

TSG-RAN Meeting #15
Cheju, Korea, 5 - 8 March 2002

TSGRP#15(02) 0190

Title: Change Requests for WI "HSDPA – lub/lur protocol aspects"

Source: TSG-RAN WG3

RP_Num	Tdoc_Num	Specification	CR_Num	Revision _Num	3G_Release	CR_Subject	CR_Category	Cur_Ver_Num	Workitem
RP-020190	R3-020795	25.401	039	2	Rel-5	HSDPA Additions for REL-5	B	5.1.0	HSDPA-lublur
RP-020190	R3-020715	25.420	023	1	Rel-5	HSDPA Additions for REL-5	B	4.1.0	HSDPA-lublur
RP-020190	R3-020884	25.423	570	3	Rel-5	HSDPA RL-Level Signalling	B	4.3.0	HSDPA-lublur
RP-020190	R3-020794	25.425	044	2	Rel-5	HSDPA Frame Protocol	B	4.2.0	HSDPA-lublur
RP-020190	R3-020796	25.430	029	2	Rel-5	HSDPA Additions for REL-5	B	4.2.0	HSDPA-lublur
RP-020190	R3-020792	25.433	589	2	Rel-5	HSDPA NBAP Common Procedure Modifications	B	4.3.0	HSDPA-lublur
RP-020190	R3-020885	25.433	612	3	Rel-5	HSDPA RL-Level Signalling for TDD & FDD	B	4.3.0	HSDPA-lublur
RP-020190	R3-020570	25.435	075	1	Rel-5	HSDPA Frame Protocol	B	4.3.0	HSDPA-lublur

CHANGE REQUEST

⌘ **25.401 CR 039** ⌘ rev **2** ⌘ Current version: **5.1.0** ⌘

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

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

Title:	⌘ HSDPA Additions for REL-5		
Source:	⌘ R-WG3		
Work item code:	⌘ HSDPA-lublur	Date:	⌘ February 21, 2002
Category:	⌘ B	Release:	⌘ REL-5
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification		
Summary of change:	⌘ Added HS-DSCH Transport Channel Section to Section 11.2 for the Protocol Model (Informative). Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because old nodes can coexist with nodes supporting HSDPA.		
Consequences if not approved:	⌘ HSDPA will not be able to be implemented.		

Clauses affected:	⌘ 11.2, 11.2.x		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://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.

11.2 Protocol Model (Informative)

The following subclause is a informative subclause which aim is to provide an overall picture of how the MAC layer is distributed over Uu, Iub and Iur for the RACH, FACH, DCH, DSCH, [HS-DSCH](#) and [TDD USCH].

11.2.x HS-DSCH Transport Channel

Figure X shows the protocol model for the HS-DSCH transport channel when the Controlling and Serving RNC are co-incident.

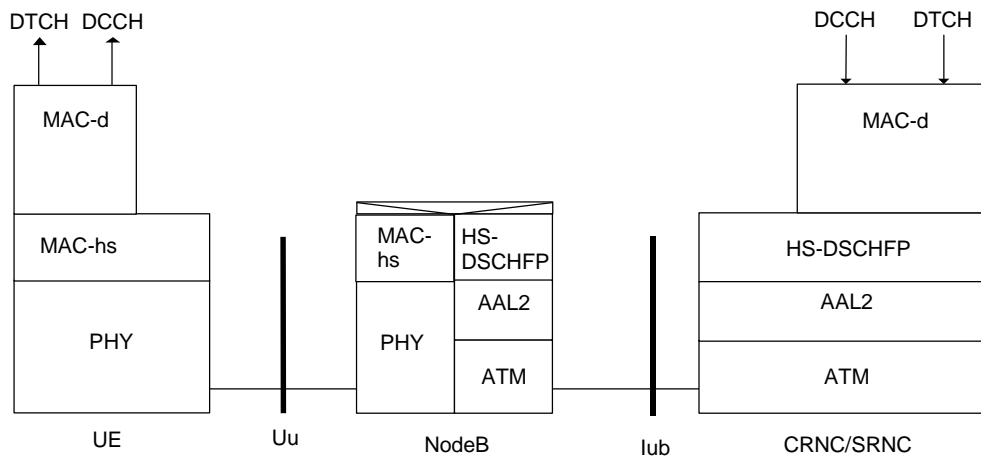


Figure X: HS-DSCH Co-incident Controlling and Serving RNC

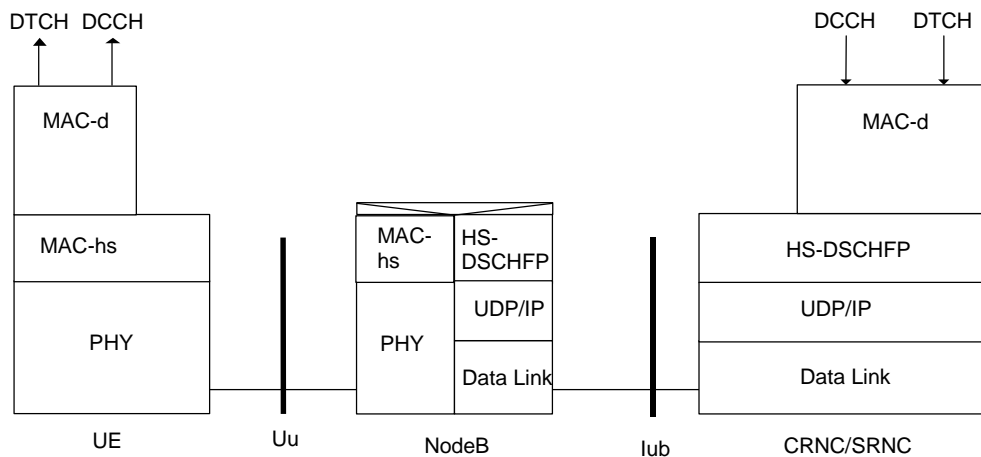


Figure Xa: HS-DSCH Co-incident Controlling and Serving RNC

The High Speed MAC (MAC-hs) entity in the Node B transfers MAC-hs PDU to the peer MAC-hs entity in the UE over the Uu interface. The Dedicated MAC (MAC-d) entity in the RNC transfers MAC-d PDUs to the MAC-hs in the Node B using the services of the HS-DSCH Frame Protocol (HS-DSCH FP) entity. The HS-DSCH FP entity adds header information to form a HS-DSCH FP PDU that is transported to the Node B over a transport bearer.

A Relaying Function in the Node B relays the HS-DSCH frame received by HS-DSCH FP entity to the MAC-hs entity. HS-DSCH scheduling is performed by MAC-hs in the Node B.

Figure Y shows the protocol model for the HS-DSCH transport channel with separate Controlling and Serving RNC. In this case, Iur HS-DSCH Frame Protocol is used to interwork the Flow Control function at the Controlling RNC with the MAC-d at the Serving RNC. Also in this case, Iub HS-DSCH Frame Protocol is used to interwork the MAC-hs at the Node B with the Flow Control function at the Controlling RNC.

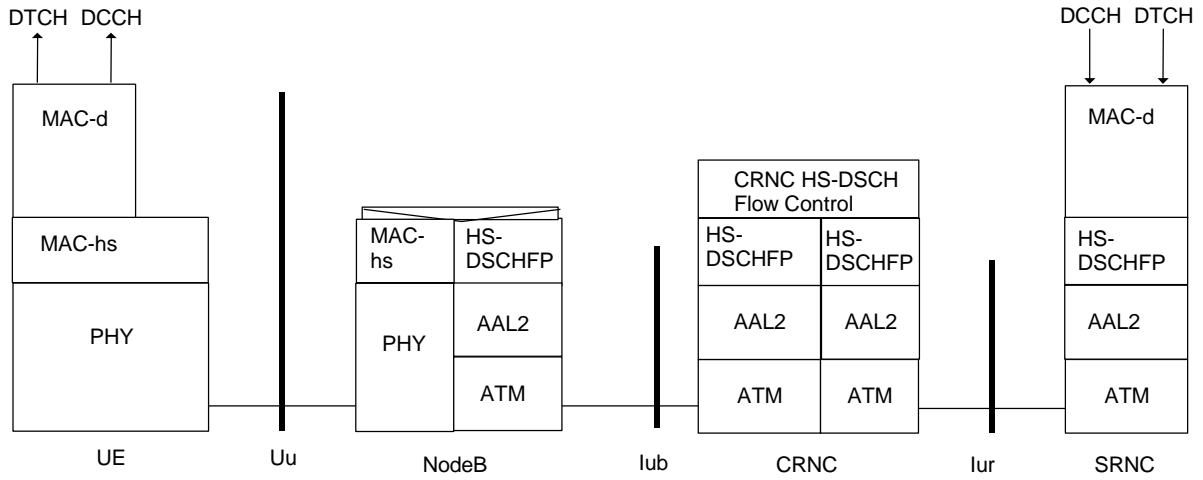


Figure Y: HS-DSCH: Separate Controlling and Serving RNC (configuration with CRNC flow control)

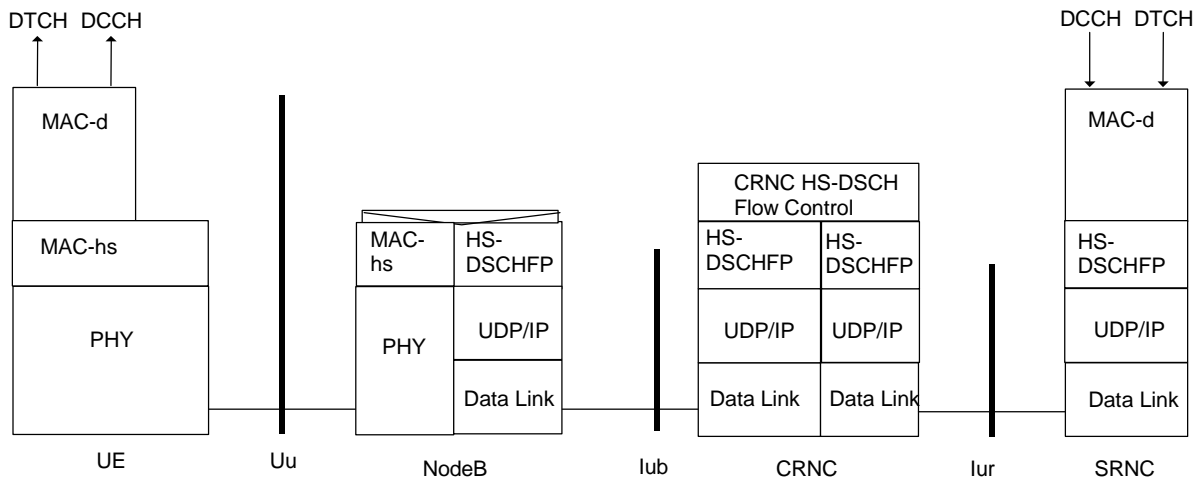


Figure Ya: HS-DSCH: Separate Controlling and Serving RNC (configuration with CRNC flow control)

Figure Z shows the protocol model for the HS-DSCH transport channel with the Drift RNC being bypassed. In this case, the CRNC does not have any user plane function for the HS-DSCH. MAC-d in SRNC is located directly above MAC-hs in Node B, i.e. in the HS-DSCH user plane the SRNC is directly connected to the Node B, thus bypassing the CRNC.

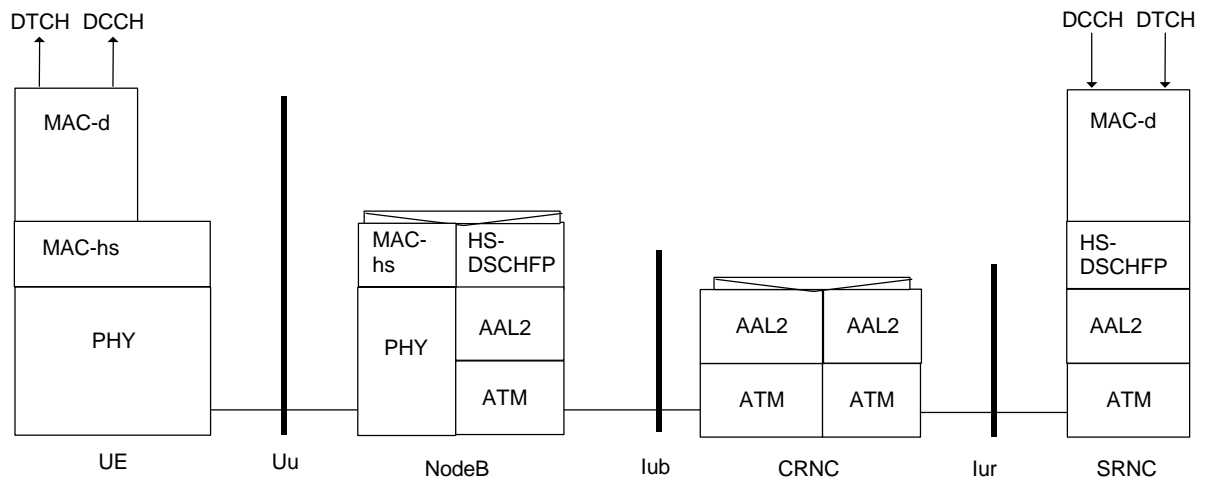


Figure Z: HS-DSCH: Serving RNC with bypassed Controlling RNC (configuration without CRNC flow control)

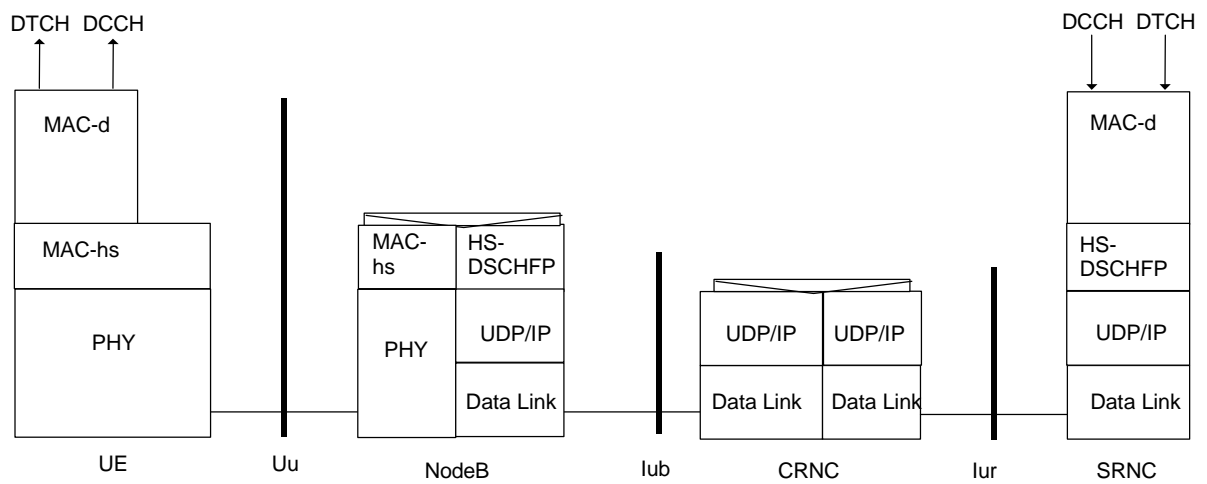


Figure Za: HS-DSCH: Serving RNC with bypassed Controlling RNC (configuration without CRNC flow control)

CHANGE REQUEST

⌘ **25.420** **CR 023** ⌘ rev **1** ⌘ Current version: **4.1.0** ⌘

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

Title:	⌘ HSDPA Additions for REL-5		
Source:	⌘ R-WG3		
Work item code:	⌘ HSDPA-lublur	Date:	⌘ February 20, 2002
Category:	⌘ B	Release:	⌘ REL-5
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification		
Summary of change:	⌘ Updated sections in Iur Interface Capabilities, Radio Signalling Protocols, User Plane Frame Protocols, and DRNS logical Model over Iur to now incorporate HS-DSCH transport channel addition. <i>Impact Analysis:</i> Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because old nodes can coexist with nodes supporting HSDPA.		
Consequences if not approved:	⌘ HSDPA will not be able to be implemented.		

Clauses affected:	⌘ 3.2, 4.4.x, 6.2.1, 6.3.x, 6.4, 7.1, 7.2.x,		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications		
Other comments:	⌘		

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downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

3.2 Abbreviations

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

AAL2	ATM Adaptation Layer type 2
AAL5	ATM Adaptation Layer type 5
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
CPCH	Common Packet Channel
CRNC	Controlling RNC
CTP	Common Transport Protocol
DCH	Dedicated Transport Channel
DL	Downlink
DRNC	Drift Radio Network Controller
DRNS	Drift Radio Network Subsystem
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
GT	Global Title
<u>HS-DSCH</u>	<u>High Speed Downlink Shared Channel</u>
IP	Internet Protocol
MAC	Medium Access Control
MTP3-B	Message Transfer Part level 3 (for Q.2140)
PLMN	Public Land Mobile Network
QoS	Quality of Service
RACH	Random Access Channel
RF	Radio Frequency
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RRC	Radio Resource Control
SCCP	Signalling Connection Control Part
SPC	Signalling Point Code
SRNC	Serving Radio Network Controller
SRNS	Serving Radio Network Subsystem
SS7	Signalling System N° 7
SSCF-NNI	Service Specific Co-ordination Function – Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol
SSN	Sub-System Number
STC	Signalling Transport Converter
UE	User Equipment
UL	Up-link
UMTS	Universal Mobile Telecommunication System
URA	UTRAN Registration Area
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

4.4 Iur Interface Capabilities

4.4.1 Radio application related signalling

The Iur interface provides capability to support radio interface mobility between RNSs, of UEs having a connection with UTRAN. This capability includes the support of handover, radio resource handling and synchronisation between RNSs.

4.4.2 Iub/Iur DCH data streams

The Iur interface provides the means for transport of uplink and downlink Iub/Iur DCH frames carrying user data and control information between SRNC and Node B (DRNS), via the DRNC.

In the UTRAN, one DCH data stream always corresponds to a bi-directional transport channel. Although the TFS is configured separately for each DCH direction and a DCH could be configured with e.g. only a zero-bit transport format in one direction, the DCH is always treated as a bi-directional transport channel in the UTRAN. As a result, two uni-directional Uu DCH transport channels with opposite directions can be mapped to either one or two DCH transport channels in the UTRAN.

4.4.3 Iur RACH/CPCH [FDD] data streams

The Iur interface provides the means for transport of uplink RACH and [FDD - CPCH] transport frames between DRNC and SRNC.

4.4.4 Iur DSCH data streams

An Iur DSCH data stream corresponds to the data carried on one DSCH transport channel for one UE. A UE may have multiple Iur DSCH data streams.

The Iur interface provides a means of transporting down link MAC-c/sh SDUs. In addition, the interface provides a means to the SRNC for queue reporting and a means for the DRNC to allocate capacity to the SRNC.

[4.4.x Iur HS-DSCH data streams](#)

[An Iur HS-DSCH data stream corresponds to the data carried on one MAC-d flow for one UE. A UE may have multiple Iur HS-DSCH data streams.](#)

[The Iur interface provides a means of transporting down link MAC-d PDUs. In addition, the interface provides a means to the SRNC for queue reporting and a means for the DRNC to allocate capacity to the SRNC.](#)

4.4.5 Iur USCH data streams [TDD]

An Iur USCH data stream corresponds to the data carried on one USCH transport channel for one UE. A UE may have multiple Iur USCH data streams.

4.4.6 Iur FACH data streams

The Iur interface provides the means for transport of downlink FACH transport frames between SRNC and DRNC.

6 I_{ur} Interface Protocols

6.1 General

There shall exist a clear separation between the Radio Network Layer and the Transport Layer. Therefore, the radio network signalling and Iur data streams are separated from the data transport resource and traffic handling as shown in Figure 2. Data transport resource and traffic handling is controlled by Transport Signalling. The Transport Signalling is carried by a Signalling Bearer over the Iur interface.

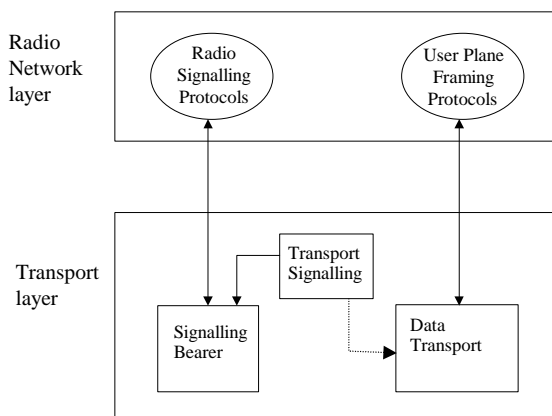


Figure 2: Separation of Radio Network Protocols and transport over Iur

6.2 Radio Signalling Protocols

6.2.1 RNSAP Protocol

The protocol responsible for providing signalling information across the Iur interface is called the Radio Network Subsystem Application Part (RNSAP).

The RNSAP is terminated by the two RNCs inter-connected via the Iur interface RNSAP Procedure Modules.

RNSAP procedures are divided into four modules as follows:

1. RNSAP Basic Mobility Procedures;
2. RNSAP DCH Procedures;
3. RNSAP Common Transport Channel Procedures;
4. RNSAP Global Procedures.

The Basic Mobility Procedures module contains procedures used to handle the mobility within UTRAN.

The DCH Procedures module contains procedures that are used to handle DCHs, DSCH, [HS-DSCH](#) and [TDD - USCHs] between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH, DSCH, [HS-DSCH](#) and [TDD - USCH] traffic between corresponding RNSs is not possible.

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams (excluding the DSCH, [HS-DSCH](#) and USCH) over Iur interface.

The Global Procedures module contains procedures that are not related to a specific UE. The procedures in this module are in contrast to the above modules involving two peer CRNCs.

6.3 User Plane Frame Protocols

6.3.1 Iub/Iur DCH Frame Protocol

There are two types of Iub/Iur DCH FP frames:

- DCH data frame;
- DCH control frame.

The contents of the Iub/Iur DCH data frame include:

- Transport Block Sets;
- Quality estimate.

The contents of the Iur DCH control frame include:

- Measurement reports;
- Power control information;
- Synchronisation information.

For a more detailed description of the Iur/Iub DCH frame protocol refer to 'UTRAN Iur & Iub Interface User Plane Protocol for DCH Data Streams' [1].

6.3.2 Iur DSCH Frame Protocol

There are two types of Iur DSCH FP frames:

- DSCH data frame;
- DSCH control frames.

The contents of the Iur DSCH data frame include:

- MAC-c/sh SDUs;
- User Buffer Status.

The contents of the Iur DSCH control frame include:

- Flow control Information (UL);
- Capacity Request Information (DL).

For a more detailed description of the Iur DSCH frame protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.x Iur HS-DSCH Frame Protocol

There are two types of Iur HS-DSCH FP frames:

- HS-DSCH data frame;
- HS-DSCH control frames.

The contents of the Iur HS-DSCH data frame include:

- MAC-d PDUs;
- User Buffer Status.

The contents of the Iur HS-DSCH control frame include:

- [Flow control Information \(UL\)](#);
- [Capacity Request Information \(DL\)](#).

For a more detailed description of the Iur HS-DSCH frame protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.3 Iur USCH Frame Protocol [TDD]

There is one type of Iur USCH FP frames:

- USCH data frame.

The contents of the Iur USCH data frame include:

- MAC-c/sh SDUs.

For a more detailed description of the Iur USCH frame protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.4 Iur RACH/CPCH [FDD] Frame Protocol

For a more detailed description of the Iur RACH framing protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.5 Iur FACH Frame Protocol

For a more detailed description of the Iur FACH framing protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.4 Mapping of Frame Protocols onto transport bearers

DCH	One Iur DCH data stream is carried on one transport bearer except in the case of co-ordinated DCHs in which case a set of co-ordinated DCHs are multiplexed onto the same transport bearer.
DSCH	One Iur DSCH data stream is carried on one transport bearer.
<u>HS-DSCH</u>	<u>One Iur HS-DSCH data stream is carried on one transport bearer</u>
[TDD - USCH	One Iur USCH data stream is carried on one transport bearer.]
RACH/CPCH[FDD]	Multiple RACH/CPCH[FDD] data streams may be carried on one transport bearer.
FACH	Multiple FACH data streams may be carried on one transport bearer.

RACH/CPCH[FDD] and FACH data streams for one UE are carried on same transport bearer.

7 DRNS logical Model over I_{ur}

7.1 Overview

The model in Figure 3 shows the Drift Radio Network System as seen from the SRNC. It is modelled as a «black box» with a set of Radio Links on the Uu side of the box and another set of User Plane access ports on the Iur side of the box. The Radio Links are connected to the Iur user ports via the internal transport mechanisms of the DRNS. Operations for controlling the connections between ports are sent from the SRNC to the DRNC via an Iur Control Plane port.

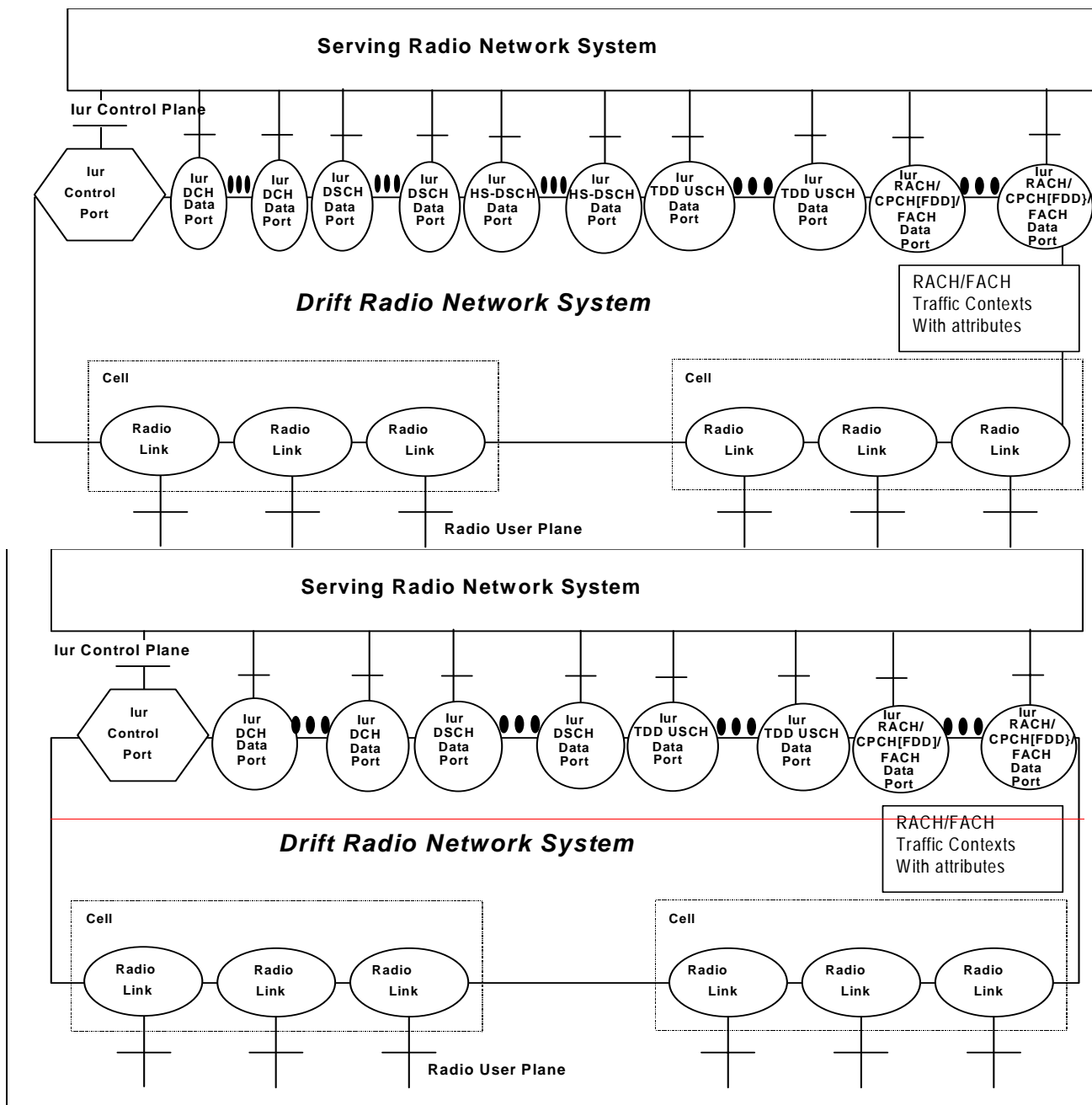


Figure 3: Drift RNS Logical Model

7.2 Logical Model Elements

7.2.1 Radio Link

A Radio Link represents a User Plane access point on the UTRAN side of the Uu interface between the User Equipment and the UTRAN.

