	Soft Combination Indicator	o	-	-	-	-	
	Phase Difference	o	-	-	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	-	-	

	Radio Link ID	-	m	-	-	-	
	Neighbor Cell Information	-	m	-	-	-	**FFS***2
	No. of DL spreading code	-	m	-	-	-	
	DL spreading code id #1	-	m	-	-	-	
	:						
	DL spreading code id #m	-	m	-	-	-	
	:						
	Radio Link ID	-	o	-	-	-	
	Neighbor Cell Information	-	o	-	-	-	FFS
	No. of DL spreading code	-	o	-	-	-	
	DL spreading code id #1	-	o	-	-	-	
	:						
	DL spreading code id #m	-	o	-	-	-	
Execution Time	Execution Time	-	-	-	-	-	
Offset Values	Slot offset	-	-	-	-	-	
	Frame offset	-	-	-	-	-	
Power Control Info	Initial DL Power	-	-	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	-	-	-	For L1 Power Control
Cause	Cause	-	-	m	-	-	

*1,*2: Same as the previous.

Handover Radio Link Addition (Inter-NodeB)

Parameter Category	Iur Parameters	Iur Message			Note
		RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	RADIO LINK SETUP	
Transport CH Info	No. of DCHs	m	-	-	
	DCH ID (# 1)	m	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	m	-	-	Set TFS when it is required
	:				
	DCH ID (# n)	m	-	-	
	TFS (for DCH ID# n)	m	-	-	
	TFCS (for DCHs)	m	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	
	DCH ID (# 1)	-	m	-	
	ATM Binding ID	-	m	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	
	:				
	DCH ID (# n)	-	m	-	
	ATM Binding ID	-	m	-	
	ATM Address	-	o	-	

Radio Frequency Info	Radio Frequency	m	-	-	Set Radio Frequency per UE
	UL Interference Level	-	m	-	
UL Radio Resources	UL scrambling code	m	-	-	Set UL Scrambling Code per UE
	UL spreading code type	m	-	-	
	No. of UL spreading code	m	-	-	
	UL spreading code id(s)	m	-	-	
DL Radio Resources	DL spreading code type	m	-	-	Same code type for all Radio Links
	No. of DL spreading code	m	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	
	Radio Link ID	m	-	-	
	Cell ID	m	-	-	
	Soft Combination Indicator	-	-	-	Indicates May, Must, Must not
	Phase Difference	m	-	-	
	:				
	Radio Link ID	o	-	-	
	Cell ID	o	-	-	
	Soft Combination Indicator	o	-	-	
	Phase Difference	o	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	

	Radio Link ID	-	m	-	
	Neighbor Cell Information	-	m	-	**FFS***2
	No. of DL spreading code	-	m	-	
	DL spreading code id #1	-	m	-	
	:				
	DL spreading code id #m	-	m	-	
	:				
	Radio Link ID	-	o	-	
	Neighbor Cell Information	-	o	-	FFS
	No. of DL spreading code	-	o	-	
	DL spreading code id #1	-	o	-	
	:				
	DL spreading code id #m	-	o	-	
Execution Time	Execution Time	-	-	-	
Offset Values	Slot offset	m	-	-	
	Frame offset	m	-	-	
Power Control Info	Initial DL Power	m	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	m	-	-	For L1 Power Control
Cause	Cause	-	-	m	

*1,*2: Same as the previous.

Handover Radio Link Addition (Intra-NodeB)

Parameter Category	Iur Parameters	Iur Message			Note
		RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	RADIO LINK ADDITION	
Transport CH Info	No. of DCHs	-	-	-	
	DCH ID (# 1)	-	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	-	Set TFS when it is required
	:				
	DCH ID (# n)	-	-	-	
	TFS (for DCH ID# n)	-	-	-	
	TFCS (for DCHs)	-	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	m	-	
	DCH ID (# 1)	-	m	-	
	ATM Binding ID	-	m	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	o	-	
	:				
	DCH ID (# n)	-	m	-	
	ATM Binding ID	-	m	-	
	ATM Address	-	o	-	

Radio Frequency Info	Radio Frequency	o	-	-	Set Radio Frequency per UE
	UL Interference Level	-	m	-	
UL Radio Resources	UL scrambling code	-	-	-	Set UL Scrambling Code per UE
	UL spreading code type	-	-	-	
	No. of UL spreading code	-	-	-	
	UL spreading code id(s)	-	-	-	
DL Radio Resources	DL spreading code type	-	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	-	
	Radio Link ID	m	-	-	
	Cell ID	m	-	-	
	Soft Combination Indicator	m	-	-	Indicates May, Must, Must not
	Phase Difference	m	-	-	
	:				
	Radio Link ID	o	-	-	
	Cell ID	o	-	-	
	Soft Combination Indicator	o	-	-	
	Phase Difference	o	-	-	
DL Radio Resources	No. of Radio Links	-	m	-	

	Radio Link ID	-	m	-	
	Neighbor Cell Information	-	m	-	**FFS***2
	No. of DL spreading code	-	m	-	
	DL spreading code id #1	-	m	-	
	:				
	DL spreading code id #m	-	m	-	
	:				
	Radio Link ID	-	o	-	
	Neighbor Cell Information	-	o	-	FFS
	No. of DL spreading code	-	o	-	
	DL spreading code id #1	-	o	-	
	:				
	DL spreading code id #m	-	o	-	
Execution Time	Execution Time	-	-	-	
Offset Values	Slot offset	-	-	-	
	Frame offset	-	-	-	
Power Control Info	Initial DL Power	-	-	-	For Initial DL Power Setting
	DL Power Range	-	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	-	For L1 Power Control
Cause	Cause	-	-	m	

*1,*2: Same as the previous.