The semantics of a Radio Link include the following:

- It is created, destroyed, and added by SRNC.
- It can be attached to one or more Iur Data Ports at any given time.
- Its resources are allocated and controlled by the DRNS.

7.2.2 Cell

It is defined by:

- A Cell identifier.

The semantics of a Cell include the following:

- It is created and destroyed by administrative procedures.

7.2.3 Iur DCH Data Port

One Iur DCH Data port represents one user plane transport bearer. One user plane transport bearer will carry only one DCH data stream except in the case of co-ordinated DCHs, in which case the data streams of all co-ordinated DCHs shall be multiplexed on one and the same user plane transport bearer.

The semantics of an Iur DCH Data Port include the following:

- It is created and destroyed by administrative procedures when transport facilities are added to, or deleted from, the Iur interface between the SRNS and DRNS. It can also be created and destroyed dynamically using dynamically setup transport bearers to add or remove transport facilities.
- It is assigned and released by the SRNC in reaction to requests for bearer services from the UE.
- It may be attached to one or more Radio Links. When attached to Radio Links in the downlink direction, it acts as a point-to-multipoint connection for diversity transmission. When attached to multiple Radio Links in the uplink direction, it acts as a multipoint-to-point connection for diversity reception [FDD].
- The transmit and receive combining/splitting resources required to implement the point-to-multipoint and multipoint-to-point connections are controlled by the DRNS [FDD].
- The Iur DCH Data Stream emanating from the Iur DCH Data Port terminates in the SRNS connected to DRNS.

7.2.4 Iur DSCH Data Port

One Iur DSCH Data port represents one bi-directional Iur user plane transport bearer. One Iur user plane transport bearer will carry only one DSCH data stream.

[7.2.x Iur HS-DSCH Data Port](#)

[One Iur HS-DSCH Data port represents one bi-directional Iur user plane transport bearer. One Iur user plane transport bearer will carry only one HS-DSCH data stream.](#)

7.2.5 Iur USCH Data Port [TDD]

One Iur USCH Data port represents one Iur user plane transport bearer. One Iur user plane transport bearer will carry only one USCH data stream.

7.2.6 Iur RACH/CPCH [FDD]/FACH Data Port

The Iur RACH/CPCH [FDD]/FACH data port represents a transport bearer and is identified with a transport bearer identity.

7.2.7 Iur Control Port

An Iur Control Port represents the Control Plane access point on the Iur interface between the SRNS and the DRNS. It is defined by:

- A transport bearer channel identifier.

The semantics of an Iur Control Port include the following:

- It is created via administrative procedures when the Iur interface is created.

CHANGE REQUEST

⌘ **25.423 CR 570** ⌘ rev **3** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘ HSDPA RL-Level Signalling		
Source:	⌘ R-WG3		
Work item code:	⌘ HSDPA-lublur	Date:	⌘ February 2002
Category:	⌘ B Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Release:	⌘ REL-5 Use <u>one</u> 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)

Reason for change: ⌘ This CR contains the proposed changes to the RNSAP protocol caused by the Release-5 WI High Speed Downlink Packet Access.

Revision 2 changes:

- According to the agreements in the meeting and the following email approval process.

Revision 1 changes:

- FDD-specific changes merged into TDD-specific CR (obsoleting the former FDD-specific CR584);
- changes to IEs according to comments made during RAN3#27;
- changes related to RAN2 answers to RAN3-identified open issues;
- HS-PDSCH RL ID IE defined outside the HS-DSCH Information IE;
- procedural text added

Summary of change: ⌘ This CR introduces the following new functionality:

- Setup and Modification of HS-DSCH

See TR 25.877 for more details.

Impact Analysis:

No previous versions exists.

Consequences if not approved: ⌘ The HSDPA feature will not be supported.

Clauses affected:	⌘	8.3.1.2; 8.3.4.2; 8.3.17.2; 9.1.3.1; 9.1.3.2; 9.1.4.1; 9.1.4.2; 9.1.5.1; 9.1.11.1; 9.1.11.2; 9.1.12.1; 9.1.12.2; 9.1.40 new: 9.2.1.x; 9.2.2.x; 9.2.3.x 9.3.3, 9.3.4, 9.3.6
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘	

8.3.1 Radio Link Setup

8.3.1.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more radio links.

The connection-oriented service of the signalling bearer shall be established in conjunction with this procedure.

8.3.1.2 Successful Operation

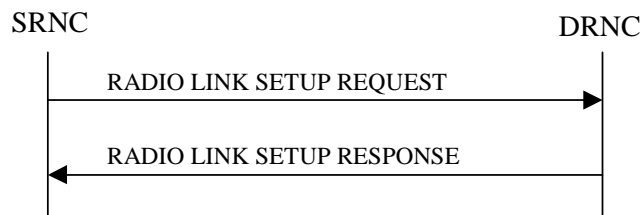


Figure 5: Radio Link Setup procedure: Successful Operation

When the SRNC makes an algorithmic decision to add the first cell or set of cells from a DRNS to the active set of a specific UE-UTRAN connection, the RADIO LINK SETUP REQUEST message is sent to the corresponding DRNC to request establishment of the radio link(s).

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

If no *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message, the DRNC shall assign a new *D-RNTI* for this UE.

Transport Channels Handling:

DCH(s):

[TDD - If the *DCH Information* IE is present in RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DCHs according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs.

[FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If the *QE-Selector* is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [4].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [4].]

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH or a set of co-ordinated DCHs as the DCH FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs.

The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise between different frames of the data frames of the DCHs in the downlink on the radio interface in congestion situations once the new RL(s) have been activated.

If the *DCH Specific Info* IE in the *DCH Information* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

- If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.
- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the downlink of the DCH.

DSCH(s):

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNC shall establish the requested DSCHs [FDD - on the RL indicated by the PDSCH RL ID IE]. In addition, the DRNC shall send a valid set of *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the message RADIO LINK SETUP RESPONSE message.

[TDD - USCH(s)]:

[TDD – The DRNS shall use the list of RB Identities in the *RB Info* IE in the *USCH information* IE to map each *RB Identity* IE to the corresponding USCH.]

HS-DSCH(s):

If the *HS-DSCH Information* IE is present, the DRNS shall establish the requested HS-DSCH resources on the RL indicated by the *HS-PDSCH RL ID* IE. In addition, if the *HS-PDSCH RL ID* IE indicates a radio link in the DRNS, then the DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK SETUP RESPONSE message. The DRNS shall also include the *Binding ID* IE and *Transport Layer Address* IE for establishment of transport bearer(s) for the HS-DSCH MAC-d flows on this radio link.

[FDD – The DRNS shall set the Measurement Feedback Reporting Cycle to a default value equal to the largest of the k1 and k2 values.]

Physical Channels Handling:

[FDD - Compressed Mode]:

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the DRNS shall use the information to activate the indicated Transmission Gap Pattern Sequences(s) in the new RL. The received *CM Configuration Change CFN* IE refers to latest passed CFN with that value. The DRNS shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the DRNS shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the DRNS shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]
- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

[FDD- If the *Downlink Compressed Mode Method* IE in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the DRNS shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK SETUP RESPONSE message indicating for each DL Channelisation Code whether the alternative scrambling code shall be used or not.]

[FDD - DL Code Information]:

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When p number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to “*PhCH number 1*”, the second to “*PhCH number 2*”, and so on until the p th to “*PhCH number p*”.]

General:

[FDD - If the *Propagation Delay* IE is included, the DRNS may use this information to speed up the detection of UL synchronisation on the Uu interface.]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

Radio Link Handling:

Diversity Combination Control:

[FDD - The *Diversity Control Field* IE indicates for each RL except for the first RL whether the DRNS shall combine the RL with any of the other RLs or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL. When an RL is to be combined, the DRNS shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to “Must not”, the DRNS shall not combine the RL with any other existing RL.]

[FDD - In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the *Diversity Indication* IE that the RL is combined with another RL for all RLs but the first RL. In this case the Reference *RL ID* IE shall be included to indicate with which RL the combination is performed. The Reference *RL ID* IE shall not be included for the first of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.]

[FDD - In the case of not combining an RL with another RL, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the *Diversity Indication* IE that no combining is performed. In this case the DRNC shall include both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH and DSCH of the RL in the RADIO LINK SETUP RESPONSE message.]

[TDD - The DRNC shall always include in the RADIO LINK SETUP RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH, DSCH and USCH of the RL.]

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *Binding ID* IE and the *Transport Layer Address* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

[FDD-Transmit Diversity]:

[FDD – If the cell in which the RL is being set up is capable to provide Close loop Tx diversity, the DRNC shall include the *Closed Loop Timing Adjustment Mode* IE in the RADIO LINK SETUP RESPONSE message indicating the configured Closed loop timing adjustment mode of the cell.]

[FDD – When *Diversity Mode* IE is "STTD", "Closed loop mode1", or "Closed loop mode2", the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indicator* IE].

DL Power Control:

[FDD - If both the *Initial DL TX Power* IE and *Uplink SIR Target* IE are included in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX Power* IE is outside the configured DL TX power range, the DRNS shall apply these constrains when setting the initial DL TX power. The DRNS shall also include the configured DL TX power range defined by *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH of the RL except during compressed mode, when the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

[FDD - If both the *Initial DL TX Power* and the *Uplink SIR Target* IEs are not included in the RADIO LINK SETUP REQUEST message, then DRNC shall determine the initial Uplink SIR Target and include it in the *Uplink SIR Target* IE in the RADIO LINK SETUP RESPONSE message.]

[FDD - If the *Primary CPICH Ec/No* IE is present, the DRNC should use the indicated value when deciding the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP* IE and/or the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and/or the [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are present, the DRNC should use the indicated values when deciding the Initial DL TX Power.]

[FDD – The DRNS shall start the DL transmission using the indicated DL TX power level (if received) or the decided DL TX power level on each DL channelisation code of a RL until UL synchronisation is achieved on the Uu interface for the concerning RLS or Power Balancing is activated. No inner loop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10] subclause 5.2.1.2) and the power control procedure (see 8.3.7).]

[TDD – The DRNS shall start the DL transmission using the decided DL TX power level on each DL channelisation code and on each Time Slot of a RL until UL synchronisation is achieved on the Uu interface for the concerning RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [22] subclause 4.2.3.3).]

[FDD – If the received *Inner Loop DL PC Status* IE is set to “Active”, the DRNS shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to “Inactive”, the DRNS shall deactivate the inner loop DL power control for all RLs according to ref. [10].]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK SETUP REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK SETUP REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

Neighbouring Cell Handling:

If there are UMTS neighbouring cell(s) to the cell in which a Radio Link was established then:

- The DRNC shall include the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE and *Closed Loop Mode2 Support Indicator* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE and the *PCCPCH Power* IE in the *Neighbouring TDD Cell Information* IE.
- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.
- [FDD - The DRNC shall include the *DPC Mode Change Support Indicator* IE if the DRNC is aware that the neighbouring cell supports DPC mode change.]

For the UMTS neighbouring cells which are controlled by the DRNC, the DRNC shall report in the RADIO LINK SETUP RESPONSE message the restriction state of those cells, otherwise *Restriction state indicator* IE may be absent. The DRNC shall include the *Restriction state indicator* IE for the neighbouring cells which are controlled by the DRNC in the *Neighbouring FDD Cell Information* IE, the *Neighbouring TDD Cell Information* IE and the *Neighbouring TDD Cell Information LCR* IE.

If there are GSM neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include the *Neighbouring GSM Cell Information* IE in the RADIO LINK SETUP RESPONSE message for each of the GSM neighbouring cells. If available the DRNC shall include the *Cell Individual Offset* IE in the *Neighbouring GSM Cell Information* IE.

General:

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE and the *S-Field Length* IE, the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity for EDSCHPC* IE, the DRNS shall activate enhanced DSCH power control, if supported, using the *SSDT Cell Identity for EDSCHPC* IE and *SSDT Cell Identity Length* IE as well as *Enhanced DSCH PC* IE in accordance with ref. [10] subclause 5.2.2. If the RADIO LINK SETUP REQUEST message includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then the DRNS shall ignore the *SSDT Cell Identity for EDSCHPC* IE.]

[FDD - If the *DRAC Control* IE is set to "requested" in the RADIO LINK SETUP REQUEST message for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK SETUP RESPONSE message.]

If no *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message, the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the *D-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

[FDD - If the *D-RNTI* IE was included the RADIO LINK SETUP REQUEST message the DRNC shall include the *Primary Scrambling Code* IE, the *UL UARFCN* IE and the *DL UARFCN* IE in the RADIO LINK SETUP RESPONSE message.]

[TDD – If the *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message the DRNC shall include the *UARFCN* IE, the *Cell Parameter ID* IE, [3.84Mcps TDD - the *Sync Case* IE, the *SCH Time Slot* IE,] the *SCTD Indicator* IE, and the *PCCPCH Power* IE in the RADIO LINK SETUP RESPONSE message.]

[TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the [3.84Mcps TDD - *Secondary CCPCH Info TDD* IE] [1.28Mcps TDD – *Secondary CCPCH Info TDD LCR* IE] in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

For each Radio Link established in a cell where at least one URA Identity is being broadcast, the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the cell, and the RNC Identity of all other RNCs that are having at least one cell within the URA in the cell in the *URA Information* IE in the RADIO LINK SETUP RESPONSE message.

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE and the UTRAN access point position for each of the established RLs in the RADIO LINK SETUP RESPONSE message.

If the DRNS need to limit the user rate in the uplink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed UL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK SETUP RESPONSE message for this Radio Link.

If the DRNS need to limit the user rate in the downlink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed DL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK SETUP RESPONSE message for this Radio Link.

If the *Permanent NAS UE Identity* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS shall store the information for the considered UE Context for the life-time of the UE Context.

If the RADIO LINK SETUP REQUEST message includes the *Permanent NAS UE Identity* IE and a *C-ID* IE corresponding to a cell reserved for operator use, the DRNC shall use this information to determine whether it can set up a Radio Link on this cell or not for the considered UE Context.

[FDD - Radio Link Set Handling]:

[FDD - The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the DRNS to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the UE Context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the UE context.]

[FDD –The UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 shall for each of the established RL Set(s) use the maximum value of the parameters *N_OUTSYNC_IND* and *T_RLFAILURE*, and the minimum value of the parameters *N_INSYNC_IND*, that are configured in the cells supporting the radio links of the RL Set].

Response Message:

At the reception of the RADIO LINK SETUP REQUEST message, DRNS allocates requested type of channelisation codes and other physical channel resources for each RL and assigns a binding identifier and a transport layer address for each DCH or set of co-ordinated DCHs and for each DSCH [TDD – and USCH]. This information shall be sent to the SRNC in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully established.

After sending of the RADIO LINK SETUP RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation on the Uu interface and start reception on the new RL. [FDD - The DRNS shall start DL transmission on the new RL after synchronisation is achieved in the DL user plane as specified in ref. [4].] [TDD – The DRNS shall start transmission on the new RL immediately as specified in ref. [4].]

8.3.1.3 Unsuccessful Operation

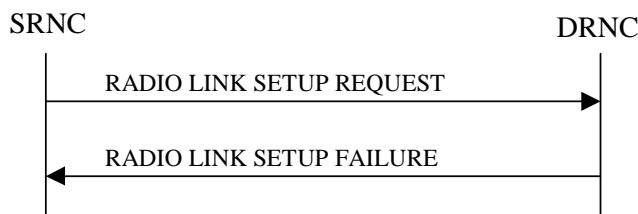


Figure 6: Radio Link Setup procedure: Unsuccessful Operation

In unsuccessful case (i.e. one or more RLs can not be established) the RADIO LINK SETUP FAILURE message shall be sent to the SRNC, indicating the reason for failure. If some radio links were established successfully, the DRNC shall indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.

If the RADIO LINK SETUP REQUEST message includes a *C-ID* IE corresponding to a cell reserved for operator use and the *Permanent NAS UE Identity* IE is not present, the DRNC shall consider the procedure as failed and send the RADIO LINK SETUP FAILURE message.

Typical cause values are:

Radio Network Layer Causes:

- [FDD - UL Scrambling Code Already in Use];
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- [FDD - Combining Resources not available];
- Combining not Supported
- Requested Configuration not Supported;
- Cell not Available;
- [FDD - Requested Tx Diversity Mode not Supported];
- Power Level not Supported;
- Number of DL codes not supported;
- Number of UL codes not supported;
- Dedicated Transport Channel Type not Supported;
- DL Shared Channel Type not Supported;
- [TDD - UL Shared Channel Type not Supported];
- [FDD - UL Spreading Factor not Supported];
- [FDD - DL Spreading Factor not Supported];
- CM not Supported;
- [FDD – DPC mode change not Supported];
- Cell reserved for operator use.

Transport Layer Causes:

- Transport Resource Unavailable.

Miscellaneous Causes:

- Control Processing Overload;
- HW Failure;
- Not enough User Plane Processing Resources.

8.3.1.4 Abnormal Conditions

If the DRNC receives either an S-RNTI or a D-RNTI which already has RL(s) established the DRNC shall send the RADIO LINK SETUP FAILURE message to the SRNC, indicating the reason for failure.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Active Pattern Sequence Information* IE, but the *Transmission Gap Pattern Sequence Information* IE is not present, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD – If the RADIO LINK SETUP REQUEST message includes both the *Initial DL TX Power* IE and the *Primary CPICH Ec/No* IE or does not include either of these IEs, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the DRNS shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message.

[FDD - If only the *Initial DL TX Power* IE or the *Uplink SIR Target* IE is included in the RADIO LINK SETUP REQUEST message, then DRNC shall regard the Radio Link Setup procedure as failed and shall respond with the RADIO LINK SETUP FAILURE message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCH Information* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.

/* Partly omitted*/

8.3.4 Synchronised Radio Link Reconfiguration Preparation

8.3.4.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of Radio Link(s) related to one UE-UTRAN connection within a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.4.2 Successful Operation

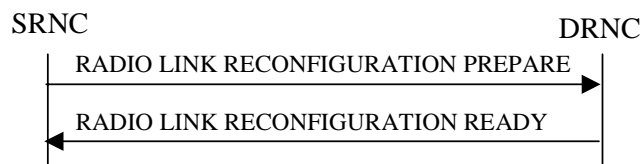


Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION PREPARE message to the DRNC.

Upon reception, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Modify* IEs then the DRNS shall treat them each as follows:

- If the *DCHs to Modify IE* includes multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCHs to Modify IE* as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.
- If the *DCHs to Modify IE* includes the *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- If the *DCHs to Modify IE* includes the *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- If the *DCHs to Modify IE* includes the *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- If the *DCH Specific Info* IE includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- If the *DCH Specific Info* IE includes the *Transport Format Set* IE for the UL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.
- If the *DCH Specific Info* IE includes the *Transport Format Set* IE for the DL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.
- [FDD - If, in the *DCH Specific Info* IE, the *DRAC Control* IE is present and set to "requested" for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]
- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the UL, the DRNS shall map the DCH onto the referenced UL CCTrCH.]
- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the DL, the DRNS shall map the DCH onto the referenced DL CCTrCH.]
- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:
 - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.
 - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs then the DRNS shall treat them each as follows:

- The DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.
- If the *DCHs to Add* IE includes a *DCHs to Add* IE with multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.
- [FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If the *QE-Selector* is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [4].]
- [FDD - For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [4].]
- The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- The DRNS shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if at least one DSCH or USCH exists in the new configuration.]
- [FDD - If the *DRAC Control* IE is set to "requested" in the *DCH Specific Info* IE for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link supported by a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]
- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:
 - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the downlink of the DCH.
 - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

DCH Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCH to Delete*, the DRNS shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of co-ordinated DCHs are requested to be deleted, the DRNS shall not include this set of co-ordinated DCHs in the new configuration.

Physical Channel Modification:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *UL DPCH Information* IE then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the DRNS shall apply this Uplink Scrambling Code to the new configuration.]
- [FDD - If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the DRNS shall apply the new Min UL Channelisation Code Length in the new configuration. The DRNS shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]
- [FDD - If the *UL DPCH Information* IE includes the *TFCS* IE, the DRNS shall use the *TFCS* IE for the UL when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of the new configuration.]

- [FDD - If the *UL DPCH Information IE* includes the *UL DPCCH Slot Format IE*, the DRNS shall apply the new Uplink DPCCH Slot Format to the new configuration.]
- [FDD – If the *UL DPCH Information IE* includes the *UL SIR Target IE*, the DRNS shall set the UL inner loop power control to the UL SIR target when the new configuration is being used.]
- [FDD – If the *UL DPCH Information IE* includes the *Puncture Limit IE*, the DRNS shall apply the value in the uplink of the new configuration.]
- [FDD - If the *UL DPCH Information IE* includes the *Diversity Mode IE*, the DRNS shall apply diversity according to the given value.]
- [FDD – If the *UL DPCH Information IE* includes an *SSDT Cell Identity Length IE* and/or an *S-Field Length IE*, the DRNS shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information IE* then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *DL DPCH Information IE* includes *Number of DL Channelisation Codes IE*, the DRNS shall allocate given number of Downlink Channelisation Codes per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included as a FDD DL Channelisation Code Number IE in the RADIO LINK RECONFIGURATION READY message when sent to the SRNC. If some Transmission Gap Pattern sequences using 'SF/2' method are already initialised in the DRNS, DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information IE* in the RADIO LINK RECONFIGURATION READY message in case the DRNS selects to change the Scrambling code change method for one or more DL Channelisation Code.]
- [FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When p number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to “*PhCH number 1*”, the second to “*PhCH number 2*”, and so on until the p th to “*PhCH number p*”.]
- [FDD - If the *DL DPCH Information IE* includes the *TFCS IE*, the DRNS shall use the *TFCS IE* for the DL when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of the new configuration.]
- [FDD – If the *DL DPCH Information IE* includes the *DL DPCH Slot Format IE*, the DRNS shall apply the new slot format used in DPCH in DL.]
- [FDD – If the *DL DPCH Information IE* includes the *TFCI Signalling Mode IE*, the DRNS shall apply the new signalling mode of the TFCI.]
- [FDD – If the *DL DPCH Information IE* includes the *Multiplexing Position IE*, the DRNS shall apply the new parameter to define whether fixed or flexible positions of transport channels shall be used in the physical channel.]
- [FDD – If the *DL DPCH Information IE* includes the *Limited Power Increase IE* and the IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]
- [FDD – If the *DL DPCH Information IE* includes the *Limited Power Increase IE* and the IE is set to 'Not Used', the DRNS shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information IE*, the DRNS shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. This new Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information IE* and the *Downlink Compressed Mode Method IE* in one or more Transmission Gap Pattern Sequence within the *Transmission Gap Pattern Sequence Information IE* is set to 'SF/2', the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information IE* to the RADIO LINK RECONFIGURATION READY message indicating for each Channelisation Code whether the alternative scrambling code shall be used or not].

[TDD - UL/DL CCTrCH Modification]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Modify* IEs or *DL CCTrCH to Modify* IEs, then the DRNS shall treat them each as follows:]

[TDD - If any of the *UL CCTrCH to Modify* IEs or *DL CCTrCH to Modify* IEs includes any of *TFCS* IE, *TFCI coding* IE, *Puncture limit* IE, or *TPC CCTrCH ID* IEs the DRNS shall apply these as the new values, otherwise the old values specified for this CCTrCH are still applicable.]

- [TDD – The DRNC shall include in the RADIO LINK RECONFIGURATION READY message DPCH information to be modified and the IEs modified if any of *Repetition Period* IE, *Repetition Length* IE, *TDD DPCH Offset* IE or timeslot information was modified. The DRNC shall include timeslot information and the IEs modified if any of [*3.84Mcps TDD - Midamble Shift and Burst Type* IE, *Time Slot* IE], [*1.28Mcps TDD - Midamble Shift LCR* IE, *Time Slot LCR* IE], *TFCI Presence* IE or Code information was modified. The DRNC shall include code information if [*3.84Mcps TDD - TDD Channelisation Code* IE] and/or [*1.28Mcps TDD - TDD Channelisation Code LCR* IE] was modified.]
- [*1.28Mcps TDD* – If the *UL CCTrCH to Modify* IE includes the *UL SIR Target* IE, the DRNS shall use the value for the UL inner loop power control according [12] and [22] when the new configuration is being used.]

[TDD – UL/DL CCTrCH Addition]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Add* IEs or *DL CCTrCH to Add* IEs, the DRNS shall include this CCTrCH in the new configuration.]

[TDD – If the DRNS has reserved the required resources for any requested DPCHs, the DRNC shall include the DPCH information within DPCH to be added in the RADIO LINK RECONFIGURATION READY message. [*3.84Mcps TDD* - If no DPCH was active before the reconfiguration, and if a valid Rx Timing Deviation measurement is known in DRNC, then the DRNC shall include the *Rx Timing Deviation* IE in the RADIO LINK RECONFIGURATION READY message.]]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL CCTrCH to Add* IE, the DRNS shall set the TPC step size of that CCTrCH to the same value as the lowest numbered DL CCTrCH in the current configuration.]

[*1.28Mcps TDD* – The DRNS shall use the *UL SIR Target* IE in the *UL CCTrCH to Add* IE as the UL SIR value for the inner loop power control for this CCTrCH according [12] and [22] in the new configuration.]

[TDD – UL/DL CCTrCH Deletion]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Delete* IEs or *DL CCTrCH to Delete* IEs, the DRNS shall remove this CCTrCH in the new configuration.]

SSDT Activation/Deactivation:

- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE in *RL Information* IE, and the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, in the new configuration.
- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to modify*, *DSCH to add* or *DSCH to delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to Add* IE, then the DRNS shall use the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.

[FDD - If the *DSCHs to Add* IE includes the *Enhanced DSCH PC* IE, the DRNS shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]

- [FDD - the *SSDT Cell Identity for EDSCHPC* IE in the *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]
- [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to Modify* IE, then the DRNS shall treat them each as follows:

- [FDD – If the *DSCH to Modify* IE includes any *DSCH Info* IEs, then the DRNS shall treat them each as follows:]
 - [FDD – If the *DSCH Info* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DRNS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]
 - [FDD – If the *DSCH Info* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]
- [FDD – If the *DSCH to Modify* IE includes the *PDSCH RL ID* IE, then the DRNS shall use it as the new DSCH RL identifier.]
- [FDD – If the *DSCH to Modify* IE includes the *Transport Format Combination Set* IE, then the DRNS shall use it as the new Transport Format Combination Set associated with the DSCH.]
- [TDD – If the *DSCHs to Modify* IE includes the *CCTrCH Id* IE, then the DRNS shall map the DSCH onto the referenced DL CCTrCH.]
- [TDD – If the *DSCHs to Modify* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DRNS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]
- [TDD – If the *DSCHs to Modify* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]
- [TDD – The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a DSCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]
- [FDD - If the *DSCHs to Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC Active in the UE ", the DRNS shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]
 - [FDD - the *SSDT Cell Identity for EDSCHPC* IE in *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]
 - [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

- [FDD - If the *DSCHs to Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

If the requested modifications are allowed by the DRNS and the DRNS has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message.

[TDD] USCH Addition/Modification/Deletion

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to modify*, *USCH to add* or *USCH to delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to Add* IE, then, the DRNS shall use the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of USCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to Modify* IE, then the DRNS shall treat them each as follows:

- If the USCH to Modify IE includes any of the Allocation/Retention Priority IE, Scheduling Priority Indicator IE or TrCH Source Statistics Descriptor IE, the DRNS shall use them to update the set of USCH Priority classes.
- If the USCH to Modify IE includes any of the CCTrCH Id IE, Transport Format Set IE, BLER IE or RB Info IE, the DRNS shall apply the parameters to the new configuration.
- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a USCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

If the requested modifications are allowed by the DRNC and the DRNC has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message.

HS-DSCH Information Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *HS-DSCH Information to modify*, *HS-DSCH Information to Add* or *HS-DSCH Information to Delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated HS-DSCH resources to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-PDSCH RL ID* IE, then:

- If the indicated HS-PDSCH RL ID is in the DRNS and there was no HS-DSCH-RNTI allocated to the UE Context, the DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.
- If the indicated HS-PDSCH RL ID is in the DRNS and there was an HS-DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a new HS-DSCH-RNTI to the UE Context, release the old HS-DSCH-RNTI and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.
- If the indicated HS-PDSCH RL ID is not in the DRNS and there was an HS-DSCH-RNTI allocated to the UE Context, the DRNC shall release this HS-DSCH-RNTI.

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Measurement Reporting Cycle* IE in the *HS-DSCH Information To Modify* IE, then the DRNS shall use the indicated Measurement Feedback Reporting Cycle value in the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE message includes an *HS-DSCH Information to Delete* IE requesting the deletion of all HS-DSCH resources for the UE Context, then the DRNC shall release the HS-DSCH-RNTI allocated to the UE Context, if there was one.

General

The DRNS shall include in the RADIO LINK RECONFIGURATION READY message the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS, the *Transport Layer Address IE* and the *Binding ID IE* in the *DCH Information Response IE* shall be included only for one of the combined Radio Links.

Any allowed rate for the uplink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the uplink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed UL Rate IE* of the *Allowed Rate Information IE* in the *DCH Information Response IE* for this DCH in the RADIO LINK RECONFIGURATION READY message for this Radio Link.

Any allowed rate for the downlink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the downlink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed DL Rate IE* of the *Allowed Rate Information IE* in the *DCH Information Response IE* for this DCH in the RADIO LINK RECONFIGURATION READY message for this Radio Link.

If the requested modifications are allowed by the DRNS, and the DRNS has successfully reserved the required resources for the new configuration of the Radio Link(s) it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exist a Prepared Reconfiguration, as defined in subclause 3.1.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s) and shall return this in the *Maximum Uplink SIR IE* and *Minimum Uplink SIR IE* for each Radio Link in the RADIO LINK RECONFIGURATION READY message.

If the DL TX power upper or lower limit has been re-configured the DRNC shall return this in the *Maximum DL TX Power IE* and *Minimum DL TX Power IE* respectively in the RADIO LINK RECONFIGURATION RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power IE* or lower than indicated by the *Minimum DL TX Power IE* on any DL DPCH of the RL [FDD – except during compressed mode, when the $P_{SR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

8.3.4.3 Unsuccessful Operation

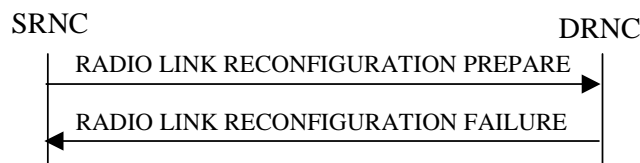


Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the DRNS cannot reserve the necessary resources for all the new DCHs of a set of co-ordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration Preparation procedure fails for one or more RLs the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

Typical cause values are:

Radio Network Layer Causes:

- UL Scrambling Code Already in Use;
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Requested Configuration not Supported;
- Number of DL Codes not Supported;
- Number of UL Codes not Supported;
- Dedicated Transport Channel Type not Supported;
- DL Shared Channel Type not Supported;

- [TDD - UL Shared Channel Type not Supported];
- [FDD - UL Spreading Factor not Supported];
- [FDD - DL Spreading Factor not Supported];
- CM not Supported.

Miscellaneous Causes:

- Control Processing Overload;
- Not enough User Plane Processing Resources.

8.3.4.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the DRNS shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the DRNS shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *DSCHs to Add* IE includes *Enhanced DSCH PC* IE and *DSCH to Modify* IE include the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", then the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

[FDD - If both the *DSCHs to Add* IE and the *DSCH to Modify* IE include *Enhanced DSCH PC* IE, then the DRNS shall ignore the *Enhanced DSCH PC* IE in the *DSCH to Add* IE.]

If the RADIO LINK RECONFIGURATION PREPARE message includes a *DCHs to Modify* IE or *DCHs to Add* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCHs to Modify* IE or *DCHs to Add* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

/* Partly omitted*/

8.3.17 Downlink Power Timeslot Control [TDD]

8.3.17.1 General

The purpose of this procedure is to enable the DRNS to use the indicated DL Timeslot ISCP values when deciding the DL TX Power for each timeslot.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Downlink Power Timeslot Control procedure can be initiated by the SRNC at any time after establishing a Radio Link. If the SRNC has initiated deletion of the last Radio Link in this DRNS, the Downlink Power Timeslot Control procedure shall not be initiated.

8.3.17.2 Successful Operation



Figure 26A: Downlink Power Timeslot Control procedure, Successful Operation

The Downlink Power Timeslot Control procedure is initiated by the SRNC sending a DL POWER TIMESLOT CONTROL REQUEST message to the DRNC.

Upon reception, the DRNS shall use the indicated DL Timeslot ISCP value when deciding the DL TX Power for each timeslot as specified in [22], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged.

If the *Primary CCPCH RSCP IE* is present, the DRNS should use the indicated value for HS-DSCH scheduling and transmit power adjustment.

8.3.17.3 Abnormal Conditions

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/* Partly omitted*/

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
SRNC-Id	M		RNC-Id 9.2.1.50		YES	reject
S-RNTI	M		9.2.1.53		YES	reject
D-RNTI	O		9.2.1.24		YES	reject
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL DPCH Information		1			YES	reject
>UL Scrambling Code	M		9.2.2.53		–	
>Min UL Channelisation Code Length	M		9.2.2.25		–	
>Max Number of UL DPDCHs	C – CodeLen		9.2.2.24		–	
>Puncture Limit	M		9.2.1.46	For the UL.	–	
>TFCS	M		TFCS for the UL 9.2.1.63		–	
>UL DPCH Slot Format	M		9.2.2.52		–	
>Uplink SIR Target	O		Uplink SIR 9.2.1.69		–	
>Diversity mode	M		9.2.2.8		–	
>SSDT Cell Identity Length	O		9.2.2.41		–	
>S Field Length	O		9.2.2.36		–	
>DPC Mode	O		9.2.2.12A		YES	reject
DL DPCH Information		1			YES	reject
>TFCS	M		TFCS for the DL. 9.2.1.63		–	
>DL DPCH Slot Format	M		9.2.2.9		–	
>Number of DL Channelisation Codes	M		9.2.2.26A		–	
>TFCI Signalling Mode	M		9.2.2.46		–	
>TFCI Presence	C- SlotFormat		9.2.1.55		–	
>Multiplexing Position	M		9.2.2.26		–	
>Power Offset Information		1			–	
>>PO1	M		Power Offset 9.2.2.30	Power offset for the TFCI bits.	–	
>>PO2	M		Power Offset 9.2.2.30	Power offset for the TPC bits.	–	
>>PO3	M		Power Offset 9.2.2.30	Power offset for the pilot bits.	–	
>FDD TPC Downlink Step Size	M		9.2.2.16		–	
>Limited Power Increase	M		9.2.2.21A		–	
>Inner Loop DL PC Status	M		9.2.2.21a		–	
DCH Information	M		DCH FDD Information 9.2.2.4A		YES	reject
DSCH Information	O		DSCH FDD Information 9.2.2.13A		YES	reject
RL Information		1...<maxn oofRLs>			EACH	notify
>RL ID	M		9.2.1.49		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>C-Id	M		9.2.1.6		–	
>First RLS Indicator	M		9.2.2.16A		-	
>Frame Offset	M		9.2.1.30		–	
>Chip Offset	M		9.2.2.1		–	
>Propagation Delay	O		9.2.2.33		–	
>Diversity Control Field	C – NotFirstRL		9.2.1.20		–	
>Initial DL TX Power	O		DL Power 9.2.1.21A		–	
>Primary CPICH Ec/No	O		9.2.2.32		–	
>SSDT Cell Identity	O		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.48		–	
>SSDT Cell Identity for EDSCHPC	C- EDSCHPC		9.2.2.40A		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
Active Pattern Sequence Information	O		9.2.2.A		YES	reject
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
HS-DSCH Information	O		HS-DSCH FDD Information 9.2.2.x1		YES	reject
HS-PDSCH RL ID	C – InfoHSDSCH		RL ID 9.2.1.53		YES	reject

Condition	Explanation
CodeLen	The IE shall be present if <i>Min UL Channelisation Code length</i> IE equals to 4
SlotFormat	The IE shall be present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values from 12 to 16.
NotFirstRL	The IE shall be present if the RL is not the first one in the <i>RL Information</i> IE.
Diversity mode	The IE shall be present if <i>Diversity Mode</i> IE in <i>UL DPCH Information</i> IE and is not equal to "none".
EDSCHPC	This IE shall be present if <i>Enhanced DSCH PC</i> IE is present in the <i>DSCH Information</i> IE.
InfoHSDSCH	This IE shall be present if HS-DSCH Information IE is present.

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

9.1.3.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
SRNC-Id	M		RNC-Id 9.2.1.50		YES	reject
S-RNTI	M		9.2.1.53		YES	reject
D-RNTI	O		9.2.1.24		YES	reject
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL Physical Channel Information		1			YES	reject
>Maximum Number of Timeslots per Frame	M		9.2.3.3A	For the UL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the UL	–	
>Maximum Number of UL Physical Channels per Timeslot	M		9.2.3.3B		–	
DL Physical Channel Information		1			YES	reject
>Maximum Number of Timeslots per Frame	M		9.2.3.3A	For the DL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the DL	–	
>Maximum Number of DL Physical Channels per Frame	M		9.2.3.3C		–	
UL CCTrCH Information		0..<maxno of CCTrCHs>		For DCH and USCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the UL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
DL CCTrCH Information		0..<maxno of CCTrCHs>		For DCH and DSCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the DL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TDD TPC Downlink Step Size	M		9.2.3.10		–	
>TPC CCTrCH List		0 to <maxnoCCTrCH>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.2		–	
DCH Information	O		DCH TDD Information 9.2.3.2A		YES	reject
DSCH Information	O		DSCH TDD Information 9.2.3.3a		YES	reject
USCH Information	O		9.2.3.15		YES	reject
RL Information		1			YES	reject
>RL ID	M		9.2.1.49		–	
>C-Id	M		9.2.1.6		–	
>Frame Offset	M		9.2.1.30		–	
>Special Burst Scheduling	M		9.2.3.7D		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	

>DL Time Slot ISCP Info	O		9.2.3.2D	For 3.84Mcps TDD only	–	
>DL Time Slot ISCP Info LCR	O		9.2.3.2F	For 1.28Mcps TDD only	YES	reject
>TSTD Support Indicator	O		9.2.3.13F	For 1.28Mcps TDD only	YES	ignore
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
HS-DSCH Information	O		HS-DSCH TDD Information 9.2.3.x1		YES	reject
HS-PDSCH RL ID	C - InfoHSDSCH		RL ID 9.2.1.53		YES	reject

Range bound	Explanation
MaxnoofCCTrCHs	Maximum number of CCTrCH for one UE.
InfoHSDSCH	This IE shall be present if HS-DSCH Information IE is present.

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
RL Information Response		1..<maxno ofRLs>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>Received Total Wide Band Power	M		9.2.2.35A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		–	
>Diversity Indication	C-NotFirstRL		9.2.1.21		–	
>CHOICE <i>Diversity Indication</i>	M				–	
>> <i>Combining</i>					–	
>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>> <i>Non Combining or First RL</i>					–	
>>>DCH Information Response	M		9.2.1.16A		–	
>SSDT Support Indicator	M		9.2.2.43		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>Primary Scrambling Code	O		9.2.1.45		–	
>UL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>DL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>Primary CPICH Power	M		9.2.1.44		–	
>DSCH Information Response	O		DSCH FDD Information		YES	ignore

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
			Response 9.2.2.13B			
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>PC Preamble	M		9.2.2.27a		–	
>SRB Delay	M		9.2.2.39A		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.x2		YES	ignore
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
HS-DSCH-RNTI	O		9.2.1.x2		YES	reject

Condition	Explanation
NotFirstRL	The IE shall be present if the RL is not the first RL in the <i>RL Information Response</i> IE.

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
RL Information Response		0..1		Mandatory For 3.84Mcps TDD only	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info	M		9.2.3.13D		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Cell Parameter ID	O		9.2.1.8		–	
>Sync Case	O		9.2.1.54		–	
>SCH Time Slot	C-Case2		9.2.1.51		–	
>SCTD Indicator	O		9.2.1.78		–	
>PCCPCH Power	M		9.2.1.43		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD	O		9.2.3.7B		–	
>UL CCTrCH Information		0..<maxno of CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>DL CCTrCH Information		0..<maxno of CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH Information Response		0 .. <Maxnoof DSCHs>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>USCH Information Response		0 .. <Maxnoof USCHs>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>HS-DSCH Information Response	O		HS-DSCH TDD Information Response 9.2.3.x2		YES	ignore
RL Information Response LCR		0..1		Mandatory For 1.28Mcps TDD only	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info LCR	M		9.2.3.13H		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Cell Parameter ID	O		9.2.1.8		–	
>SCTD Indicator	O		9.2.1.78		–	
>PCCPCH Power	M		9.2.1.43		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD LCR	O		9.2.3.7F		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>UL CTrCH Information LCR		<i>0..<maxno ofCTrCHsLCR></i>		For DCH	GLOBAL	ignore
>>CTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information LCR		<i>0..1</i>			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information LCR	M		9.2.3.13G		–	
>DL CTrCH Information LCR		<i>0..<maxno ofCTrCHsLCR></i>		For DCH	GLOBAL	ignore
>>CTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information LCR		<i>0..1</i>			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information LCR	M		9.2.3.2E			
>>>TSTD Indicator	M		9.2.3.13E		–	
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH Information Response LCR		<i>0..<Maxnoof DSCHsLCR></i>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>USCH Information Response LCR		<i>0..<Maxnoof USCHsLCR></i>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>HS-DSCH Information Response LCR	<u>O</u>		<u>HS-DSCH TDD Information Response 9.2.3.x2</u>		<u>YES</u>	<u>ignore</u>
Uplink SIR Target	M		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
<u>HS-DSCH-RNTI</u>	<u>O</u>		<u>9.2.1.x2</u>		<u>YES</u>	<u>reject</u>

Condition	Explanation
Case2	The IE shall be present if Sync Case IE is equal to "Case2".

Range bound	Explanation
MaxnoofDSCHs	Maximum number of DSCHs for one UE for 3.84Mcps TDD.
MaxnoofUSCHs	Maximum number of USCHs for one UE for 3.84Mcps TDD.
MaxnoofCCTrCHs	Maximum number of CCTrCH for one UE for 3.84Mcps TDD.
MaxnoofDSCHsLCR	Maximum number of DSCHs for one UE for 1.28Mcps TDD.
MaxnoofUSCHsLCR	Maximum number of USCHs for one UE for 1.28Mcps TDD.
MaxnoofCCTrCHsLCR	Maximum number of CCTrCH for one UE for 1.28Mcps TDD.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
CHOICE <i>Cause Level</i>	M				YES	ignore
> <i>General</i>					–	
>> <i>Cause</i>	M		9.2.1.5		–	
> <i>RL Specific</i>					–	
>> Unsuccessful RL Information Response		1...<max number of RLs>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>> Successful RL Information Response		0..<max number of RLs-1>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>URA Information	O		9.2.1.70B		–	
>>>SAI	M		9.2.1.52		–	
>>>Cell GAI	O		9.2.1.5A		–	
>>>UTRAN Access Point Position	O		9.2.1.70A		–	
>>>Received Total Wide Band Power	M		9.2.2.35A		–	
>>>Secondary CCPCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		–	
>>>Diversity Indication	M		9.2.1.21		–	
>>>CHOICE <i>Diversity Indication</i>	M				–	
>>>> <i>Combining</i>					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>>>> <i>Non Combining or First RL</i>					–	
>>>>>DCH Information Response	M		9.2.1.16A		–	
>>>SSDT Support Indicator	M		9.2.2.43		–	
>>>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>>>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>>>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Primary CPICH	M		9.2.1.44		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Power						
>>>Primary Scrambling Code	O		9.2.1.45		–	
>>>UL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>>>DL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>>>DSCH Information Response	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore
>>>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>>>Neighbouring GSM Cell Information	O		9.2.1.41C		-	
>>>PC Preamble	M		9.2.2.27a		-	
>>>SRB Delay	M		9.2.2.39A		-	
>>>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>>>HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.x2		YES	ignore
>>HS-DSCH-RNTI	O		9.2.1.x2		YES	reject
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

9.1.11 RADIO LINK RECONFIGURATION PREPARE

9.1.11.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL DPCH Information		0..1			YES	reject
>UL Scrambling Code	O		9.2.2.53		–	
>UL SIR Target	O		Uplink SIR 9.2.1.69		–	
>Min UL Channelisation Code Length	O		9.2.2.25		–	
>Max Number of UL DPDCHs	C – CodeLen		9.2.2.24		–	
>Puncture Limit	O		9.2.1.46	For the UL.	–	
>TFCS	O		9.2.1.63	TFCS for the UL.	–	
>UL DPCCH Slot Format	O		9.2.2.52		–	
>Diversity Mode	O		9.2.2.8		–	
>SSDT Cell Identity Length	O		9.2.2.41		–	
>S-Field Length	O		9.2.2.36		–	
DL DPCH Information		0..1			YES	reject
>TFCS	O		9.2.1.63	TFCS for the DL.	–	
>DL DPCH Slot Format	O		9.2.2.9		–	
>Number of DL Channelisation Codes	O		9.2.2.26A		–	
>TFCI Signalling Mode	O		9.2.2.46		–	
>TFCI Presence	C- SlotFormat		9.2.1.55		–	
>Multiplexing Position	O		9.2.2.26		–	
>Limited Power Increase	O		9.2.2.21A		–	
DCHs to Modify	O		FDD DCHs to Modify 9.2.2.13C		YES	reject
DCHs to Add	O		DCH FDD Information 9.2.2.4A		YES	reject
DCHs to Delete		0..<maxnoof DCHs>			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
DSCHs to Modify		0..1			YES	reject
>DSCH Info		0..<maxnoof DSCHs>			–	
>>DSCH ID	M		9.2.1.26A		–	
>>TrCh Source Statistics Descriptor	O		9.2.1.65		–	
>>Transport Format Set	O		9.2.1.64	For DSCH	–	
>>Allocation/Retention Priority	O		9.2.1.1		–	
>>Scheduling Priority Indicator	O		9.2.1.51A		–	
>>BLER	O		9.2.1.4		–	
>>Transport Bearer Request Indicator	M		9.2.1.61		–	
>PDSCH RL ID	O		RL ID 9.2.1.49		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>TFCS	O		9.2.1.63	For DSCH	–	
>Enhanced DSCH PC Indicator	O		9.2.2.13F		YES	ignore
>Enhanced DSCH PC	C-EDSCHPC On		9.2.2.13D		YES	ignore
DSCHs to Add	O		DSCH FDD Information 9.2.2.13A		YES	reject
DSCHs to Delete		0..1			YES	reject
>DSCH Info		1..<maxnoof DSCHs>			–	
>>DSCH ID	M		9.2.1.26A		–	
RL Information		0..<maxnoof RLs>			EACH	reject
>RL ID	M		9.2.1.49		–	
>SSDT Indication	O		9.2.2.42		–	
>SSDT Cell Identity	C - SSDTIndON		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.48		–	
>SSDT Cell Identity for EDSCHPC	C-EDSCHPC		9.2.2.40A		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
HS-DSCHs Information To Modify	<u>O</u>		HS-DSCH Information To modify 9.2.1.x3		YES	reject
HS-DSCHs Information To Add	<u>O</u>		HS-DSCH FDD Information 9.2.2.x1		YES	reject
HS-DSCHs Information To Delete		0..<maxnoof MACdFlows >=			GLOBAL	reject
> HS-DSCH MAC-d Flow ID	<u>M</u>		9.2.1.x1		–	
HS-PDSCH RL ID	<u>O</u>		RL ID 9.2.1.53		YES	reject

Condition	Explanation
SSDTIndON	The IE shall be present if the <i>SSDT Indication</i> IE is set to "SSDT Active in the UE".
CodeLen	The IE shall be present only if the <i>Min UL Channelisation Code length</i> IE equals to 4.
SlotFormat	The IE shall only be present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values from 12 to 16.
Diversity mode	The IE shall be present if <i>Diversity Mode</i> IE is present in the <i>UL DPCH Information</i> IE and is not equal to "none".
EDSCHPCOn	The IE shall be present if the <i>Enhanced DSCH PC Indicator</i> IE is set to "Enhanced DSCH PC Active in the UE".
EDSCHPC	The IE shall be present if <i>Enhanced DSCH PC</i> IE is present in either the <i>DSCHs to Modify</i> IE or the <i>DSCHs to Add</i> IE.

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows

9.1.11.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL CCH to Add		0..<maxno of CCHs>		For DCH and USCH	EACH	notify
>CCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the UL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.40		–	
> UL SIR Target	O		Uplink SIR 9.2.1.69	Mandatory for 1.28Mcps TDD; not applicable for 3.84Mcps TDD	YES	reject
UL CCH to Modify		0..<maxno of CCHs>			EACH	notify
>CCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63	For the UL.	–	
>TFCI Coding	O		9.2.3.11		–	
>Puncture Limit	O		9.2.1.46		–	
> UL SIR Target	O		Uplink SIR 9.2.1.69	For 1.28Mcps TDD only	YES	reject
UL CCH to Delete		0..<maxno of CCHs>			EACH	notify
>CCH ID	M		9.2.3.2		–	
DL CCH to Add		0..<maxno of CCHs>		For DCH and DSCH	EACH	notify
>CCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the DL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TPC CCH List		0 to <maxno CCHs>		List of uplink CCH which provide TPC	–	
>>TPC CCH ID	M		CCH ID 9.2.3.2		–	
DL CCH to Modify		0..<maxno of CCHs>			EACH	notify
>CCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63	For the DL.	–	
>TFCI Coding	O		9.2.3.11		–	
>Puncture Limit	O		9.2.1.46		–	
>TPC CCH List		0 to <maxno CCHs>		List of uplink CCH which provide TPC	–	
>>TPC CCH ID	M		CCH ID 9.2.3.2		–	
DL CCH to Delete		0..<maxno of CCHs>			EACH	notify

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>CCTrCH ID	M		9.2.3.2		–	
DCHs to Modify	O		TDD DCHs to Modify 9.2.3.8B		YES	reject
DCHs to Add	O		DCH TDD Information 9.2.3.2A		YES	reject
DCHs to Delete		0..<maxno ofDCHs>			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
DSCHs to Modify		0..<maxno ofDSCHs>			GLOBAL	reject
>DSCH ID	M		9.2.1.26A		–	
>CCTrCH Id	O		9.2.3.2	DL CCTrCH in which the DSCH is mapped.	–	
>TrCh Source Statistics Descriptor	O		9.2.1.65		–	
>Transport Format Set	O		9.2.1.64		–	
>Allocation/Retention Priority	O		9.2.1.1		–	
>Scheduling Priority Indicator	O		9.2.1.51A		–	
>BLER	O		9.2.1.4		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
DSCHs to Add	O		DSCH TDD Information 9.2.3.3a		YES	reject
DSCHs to Delete		0..<maxno ofDSCHs>			GLOBAL	reject
>DSCH ID	M		9.2.1.26A		–	
USCHs to Modify		0..<maxno ofUSCHs>			GLOBAL	reject
>USCH ID	M		9.2.3.14		–	
>CCTrCH Id	O		9.2.3.2	UL CCTrCH in which the USCH is mapped.	–	
>TrCh Source Statistics Descriptor	O		9.2.1.65		–	
>Transport Format Set	O		9.2.1.64		–	
>Allocation/Retention Priority	O		9.2.1.1		–	
>Scheduling Priority Indicator	O		9.2.1.51A		–	
>BLER	O		9.2.1.4		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
>RB Info		0 to <maxno of RB>		All Radio Bearers using this USCH	–	
>>RB Identity	M		9.2.3.5B		–	
USCHs to Add	O		USCH Information 9.2.3.15		YES	reject
USCHs to Delete		0..<maxno ofUSCHs>			GLOBAL	reject
>USCH ID	M		9.2.3.14		–	
HS-DSCH Information To	O		HS-DSCH		YES	reject

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Modify			Information To Modify 9.2.1.x3			
HS-DSCH Information To Add	<u>O</u>		HS-DSCH TDD Information 9.2.3.x1		<u>YES</u>	<u>reject</u>
HS-DSCH Information To Delete		<u>0..<maxno ofMACdFlows></u>			<u>GLOBAL</u>	<u>reject</u>
>HS-DSCH MAC-d Flow ID	<u>M</u>		9.2.1.x1			
HS-PDSCH RL ID	<u>O</u>		RL ID 9.2.1.53		<u>YES</u>	<u>reject</u>

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE.
MaxnoofUSCHs	Maximum number of USCHs for one UE.
MaxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows

9.1.12 RADIO LINK RECONFIGURATION READY

9.1.12.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		<i>0..<maxno ofRLs></i>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	O		FDD DL Code Information 9.2.2.14A		YES	ignore
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCHs to be Added or Modified	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore
>HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.x3		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
HS-DSCH-RNTI	O		9.2.1.x2		YES	reject

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for a UE.