Handover Radio Link Deletion (Inter-NodeB)

Parameter Category	Iur Parameters	Iur Message		Note
		RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	Set TFS when it is required
	:			
	DCH ID (# n)	-	-	
	TFS (for DCH ID# n)	-	-	
	TFCS (for DCHs)	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	
	ATM Binding ID	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	-	
	:			
	DCH ID (# n)	-	-	
	ATM Binding ID	-	-	
	ATM Address	-	-	

Radio Frequency Info	Radio Frequency	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	
UL Radio Resources	UL scrambling code	-	-	Set UL Scrambling Code per UE
	UL spreading code type	-	-	
	No. of UL spreading code	-	-	
	UL spreading code id(s)	-	-	
DL Radio Resources	DL spreading code type	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	
	Radio Link ID	m	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	
	:			
	Radio Link ID	o	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	
	Phase Difference	-	-	
DL Radio Resources	No. of Radio Links	-	-	

	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	**FFS***2
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
	:			
	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	FFS
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
Execution Time	Execution Time	-	-	
Offset Values	Slot offset	-	-	
	Frame offset	-	-	
Power Control Info	Initial DL Power	-	-	For Initial DL Power Setting
	DL Power Range	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	For L1 Power Control

*1,*2: Same as the previous.

Handover Radio Link Deletion (Intra-NodeB)

Parameter Category	Iur Parameters	Iur Message		Note
		RADIO LINK DELETION	RADIO LINK DELETION	
Transport CH Info	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	DCH ID or each DCH
	TFS (for DCH ID# 1)	-	-	Set TFS when it is required
	:			
	DCH ID (# n)	-	-	
	TFS (for DCH ID# n)	-	-	
	TFCS (for DCHs)	-	-	Set TFCS per UE
Transport Layer Addressing Information	No. of DCHs	-	-	
	DCH ID (# 1)	-	-	
	ATM Binding ID	-	-	(TTC) 1 Binding ID for 1 DCH *1
	ATM Address	-	-	
	:			
	DCH ID (# n)	-	-	
	ATM Binding ID	-	-	
	ATM Address	-	-	

Radio Frequency Info	Radio Frequency	-	-	Set Radio Frequency per UE
	UL Interference Level	-	-	
UL Radio Resources	UL scrambling code	-	-	Set UL Scrambling Code per UE
	UL spreading code type	-	-	
	No. of UL spreading code	-	-	
	UL spreading code id(s)	-	-	
DL Radio Resources	DL spreading code type	-	-	Same code type for all Radio Links
	No. of DL spreading code	-	-	Same number of codes for all Radio Links
	No. of Radio Links	m	-	
	Radio Link ID	m	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	Indicates May, Must, Must not
	Phase Difference	-	-	
	:			
	Radio Link ID	o	-	
	Cell ID	-	-	
	Soft Combination Indicator	-	-	
	Phase Difference	-	-	
DL Radio Resources	No. of Radio Links	-	-	

	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	**FFS***2
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
	:			
	Radio Link ID	-	-	
	Neighbor Cell Information	-	-	FFS
	No. of DL spreading code	-	-	
	DL spreading code id #1	-	-	
	:			
	DL spreading code id #m	-	-	
Execution Time	Execution Time	-	-	
Offset Values	Slot offset	-	-	
	Frame offset	-	-	
Power Control Info	Initial DL Power	-	-	For Initial DL Power Setting
	DL Power Range	-	-	For Correcting DL Power Drifting during DHO
Outerloop Power Control Info	Target UL Eb/Io	-	-	For L1 Power Control

*1,*2: Same as the previous.

Power Control

Parameter Category	Iur Parameters	Iur Message	Note
		POWR CONTROL	
Power Control Info	Initial DL Power	-	For Initial DL Power Setting
	DL Power Range	o	For Correcting DL Power Drifting during DHO

Outer-loop Power Control

Parameter Category	Iur Parameters	Iur Message	Note
		OUTER-LOOP POWR CONTROL	
Outerloop Power Control Info	Target UL Eb/Io	o	For L1 Power Control

13 History

Document history		
0.1.0	April 1999	Only version number stepped, otherwise same as 0.0.5.
0.0.5	April 1999	• Editor's notes in ch. 9.1 and 9.2 modified to reflect agreements at WG3#2 in Nynäshamn, Sweden.
0.0.4	April 1999	• Elementary procedures in ch. 8 grouped into basic mobility-, DCH- and CCH procedures. • References added to msg. table in ch 9.1. • IEs in ch. 9.2 alphabetically ordered. • Started to add references in msg. contents tables in ch. 9.1.x. • Editor's note in ch. 8.1.2 refering to study item Iu/3 removed since study item resolved. • Procedure Outer Loop Power Control renamed Up Link Outer Loop Power Control.
0.0.3	March 1999	Updated according to changes at WG3#2 in Nynäshamn: • Ch. 8.8 Cell/URA Update Indication procedure updated. • Ch. 8.16 CCHT Release Request procedure added. • Updated according to tdoc R3-99178, R3-99179, R3-99171, R3-99182, R3-99175, R3-99198.
0.0.2	February 1999	Introduction of content from the Merged Description of I_{ur} Interface, V0.0.2 1999-02.
0.0.1	February 1999	Document Structure Proposal.
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