9.1.12.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		0..1			YES	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>Secondary CCPCCH Info TDD	O		9.2.3.7B		–	
>UL CCTrCH Information		0..<maxnoof CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH to be Added		0..1		For 3.84Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>> Rx Timing Deviation	O		9.2.3.7A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>>UL DPCH to be Added LCR		0..1		For 1.28Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information LCR	M		9.2.3.13G		–	
>>UL DPCH to be Modified		0..1			YES	ignore
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>UL Timeslot Information		0 to <maxnoOfTS>		For 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift and Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code Information		0 to <maxnoOfDPCH>			–	
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code	O		9.2.3.8		–	
>>>UL Timeslot		0 to		For	GLOBAL	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Information LCR		<maxnoOfSLCR>		1.28Mcps TDD only		
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Midamble Shift LCR	O		9.2.3.4C		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code Information LCR		0 to <maxnoOfDPCHLCR>			GLOBAL	ignore
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code LCR	O		9.2.3.8a		–	
>>UL DPCH to be Deleted		0..<maxnoofDPCHs>			GLOBAL	ignore
>>>DPCH ID	M		9.2.3.3		–	
>DL CCTrCH Information		0..<maxnoofCCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH to be Added		0..1		For 3.84Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C		–	
>>DL DPCH to be Added LCR		0..1		For 1.28Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information LCR	M		9.2.3.2E		–	
>>DL DPCH to be Modified		0..1			YES	ignore
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>DL Timeslot Information		0 to <maxnoOfTS>		For 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift and Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>DL Code Information		0 to <maxnoOfDPCH>			–	
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code	O		9.2.3.8		–	
>>>>DL Timeslot Information LCR		0 to <maxnoOfSLCR>		For 1.28Mcps TDD only	GLOBAL	ignore
>>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>>Midamble Shift LCR	O		9.2.3.4C		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>DL Code Information LCR		0 to <maxnoOfDPCHLCR>			GLOBAL	ignore
>>>>DPCH ID	M		9.2.3.3		–	
>>>>TDD Channelisation Code LCR	O		9.2.3.8a		–	
>>DL DPCH to be Deleted		0..<maxnoofDPCHs>			GLOBAL	ignore
>>>DPCH ID	M		9.2.3.3		–	
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH to be Added or Modified		0 .. <MaxnoofDSCHs>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>Transport Format Management	M		9.2.3.13		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>USCH to be Added or Modified		0 .. <MaxnoofUSCHs>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Transport Format Management	M		9.2.3.13		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>HS-DSCH Information Response	<u>O</u>		<u>HS-DSCH TDD Information Response 9.2.3.x2</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.13		YES	ignore
<u>HS-DSCH-RNTI</u>	<u>O</u>		<u>9.2.1.x2</u>		<u>YES</u>	<u>reject</u>

Range bound	Explanation
MaxnoofDSCHs	Maximum number of DSCHs for one UE.
MaxnoofUSCHs	Maximum number of USCHs for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
MaxnoofTS	Maximum number of Timeslots for a UE for 3.84Mcps TDD.
MaxnoofDPCH	Maximum number of DPCH for a UE for 3.84Mcps TDD..
MaxnoofTSLCR	Maximum number of Timeslots for a UE for 1.28Mcps TDD..
MaxnoofDPCHLCR	Maximum number of DPCH for a UE for 1.28Mcps TDD..

9.1.40 DL POWER TIMESLOT CONTROL REQUEST [TDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
DL Time Slot ISCP Info	O		9.2.3.2D	Mandatory For 3.84Mcps TDD only	YES	ignore
DL Time Slot ISCP Info LCR	O		9.2.3.2F	Mandatory For 1.28Mcps TDD only	YES	ignore
Primary CCPCH RSCP	O		9.2.3.5		YES	ignore

9.2 Information Element Functional Definition and Contents

9.2.1 Common parameters

9.2.1.x1 HS-DSCH MAC-d Flow ID

HS-DSCH MAC-d Flow ID is the unique identifier for one MAC-d flow.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS-DSCH MAC-d Flow ID</u>			<u>INTEGER</u> <u>(0..7)</u>	

9.2.1.x2 HS-DSCH-RNTI

The HS-DSCH-RNTI is needed for the UE-specific CRC in HS-SCCH and HS-DSCH.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS-DSCH-RNTI</u>			<u>INTEGER</u> <u>(0..65535)</u>	

9.2.1.x3 HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE provides information for HS-DSCH to be modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information</u>		<u>0..<maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>BLER	O		9.2.1.4		=	
>Allocation/Retention Priority	O		9.2.1.1A		=	
<u>>Priority Queue Information</u>		<u>0..<maxno ofPrioQueues></u>			=	
>>Priority Queue ID	M		9.2.1.x5		=	
>>Scheduling Priority Indicator	O		9.2.1.51A		=	
<u>>>MAC-d PDU Size Index</u>		<u>0..<maxno ofMACdPDUindexes></u>			=	
>>>SID	M		9.2.1.x6		=	
>>>MAC-d PDU Size	O		9.2.1.x4		=	
>Transport Bearer Request Indicator	M		9.2.1.62A		=	
Measurement Reporting Cycle	O		ENUMERATED(k1,k2)	For FDD only	=	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of MAC-d flows.
<u>MaxnoofPrioQueues</u>	Maximum number of Priority Queues.
<u>MaxnoofMACdPDUindexes</u>	Maximum number of MAC-d PDU Size Indexes (SIDs).

9.2.1.x4 MAC-d PDU Size

The *MAC-d PDU Size* IE provides the size in bits of the MAC-d PDU.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>MAC-d PDU Size</u>			<u>INTEGER</u> <u>(1..5000,...)</u>	

9.2.1.x5 Priority Queue ID

The *Priority Queue ID* IE provides the identity of the Priority Queue.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Priority Queue ID</u>			<u>INTEGER</u> <u>(0..7)</u>	

9.2.1.x6 SID

The *SID* IE provides the identity of the Size Index.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SID</u>			<u>INTEGER</u> <u>(0..7)</u>	

9.2.2 FDD specific Parameters

9.2.2.x1 HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE provides information for HS-DSCH MAC-d flows to be established.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information</u>		<u>1..<maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>BLER	M		9.2.1.4		=	
>Allocation/Retention Priority	M		9.2.1.1A		=	
<u>>Priority Queue Information</u>		<u>1..<maxno ofPrioQueues></u>				
>>Priority Queue ID	M		9.2.1.x5			
>>Scheduling Priority Indicator	M		9.2.1.51A			
<u>>>MAC-d PDU Size Index</u>		<u>1..<maxno ofMACdPDUindexes></u>				
>>>SID	M		9.2.1.x6			
>>>MAC-d PDU Size	M		9.2.1.x4			
<u>UE Capabilities information</u>		<u>1</u>				
>HS-DSCH TrCh Bits per HS-DSCH TTI	M		ENUMERATED (7300, 14600, 20456, 28800,...)			
>HS-DSCH multi-code capability	M		ENUMERATED (5, 10, 15,...)			
>Min Inter-TTI Interval	M		INTEGER (1..3,...)			
>MAC-hs reordering buffer size	M		INTEGER (1..300,...)	The total buffer size defined in UE capability minus the RLC AM buffer		
<u>HARQ Information</u>		<u>1..<maxno ofHARQprocesses></u>			=	
>Process memory size	M		INTEGER (1..172800,...)	Number of soft channel bits per process.		
Measurement feedback offset	M		INTEGER (0..79,...)			

<u>Range bound</u>	<u>Explanation</u>
<u><i>MaxnoofMACdFlows</i></u>	<u>Maximum number of MAC-d flows.</u>
<u><i>MaxnoofPrioQueues</i></u>	<u>Maximum number of Priority Queues.</u>
<u><i>MaxnoofMACdPDUindexes</i></u>	<u>Maximum number of MAC-d PDU Size Indexes (SIDs).</u>
<u><i>MaxnoofHARQprocesses</i></u>	<u>Maximum number of HARQ processes.</u>

9.2.2.x2 HS-DSCH FDD Information Response

The HS-DSCH FDD Information Response IE provides information for HS-DSCH MAC-d flows that have been established or modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information Response</u>		<u>1..<Maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>Binding ID	O		9.2.1.4		=	
>Transport Layer Address	O		9.2.1.63		=	
<u>HS-SCCH Specific Information Response</u>		<u>1..<Maxno ofHSSCCHcodes></u>				
>Code Number	M		INTEGER (0..127)			
Measurement feedback reporting cycle k1	M		Measurement Feedback Reporting Cycle 9.2.2.x3	used by the UE when not in soft handover		
Measurement feedback reporting cycle k2	M		Measurement Feedback Reporting Cycle 9.2.2.x3	used by the UE when in soft handover		

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of MAC-d flows.
<u>MaxnoofHSSCCHcodes</u>	Maximum number of HS-SCCH codes.

9.2.2.x3 Measurement Feedback Reporting Cycle

The *Measurement Feedback Reporting Cycle* IE provides the duration of the measurement feedback reporting cycle.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Measurement Feedback Reporting Cycle</u>			<u>ENUMERATED (0, 1, 5, 10, 20, 40, 80,...)</u>	<u>Multiples of 2 ms intervals;</u>

9.2.3 TDD specific Parameters

9.2.3.x1 HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE provides information for HS-DSCH to be established.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information</u>		<u>1..<Maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x1		=	
>BLER	M		9.2.1.4		=	
>Allocation/Retention Priority	M		9.2.1.1A		=	
<u>>Priority Queue Information</u>		<u>1..<Maxno ofPrioQueues></u>			:	
>>Priority Queue ID	M		9.2.1.x5		:	
>>Scheduling Priority Indicator	M		9.2.1.51A			
<u>>>MAC-d PDU Size Index</u>		<u>1..<Maxno ofMACdPDUindexes></u>				
>>>SID	M		9.2.1.x6		:	
>>>MAC-d PDU Size	M		9.2.1.x4		:	
<u>UE Capabilities information</u>		<u>1</u>			:	
>HS-DSCH TrCh Bits per HS-DSCH TTI	M		ENUMERATED (7040, 10228, 14080,...)		:	
>HS-DSCH multi-code capability	M		ENUMERATED (8, 12, 16,...)		:	
>MAC-hs reordering buffer size	M		INTEGER (1..300,...)	The total buffer size defined in UE capability minus the RLC AM buffer		
<u>HARQ Information</u>		<u>1..<Maxno ofHARQprocesses></u>			=	
>Process memory size	M		INTEGER (1..168960,...)	Number of soft channel bits per process.	:	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of MAC-d flows.
<u>MaxnoofPrioQueues</u>	Maximum number of Priority Queues.
<u>MaxnoofMACdPDUindexes</u>	Maximum number of MAC-d PDU Size Indexes (SIDs).
<u>MaxnoofHARQprocesses</u>	Maximum number of HARQ processes.

9.2.3.x2 HS-DSCH TDD Information Response

The *HS-DSCH TDD Information Response* IE provides information for HS-DSCH that have been established or modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information Response</u>		<u>1..<Maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>Binding ID	O		9.2.1.4		=	
>Transport Layer Address	O		9.2.1.63		=	
<u>HS-SCCH Specific Information Response</u>		<u>0..<Maxno ofHSSCCHcodes></u>		Mandatory for 3.84Mcps TDD	GLOBAL	reject
>Time Slot	M		9.2.3.23			
>Midamble Shift and Burst Type	M		9.2.3.7			
>TDD Channelisation Code	M		9.2.3.19			
<u>>HS-SICH Information</u>		<u>1</u>				
>>Time Slot	M		9.2.3.23			
>>Midamble Shift and Burst Type	M		9.2.3.7			
>>TDD Channelisation Code	M		9.2.3.19			
<u>HS-SCCH Specific Information Response LCR</u>		<u>0..<Maxno ofHSSCCHcodes></u>		Mandatory for 1.28Mcps TDD only	GLOBAL	reject
>Time Slot LCR	M		9.2.3.24a			
>Midamble shift LCR	M		9.2.3.7A			
>TDD Channelisation Code LCR	M		9.2.3.19a			
<u>>HS-SICH Information LCR</u>		<u>1</u>				
>>Time Slot LCR	M		9.2.3.24a			
>>Midamble shift LCR	M		9.2.3.7A			
>>TDD Channelisation Code LCR	M		9.2.3.19a			

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	<u>Maximum number of MAC-d flows.</u>
<u>MaxnoofHSSCCHcodes</u>	<u>Maximum number of HS-SCCH codes.</u>

9.3.3 PDU Definitions

```
-- *****
--
-- PDU definitions for RNSAP.
--
-- *****

RNSAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
  Active-Pattern-Sequence-Information,
  AllocationRetentionPriority,
  AllowedQueuingTime,
  Allowed-Rate-Information,
  AlphaValue,
  BLER,
  SCTD-Indicator,
  BindingID,
  C-ID,
  C-RNTI,
  CCTrCH-ID,
  CFN,
  ClosedLoopMode1-SupportIndicator,
  ClosedLoopMode2-SupportIndicator,
  Closedloopoptimingadjustmentmode,
  CN-CS-DomainIdentifier,
  CN-PS-DomainIdentifier,
  CNDomainType,
  Cause,
  CellParameterID,
  ChipOffset,
  CommonMeasurementAccuracy,
  CommonMeasurementType,
  CommonMeasurementValue,
  CommonMeasurementValueInformation,
  CongestionCause,
  CriticalityDiagnostics,
  D-RNTI,
```

D-RNTI-ReleaseIndication,
DCH-FDD-Information,
DCH-ID,
DCH-InformationResponse,
DCH-TDD-Information,
DL-DPCH-SlotFormat,
DL-TimeslotISCP,
DL-Power,
DL-ScramblingCode,
DL-Timeslot-Information,
DL-TimeslotLCR-Information,
DL-TimeSlot-ISCP-Info,
DL-TimeSlot-ISCP-LCR-Information,
DPC-Mode,
DPC-Mode-Change-SupportIndicator,
DPCH-ID,
DRACControl,
DRXCycleLengthCoefficient,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DiversityControlField,
DiversityMode,
DSCH-FDD-Information,
DSCH-FDD-InformationResponse,
DSCH-FlowControlInformation,
DSCH-FlowControlItem,
DSCH-TDD-Information,
DSCH-ID,
SchedulingPriorityIndicator,
EnhancedDSCHPC,
EnhancedDSCHPCCounter,
EnhancedDSCHPCIndicator,
EnhancedDSCHPCWnd,
EnhancedDSCHPowerOffset,
FACH-FlowControlInformation,
FDD-DCHs-to-Modify,
FDD-DL-ChannelisationCodeNumber,
FDD-DL-CodeInformation,
FDD-S-CCPCH-Offset,
FDD-TPC-DownlinkStepSize,
FirstRLS-Indicator,
FNReportingIndicator,
FrameHandlingPriority,
FrameOffset,
GA-AccessPointPosition,
GA-Cell,
GA-CellAdditionalShapes,
[HSDSCH-FDD-Information](#),
[HSDSCH-FDD-Information-Response](#),
[HSDSCH-Information-to-Modify](#),
[HSDSCH-MACdFlow-ID](#),

[HSDSCH-RNTI](#),
[HSDSCH-TDD-Information](#),
[HSDSCH-TDD-Information-Response](#),
IMSI,
InformationExchangeID,
InformationReportCharacteristics,
InformationType,
InnerLoopDLPCStatus,
L3-Information,
LimitedPowerIncrease,
MaximumAllowedULTxPower,
MaxNrDLPhysicalchannels,
MaxNrOfUL-DPCHs,
MaxNrTimeslots,
MaxNrULPhysicalchannels,
MeasurementFilterCoefficient,
MeasurementID,
MidambleAllocationMode,
MidambleShiftAndBurstType,
MidambleShiftLCR,
MinimumSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
NeighbouringFDDCellMeasurementInformation,
NeighbouringTDDCellMeasurementInformation,
Neighbouring-GSM-CellInformation,
Neighbouring-UMTS-CellInformation,
NrOfDLchannelisationcodes,
PagingCause,
PagingRecordType,
PDSCHCodeMapping,
PayloadCRC-PresenceIndicator,
PCCPCH-Power,
PC-Preamble,
Permanent-NAS-UE-Identity,
PowerAdjustmentType,
PowerOffset,
PrimaryCCPCH-RSCP,
PrimaryCPICH-EcNo,
PrimaryCPICH-Power,
PrimaryScramblingCode,
PropagationDelay,
PunctureLimit,
QE-Selector,
RANAP-RelocationInformation,
RB-Info,
RL-ID,
RL-Set-ID,
RNC-ID,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
Received-total-wide-band-power,

RequestedDataValue,
RequestedDataValueInformation,
RxTimingDeviationForTA,
S-FieldLength,
S-RNTI,
SCH-TimeSlot,
SAI,
SFN,
Secondary-CCPCH-Info,
Secondary-CCPCH-Info-TDD,
Secondary-LCR-CCPCH-Info-TDD,
SpecialBurstScheduling,
SSDT-CellID,
SSDT-CellID-Length,
SSDT-Indication,
SSDT-SupportIndicator,
STTD-Indicator,
STTD-SupportIndicator,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
SecondaryCCPCH-SlotFormat,
SRB-Delay,
SyncCase,
SynchronisationConfiguration,
TDD-ChannelisationCode,
TDD-DCHs-to-Modify,
TDD-DL-Code-Information,
TDD-DPCHOffset,
TDD-PhysicalChannelOffset,
TDD-TPC-DownlinkStepSize,
TDD-ChannelisationCodeLCR,
TDD-DL-Code-LCR-Information,
TDD-UL-Code-Information,
TDD-UL-Code-LCR-Information,
TFCI-Coding,
TFCI-Presence,
TFCI-SignallingMode,
TimeSlot,
TimeSlotLCR,
TimingAdvanceApplied,
ToAWE,
ToAWS,
TransmitDiversityIndicator,
TransportBearerID,
TransportBearerRequestIndicator,
TFCS,
Transmission-Gap-Pattern-Sequence-Information,
TransportFormatManagement,
TransportFormatSet,
TransportLayerAddress,
TrCH-SrcStatisticsDescr,
TSTD-Indicator,

TSTD-Support-Indicator,
UARFCN,
UC-ID,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-Timeslot-Information,
UL-TimeslotLCR-Information,
UL-TimeSlot-ISCP-Info,
UL-TimeSlot-ISCP-LCR-Info,
URA-ID,
URA-Information,
USCH-ID,
USCH-Information
FROM RNSAP-IEs

PrivateIE-Container{},
ProtocolExtensionContainer{},
ProtocolIE-ContainerList{},
ProtocolIE-ContainerPair{},
ProtocolIE-ContainerPairList{},
ProtocolIE-Container{},
ProtocolIE-Single-Container{},
RNSAP-PRIVATE-IES,
RNSAP-PROTOCOL-EXTENSION,
RNSAP-PROTOCOL-IES,
RNSAP-PROTOCOL-IES-PAIR
FROM RNSAP-Containers

maxNoOfDSCHs,
maxNoOfUSCHs,
maxNrOfCCTrCHs,
maxNrOfDCHs,
maxNrOfTS,
maxNrOfDPCHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfRLs-1,
maxNrOfRLs-2,
maxNrOfULTs,
maxNrOfDLTs,
maxNoOfDSCHsLCR,
maxNoOfUSCHsLCR,
maxNrOfCCTrCHsLCR,
maxNrOfTsLCR,
maxNrOfDLTsLCR,
maxNrOfULTsLCR,
maxNrOfDPCHsLCR,
maxNrOfLCRTDDNeighboursPerRNC,
maxNrOfMeasNCell,
[maxNrOfMACdFlows,](#)

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AllowedQueuingTime,
id-BindingID,
id-C-ID,
id-C-RNTI,
id-CFN,
id-CFNReportingIndicator,
id-CN-CS-DomainIdentifier,
id-CN-PS-DomainIdentifier,
id-Cause,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CCTrCH-InformationItem-RL-FailureInd,
id-CCTrCH-InformationItem-RL-RestoreInd,
id-ClosedLoopModel-SupportIndicator,
id-ClosedLoopMode2-SupportIndicator,
id-CNOriginatedPage-PagingRqst,
id-CommonMeasurementAccuracy,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CongestionCause,
id-CriticalityDiagnostics,
id-D-RNTI,
id-D-RNTI-ReleaseIndication,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DCH-InformationResponse,
id-DCH-Rate-InformationItem-RL-CongestInd,
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,

id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-FDD-DL-CodeInformation,
id-DL-DPCH-Information-RL-ReconfPrepFDD,
id-DL-DPCH-Information-RL-SetupRqstFDD,
id-DL-DPCH-Information-RL-ReconfRqstFDD,
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,
id-DL-DPCH-InformationItem-RL-AdditionRspTDD,
id-DL-DPCH-InformationItem-RL-SetupRspTDD,
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
id-DL-Physical-Channel-Information-RL-SetupRqstTDD,
id-DLReferencePower,
id-DLReferencePowerList-DL-PC-Rqst,
id-DL-ReferencePowerInformation-DL-PC-Rqst,
id-DRXCycleLengthCoefficient,
id-DedicatedMeasurementObjectType-DM-Rprt,
id-DedicatedMeasurementObjectType-DM-Rqst,
id-DedicatedMeasurementObjectType-DM-Rsp,
id-DedicatedMeasurementType,
id-DPC-Mode,
id-DPC-Mode-Change-SupportIndicator,
id-DSCHs-to-Add-FDD,
id-DSCHs-to-Add-TDD,
id-DSCH-DeleteList-RL-ReconfPrepTDD,
id-DSCH-Delete-RL-ReconfPrepFDD,
id-DSCH-FDD-Information,
id-DSCH-InformationListIE-RL-AdditionRspTDD,
id-DSCH-InformationListIEs-RL-SetupRspTDD,
id-DSCH-TDD-Information,
id-DSCH-FDD-InformationResponse,
id-DSCH-ModifyList-RL-ReconfPrepTDD,
id-DSCH-Modify-RL-ReconfPrepFDD,
id-DSCHsToBeAddedOrModified-FDD,
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
id-EnhancedDSCHPC,
id-EnhancedDSCHPCIndicator,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
id-GA-Cell,
id-GA-CellAdditionalShapes,
[id-HSDSCH-FDD-Information,](#)
[id-HSDSCH-FDD-Information-Response,](#)
[id-HSDSCH-FDD-Information-to-Add,](#)
[id-HSDSCH-FDD-Information-to-Delete,](#)
[id-HSDSCH-Information-to-Modify,](#)
[id-HSDSCH-RNTI,](#)
[id-HSDSCH-TDD-Information,](#)

[id-HSDSCH-TDD-Information-Response](#),
[id-HSDSCH-TDD-Information-Response-LCR](#),
[id-HSDSCH-TDD-Information-to-Add](#),
[id-HSDSCH-TDD-Information-to-Delete](#),
[id-HSPDSCH-RL-ID](#),
id-IMSI,
id-InformationExchangeID,
id-InformationExchangeObjectType-InfEx-Rprt,
id-InformationExchangeObjectType-InfEx-Rqst,
id-InformationExchangeObjectType-InfEx-Rsp,
id-InformationReportCharacteristics,
id-InformationType,
id-InnerLoopDLPCStatus,
id-L3-Information,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-PagingArea-PagingRqst,
id-Permanent-NAS-UE-Identity,
id-FACH-FlowControlInformation,
id-PowerAdjustmentType,
[id-PrimCCPCH-RSCP-DL-PC-RqstTDD](#),
id-PropagationDelay,
id-RANAP-RelocationInformation,
id-RL-Information-PhyChReconfRqstFDD,
id-RL-Information-PhyChReconfRqstTDD,
id-RL-Information-RL-AdditionRqstFDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-DeletionRqst,
id-RL-Information-RL-FailureInd,
id-RL-Information-RL-ReconfPrepFDD,
id-RL-Information-RL-RestoreInd,
id-RL-Information-RL-SetupRqstFDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-InformationItem-RL-CongestInd,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-SetupRqstFDD,
id-RL-InformationList-RL-CongestInd,
id-RL-InformationList-RL-AdditionRqstFDD,
id-RL-InformationList-RL-DeletionRqst,
id-RL-InformationList-RL-PreemptRequiredInd,
id-RL-InformationList-RL-ReconfPrepFDD,
id-RL-InformationResponse-RL-AdditionRspTDD,
id-RL-InformationResponse-RL-ReconfReadyTDD,
id-RL-InformationResponse-RL-ReconfRspTDD,
id-RL-InformationResponse-RL-SetupRspTDD,
id-RL-InformationResponseItem-RL-AdditionRspFDD,
id-RL-InformationResponseItem-RL-ReconfReadyFDD,
id-RL-InformationResponseItem-RL-ReconfRspFDD,

id-RL-InformationResponseItem-RL-SetupRspFDD,
id-RL-InformationResponseList-RL-AdditionRspFDD,
id-RL-InformationResponseList-RL-ReconfReadyFDD,
id-RL-InformationResponseList-RL-ReconfRspFDD,
id-RL-InformationResponseList-RL-SetupRspFDD,
id-RL-ReconfigurationFailure-RL-ReconfFail,
id-RL-Set-InformationItem-DM-Rprt,
id-RL-Set-InformationItem-DM-Rqst,
id-RL-Set-InformationItem-DM-Rsp,
id-RL-Set-Information-RL-FailureInd,
id-RL-Set-Information-RL-RestoreInd,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporting-Object-RL-RestoreInd,
id-RxTimingDeviationForTA,
id-S-RNTI,
id-SAI,
id-SFN,
id-SFNReportingIndicator,
id-SRNC-ID,
id-SSDT-CellIDforEDSCHPC,
id-STD-SupportIndicator,
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-timeSlot-ISCP,
id-TransportBearerID,
id-TransportBearerRequestIndicator,
id-TransportLayerAddress,
id-UC-ID,
id-Transmission-Gap-Pattern-Sequence-Information,
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
id-UL-DPCH-InformationItem-RL-SetupRspTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,

id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
id-UL-SIRTarget,
id-URA-Information,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
id-USCHs-to-Add,
id-USCH-DeleteList-RL-ReconfPrepTDD,
id-USCH-InformationListIE-RL-AdditionRspTDD,
id-USCH-InformationListIEs-RL-SetupRspTDD,
id-USCH-Information,
id-USCH-ModifyList-RL-ReconfPrepTDD,
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD,
id-RL-LCR-InformationResponse-RL-SetupRspTDD,
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD,
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD,
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD,
id-RL-LCR-InformationResponse-RL-AdditionRspTDD,
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD,
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD,
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD,
id-TSTD-Support-Indicator-RL-SetupRqstTDD

FROM RNSAP-Constants;

```
-- *****
--
-- RADIO LINK SETUP REQUEST FDD
--
-- *****
```

```
RadioLinkSetupRequestFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkSetupRequestFDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkSetupRequestFDD-Extensions}} OPTIONAL,
    ...
}

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SRNC-ID            CRITICALITY reject TYPE RNC-ID                PRESENCE mandatory } |
    { ID id-S-RNTI            CRITICALITY reject TYPE S-RNTI                PRESENCE mandatory } |
    { ID id-D-RNTI            CRITICALITY reject TYPE D-RNTI                PRESENCE optional   } |
    { ID id-AllowedQueuingTime CRITICALITY reject TYPE AllowedQueuingTime    PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject TYPE UL-DPCH-Information-RL-SetupRqstFDD PRESENCE mandatory } |
    { ID id-DL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject TYPE DL-DPCH-Information-RL-SetupRqstFDD PRESENCE mandatory } |
    { ID id-DCH-FDD-Information CRITICALITY reject TYPE DCH-FDD-Information    PRESENCE mandatory } |
    { ID id-DSCH-FDD-Information CRITICALITY reject TYPE DSCH-FDD-Information    PRESENCE optional   } |
    { ID id-RL-Information-RL-SetupRqstFDD      CRITICALITY notify TYPE RL-InformationList-RL-SetupRqstFDD PRESENCE mandatory } |
    { ID id-Transmission-Gap-Pattern-Sequence-Information CRITICALITY reject TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE optional } |
    { ID id-Active-Pattern-Sequence-Information CRITICALITY reject TYPE Active-Pattern-Sequence-Information PRESENCE optional },
    ...
}

UL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    ul-ScramblingCode          UL-ScramblingCode,
    minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs           MaxNrOfUL-DPCHs OPTIONAL,
    -- This IE shall be present if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit          PunctureLimit,
    ul-TFCS                    TFCS,
    ul-DPCCH-SlotFormat        UL-DPCCH-SlotFormat,
    ul-SIRTarget               UL-SIR OPTIONAL,
    diversityMode              DiversityMode,
    sSDT-CellIdLength          SSDT-CellIdLength OPTIONAL,
    s-FieldLength              S-FieldLength OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DPC-Mode          CRITICALITY reject EXTENSION DPC-Mode PRESENCE optional },
    ...
}

DL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    tFCS                      TFCS,
    dl-DPCH-SlotFormat         DL-DPCH-SlotFormat,
    nrOfDLchannelisationcodes  NrOfDLchannelisationcodes,
```



```

tFCI-SignallingMode      TFCI-SignallingMode,
tFCI-Presence            TFCI-Presence          OPTIONAL
-- This IE shall be present if DL DPCH Slot Format IE is equal to any of the values from 12 to 16 --,
multiplexingPosition     MultiplexingPosition,
powerOffsetInformation    PowerOffsetInformation-RL-SetupRqstFDD,
fdd-dl-TPC-DownlinkStepSize FDD-TPC-DownlinkStepSize,
limitedPowerIncrease      LimitedPowerIncrease,
innerLoopDLPCStatus      InnerLoopDLPCStatus,
iE-Extensions            ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
...
}

DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

PowerOffsetInformation-RL-SetupRqstFDD ::= SEQUENCE {
    po1-ForTFCI-Bits      PowerOffset,
    po2-ForTPC-Bits       PowerOffset,
    po3-ForPilotBits      PowerOffset,
    iE-Extensions         ProtocolExtensionContainer { { PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

RL-InformationList-RL-SetupRqstFDD          ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-SetupRqstFDD} }

RL-InformationItemIEs-RL-SetupRqstFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-SetupRqstFDD CRITICALITY notify TYPE RL-InformationItem-RL-SetupRqstFDD PRESENCE mandatory }
}

RL-InformationItem-RL-SetupRqstFDD ::= SEQUENCE {
    rL-ID                RL-ID,
    c-ID                 C-ID,
    firstRLS-indicator   FirstRLS-Indicator,
    frameOffset          FrameOffset,
    chipOffset           ChipOffset,
    propagationDelay     PropagationDelay          OPTIONAL,
    diversityControlField DiversityControlField    OPTIONAL
    -- This IE shall be present if the RL is not the first one in the RL-InformationList-RL-SetupRqstFDD --,
    dl-InitialTX-Power   DL-Power                OPTIONAL,
    primaryCPICH-EcNo    PrimaryCPICH-EcNo        OPTIONAL,
    sSDT-CellID          SSdT-CellID              OPTIONAL,
    transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL,
    -- This IE shall be present unless Diversity Mode IE in UL DPCH Information group is "none"
    iE-Extensions        ProtocolExtensionContainer { {RL-InformationItem-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

```

```
RL-InformationItem-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSDT-CellID PRESENCE conditional },
  -- This IE shall be present if Enhanced DSCH PC IE is present in the DSCH Information IE.
  ...
}

RadioLinkSetupRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-Permanent-NAS-UE-Identity CRITICALITY ignore EXTENSION Permanent-NAS-UE-Identity PRESENCE optional } ||
  { ID id-HSDSCH-FDD-Information CRITICALITY reject EXTENSION HSDSCH-FDD-Information PRESENCE optional } ||
  { ID id-HSPDSCH-RL-ID CRITICALITY reject EXTENSION RL-ID PRESENCE conditional },
  ...
}
```

```

-- *****
--
-- RADIO LINK SETUP REQUEST TDD
--
-- *****

RadioLinkSetupRequestTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkSetupRequestTDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkSetupRequestTDD-Extensions}}    OPTIONAL,
    ...
}

RadioLinkSetupRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SRNC-ID                CRITICALITY reject TYPE RNC-ID                PRESENCE mandatory } |
    { ID id-S-RNTI                 CRITICALITY reject TYPE S-RNTI              PRESENCE mandatory } |
    { ID id-D-RNTI                 CRITICALITY reject TYPE D-RNTI              PRESENCE optional } |
    { ID id-UL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject TYPE UL-Physical-Channel-Information-RL-SetupRqstTDD PRESENCE mandatory } |
    { ID id-DL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject TYPE DL-Physical-Channel-Information-RL-SetupRqstTDD PRESENCE mandatory } |
    { ID id-AllowedQueuingTime     CRITICALITY reject TYPE AllowedQueuingTime     PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-SetupRqstTDD CRITICALITY notify TYPE UL-CCTrCH-InformationList-RL-SetupRqstTDD PRESENCE optional } |
    { ID id-DL-CCTrCH-InformationList-RL-SetupRqstTDD CRITICALITY notify TYPE DL-CCTrCH-InformationList-RL-SetupRqstTDD PRESENCE optional } |
    { ID id-DCH-TDD-Information     CRITICALITY reject TYPE DCH-TDD-Information     PRESENCE optional } |
    { ID id-DSCH-TDD-Information     CRITICALITY reject TYPE DSCH-TDD-Information     PRESENCE optional } |
    { ID id-USCH-Information         CRITICALITY reject TYPE USCH-Information         PRESENCE optional } |
    { ID id-RL-Information-RL-SetupRqstTDD CRITICALITY reject TYPE RL-Information-RL-SetupRqstTDD PRESENCE mandatory},
    ...
}

UL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-UL             MaxNrTimeslots,
    minimumSpreadingFactor-UL     MinimumSpreadingFactor,
    maxNrULPhysicalchannels       MaxNrULPhysicalchannels,
    iE-Extensions                 ProtocolExtensionContainer { {UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-DL             MaxNrTimeslots,
    minimumSpreadingFactor-DL     MinimumSpreadingFactor,
    maxNrDLPhysicalchannels       MaxNrDLPhysicalchannels,
    iE-Extensions                 ProtocolExtensionContainer { {DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

UL-CCTrCH-InformationList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

UL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD CRITICALITY notify TYPE UL-CCTrCH-InformationItem-RL-SetupRqstTDD PRESENCE mandatory }
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  cCCTrCH-ID CCTrCH-ID,
  ul-TFCS TFCS,
  tFCI-Coding TFCI-Coding,
  ul-PunctureLimit PunctureLimit,
  iE-Extensions ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-CCTrCH-InformationList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

DL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD CRITICALITY notify TYPE DL-CCTrCH-InformationItem-RL-SetupRqstTDD PRESENCE mandatory }
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  cCCTrCH-ID CCTrCH-ID,
  dl-TFCS TFCS,
  tFCI-Coding TFCI-Coding,
  dl-PunctureLimit PunctureLimit,
  tdd-TPC-DownlinkStepSize TDD-TPC-DownlinkStepSize,
  cCCTrCH-TPCList CCTrCH-TPCList-RL-SetupRqstTDD OPTIONAL,
  iE-Extensions ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
  ...
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

CCTrCH-TPCList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCItem-RL-SetupRqstTDD

CCTrCH-TPCItem-RL-SetupRqstTDD ::= SEQUENCE {
  cCCTrCH-ID CCTrCH-ID,
  iE-Extensions ProtocolExtensionContainer { { CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs } } OPTIONAL,
  ...
}

CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

}

RL-Information-RL-SetupRqstTDD ::= SEQUENCE {
    rL-ID                RL-ID,
    c-ID                C-ID,
    frameOffset         FrameOffset,
    specialBurstScheduling SpecialBurstScheduling,
    primaryCCPCH-RSCP   PrimaryCCPCH-RSCP   OPTIONAL,
    dL-TimeSlot-ISCP   DL-TimeSlot-ISCP-Info OPTIONAL,
    --for 3.84Mcps TDD only
    iE-Extensions       ProtocolExtensionContainer { {RL-Information-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD CRITICALITY reject EXTENSION DL-TimeSlot-ISCP-LCR-Information PRESENCE optional }|
    { ID id-TSTD-Support-Indicator-RL-SetupRqstTDD CRITICALITY ignore EXTENSION TSTD-Support-Indicator PRESENCE optional },
    --for 1.28Mcps TDD only
    ...
}

RadioLinkSetupRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity CRITICALITY ignore EXTENSION Permanent-NAS-UE-Identity PRESENCE optional }|
    { ID id-HSDSCH-TDD-Information CRITICALITY reject EXTENSION HSDSCH-TDD-Information PRESENCE optional }|
    { ID id-HSPDSCH-RL-ID CRITICALITY reject EXTENSION RL-ID PRESENCE conditional },
    ...
}

```

```

-- *****
--
-- RADIO LINK SETUP RESPONSE FDD
--
-- *****

RadioLinkSetupResponseFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkSetupResponseFDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkSetupResponseFDD-Extensions}}      OPTIONAL,
    ...
}

RadioLinkSetupResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                CRITICALITY ignore TYPE D-RNTI                PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier CRITICALITY ignore TYPE CN-PS-DomainIdentifier PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier CRITICALITY ignore TYPE CN-CS-DomainIdentifier PRESENCE optional } |
    { ID id-RL-InformationResponseList-RL-SetupRspFDD CRITICALITY ignore TYPE RL-InformationResponseList-RL-SetupRspFDD PRESENCE mandatory } |
    { ID id-UL-SIRTarget          CRITICALITY ignore TYPE UL-SIR                PRESENCE optional } |
    { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponseItemIEs-RL-SetupRspFDD} }

RL-InformationResponseItemIEs-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-SetupRspFDD
        CRITICALITY ignore TYPE RL-InformationResponseItem-RL-SetupRspFDD PRESENCE mandatory }
}

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                RL-ID,
    rL-Set-ID            RL-Set-ID,
    uRA-Information      URA-Information    OPTIONAL,
    sAI                  SAI,
    gA-Cell              GA-Cell    OPTIONAL,
    gA-AccessPointPosition GA-AccessPointPosition    OPTIONAL,
    received-total-wide-band-power Received-total-wide-band-power,
    secondary-CCPCH-Info Secondary-CCPCH-Info    OPTIONAL,
    dl-CodeInformation   FDD-DL-CodeInformation,
    diversityIndication DiversityIndication-RL-SetupRspFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator SSDT-SupportIndicator,
    maxUL-SIR            UL-SIR,
    minUL-SIR            UL-SIR,
    closedloopTimingadjustmentmode ClosedloopTimingadjustmentmode    OPTIONAL,
    maximumAllowedULTxPower MaximumAllowedULTxPower,
    maximumDLTxPower    DL-Power,
    minimumDLTxPower    DL-Power,
    primaryScramblingCode PrimaryScramblingCode    OPTIONAL,
    uL-UARFCN            UARFCN    OPTIONAL,
    dL-UARFCN            UARFCN    OPTIONAL,
}

```

```

primaryCPICH-Power          PrimaryCPICH-Power,
dSCHInformationResponse     DSCH-InformationResponse-RL-SetupRspFDD OPTIONAL,
neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation OPTIONAL,
neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation OPTIONAL,
pC-Preamble                PC-Preamble,
sRB-Delay                  SRB-Delay,
iE-Extensions              ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes          CRITICALITY ignore EXTENSION GA-CellAdditionalShapes          PRESENCE optional }|
  { ID id-HSDSCH-FDD-Information-Response  CRITICALITY ignore EXTENSION HSDSCH-FDD-Information-Response  PRESENCE optional },
  ...
}

DiversityIndication-RL-SetupRspFDD ::= CHOICE {
  combining                      Combining-RL-SetupRspFDD,
  nonCombiningOrFirstRL         NonCombiningOrFirstRL-RL-SetupRspFDD
}

Combining-RL-SetupRspFDD ::= SEQUENCE {
  rL-ID                          RL-ID,
  iE-Extensions                  ProtocolExtensionContainer { { CombiningItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
  ...
}

CombiningItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
  { ID id-DCH-InformationResponse          CRITICALITY ignore EXTENSION DCH-InformationResponse          PRESENCE optional }
}

NonCombiningOrFirstRL-RL-SetupRspFDD ::= SEQUENCE {
  dCH-InformationResponse          DCH-InformationResponse,
  iE-Extensions                  ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
  ...
}

NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

DSCH-InformationResponse-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseIE-RL-SetupRspFDD }}

DSCH-InformationResponseIE-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-DSCH-FDD-InformationResponse    CRITICALITY ignore TYPE DSCH-FDD-InformationResponse PRESENCE mandatory }
}

RadioLinkSetupResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-HSDSCH-RNTI                    CRITICALITY reject EXTENSION HSDSCH-RNTI                    PRESENCE optional },
  ...
}

```

```

-- *****
--
-- RADIO LINK SETUP RESPONSE TDD
--
-- *****

RadioLinkSetupResponseTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkSetupResponseTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkSetupResponseTDD-Extensions}}
    ...
}

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                CRITICALITY ignore TYPE D-RNTI                PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier CRITICALITY ignore TYPE CN-PS-DomainIdentifier PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier CRITICALITY ignore TYPE CN-CS-DomainIdentifier PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD CRITICALITY ignore TYPE RL-InformationResponse-RL-SetupRspTDD PRESENCE optional } |
    --Mandatory for 3.84Mcps TDD only
    { ID id-UL-SIRTarget            CRITICALITY ignore TYPE UL-SIR            PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics  CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                RL-ID,
    uRA-Information      URA-Information OPTIONAL,
    sAI                  SAI,
    gA-Cell              GA-Cell OPTIONAL,
    gA-AccessPointPosition GA-AccessPointPosition OPTIONAL,
    ul-TimeSlot-ISCP-Info UL-TimeSlot-ISCP-Info,
    maxUL-SIR            UL-SIR,
    minUL-SIR            UL-SIR,
    maximumAllowedULTxPower MaximumAllowedULTxPower,
    maximumDLTxPower    DL-Power,
    minimumDLTxPower    DL-Power,
    uARFCNforNt          UARFCN OPTIONAL,
    cellParameterID      CellParameterID OPTIONAL,
    syncCase              SyncCase OPTIONAL,
    sCH-TimeSlot          SCH-TimeSlot OPTIONAL,
    -- This IE shall be present if Sync Case IE is Case2. --
    sCTD-Indicator        SCTD-Indicator OPTIONAL,
    pCCPCH-Power          PCCPCH-Power,
    timingAdvanceApplied  TimingAdvanceApplied,
    alphaValue            AlphaValue,
    ul-PhysCH-SF-Variation UL-PhysCH-SF-Variation,
    synchronisationConfiguration SynchronisationConfiguration,
    secondary-CCPCH-Info-TDD Secondary-CCPCH-Info-TDD OPTIONAL,
    ul-CCTrCHInformation UL-CCTrCHInformationList-RL-SetupRspTDD OPTIONAL,
    dl-CCTrCHInformation DL-CCTrCHInformationList-RL-SetupRspTDD OPTIONAL,
    dCH-InformationResponse DCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    dsch-InformationResponse DSCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    usch-InformationResponse USCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation OPTIONAL,
}

```



```

neighbouring-GSM-CellInformation      Neighbouring-GSM-CellInformation OPTIONAL,
iE-Extensions                          ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
...
}

RL-InformationResponse-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes      CRITICALITY ignore EXTENSION GA-CellAdditionalShapes      PRESENCE optional }|
  { ID id-HSDSCH-TDD-Information-Response CRITICALITY ignore EXTENSION HSDSCH-TDD-Information-Response PRESENCE optional},
  ...
}

UL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

UL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD CRITICALITY ignore TYPE UL-CCTrCHInformationListIE-RL-SetupRspTDD PRESENCE mandatory }
}

UL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

UL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  ul-DPCH-Information      UL-DPCH-InformationList-RL-SetupRspTDD OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-InformationListIEs-RL-SetupRspTDD} }

UL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationItem-RL-SetupRspTDD CRITICALITY ignore TYPE UL-DPCH-InformationItem-RL-SetupRspTDD PRESENCE mandatory}
}

UL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
  repetitionPeriod      RepetitionPeriod,
  repetitionLength      RepetitionLength,
  tDD-DPCHOffset        TDD-DPCHOffset,
  uL-Timeslot-Information      UL-Timeslot-Information,
  iE-Extensions          ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {

```

```

    { ID id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD    CRITICALITY ignore TYPE DL-CCTrCHInformationListIE-RL-SetupRspTDD PRESENCE mandatory }
}

```

```
DL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD
```

```
DL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    dl-DPCH-Information      DL-DPCH-InformationList-RL-SetupRspTDD    OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

```

```
DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```
DL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-InformationListIEs-RL-SetupRspTDD} }
```

```
DL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-RL-SetupRspTDD    CRITICALITY ignore TYPE DL-DPCH-InformationItem-RL-SetupRspTDD PRESENCE mandatory }
}

```

```
DL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tDD-DPCHOffset            TDD-DPCHOffset,
    dL-Timeslot-Information    DL-Timeslot-Information,
    iE-Extensions            ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

```

```
DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```
DCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-SetupRspTDD}}
```

```
DCH-InformationResponseListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse    CRITICALITY ignore TYPE DCH-InformationResponse PRESENCE mandatory }
}

```

```
DSCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationList-RL-SetupRspTDD}}
```

```
DSCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIEs-RL-SetupRspTDD    CRITICALITY ignore TYPE DSCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

```

```
DSCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-SetupRspTDD
```

```
DSCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                DSCH-ID,
    dsch-FlowControlInformation    DSCH-FlowControlInformation,
    bindingID              BindingID    OPTIONAL,
}

```

```

transportLayerAddress TransportLayerAddress OPTIONAL,
transportFormatManagement TransportFormatManagement,
IE-Extensions ProtocolExtensionContainer { {DSCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
...
}

DSCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

USCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationList-RL-SetupRspTDD}}

USCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
{ ID id-USCH-InformationListIEs-RL-SetupRspTDD CRITICALITY ignore TYPE USCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

USCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCHInformationItem-RL-SetupRspTDD

USCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
usch-ID USCH-ID,
bindingID BindingID OPTIONAL,
transportLayerAddress TransportLayerAddress OPTIONAL,
transportFormatManagement TransportFormatManagement,
IE-Extensions ProtocolExtensionContainer { {USCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
...
}

USCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

RadioLinkSetupResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
{ ID id-RL-LCR-InformationResponse-RL-SetupRspTDD CRITICALITY ignore EXTENSION RL-LCR-InformationResponse-RL-SetupRspTDD PRESENCE
mandatory}
--Mandatory for 1.28Mcps TDD only
{ ID id-HSDSCH-RNTI CRITICALITY reject EXTENSION HSDSCH-RNTI PRESENCE optional },
...
}

RL-LCR-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
rL-ID RL-ID,
uRA-Information URA-Information,
sAI SAI,
gA-Cell GA-Cell OPTIONAL,
gA-AccessPointPosition GA-AccessPointPosition OPTIONAL,
ul-TimeSlot-ISCP-LCR-Info UL-TimeSlot-ISCP-LCR-Info,
maxUL-SIR UL-SIR,
minUL-SIR UL-SIR,
maximumAllowedULTxPower MaximumAllowedULTxPower,
maximumDLTxPower DL-Power,
minimumDLTxPower DL-Power,
uARFCNforNt UARFCN OPTIONAL,
cellParameterID CellParameterID OPTIONAL,

```

```

sCTD-Indicator          SCTD-Indicator  OPTIONAL,
pCCPCH-Power           PCCPCH-Power,
alphaValue              AlphaValue,
ul-PhysCH-SF-Variation  UL-PhysCH-SF-Variation,
synchronisationConfiguration  SynchronisationConfiguration,
secondary-LCR-CCPCH-Info-TDD  Secondary-LCR-CCPCH-Info-TDD          OPTIONAL,
ul-LCR-CCTrCHInformationList-RL-SetupRspTDD  UL-LCR-CCTrCHInformationList-RL-SetupRspTDD  OPTIONAL,
dl-LCR-CCTrCHInformationList-RL-SetupRspTDD  DL-LCR-CCTrCHInformationList-RL-SetupRspTDD  OPTIONAL,
dCH-InformationResponseList-RL-SetupRspTDD  DCH-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
dsch-LCR-InformationResponseList-RL-SetupRspTDD  DSCH-LCR-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
usch-LCR-InformationResponseList-RL-SetupRspTDD  USCH-LCR-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
neighbouring-UMTS-CellInformationList-RL-SetupRspTDD  Neighbouring-UMTS-CellInformationList-RL-SetupRspTDD  OPTIONAL,
neighbouring-GSM-CellInformationList-RL-SetupRspTDD  Neighbouring-GSM-CellInformationList-RL-SetupRspTDD  OPTIONAL,
iE-Extensions          ProtocolExtensionContainer { { RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs } }  OPTIONAL,
...
}

RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-HSDSCH-TDD-Information-Response-LCR  CRITICALITY ignore  EXTENSION HSDSCH-TDD-Information-Response  PRESENCE optional},
  ...
}

UL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}

UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD  RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD  CRITICALITY ignore  TYPE UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD  PRESENCE
  mandatory }
}

UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD

UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  ul-DPCH-LCR-InformationList-RL-SetupRspTDD  UL-DPCH-LCR-InformationList-RL-SetupRspTDD  OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { {UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} }  OPTIONAL,
  ...
}

UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }

UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD  RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD  CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationItem-RL-SetupRspTDD  PRESENCE mandatory
  }
}

UL-DPCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
  repetitionPeriod          RepetitionPeriod,
  repetitionLength          RepetitionLength,
  tDD-DPCHoffset            TDD-DPCHoffset,
}

```

```

    uL-TimeslotLCR-Information      UL-TimeslotLCR-Information,
    iE-Extensions                  ProtocolExtensionContainer { {UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD    CRITICALITY ignore TYPE DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD    PRESENCE
mandatory }
}

DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    dl-DPCH-LCR-Information  DL-DPCH-LCR-InformationList-RL-SetupRspTDD    OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }

DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD    CRITICALITY ignore TYPE DL-DPCH-LCR-InformationItem-RL-SetupRspTDD    PRESENCE mandatory
}
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tDD-DPCHOffset            TDD-DPCHOffset,
    dL-Timeslot-LCR-Information DL-TimeslotLCR-Information,
    tSTD-Indicator            TSTD-Indicator,
    iE-Extensions            ProtocolExtensionContainer { {DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-LCR-InformationList-RL-SetupRspTDD}}

DSCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD    CRITICALITY ignore TYPE DSCH-LCR-InformationListIEs-RL-SetupRspTDD    PRESENCE mandatory }
}

```

```

}

DSCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHsLCR)) OF DSCH-LCR-InformationItem-RL-SetupRspTDD

DSCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                DSCH-ID,
    dsch-FlowControlInformation DSCH-FlowControlInformation,
    bindingID              BindingID OPTIONAL,
    transportLayerAddress  TransportLayerAddress OPTIONAL,
    transportFormatManagement TransportFormatManagement,
    iE-Extensions         ProtocolExtensionContainer { {DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-LCR-InformationList-RL-SetupRspTDD}}

USCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-LCR-InformationListIEs-RL-SetupRspTDD CRITICALITY ignore TYPE USCH-LCR-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

USCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHsLCR)) OF USCH-LCR-InformationItem-RL-SetupRspTDD

USCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    usch-ID                USCH-ID,
    bindingID              BindingID OPTIONAL,
    transportLayerAddress  TransportLayerAddress OPTIONAL,
    transportFormatManagement TransportFormatManagement,
    iE-Extensions         ProtocolExtensionContainer { {USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```
-- *****
--
-- RADIO LINK SETUP FAILURE FDD
--
-- *****
```

```
RadioLinkSetupFailureFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkSetupFailureFDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkSetupFailureFDD-Extensions}}    OPTIONAL,
    ...
}

RadioLinkSetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                CRITICALITY ignore TYPE D-RNTI                PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier CRITICALITY ignore TYPE CN-PS-DomainIdentifier PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier CRITICALITY ignore TYPE CN-CS-DomainIdentifier PRESENCE optional } |
    { ID id-CauseLevel-RL-SetupFailureFDD CRITICALITY ignore TYPE CauseLevel-RL-SetupFailureFDD PRESENCE mandatory } |
    { ID id-UL-SIRTarget           CRITICALITY ignore TYPE UL-SIR                PRESENCE optional } |
    { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

CauseLevel-RL-SetupFailureFDD ::= CHOICE {
    generalCause                GeneralCauseList-RL-SetupFailureFDD,
    rLSpecificCause             RLSpecificCauseList-RL-SetupFailureFDD,
    ...
}

GeneralCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    cause                        Cause,
    iE-Extensions                ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureFDD-ExtIEs } }    OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-SetupFailureFDD UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    successful-RL-InformationRespList-RL-SetupFailureFDD    SuccessfulRL-InformationResponseList-RL-SetupFailureFDD    OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs } }    OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-RNTI          CRITICALITY reject EXTENSION HSDSCH-RNTI          PRESENCE optional },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }
```

```

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD      CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-
SetupFailureFDD      PRESENCE mandatory }
}

```

```

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
  rL-ID          RL-ID,
  cause          Cause,
  iE-Extensions ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
  ...
}

```

```

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {SuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

```

```

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD      CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-SetupFailureFDD
PRESENCE mandatory }
}

```

```

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
  rL-ID          RL-ID,
  rL-Set-ID     RL-Set-ID,
  uRA-Information URA-Information      OPTIONAL,
  SAI           SAI,
  gA-Cell       GA-Cell      OPTIONAL,
  gA-AccessPointPosition GA-AccessPointPosition      OPTIONAL,
  received-total-wide-band-power Received-total-wide-band-power,
  secondary-CCPCH-Info Secondary-CCPCH-Info      OPTIONAL,
  dl-CodeInformation FDD-DL-CodeInformation,
  diversityIndication DiversityIndication-RL-SetupFailureFDD,
  -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
  -- the tabular message format in subclause 9.1.
  sSDT-SupportIndicator sSDT-SupportIndicator,
  maxUL-SIR             UL-SIR,
  minUL-SIR             UL-SIR,
  closedlooptimingadjustmentmode Closedlooptimingadjustmentmode      OPTIONAL,
  maximumAllowedULTxPower MaximumAllowedULTxPower,
  maximumDLTxPower     DL-Power,
  minimumDLTxPower     DL-Power,
  primaryCPICH-Power    PrimaryCPICH-Power,
  primaryScramblingCode PrimaryScramblingCode      OPTIONAL,
  uL-UARFCN             UARFCN      OPTIONAL,
  dL-UARFCN             UARFCN      OPTIONAL,
  dSCH-InformationResponse-RL-SetupFailureFDD DSCH-InformationResponseList-RL-SetupFailureFDD      OPTIONAL,
  neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation      OPTIONAL,
  neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation      OPTIONAL,
  pC-Preamble          PC-Preamble,
  sRB-Delay            SRB-Delay,

```



```

    iE-Extensions          ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes          CRITICALITY ignore  EXTENSION  GA-CellAdditionalShapes          PRESENCE optional }|
  { ID id-HSDSCH-FDD-Information-Response  CRITICALITY ignore  EXTENSION  HSDSCH-FDD-Information-Response  PRESENCE optional },
  ...
}

DiversityIndication-RL-SetupFailureFDD ::= CHOICE {
  combining          Combining-RL-SetupFailureFDD,
  nonCombiningOrFirstRL  NonCombiningOrFirstRL-RL-SetupFailureFDD
}

Combining-RL-SetupFailureFDD ::= SEQUENCE {
  rL-ID          RL-ID,
  iE-Extensions  ProtocolExtensionContainer { { CombiningItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
  ...
}

CombiningItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
  { ID id-DCH-InformationResponse          CRITICALITY ignore  EXTENSION  DCH-InformationResponse          PRESENCE optional }
}

NonCombiningOrFirstRL-RL-SetupFailureFDD ::= SEQUENCE {
  dCH-InformationResponse          DCH-InformationResponse,
  iE-Extensions                    ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
  ...
}

NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

DSCH-InformationResponseList-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-SetupFailureFDD }}

DSCH-InformationResponseListIEs-RL-SetupFailureFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-DSCH-FDD-InformationResponse  CRITICALITY ignore  TYPE  DSCH-FDD-InformationResponse  PRESENCE mandatory }
}

RadioLinkSetupFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

UNCHANGED TEXT IS REMOVED

```

-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
--
-- *****

RadioLinkReconfigurationPrepareFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkReconfigurationPrepareFDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareFDD-Extensions}}      OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject TYPE AllowedQueuingTime          PRESENCE optional } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD CRITICALITY reject TYPE UL-DPCH-Information-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD CRITICALITY reject TYPE DL-DPCH-Information-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-FDD-DCHs-to-Modify          CRITICALITY reject TYPE FDD-DCHs-to-Modify          PRESENCE optional } |
    { ID id-DCHs-to-Add-FDD             CRITICALITY reject TYPE DCH-FDD-Information          PRESENCE optional } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD CRITICALITY reject TYPE DCH-DeleteList-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-DSCH-Modify-RL-ReconfPrepFDD CRITICALITY reject TYPE DSCH-Modify-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-DSCHs-to-Add-FDD           CRITICALITY reject TYPE DSCH-FDD-Information          PRESENCE optional } |
    { ID id-DSCH-Delete-RL-ReconfPrepFDD CRITICALITY reject TYPE DSCH-Delete-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-RL-InformationList-RL-ReconfPrepFDD CRITICALITY reject TYPE RL-InformationList-RL-ReconfPrepFDD PRESENCE optional } |
    { ID id-Transmission-Gap-Pattern-Sequence-Information CRITICALITY reject TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE optional }
},
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode            UL-ScramblingCode            OPTIONAL,
    ul-SIRTarget                 UL-SIR                        OPTIONAL,
    minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength OPTIONAL,
    maxNrOfUL-DPDCHs            MaxNrOfUL-DPDCHs            OPTIONAL
    -- This IE shall be present if minUL-ChannelisationCodeLength equals to 4 --,
    ul-PunctureLimit            PunctureLimit                OPTIONAL,
    tFCS                         TFCS                        OPTIONAL,
    ul-DPCCH-SlotFormat          UL-DPCCH-SlotFormat          OPTIONAL,
    diversityMode                DiversityMode                 OPTIONAL,
    sSDT-CellIDLength           SSDT-CellIDLength           OPTIONAL,
    s-FieldLength                S-FieldLength                OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    tFCS                         TFCS                        OPTIONAL,
    dl-DPCH-SlotFormat           DL-DPCH-SlotFormat          OPTIONAL,
    nrOfDLchannelisationcodes    NrOfDLchannelisationcodes  OPTIONAL,
    tFCI-SignallingMode          TFCI-SignallingMode         OPTIONAL,
}

```

```

tFCI-Presence          TFCI-Presence          OPTIONAL
-- This IE shall be present if DL DPCH Slot Format IE is from 12 to 16 --,
multiplexingPosition    MultiplexingPosition    OPTIONAL,
limitedPowerIncrease     LimitedPowerIncrease    OPTIONAL,
iE-Extensions           ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
...
}

DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

DCH-DeleteList-RL-ReconfPrepFDD          ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepFDD

DCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
dCH-ID          DCH-ID,
iE-Extensions   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
...
}

DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

DSCH-Modify-RL-ReconfPrepFDD ::= SEQUENCE {
dSCH-Information      DSCH-ModifyInfo-RL-ReconfPrepFDD    OPTIONAL,
pdSCH-RL-ID           RL-ID          OPTIONAL,
tFCS                  TFCS          OPTIONAL,
iE-Extensions         ProtocolExtensionContainer { {DSCH-Modify-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
...
}

DSCH-Modify-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

DSCH-ModifyInfo-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyInformationItem-RL-ReconfPrepFDD

DSCH-ModifyInformationItem-RL-ReconfPrepFDD ::= SEQUENCE {
dSCH-ID          DSCH-ID,
trChSourceStatisticsDescriptor TrCh-SrcStatisticsDescr OPTIONAL,
transportFormatSet TransportFormatSet    OPTIONAL,
allocationRetentionPriority AllocationRetentionPriority    OPTIONAL,
schedulingPriorityIndicator SchedulingPriorityIndicator    OPTIONAL,
bLER             BLER          OPTIONAL,
transportBearerRequestIndicator TransportBearerRequestIndicator,
iE-Extensions    ProtocolExtensionContainer { {DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
...
}

DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
{ ID id-EnhancedDSCHPCIndicator CRITICALITY ignore EXTENSION EnhancedDSCHPCIndicator PRESENCE optional }|
{ ID id-EnhancedDSCHPC          CRITICALITY ignore EXTENSION EnhancedDSCHPC          PRESENCE conditional },

```

```

-- The IE shall be present if the Enhanced DSCH PC Indicator IE is set to "Enhanced DSCH PC Active in the UE".
...
}

DSCH-Delete-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-Information          DSCH-Info-Delete-RL-ReconfPrepFDD,
    iE-Extensions            ProtocolExtensionContainer { {DSCH-Delete-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Delete-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Info-Delete-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(1..maxNoOfDSCHs)) OF DSCH-DeleteInformationItem-RL-REconfPrepFDD

DSCH-DeleteInformationItem-RL-REconfPrepFDD ::= SEQUENCE {
    dSCH-ID                  DSCH-ID,
    iE-Extensions            ProtocolExtensionContainer { {DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-ReconfPrepFDD          ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-ReconfPrepFDD-IEs} }

RL-Information-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-ReconfPrepFDD          CRITICALITY reject   TYPE RL-Information-RL-ReconfPrepFDD          PRESENCE mandatory }
}

RL-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                  RL-ID,
    sSDT-Indication        SSdT-Indication          OPTIONAL,
    sSDT-CellIdentity      SSdT-CellID              OPTIONAL
    -- The IE shall be present if the sSDT-Indication is set to 'sSDT-active-in-the-UE' --,
    transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL,
    -- This IE shall be present if Diversity Mode IE is present in UL DPCH Information IE and is not equal to "none"
    iE-Extensions          ProtocolExtensionContainer { {RL-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSdT-CellID          PRESENCE conditional },
    -- This IE shall be present if Enhanced DSCH PC IE is present in either the DSCHs to Modify IE or the DSCHs to Add IE.
    ...
}

RadioLinkReconfigurationPrepareFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-Information-to-Modify          CRITICALITY reject   EXTENSION HSDSCH-Information-to-Modify          PRESENCE optional }||
    { ID id-HSDSCH-FDD-Information-to-Add        CRITICALITY reject   EXTENSION HSDSCH-FDD-Information          PRESENCE optional }||
}

```

```
{ ID id-HSDSCH-FDD-Information-to-Delete CRITICALITY reject EXTENSION HSDSCH-DeleteList-RL-ReconfPrepFDD PRESENCE optional}
{ ID id-HSPDSCH-RL-ID CRITICALITY reject EXTENSION RL-ID PRESENCE optional},
...
}

HSDSCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-DeleteItem-RL-ReconfPrepFDD

HSDSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    hSDSCH-MACdFlow-ID HSDSCH-MACdFlow-ID,
    iE-Extensions ProtocolExtensionContainer { { HSDSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

HSDSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```

-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE TDD
--
-- *****

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkReconfigurationPrepareTDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareTDD-Extensions}}    OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime    CRITICALITY reject    TYPE AllowedQueuingTime    PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    PRESENCE optional
    } |
    { ID id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    PRESENCE
optional } |
    { ID id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    PRESENCE
optional } |
    { ID id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    PRESENCE optional
    } |
    { ID id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    PRESENCE
optional } |
    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify    TYPE DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    PRESENCE
optional } |
    { ID id-TDD-DCHs-to-Modify    CRITICALITY reject    TYPE TDD-DCHs-to-Modify    PRESENCE optional } |
    { ID id-DCHs-to-Add-TDD    CRITICALITY reject    TYPE DCH-TDD-Information    PRESENCE optional } |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD    CRITICALITY reject    TYPE DCH-DeleteList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-DSCH-ModifyList-RL-ReconfPrepTDD    CRITICALITY reject    TYPE DSCH-ModifyList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-DSCHs-to-Add-TDD    CRITICALITY reject    TYPE DSCH-TDD-Information    PRESENCE optional } |
    { ID id-DSCH-DeleteList-RL-ReconfPrepTDD    CRITICALITY reject    TYPE DSCH-DeleteList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-USCH-ModifyList-RL-ReconfPrepTDD    CRITICALITY reject    TYPE USCH-ModifyList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-USCHs-to-Add    CRITICALITY reject    TYPE USCH-Information    PRESENCE optional } |
    { ID id-USCH-DeleteList-RL-ReconfPrepTDD    CRITICALITY reject    TYPE USCH-DeleteList-RL-ReconfPrepTDD    PRESENCE optional },
    ...
}

UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
AddInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD    CRITICALITY notify    TYPE UL-CCTrCH-AddInformation-RL-ReconfPrepTDD    PRESENCE mandatory }
}

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    tFCS                      TFCS,
    tFCI-Coding               TFCI-Coding,
    punctureLimit             PunctureLimit,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

```

```
UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-UL-SIRTarget          CRITICALITY reject          EXTENSION          UL-SIR          PRESENCE optional},
  -- This IE shall be mandatory for 1.28Mcps TDD, not applicable for 3.84Mcps TDD.
  ...
}

UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD          CRITICALITY notify          TYPE UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD          PRESENCE mandatory
  }
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  tFCS          TFCS          OPTIONAL,
  tFCI-Coding          TFCCI-Coding          OPTIONAL,
  punctureLimit          PunctureLimit          OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { {UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-UL-SIRTarget          CRITICALITY reject          EXTENSION          UL-SIR          PRESENCE optional},
  -- This IE shall be applicable for 1.28Mcps TDD only.
  ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
DeleteInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD          CRITICALITY notify          TYPE UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD          PRESENCE mandatory
  }
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  iE-Extensions          ProtocolExtensionContainer { {UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
AddInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```

    { ID id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD   CRITICALITY notify   TYPE DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD PRESENCE mandatory
    }
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID          CCTrCH-ID,
    tFCS               TFCS,
    tFCI-Coding        TFCI-Coding,
    punctureLimit      PunctureLimit,
    cCTrCH-TPCList     CCTrCH-TPCAddList-RL-ReconfPrepTDD OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { {DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-TPCAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCAddItem-RL-ReconfPrepTDD

CCTrCH-TPCAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID          CCTrCH-ID,
    iE-Extensions      ProtocolExtensionContainer { { CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD   CRITICALITY notify   TYPE DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD   PRESENCE
mandatory   }
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID          CCTrCH-ID,
    tFCS               TFCS OPTIONAL,
    tFCI-Coding        TFCI-Coding OPTIONAL,
    punctureLimit      PunctureLimit OPTIONAL,
    cCTrCH-TPCList     CCTrCH-TPCModifyList-RL-ReconfPrepTDD OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { {DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-TPCModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCModifyItem-RL-ReconfPrepTDD

```



```

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCCTrCH-ID          CCTrCH-ID,
    iE-Extensions      ProtocolExtensionContainer { { CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs } } OPTIONAL,
    ...
}

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD    CRITICALITY notify    TYPE DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD    PRESENCE
mandatory }
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCCTrCH-ID          CCTrCH-ID,
    iE-Extensions      ProtocolExtensionContainer { {DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepTDD

DCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dCH-ID              DCH-ID,
    iE-Extensions      ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyItem-RL-ReconfPrepTDD

DSCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID              DSCH-ID,
    dl-ccTrCHID          CCTrCH-ID          OPTIONAL,
    trChSourceStatisticsDescriptor    TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet    TransportFormatSet    OPTIONAL,
    allocationRetentionPriority    AllocationRetentionPriority    OPTIONAL,
    schedulingPriorityIndicator    SchedulingPriorityIndicator    OPTIONAL,
    bLER                  BLER                  OPTIONAL,
    transportBearerRequestIndicator    TransportBearerRequestIndicator,
    iE-Extensions      ProtocolExtensionContainer { {DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
}

```

```

}
...
}
DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}
DSCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-DeleteItem-RL-ReconfPrepTDD
DSCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID                DSCH-ID,
    iE-Extensions          ProtocolExtensionContainer { {DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}
DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}
USCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-ModifyItem-RL-ReconfPrepTDD
USCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                USCH-ID,
    ul-ccTrCHID            CCTrCH-ID                OPTIONAL,
    trChSourceStatisticsDescriptor TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet      TransportFormatSet        OPTIONAL,
    allocationRetentionPriority AllocationRetentionPriority OPTIONAL,
    schedulingPriorityIndicator SchedulingPriorityIndicator OPTIONAL,
    bLER                    BLER                    OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
    rb-Info                 RB-Info                 OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { {USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}
USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}
USCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-DeleteItem-RL-ReconfPrepTDD
USCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                USCH-ID,
    iE-Extensions          ProtocolExtensionContainer { {USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}
USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}
RadioLinkReconfigurationPrepareTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-Information-to-Modify CRITICALITY reject EXTENSION HSDSCH-Information-to-Modify PRESENCE optional}
}

```

```

{ ID id-HSDSCH-TDD-Information-to-Add CRITICALITY reject EXTENSION HSDSCH-TDD-Information PRESENCE optional}
{ ID id-HSDSCH-TDD-Information-to-Delete CRITICALITY reject EXTENSION HSDSCH-DeleteList-RL-ReconfPrepTDD PRESENCE optional}
{ ID id-HSPDSCH-RL-ID CRITICALITY reject EXTENSION RL-ID PRESENCE optional},
...
}

HSDSCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-DeleteItem-RL-ReconfPrepTDD

HSDSCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  hSDSCH-MACdFlow-ID HSDSCH-MACdFlow-ID,
  iE-Extensions ProtocolExtensionContainer { { HSDSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
  ...
}

HSDSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

-- *****
--
-- RADIO LINK RECONFIGURATION READY FDD
--
-- *****

RadioLinkReconfigurationReadyFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkReconfigurationReadyFDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkReconfigurationReadyFDD-Extensions}}      OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyFDD    CRITICALITY ignore    TYPE RL-InformationResponseList-RL-ReconfReadyFDD    PRESENCE optional } |
    { ID id-CriticalityDiagnostics                CRITICALITY ignore    TYPE CriticalityDiagnostics                PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfReadyFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponse-RL-ReconfReadyFDD-IEs} }

RL-InformationResponse-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfReadyFDD    CRITICALITY ignore    TYPE RL-InformationResponseItem-RL-ReconfReadyFDD    PRESENCE mandatory }
}

RL-InformationResponseItem-RL-ReconfReadyFDD ::= SEQUENCE {
    rL-ID                    RL-ID,
    max-UL-SIR               UL-SIR                OPTIONAL,
    min-UL-SIR               UL-SIR                OPTIONAL,
    maximumDLTxPower         DL-Power                OPTIONAL,
    minimumDLTxPower         DL-Power                OPTIONAL,
    secondary-CCPCH-Info     Secondary-CCPCH-Info    OPTIONAL,
    dl-CodeInformationList    DL-CodeInformationList-RL-ReconfReadyFDD    OPTIONAL,
    dCHInformationResponse    DCH-InformationResponseList-RL-ReconfReadyFDD    OPTIONAL,
    dSCHsToBeAddedOrModified DSCHsToBeAddedOrModified-RL-ReconfReadyFDD    OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-FDD-Information-Response    CRITICALITY ignore    EXTENSION HSDSCH-FDD-Information-Response    PRESENCE optional },
    ...
}

DL-CodeInformationList-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-ReconfReadyFDD }}

DL-CodeInformationListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation    CRITICALITY ignore    TYPE FDD-DL-CodeInformation    PRESENCE mandatory }
}

DCH-InformationResponseList-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyFDD} }

```

```
DCH-InformationResponseListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-DCH-InformationResponse      CRITICALITY ignore  TYPE DCH-InformationResponse      PRESENCE mandatory }
}

DSCHsToBeAddedOrModified-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container { {DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD} }

DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-DSCHsToBeAddedOrModified-FDD  CRITICALITY ignore  TYPE DSCH-FDD-InformationResponse  PRESENCE mandatory }
}

RadioLinkReconfigurationReadyFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-HSDSCH-RNTI                    CRITICALITY reject   EXTENSION HSDSCH-RNTI                    PRESENCE optional },
  ...
}
```

```

-- *****
--
-- RADIO LINK RECONFIGURATION READY TDD
--
-- *****

RadioLinkReconfigurationReadyTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{RadioLinkReconfigurationReadyTDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{RadioLinkReconfigurationReadyTDD-Extensions}}
    ...
}

RadioLinkReconfigurationReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-ReconfReadyTDD
      CRITICALITY ignore TYPE RL-InformationResponse-RL-ReconfReadyTDD PRESENCE optional } |
    { ID id-CriticalityDiagnostics
      CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    max-UL-SIR                 UL-SIR                OPTIONAL,
    min-UL-SIR                 UL-SIR                OPTIONAL,
    maximumDLTxPower           DL-Power        OPTIONAL,
    minimumDLTxPower           DL-Power        OPTIONAL,
    secondary-CCPCH-Info-TDD   Secondary-CCPCH-Info-TDD OPTIONAL,
    ul-CCTrCH-Information      UL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
    dl-CCTrCH-Information      DL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
    dCHInformationResponse     DCH-InformationResponseList-RL-ReconfReadyTDD OPTIONAL,
    dSCHsToBeAddedOrModified   DSCHToBeAddedOrModified-RL-ReconfReadyTDD OPTIONAL,
    uSCHsToBeAddedOrModified   USCHToBeAddedOrModified-RL-ReconfReadyTDD OPTIONAL,
    IE-Extensions              ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
 { ID id-HSDSCH-TDD-Information-Response CRITICALITY ignore EXTENSION HSDSCH-TDD-Information-Response PRESENCE optional},
    ...
}

UL-CCTrCH-InformationList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}

UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD CRITICALITY ignore TYPE UL-CCTrCHInformationListIE-RL-ReconfReadyTDD PRESENCE
    mandatory }
}

UL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationItem-RL-ReconfReadyTDD

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCtRch-ID                  CCTrCH-ID,
    ul-DPCH-AddInformation     UL-DPCH-InformationAddList-RL-ReconfReadyTDD OPTIONAL,
    --For 3.84Mcps TDD only
}

```

Release 5**CR page 94****3GPP TR 25.423 v4.3.0 (2001-12)**

```

    ul-DPCH-ModifyInformation          UL-DPCH-InformationModifyList-RL-ReconfReadyTDD          OPTIONAL,
    --For 3.84Mcps TDD only
    ul-DPCH-DeleteInformation          UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD          OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD    CRITICALITY ignore    EXTENSION    UL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD
      PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD}}

UL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD    CRITICALITY ignore TYPE UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD
      PRESENCE mandatory }
}

UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tDD-DPCHOffset            TDD-DPCHOffset,
    uL-TimeslotLCR-Info        UL-TimeslotLCR-Information,
    iE-Extensions              ProtocolExtensionContainer { {UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD    CRITICALITY ignore TYPE UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD    PRESENCE
      optional }
}

UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tDD-DPCHOffset            TDD-DPCHOffset,
    rxTimingDeviationForTA    RxTimingDeviationForTA          OPTIONAL,
    uL-Timeslot-Information    UL-Timeslot-Information,
    iE-Extensions              ProtocolExtensionContainer { {UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

}

UL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD
  PRESENCE mandatory }
}

UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD ::= SEQUENCE {
  repetitionPeriod          RepetitionPeriod          OPTIONAL,
  repetitionLength          RepetitionLength           OPTIONAL,
  tDD-DPCHOffset            TDD-DPCHOffset            OPTIONAL,
  uL-Timeslot-InformationModifyList-RL-ReconfReadyTDD  UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD  OPTIONAL,
  --For 3.84Mcps TDD only
  iE-Extensions             ProtocolExtensionContainer { {UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD  CRITICALITY ignore  EXTENSION  UL-TimeslotLCR-InformationModifyList-RL-
  ReconfReadyTDD  PRESENCE optional },
  --For 1.28Mcps TDD only
  ...
}

UL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF UL-TimeslotLCR-InformationModifyItem-RL-
ReconfReadyTDD

UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
  timeSlotLCR              TimeSlotLCR,
  midambleShiftLCR        MidambleShiftLCR          OPTIONAL,
  tFCI-Presence            TFCI-Presence              OPTIONAL,
  tDD-uL-Code-LCR-Information  TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD  OPTIONAL,
  iE-Extensions           ProtocolExtensionContainer { {UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
  ...
}

TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfDPCHsLCR)) OF TDD-UL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
  dPCH-ID                  DPCH-ID,
  tDD-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR          OPTIONAL,
  iE-Extensions            ProtocolExtensionContainer { {TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
  ...
}

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

```



```

}
...
}
UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD
UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                TimeSlot,
    midambleShiftAndBurstType    MidambleShiftAndBurstType    OPTIONAL,
    tFCI-Presence            TFCI-Presence    OPTIONAL,
    uL-Code-Information      TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD    OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}
UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD
TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                DPCH-ID,
    tDD-ChannelisationCode    TDD-ChannelisationCode    OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}
TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}
UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD    CRITICALITY ignore    TYPE UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}
UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD
UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                DPCH-ID,
    iE-Extensions            ProtocolExtensionContainer { {UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}
UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
DL-CCTrCH-InformationList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}
DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {

```

```

    { ID id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-CCTrCHInformationListIE-RL-ReconfReadyTDD  PRESENCE
mandatory }
}

DL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-RL-ReconfReadyTDD

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    dl-DPCH-AddInformation    DL-DPCH-InformationAddList-RL-ReconfReadyTDD          OPTIONAL,
    --For 3.84Mcps TDD only
    dl-DPCH-ModifyInformation DL-DPCH-InformationModifyList-RL-ReconfReadyTDD        OPTIONAL,
    --For 3.84Mcps TDD only
    dl-DPCH-DeleteInformation DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD      OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore          EXTENSION  DL-DPCH-LCR-InformationAddList-RL-
ReconfReadyTDD  PRESENCE optional},
    --For 1.28Mcps TDD only
    ...
}

DL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD}}

DL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD
PRESENCE mandatory }
}

DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tDD-DPCHOffset           TDD-DPCHOffset,
    dL-TimeslotLCR-Info       DL-TimeslotLCR-Information,
    iE-Extensions            ProtocolExtensionContainer { {DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD  PRESENCE
mandatory }
}

DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,

```

```

    repetitionLength      RepetitionLength,
    tDD-DPCHOffset       TDD-DPCHOffset,
    dL-Timeslot-Information DL-Timeslot-Information,
    iE-Extensions        ProtocolExtensionContainer { {DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD CRITICALITY ignore TYPE DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod      RepetitionPeriod      OPTIONAL,
    repetitionLength      RepetitionLength      OPTIONAL,
    tDD-DPCHOffset       TDD-DPCHOffset        OPTIONAL,
    dL-Timeslot-InformationModifyList-RL-ReconfReadyTDD DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD OPTIONAL,
    --For 3.84Mcps TDD only
    iE-Extensions        ProtocolExtensionContainer { {DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD CRITICALITY ignore EXTENSION DL-TimeslotLCR-InformationModifyList-RL-
    ReconfReadyTDD PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF DL-TimeslotLCR-InformationModifyItem-RL-
ReconfReadyTDD

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlotLCR          TimeSlotLCR,
    midambleShiftLCR    MidambleShiftLCR      OPTIONAL,
    tFCI-Presence       TFCI-Presence          OPTIONAL,
    tDD-dL-Code-LCR-Information TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD OPTIONAL,
    iE-Extensions        ProtocolExtensionContainer { {DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfDPCHsLCR)) OF TDD-DL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID              DPCH-ID,
    tDD-ChannelisationCodeLCR TDD-ChannelisationCodeLCR      OPTIONAL,

```

```

    iE-Extensions          ProtocolExtensionContainer { {TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD

DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType          OPTIONAL,
    tFCI-Presence            TFCI-Presence                      OPTIONAL,
    dL-Code-Information      TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                 DPCH-ID,
    tDD-ChannelisationCode  TDD-ChannelisationCode          OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD

DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                 DPCH-ID,
    iE-Extensions           ProtocolExtensionContainer { {DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

```

```

}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyTDD} }

DCH-InformationResponseListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse    CRITICALITY ignore  TYPE DCH-InformationResponse    PRESENCE mandatory }
}

DSCHToBeAddedOrModified-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container { {DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD} }

DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD  PRESENCE
mandatory }
}

DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfDSCHs)) OF DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dsch-ID                DSCH-ID,
    transportFormatManagement  TransportFormatManagement,
    dsch-FlowControlInformation DSCH-FlowControlInformation,
    bindingID              BindingID  OPTIONAL,
    transportLayerAddress  TransportLayerAddress  OPTIONAL,
    IE-Extensions         ProtocolExtensionContainer { {DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCHToBeAddedOrModified-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container { {USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD} }
USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD  PRESENCE
mandatory }
}

USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfUSCHs)) OF USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
    uSCH-ID                USCH-ID,
    transportFormatManagement  TransportFormatManagement,
    bindingID              BindingID  OPTIONAL,
    transportLayerAddress  TransportLayerAddress  OPTIONAL,
    IE-Extensions         ProtocolExtensionContainer { {USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

```

} ...

RadioLinkReconfigurationReadyTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
| { ID id-HSDSCH-RNTI CRITICALITY reject EXTENSION HSDSCH-RNTI PRESENCE optional },

} ...

UNCHANGED TEXT IS REMOVED

```
-- *****
--
-- DOWNLINK POWER TIMESLOT CONTROL REQUEST TDD
--
-- *****
```

```
DL-PowerTimeslotControlRequest ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{DL-PowerTimeslotControlRequest-IEs}},
  protocolExtensions  ProtocolExtensionContainer {{DL-PowerTimeslotControlRequest-Extensions}}
  ...
}
```

OPTIONAL,

```
DL-PowerTimeslotControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-timeSlot-ISCP CRITICALITY ignore TYPE DL-TimeSlot-ISCP-Info PRESENCE optional},
  --Mandatory for 3.84Mcps TDD only
  ...
}
```

```
DL-PowerTimeslotControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD CRITICALITY ignore EXTENSION DL-TimeSlot-ISCP-LCR-Information PRESENCE optional}|
  --Mandatory for 1.28Mcps TDD only
  { ID id-PrimCCPCH-RSCP-DL-PC-RqstTDD CRITICALITY ignore EXTENSION PrimaryCCPCH-RSCP PRESENCE optional }|,
  ...
}
```

UNCHANGED TEXT IS REMOVED

9.3.4 Information Element Definitions

```
-- *****
--
-- Information Element Definitions
--
-- *****

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxNrOfFACHs,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDLTsLCR,
    maxNrOfDPCHs,
    maxNrOfDPCHsLCR,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfLCRTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfULTs,
    maxNrOfULTsLCR,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfTFCS,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxNrOfSCCPCHs,
    maxTFCI1Combs,
    maxTFCI2Combs,
```



```
maxTFCI2Combs-1,
maxTGPS,
maxTTI-Count,
maxNoGPSTypes,
maxNoSat,
maxNrOfHARQProc,
maxNrOfHSSCCHCodes,
maxNrOfMACdFlows,
maxNrOfMACdFlows-1,
maxNrOfPDUIndexes,
maxNrOfPDUIndexes-1,
maxNrOfPrioQueues,
maxNrOfPrioQueues-1,

id-Allowed-Rate-Information,
id-DPC-Mode-Change-SupportIndicator,
id-Guaranteed-Rate-Information,
id-Load-Value,
id-Load-Value-IncrDecrThres,
id-Neighbouring-GSM-CellInformation,
id-Neighbouring-UMTS-CellInformationItem,
id-neighbouring-LCR-TDD-CellInformation,
id-OnModification,
id-Received-Total-Wideband-Power-Value,
id-Received-Total-Wideband-Power-Value-IncrDecrThres,
id-SFNMeasurementThresholdInformation,
id-Transmitted-Carrier-Power-Value,
id-Transmitted-Carrier-Power-Value-IncrDecrThres,
id-TUTRANGPSMeasurementThresholdInformation,
id-UL-Timeslot-ISCP-Value,
id-UL-Timeslot-ISCP-Value-IncrDecrThres,
maxNrOfLevels,
maxNrOfMeasNCell,
maxNrOfMeasNCell-1,
id-MessageStructure,
id-EnhancedDSCHPC,
id-RestrictionStateIndicator,
id-Rx-Timing-Deviation-Value-LCR,
id-TypeOfError
FROM RNSAP-Constants

Criticality,
ProcedureID,
ProtocolIE-ID,
TransactionID,
TriggeringMessage
FROM RNSAP-CommonDataTypes

ProtocolIE-Single-Container{},
ProtocolExtensionContainer{},
RNSAP-PROTOCOL-IES,
RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;
```

UNCHANGED TEXT IS REMOVED

-- H

```
HARQ-FDD-InfoList ::= SEQUENCE (SIZE (1..maxNrOfHARQProc)) OF HARQ-FDD-InfoItem
```

```
HARQ-FDD-InfoItem ::= SEQUENCE {
  process-Memory-Size          INTEGER (1..172800,...),
  iE-Extensions                ProtocolExtensionContainer { { HARQ-FDD-InfoItem-ExtIEs } } OPTIONAL,
  ...
}
```

```
HARQ-FDD-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
HARQ-TDD-InfoList ::= SEQUENCE (SIZE (1..maxNrOfHARQProc)) OF HARQ-TDD-InfoItem
```

```
HARQ-TDD-InfoItem ::= SEQUENCE {
  process-Memory-Size          INTEGER (1..168960,...),
  iE-Extensions                ProtocolExtensionContainer { { HARQ-TDD-InfoItem-ExtIEs } } OPTIONAL,
  ...
}
```

```
HARQ-TDD-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
HSDSCH-FDD-Information ::= SEQUENCE {
  hSDSCH-MACdFlow-Specific-Info  HSDSCH-MACdFlow-Specific-InfoList,
  uE-Capabilities-InfoFDD        UE-Capabilities-InfoFDD,
  hARQ-FDD-Info                  HARQ-FDD-InfoList,
  measurement-Feedback-Offset    Measurement-Feedback-Offset,
  iE-Extensions                  ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs } } OPTIONAL,
  ...
}
```

```
HSDSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
HSDSCH-FDD-Information-Response ::= SEQUENCE {
  hSDSCH-MACdFlow-Specific-InfoList-Response  HSDSCH-MACdFlow-Specific-InfoList-Response,
  hSSCCH-Specific-InfoList-Response           HSSCCH-FDD-Specific-InfoList-Response,
  measurement-Feedback-Reporting-Cycle-k1     Measurement-Feedback-Reporting-Cycle,
  measurement-Feedback-Reporting-Cycle-k2     Measurement-Feedback-Reporting-Cycle,
  iE-Extensions                               ProtocolExtensionContainer { { HSDSCH-FDD-Information-Response-ExtIEs } } OPTIONAL,
  ...
}
```

```
HSDSCH-FDD-Information-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```

}
HSDSCH-Information-to-Modify ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-to-Modify    HSDSCH-MACdFlow-Specific-InfoList-to-Modify    OPTIONAL,
    measurement-Reporting-Cycle                   ENUMERATED {k1, k2}                                OPTIONAL,
    -- Only for FDD
    iE-Extensions                                 ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs } }    OPTIONAL,
    ...
}
HSDSCH-Information-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
HSDSCH-MACdFlow-ID ::= INTEGER (0..maxNrOfMACdFlows-1)
HSDSCH-MACdFlow-Specific-InfoList ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem
HSDSCH-MACdFlow-Specific-InfoItem ::= SEQUENCE {
    hSDSCH-MACdFlow-ID                           HSDSCH-MACdFlow-ID,
    bLER                                           BLER,
    allocationRetentionPriority                   AllocationRetentionPriority,
    priorityQueue-Info                           PriorityQueue-InfoList,
    iE-Extensions                                 ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs } }    OPTIONAL,
    ...
}
HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
HSDSCH-MACdFlow-Specific-InfoList-Response ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem-Response
HSDSCH-MACdFlow-Specific-InfoItem-Response ::= SEQUENCE {
    hSDSCH-MACdFlow-ID                           HSDSCH-MACdFlow-ID,
    bindingID                                     BindingID                                            OPTIONAL,
    transportLayerAddress                         TransportLayerAddress                               OPTIONAL,
    iE-Extensions                                 ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-Response-ExtIEs } }    OPTIONAL,
    ...
}
HSDSCH-MACdFlow-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
HSDSCH-MACdFlow-Specific-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem-to-Modify
HSDSCH-MACdFlow-Specific-InfoItem-to-Modify ::= SEQUENCE {
    hSDSCH-MACdFlow-ID                           HSDSCH-MACdFlow-ID,
    bLER                                           BLER                                                OPTIONAL,
    allocationRetentionPriority                   AllocationRetentionPriority                         OPTIONAL,
    priorityQueue-Info-to-Modify                PriorityQueue-InfoList-to-Modify                   OPTIONAL,
    transportBearerRequestIndicator              TransportBearerRequestIndicator,

```

```

    iE-Extensions                ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs } } OPTIONAL,
    ...
}

HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-RNTI ::= INTEGER (0..65535)

HSDSCH-TDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-Info          HSDSCH-MACdFlow-Specific-InfoList,
    uE-Capabilities-InfoTDD                UE-Capabilities-InfoTDD,
    hARQ-TDD-InfoList                      HARQ-TDD-InfoList,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs } } OPTIONAL,
    ...
}

HSDSCH-TDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Information-Response ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-Response          HSDSCH-MACdFlow-Specific-InfoList-Response,
    hSSCCH-TDD-Specific-InfoList-Response              HSSCCH-TDD-Specific-InfoList-Response OPTIONAL,
    hSSCCH-TDD-Specific-InfoList-Response-LCR          HSSCCH-TDD-Specific-InfoList-Response-LCR OPTIONAL,
    iE-Extensions                                      ProtocolExtensionContainer { { HSDSCH-TDD-Information-Response-ExtIEs } } OPTIONAL,
    ...
}

HSDSCH-TDD-Information-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSCCH-FDD-Specific-InfoList-Response ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-FDD-Specific-InfoItem-Response

HSSCCH-FDD-Specific-InfoItem-Response ::= SEQUENCE {
    code-Number          INTEGER (0..127)
    iE-Extensions        ProtocolExtensionContainer { { HSSCCH-FDD-Specific-InfoItem-Response-ExtIEs } } OPTIONAL,
    ...
}

HSSCCH-FDD-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSCCH-TDD-Specific-InfoList-Response ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-TDD-Specific-InfoItem-Response

HSSCCH-TDD-Specific-InfoItem-Response ::= SEQUENCE {
    timeslot              TimeSlot,
    midambleShiftAndBurstType          MidambleShiftAndBurstType,
    tDD-ChannelisationCode          TDD-ChannelisationCode,
    hSSICH-Info                  HSSICH-Info,

```

```

    iE-Extensions                               ProtocolExtensionContainer { { HSSCCH-TDD-Specific-InfoItem-Response-ExtIEs } } OPTIONAL,
    ...
}

HSSCCH-TDD-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSCCH-TDD-Specific-InfoList-Response-LCR ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-TDD-Specific-InfoItem-Response-LCR

HSSCCH-TDD-Specific-InfoItem-Response-LCR ::= SEQUENCE {
    timeslotLCR                               TimeSlotLCR,
    midambleShiftLCR                          MidambleShiftLCR,
    tDD-ChannelisationCodeLCR                 TDD-ChannelisationCodeLCR,
    hSSICH-InfoLCR                            HSSICH-InfoLCR,
    iE-Extensions                             ProtocolExtensionContainer { { HSSCCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs } } OPTIONAL,
    ...
}

HSSCCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSICH-Info ::= SEQUENCE {
    timeslot                                  TimeSlot,
    midambleShiftAndBurstType                 MidambleShiftAndBurstType,
    tDD-ChannelisationCode                     TDD-ChannelisationCode,
    iE-Extensions                             ProtocolExtensionContainer { { HSSICH-Info-ExtIEs } } OPTIONAL,
    ...
}

HSSICH-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSICH-InfoLCR ::= SEQUENCE {
    timeslotLCR                               TimeSlotLCR,
    midambleShiftLCR                          MidambleShiftLCR,
    tDD-ChannelisationCodeLCR                 TDD-ChannelisationCodeLCR,
    iE-Extensions                             ProtocolExtensionContainer { { HSSICH-Info-LCR-ExtIEs } } OPTIONAL,
    ...
}

HSSICH-Info-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

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-- M

UNCHANGED TEXT IS REMOVED

MACdPDU-Size ::= INTEGER (1..5000,...)

MACdPDU-Size-IndexList ::= SEQUENCE (SIZE (1..maxNrOfPDUIndexes)) OF MACdPDU-Size-IndexItem

MACdPDU-Size-IndexItem ::= SEQUENCE {

<u>sID</u>	<u>SID,</u>	
<u>mACdPDU-Size</u>	<u>MACdPDU-Size,</u>	
<u>iE-Extensions</u>	<u>ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-ExtIEs } }</u>	<u>OPTIONAL,</u>
<u>...</u>		

}

MACdPDU-Size-IndexItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

...
}

MACdPDU-Size-IndexList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPDUIndexes)) OF MACdPDU-Size-IndexItem-to-Modify

MACdPDU-Size-IndexItem-to-Modify ::= SEQUENCE {

<u>sID</u>	<u>SID,</u>	
<u>mACdPDU-Size</u>	<u>MACdPDU-Size</u>	<u>OPTIONAL,</u>
<u>iE-Extensions</u>	<u>ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-to-Modify-ExtIEs } }</u>	<u>OPTIONAL,</u>
<u>...</u>		

}

MACdPDU-Size-IndexItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

...
}

UNCHANGED TEXT IS REMOVED

Measurement-Feedback-Offset ::= INTEGER (0..79,...)

Measurement-Feedback-Reporting-Cycle ::= ENUMERATED {

v0,
v1,
v5,
v10,
v20,
v40,
v80,
...
}

UNCHANGED TEXT IS REMOVED

-- P

UNCHANGED TEXT IS REMOVED

PriorityQueue-Id ::= INTEGER (0..maxNrOfPrioQueues-1)

```
PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem
```

```
PriorityQueue-InfoItem ::= SEQUENCE {
  priorityQueue-Id           PriorityQueue-Id,
  schedulingPriorityIndicator SchedulingPriorityIndicator,
  mAcDPDU-Size-Index         MACdPDU-Size-IndexList,
  iE-Extensions              ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs } } OPTIONAL,
  ...
}
```

```
PriorityQueue-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
  ...
}
```

```
PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem-to-Modify
```

```
PriorityQueue-InfoItem-to-Modify ::= SEQUENCE {
  priorityQueue-Id           PriorityQueue-Id,
  schedulingPriorityIndicator SchedulingPriorityIndicator OPTIONAL,
  mAcDPDU-Size-Index-to-Modify MACdPDU-Size-IndexList-to-Modify OPTIONAL,
  iE-Extensions              ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Modify-ExtIEs } } OPTIONAL,
  ...
}
```

```
PriorityQueue-InfoItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
  ...
}
```

UNCHANGED TEXT IS REMOVED

```
-- S
```

UNCHANGED TEXT IS REMOVED

```
SID ::= INTEGER (0..maxNrOfPDUIndexes-1)
```

UNCHANGED TEXT IS REMOVED

```
-- U
```

UNCHANGED TEXT IS REMOVED

```
UE-Capabilities-InfoFDD ::= SEQUENCE {
  hSDSCH-TrCH-Bits-Per-HSDSCH-TTI      ENUMERATED {v7300, v14600, v20456, v28800,...},
  hSDSCH-Multi-Code-Capability          ENUMERATED {v5, v10, v15,...},
  min-Inter-TTI-Interval                INTEGER (1..3,...),
  mAChs-Reordering-Buffer-Size          INTEGER (1..300,...),
  iE-Extensions                          ProtocolExtensionContainer { { UE-Capabilities-InfoFDD-ExtIEs } } OPTIONAL,
  ...
}
```

```
UE-Capabilities-InfoFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...  
  }  
  UE-Capabilities-InfoTDD ::= SEQUENCE {  
    hSDSCH-TrCH-Bits-Per-HSDSCH-TTI      ENUMERATED {v7040, v10228, v14080,...},  
    hSDSCH-Multi-Code-Capability         ENUMERATED {v8, v12, v16,...},  
    mAchs-Reordering-Buffer-Size        INTEGER (1..300,...),  
    iE-Extensions                        ProtocolExtensionContainer { { UE-Capabilities-InfoTDD-ExtIEs } } OPTIONAL,  
    ...  
  }  
  UE-Capabilities-InfoTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
  }
```

UNCHANGED TEXT IS REMOVED

9.3.6 Constant Definitions

```
-- *****
--
-- Constant definitions
--
-- *****

RNSAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- *****
--
-- Elementary Procedures
--
-- *****

id-commonTransportChannelResourcesInitialisation      ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease             ProcedureCode ::= 1
id-compressedModeCommand                             ProcedureCode ::= 2
id-downlinkPowerControl                              ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                      ProcedureCode ::= 4
id-downlinkSignallingTransfer                        ProcedureCode ::= 5
id-errorIndication                                  ProcedureCode ::= 6
id-dedicatedMeasurementFailure                      ProcedureCode ::= 7
id-dedicatedMeasurementInitiation                   ProcedureCode ::= 8
id-dedicatedMeasurementReporting                    ProcedureCode ::= 9
id-dedicatedMeasurementTermination                  ProcedureCode ::= 10
id-paging                                             ProcedureCode ::= 11
id-physicalChannelReconfiguration                    ProcedureCode ::= 12
id-privateMessage                                    ProcedureCode ::= 13
id-radioLinkAddition                                ProcedureCode ::= 14
id-radioLinkCongestion                              ProcedureCode ::= 14
id-radioLinkDeletion                                ProcedureCode ::= 15
id-radioLinkFailure                                  ProcedureCode ::= 16
id-radioLinkPreemption                              ProcedureCode ::= 17
id-radioLinkRestoration                             ProcedureCode ::= 18
id-radioLinkSetup                                    ProcedureCode ::= 19
id-relocationCommit                                  ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit        ProcedureCode ::= 22
```

id-synchronisedRadioLinkReconfigurationPreparation	ProcedureCode ::= 23
id-unSynchronisedRadioLinkReconfiguration	ProcedureCode ::= 24
id-uplinkSignallingTransfer	ProcedureCode ::= 25
id-commonMeasurementFailure	ProcedureCode ::= 26
id-commonMeasurementInitiation	ProcedureCode ::= 27
id-commonMeasurementReporting	ProcedureCode ::= 28
id-commonMeasurementTermination	ProcedureCode ::= 29
id-informationExchangeFailure	ProcedureCode ::= 30
id-informationExchangeInitiation	ProcedureCode ::= 31
id-informationReporting	ProcedureCode ::= 32
id-informationExchangeTermination	ProcedureCode ::= 33

```
-- *****
--
-- Lists
--
-- *****
```

maxCodeNumComp-1	INTEGER ::= 255
maxRateMatching	INTEGER ::= 256
maxNoCodeGroups	INTEGER ::= 256
maxNoOfDSCHs	INTEGER ::= 10
maxNoOfDSCHsLCR	INTEGER ::= 10
maxNoOfRB	INTEGER ::= 32
maxNoOfUSCHs	INTEGER ::= 10
maxNoOfUSCHsLCR	INTEGER ::= 10
maxNoTFCIGroups	INTEGER ::= 256
maxNrOfTFCs	INTEGER ::= 1024
maxNrOfTFs	INTEGER ::= 32
maxNrOfCCTrCHs	INTEGER ::= 16
maxNrOfCCTrCHsLCR	INTEGER ::= 16
maxNrOfDCHs	INTEGER ::= 128
maxNrOfDL-Codes	INTEGER ::= 8
maxNrOfDPCHs	INTEGER ::= 240
maxNrOfDPCHsLCR	INTEGER ::= 240
maxNrOfErrors	INTEGER ::= 256
maxNrOfMACcshSDU-Length	INTEGER ::= 16
maxNrOfPoints	INTEGER ::= 15
maxNrOfRLs	INTEGER ::= 16
maxNrOfRLSets	INTEGER ::= maxNrOfRLs
maxNrOfRLs-1	INTEGER ::= 15 -- maxNrOfRLs - 1
maxNrOfRLs-2	INTEGER ::= 14 -- maxNrOfRLs - 2
maxNrOfULTs	INTEGER ::= 15
maxNrOfULTsLCR	INTEGER ::= 6
maxNrOfDLTs	INTEGER ::= 15
maxNrOfDLTsLCR	INTEGER ::= 6
maxRNCinURA-1	INTEGER ::= 15
maxTTI-Count	INTEGER ::= 4
maxCTFC	INTEGER ::= 16777215
maxNrOfNeighbouringRNCs	INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC	INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC	INTEGER ::= 256
maxNrOfTDDNeighboursPerRNC	INTEGER ::= 256

maxNrOfFACHs	INTEGER ::= 8
maxNrOfLCRTDDNeighboursPerRNC	INTEGER ::= 256
maxFACHCountPlus1	INTEGER ::= 10
maxIBSEG	INTEGER ::= 16
maxNrOfSCCPCHs	INTEGER ::= 8
maxTFCI1Combs	INTEGER ::= 512
maxTFCI2Combs	INTEGER ::= 1024
maxTFCI2Combs-1	INTEGER ::= 1023
maxTGPS	INTEGER ::= 6
maxNrOfTS	INTEGER ::= 15
maxNrOfLevels	INTEGER ::= 256
maxNrOfTsLCR	INTEGER ::= 6
maxNoSat	INTEGER ::= 16
maxNoGPSTypes	INTEGER ::= 8
maxNrOfMeasNCell	INTEGER ::= 96
maxNrOfMeasNCell-1	INTEGER ::= 95 -- maxNrOfMeasNCell - 1
<u>maxNrOfHARQProc</u>	<u>INTEGER ::= 8</u>
<u>maxNrOfHSSCCHCodes</u>	<u>INTEGER ::= 128</u>
<u>maxNrOfMACdFlows</u>	<u>INTEGER ::= 8</u>
<u>maxNrOfMACdFlows-1</u>	<u>INTEGER ::= 7 -- maxNrOfMACdFlows - 1</u>
<u>maxNrOfPDUIndexes</u>	<u>INTEGER ::= 8</u>
<u>maxNrOfPDUIndexes-1</u>	<u>INTEGER ::= 7 -- maxNrOfPDUIndexes - 1</u>
<u>maxNrOfPrioQueues</u>	<u>INTEGER ::= 8</u>
<u>maxNrOfPrioQueues-1</u>	<u>INTEGER ::= 7 -- maxNrOfPrioQueues - 1</u>
-- *****	
--	
-- IEs	
--	
-- *****	
id-AllowedQueuingTime	ProtocolIE-ID ::= 4
id-Allowed-Rate-Information	ProtocolIE-ID ::= 42
id-BindingID	ProtocolIE-ID ::= 5
id-C-ID	ProtocolIE-ID ::= 6
id-C-RNTI	ProtocolIE-ID ::= 7
id-CFN	ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier	ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 11
id-CriticalityDiagnostics	ProtocolIE-ID ::= 20
id-D-RNTI	ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication	ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 33
id-DCH-FDD-Information	ProtocolIE-ID ::= 34
id-DCH-TDD-Information	ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 40

id-DCH-InformationResponse	ProtocolIE-ID ::= 43
id-DCH-Rate-InformationItem-RL-CongestInd	ProtocolIE-ID ::= 38
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation	ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 64
id-DLReferencePower	ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 69
id-DPC-Mode	ProtocolIE-ID ::= 12
id-DRXCycleLengthCoefficient	ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 73
id-DedicatedMeasurementType	ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD	ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD	ProtocolIE-ID ::= 83
id-Guaranteed-Rate-Information	ProtocolIE-ID ::= 41
id-IMSI	ProtocolIE-ID ::= 84
id-L3-Information	ProtocolIE-ID ::= 85
id-AdjustmentPeriod	ProtocolIE-ID ::= 90
id-MaxAdjustmentStep	ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 92
id-MessageStructure	ProtocolIE-ID ::= 57
id-MeasurementID	ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation	ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem	ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst	ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation	ProtocolIE-ID ::= 103
id-Permanent-NAS-UE-Identity	ProtocolIE-ID ::= 17
id-PowerAdjustmentType	ProtocolIE-ID ::= 107
id-RANAP-RelocationInformation	ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD	ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD	ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD	ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst	ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd	ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd	ProtocolIE-ID ::= 117

id-RL-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 119
id-RL-InformationItem-RL-CongestInd	ProtocolIE-ID ::= 55
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 123
id-RL-InformationList-RL-CongestInd	ProtocolIE-ID ::= 56
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst	ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD	ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD	ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD	ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD	ProtocolIE-ID ::= 136
id-RL-InformationResponseList-RL-ReconfRspTDD	ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail	ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst	ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd	ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd	ProtocolIE-ID ::= 147
id-ReportCharacteristics	ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 153
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 154
id-S-RNTI	ProtocolIE-ID ::= 155
id-SAI	ProtocolIE-ID ::= 156
id-SRNC-ID	ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 160
id-TransportBearerID	ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator	ProtocolIE-ID ::= 164
id-TransportLayerAddress	ProtocolIE-ID ::= 165
id-TypeOfError	ProtocolIE-ID ::= 140
id-UC-ID	ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 177

id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 183
id-UL-SIRTarget	ProtocolIE-ID ::= 184
id-URA-Information	ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD	ProtocolIE-ID ::= 190
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 193
id-AdjustmentRatio	ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 215
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD	ProtocolIE-ID ::= 218
id-DSCH-FDD-Information	ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 221
id-DSCH-TDD-Information	ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse	ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD	ProtocolIE-ID ::= 228
id-DSCHsToBeAddedOrModified-FDD	ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 230
id-EnhancedDSCHPC	ProtocolIE-ID ::= 29
id-EnhancedDSCHPCIndicator	ProtocolIE-ID ::= 34
id-GA-Cell	ProtocolIE-ID ::= 232
id-GA-CellAdditionalShapes	ProtocolIE-ID ::= 3
id-SSDT-CellIDforEDSCHPC	ProtocolIE-ID ::= 35
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261

id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 275
id-ClosedLoopModel-SupportIndicator	ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator	ProtocolIE-ID ::= 277
id-STTD-SupportIndicator	ProtocolIE-ID ::= 279
id-CFNReportingIndicator	ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst	ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 24
id-PropagationDelay	ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA	ProtocolIE-ID ::= 36
id-timeSlot-ISCP	ProtocolIE-ID ::= 37
id-CCTrCH-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 15
id-CCTrCH-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 16
id-CommonMeasurementAccuracy	ProtocolIE-ID ::= 280
id-CommonMeasurementObjectType-CM-Rprt	ProtocolIE-ID ::= 281
id-CommonMeasurementObjectType-CM-Rqst	ProtocolIE-ID ::= 282
id-CommonMeasurementObjectType-CM-Rsp	ProtocolIE-ID ::= 283
id-CommonMeasurementType	ProtocolIE-ID ::= 284
id-CongestionCause	ProtocolIE-ID ::= 18
id-SFN	ProtocolIE-ID ::= 285
id-SFNReportingIndicator	ProtocolIE-ID ::= 286
id-InformationExchangeID	ProtocolIE-ID ::= 287
id-InformationExchangeObjectType-InfEx-Rprt	ProtocolIE-ID ::= 288
id-InformationExchangeObjectType-InfEx-Rqst	ProtocolIE-ID ::= 289
id-InformationExchangeObjectType-InfEx-Rsp	ProtocolIE-ID ::= 290
id-InformationReportCharacteristics	ProtocolIE-ID ::= 291
id-InformationType	ProtocolIE-ID ::= 292
id-neighbouring-LCR-TDD-CellInformation	ProtocolIE-ID ::= 58
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 65
id-RL-LCR-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 66
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 75
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 76
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 78
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 79
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 80
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 81
id-RL-LCR-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 86
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 87
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 88
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 89

id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 94
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD	ProtocolIE-ID ::= 96
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD	ProtocolIE-ID ::= 97
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 98
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 100
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 101
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 104
id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD	ProtocolIE-ID ::= 105
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD	ProtocolIE-ID ::= 106
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD	ProtocolIE-ID ::= 138
id-TSTD-Support-Indicator-RL-SetupRqstTDD	ProtocolIE-ID ::= 139
id-RestrictionStateIndicator	ProtocolIE-ID ::= 142
id-Load-Value	ProtocolIE-ID ::= 233
id-Load-Value-IncrDecrThres	ProtocolIE-ID ::= 234
id-OnModification	ProtocolIE-ID ::= 235
id-Received-Total-Wideband-Power-Value	ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres	ProtocolIE-ID ::= 237
id-SFNsFNMeasurementThresholdInformation	ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value	ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres	ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation	ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value	ProtocolIE-ID ::= 242
id-UL-Timeslot-ISCP-Value-IncrDecrThres	ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR	ProtocolIE-ID ::= 293
id-DPC-Mode-Change-SupportIndicator	ProtocolIE-ID ::= 19
<u>id-PrimCCPCH-RSCP-DL-PC-RqstTDD</u>	<u>ProtocolIE-ID ::= 451</u>
<u>id-HSDSCH-FDD-Information</u>	<u>ProtocolIE-ID ::= 452</u>
<u>id-HSDSCH-FDD-Information-Response</u>	<u>ProtocolIE-ID ::= 453</u>
<u>id-HSDSCH-FDD-Information-to-Add</u>	<u>ProtocolIE-ID ::= 454</u>
<u>id-HSDSCH-FDD-Information-to-Delete</u>	<u>ProtocolIE-ID ::= 455</u>
<u>id-HSDSCH-Information-to-Modify</u>	<u>ProtocolIE-ID ::= 456</u>
<u>id-HSDSCH-RNTI</u>	<u>ProtocolIE-ID ::= 457</u>
<u>id-HSDSCH-TDD-Information</u>	<u>ProtocolIE-ID ::= 458</u>
<u>id-HSDSCH-TDD-Information-Response</u>	<u>ProtocolIE-ID ::= 459</u>
<u>id-HSDSCH-TDD-Information-Response-LCR</u>	<u>ProtocolIE-ID ::= 460</u>
<u>id-HSDSCH-TDD-Information-to-Add</u>	<u>ProtocolIE-ID ::= 461</u>
<u>id-HSDSCH-TDD-Information-to-Delete</u>	<u>ProtocolIE-ID ::= 462</u>
<u>id-HSPDSCH-RL-ID</u>	<u>ProtocolIE-ID ::= 463</u>

END

CHANGE REQUEST

⌘ **25.425** **CR** **044** ⌘ rev **2** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘ HSDPA Frame Protocol-25.425
Source:	⌘ R-WG3
Work item code:	⌘ HSDPA-lublur
Date:	⌘ Feb 2002
Category:	⌘ B
Release:	⌘ REL-5

Use one of the following categories:

F (essential correction)
A (corresponds to a correction in an earlier release)
B (Addition of feature),
C (Functional modification of feature)
D (Editorial modification)

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification
Summary of change:	⌘ Rev 2. <ul style="list-style-type: none"> - In section 4.1.4 MAC-c/sh was changed as CRNC HS-DSCH Flow Control. <p>-----</p> <ul style="list-style-type: none"> - HS-DSCH data frame, HS-DSCH Capacity Request control frame and HS-DSCH Capacity Allocation control frame were added. - Additional HS-DSCH part was added
Consequences if not approved:	⌘ If this CR is not approved, HSDPA will not be able to be implemented.

Clauses affected:	⌘ 3.3, 4.1.4, 5, 5.1.5, 5.2.5, 5.2.6, 6.2.4A, 6.2.5.16, 6.2.5.17, 6.2.5.18, 6.3.3.5
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications ⌘ CR075 on TS 25.435 <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

1 Scope

The present document shall provide a description of the UTRAN RNS-RNS (Iur) interface user plane protocols for Common Transport Channel data streams as agreed within the TSG-RAN working group 3.

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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] ITU-T Recommendation I.361 (11/95): "B-ISDN ATM Layer Specification".
- [2] ITU-T Recommendation I.363.2 (11/2000): "B-ISDN ATM Adaptation Layer specification: Type 2 AAL".
- [3] ITU-T Recommendation I.366.1 (06/98): "Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2".
- [4] 3GPP TS 25.427: "UTRAN Iub/Iur Interface User Plane Protocols for DCH Data Streams".
- [5] 3GPP TS 25.401: "UTRAN overall description".
- [6] 3GPP TR 25.990: "Vocabulary".
- [7] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".
- [8] 3GPP TS 25.423: "UTRAN Iur Interface RNSAP Signalling".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions in [5] and the following apply:

Common Transport Channel: it is defined as a transport channel that is shared by several users i.e. DSCH, USCH [TDD], CPCH [FDD], RACH, FACH

Transport Connection: service provided by the transport layer and used by Frame Protocol for the delivery of FP PDU

3.2 Symbols

No special symbols are defined in the present document.

3.3 Abbreviations

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

AAL2	ATM Adaptation Layer type 2
ATM	Asynchronous Transfer Mode
CFN	Connection Frame Number
CmCH	Common Transport Channel
CPCH	Common Packet Channel
C-RNC	Controlling Radio Network Controller
CRC	Cyclic Redundancy Checksum
DCH	Dedicated Transport Channel
DL	Downlink
D-RNTI	Drift RNTI
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
FP	Frame Protocol
FT	Frame Type
HS-DSCH	High Speed Downlink Shared Channel
RACH	Random Access Channel
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identity
SRNC	Serving Radio Network Controller
S-RNTI	Serving RNTI
SSCS	Service Specific Convergence Sublayer
TB	Transport Block
TBS	Transport Block Set
TFI	Transport Format Indicator
ToA	Time of Arrival
TTI	Transmission Time Interval
UE	User Equipment
UL	Uplink
U-RNTI	UTRAN RNTI
USCH	Uplink Shared Channel

3.4 Specification Notations

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

- [FDD] This tagging of a word indicates that the word preceding the tag "[FDD]" applies only to FDD. This tagging of a heading indicates that the heading preceding the tag "[FDD]" and the section following the heading applies only to FDD.
- [TDD] This tagging of a word indicates that the word preceding the tag "[TDD]" applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD.
- [3.84Mcps TDD] This tagging of a word indicates that the word preceding the tag "[3.84Mcps TDD]" applies only to 3.84Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[3.84Mcps TDD]" and the section following the heading applies only to 3.84Mcps TDD.
- [1.28Mcps TDD] This tagging of a word indicates that the word preceding the tag "[1.28Mcps TDD]" applies only to 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[1.28Mcps TDD]" and the section following the heading applies only to 1.28Mcps TDD.
- [FDD - ...] This tagging indicates that the enclosed text following the "[FDD - " applies only to FDD. Multiple sequential paragraphs applying only to FDD are enclosed separately to enable insertion of TDD specific (or common) paragraphs between the FDD specific paragraphs.
- [TDD - ...] This tagging indicates that the enclosed text following the "[TDD - " applies only to TDD including 3.84Mcps TDD and 1.28Mcps TDD. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the TDD specific paragraphs.

- [3.84Mcps TDD - ...] This tagging indicates that the enclosed text following the "[3.84Mcps TDD - " applies only to 3.84Mcps TDD. Multiple sequential paragraphs applying only to 3.84Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 3.84Mcps TDD specific paragraphs.
- [1.28Mcps TDD - ...] This tagging indicates that the enclosed text following the "[1.28Mcps TDD - " applies only to 1.28Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 1.28Mcps TDD specific paragraphs.
- Procedure When referring to a procedure in the specification, the Procedure Name is written with the first letters in each word in upper case characters followed by the word "procedure", e.g. FACH Data Transfer procedure.
- Frame When referring to a control or data frame in the specification, the CONTROL/DATA FRAME NAME is written with all letters in upper case characters followed by the words "control/data frame", e.g. FACH FLOW CONTROL control frame.
- IE When referring to an information element (IE) in the specification, the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in *Italic font* followed by the abbreviation "IE", e.g. *Credits* IE.
- Value of an IE When referring to the value of an information element (IE) in the specification, the "Value" is written as it is specified in subclause 6.2.5 or 6.3.3 enclosed by quotation marks, e.g. "0" or "255".
-

4 General Aspects

4.1 Common Transport Channel Data Streams User Plane Protocol Services

This subclause describes the services that the User Plane Protocols provide such as data transfer, flow control.

4.1.1 RACH/CPCH[FDD] Data Streams User Plane Protocol Services

RACH/CPCH[FDD] frame protocol provides the following services:

- Transport of MAC-c/sh SDUs from the DRNC to the SRNC for RACH/CPCH[FDD] common transport channels.

4.1.2 FACH Data Streams User Plane Protocol Services

FACH frame protocol provides the following services:

- Transport of MAC-c/sh SDUs from the SRNC to the DRNC for FACH common transport channel.
- Flow Control between MAC-d and MAC-c/sh.

4.1.3 [TDD - USCH]/DSCH Data Streams User Plane Protocol Services

[TDD USCH]/DSCH frame protocol provides the following services:

- Transport of MAC-c/sh SDUs between the SRNC and the DRNC for [TDD USCH] and DSCH common transport channels.
- Flow Control between MAC-d and MAC-c/sh.

4.1.4 HS-DSCH Data Streams User Plane Protocol Services

HS-DSCH frame protocol provides the following services:

- Transport of MAC-d flows between the SRNC and the DRNC for HS-DSCH common transport channels.
- Flow Control between MAC-d and CRNC HS-DSCH Flow Control.

4.2 Services expected from the Data Transport Network layer

The following services are expected from the transport layer:

- Delivery of Frame Protocol PDUs.

In sequence delivery is not required. However, frequent out-of-sequence delivery may impact the performance and should be avoided.

4.3 Protocol Version

This revision of the specification specifies version 1 of the protocols.

5 Common Transport Channel Data Streams User Plane Procedures

This clause specifies the user plane procedures for Common Transport Channels data streams. Typical related scenarios at Iur interface should be described.

For the user plane of the radio network layer there are ~~four~~ five Common Transport Channel frame handling protocols:

1. Random Access Channel/Common Packet Channel [FDD] Frame Protocol (RACH/CPCH[FDD] FP) for transport of Iur data streams carried on RACH/CPCH[FDD] on the Uu-interface.
2. Forward Access Channel Frame Protocol (FACH FP) for transport of Iur data streams carried on FACH on the Uu-interface.
3. Downlink Shared Channel Frame Protocol (DSCH FP) for transport of Iur data streams carried on DSCH on the Uu-interface.
4. Uplink Shared Channel Frame Protocol ([TDD- USCH] FP) for transport of Iur data streams carried on USCH on the Uu-interface.

5. High Speed Downlink Shared Channel Frame Protocol (HS-DSCH FP) for transport of Iur data streams carried on HS-DSCH on the Uu-interface.

5.1 Data Transfer

5.1.1 RACH/CPCH[FDD] Data Transfer

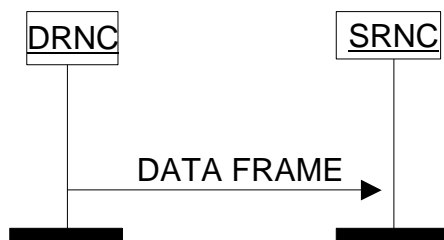


Figure 1: RACH/CPCH[FDD] Data Transfer procedure

Data received on the RACH/CPCH[FDD] transport channel is transmitted from the DRNC to the SRNC using RACH/CPCH[FDD] DATA FRAMES. The data is protected by a mandatory payload CRC. Multiple MAC-c/sh SDUs of same length may be transmitted in the same RACH/CPCH[FDD] DATA FRAME.

5.1.2 FACH Data Transfer

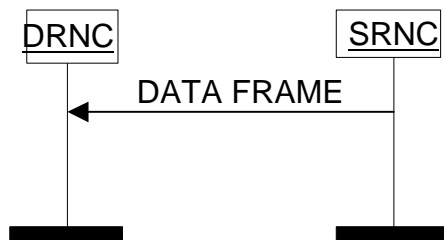


Figure 2: FACH Data Transfer procedure

Data to be transmitted on the FACH transport channel is transmitted from the SRNC to the DRNC using FACH DATA FRAMES. Multiple MAC-c/sh SDUs of same length and same priority level (CmCH-PI) may be transmitted in the same FACH DATA FRAME. Within one priority and size the MAC-c/sh SDUs shall be transmitted by the DRNS on the Uu interface in the same order as they were received from the SRNC.

The *UE-ID Type Indicator* IE indicates which UE-ID type MAC-c/sh shall include in the MAC header.

5.1.3 USCH Data Transfer [TDD]

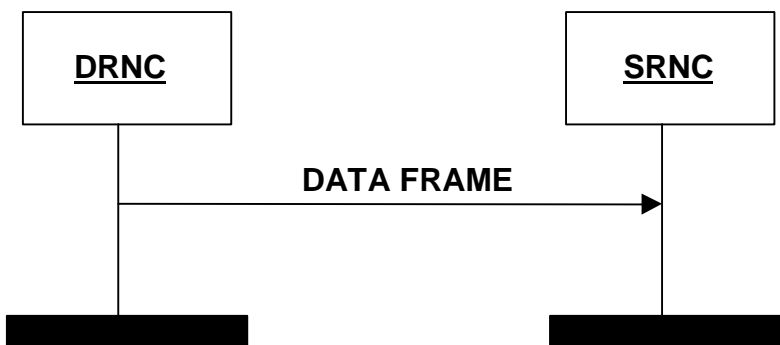


Figure 3: USCH Data Transfer procedure

Whenever there is USCH data in the DRNC, transfer is done immediately to the SRNC via the USCH Data Port using USCH DATA FRAMES.

Data received on the USCH transport channel is transmitted from the DRNC to the SRNC using USCH DATA FRAMES. The data is protected by a mandatory payload CRC. Multiple MAC-c/sh SDUs of same length may be transmitted in the same USCH DATA FRAME.

5.1.4 DSCH Data Transfer

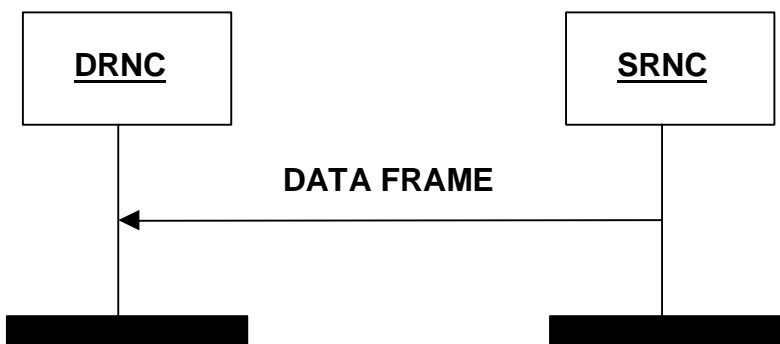


Figure 4: DSCH Data Transfer procedure

When the SRNC has been granted capacity by the DRNC via the DSCH CAPACITY ALLOCATION Control Frame and the SRNC has data waiting to be sent, then the DSCH DATA FRAME is used to transfer the data. When data is waiting to be transferred, and a CAPACITY ALLOCATION is received, a DATA FRAME will be transmitted immediately according to allocation received.

Multiple MAC-c/sh SDUs of same length and same priority level (CmCH-PI) may be transmitted in the same DSCH DATA FRAME.

The DSCH DATA FRAME includes a *User Buffer Size* IE to indicate the amount of data pending for the respective UE for the indicated priority level. Within one priority level and size the MAC-c/sh SDUs shall be transmitted by the DRNS on the Uu interface in the same order as they were received from the SRNC.

5.1.5 HS-DSCH Data Transfer

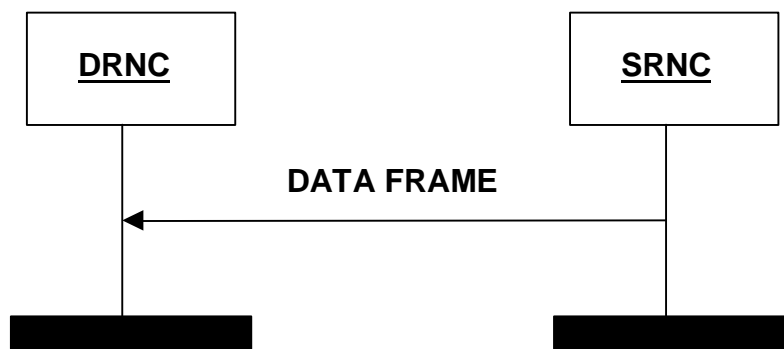


Figure 4AA: HS-DSCH Data Transfer procedure

When the SRNC has been granted capacity by the DRNC via the HS-DSCH CAPACITY ALLOCATION Control Frame and the SRNC has data waiting to be sent, then the HS-DSCH DATA FRAME is used to transfer the data. When data is waiting to be transferred, and a CAPACITY ALLOCATION is received, a DATA FRAME will be transmitted immediately according to allocation received.

Multiple MAC-d PDUs of same length and same priority level (CmCH-PI) may be transmitted in one MAC-d flow in the same HS-DSCH DATA FRAME.

The HS-DSCH DATA FRAME includes a *User Buffer Size* IE to indicate the amount of data pending for the respective MAC-d flow for the indicated priority level. Within one priority level and size the MAC-d PDUs shall be transmitted by the DRNS on the Uu interface in the same order as they were received from the SRNC.

5.2 Flow Control

5.2.1 FACH Flow Control



Figure 4A: FACH Flow Control procedure

The FACH Flow Control procedure is used by the DRNC to control the user data flow. It may be generated in response to a FACH Capacity Request procedure or at any other time. The *Credits* IE indicates the number of MAC-c/sh SDUs the SRNC is allowed to transmit for the UE identified by the *SRNTI* IE and the associated priority level indicated by the *Common Transport Channel Priority Indicator* IE.

The *Credits* IE indicates the total amount of credits granted. Any credits previously granted are withdrawn.

If *Credits* IE = 0 (e.g. due to congestion in the DRNC), the SRNC shall immediately stop transmission of MAC-c/sh SDUs.

Credits IE = 'unlimited' indicates that the SRNC may transmit an unlimited number of MAC-c/sh SDUs.

5.2.2 DSCH Capacity Request

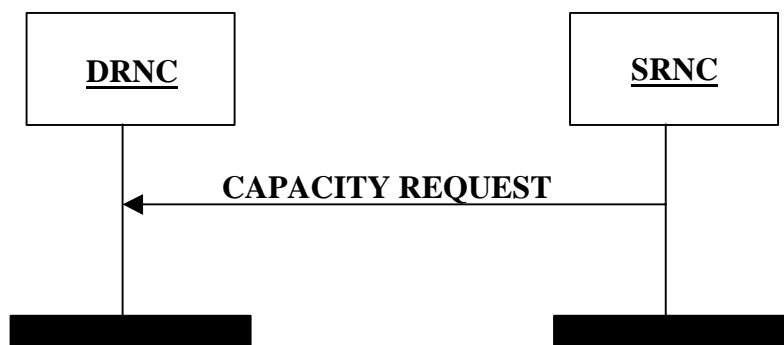


Figure 5: DSCH Capacity Request procedure

The DSCH Capacity Request procedure provides means for the SRNC to request DSCH capacity by indicating the user buffer size in the SRNC for a given priority level.

The SRNC is allowed to reissue the DSCH Capacity Request if no CAPACITY ALLOCATION has been received within an appropriate time threshold.

5.2.3 DSCH Capacity Allocation

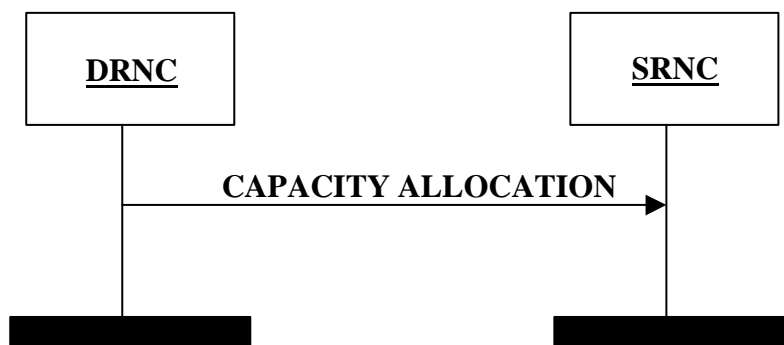


Figure 6: DSCH Capacity Allocation procedure

DSCH Capacity Allocation procedure is generated within the DRNC. It may be generated either in response to a DSCH Capacity Request or at any other time.

The DRNC may use this message to modify the capacity at any time, irrespective of the reported user buffer status.

The DSCH CAPACITY ALLOCATION frame is used by the DRNC to control the user data flow. *Credits* IE indicates the number of MAC-c/sh SDUs that the SRNC is allowed to transmit for the UE and the associated priority level indicated by the *Common Transport Channel Priority Indicator* IE.

The *Maximum MAC- c/sh SDU length*, *Credits*, *Interval* and *Repetition Period* IEs indicates the total amount of capacity granted. Any capacity previously granted is replaced.

If *Credits* IE = 0 (e.g. due to congestion in the DRNC), the SRNC shall immediately stop transmission of MAC-c/sh SDUs. If *Credits* IE = 255, the SRNC can transmit MAC-c/sh SDUs with unlimited capacity.

The IEs used in the DSCH CAPACITY ALLOCATION Control Frame are the *Common Transport Channel Priority Indicator*, *Credits*, *Maximum MAC- c/sh SDU Length*, *Interval* and the *Repetition Period*.

If the *Repetition Period* IE = 'unlimited repetition period' it indicates that the SRNC may transmit the specified number of MAC-c/sh SDUs for an unlimited period according to the bounds of *Maximum MAC-c/sh SDU Length*, *Credits* and *Interval* IEs.

5.2.4 FACH Capacity Request

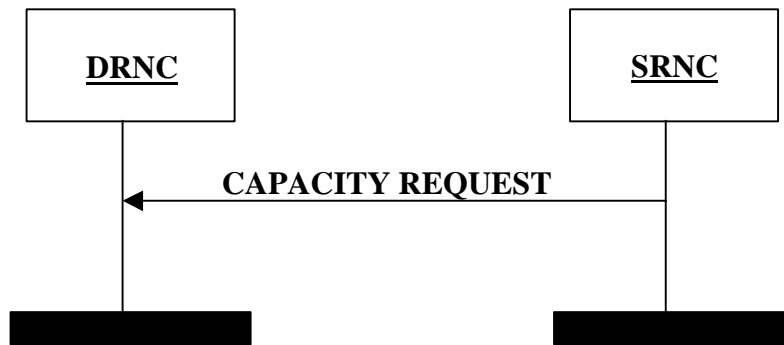


Figure 6A: FACH Capacity Request procedure

The FACH Capacity Request procedure provides the means for the SRNC to notify the DRNC about the user buffer size for a given priority level. It may be sent if no FACH FLOW CONTROL frame has been received within an appropriate time threshold, or to signal an event such as data arrival or user buffer discard.

5.2.5 HS-DSCH Capacity Request

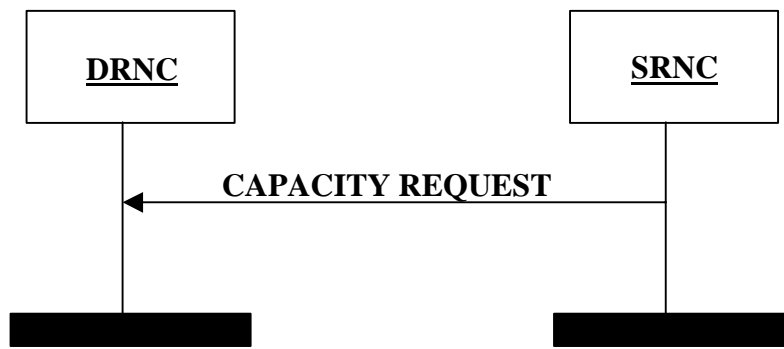


Figure 6B: HS-DSCH Capacity Request procedure

The HS-DSCH Capacity Request procedure provides means for the SRNC to request HS-DSCH capacity by indicating the user buffer size in the SRNC for a given priority level.

The SRNC is allowed to reissue the HS-DSCH Capacity Request if no CAPACITY ALLOCATION has been received within an appropriate time threshold.

5.2.6 HS-DSCH Capacity Allocation

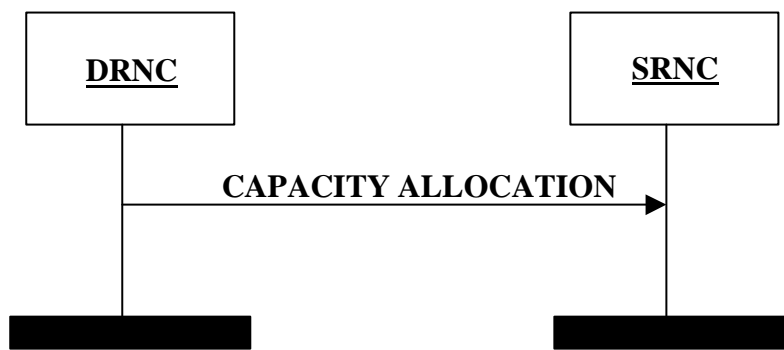


Figure 6C: HS-DSCH Capacity Allocation procedure

HS-DSCH Capacity Allocation procedure is generated within the DRNC. It may be generated either in response to a HS-DSCH Capacity Request or at any other time.

The DRNC may use this message to modify the capacity at any time, irrespective of the reported user buffer status.

The HS-DSCH CAPACITY ALLOCATION frame is used by the DRNC to control the user data flow. *HS-DSCH Credits* IE indicates the number of MAC-d PDUs that the SRNC is allowed to transmit for the MAC-d flow and the associated priority level indicated by the *Common Transport Channel Priority Indicator* IE.

The *Maximum MAC-d PDU length*, *HS-DSCH Credits*, *HS-DSCH Interval* and *HS-DSCH Repetition Period* IEs indicates the total amount of capacity granted. Any capacity previously granted is replaced.

If *HS-DSCH Credits* IE = 0 (e.g. due to congestion in the DRNC), the SRNC shall immediately stop transmission of MAC-d PDUs. If *HS-DSCH Credits* IE = 255, the SRNC can transmit MAC-d PDUs with unlimited capacity.

The IEs used in the HS-DSCH CAPACITY ALLOCATION Control Frame are the *Common Transport Channel Priority Indicator*, *HS-DSCH Credits*, *Maximum MAC-d PDU Length*, *HS-DSCH Interval* and the *HS-DSCH Repetition Period*.

If the *Repetition Period* IE = "unlimited repetition period" it indicates that the SRNC may transmit the specified number of MAC-d PDUs for an unlimited period according to the bounds of *Maximum MAC-d PDU Length*, *HS-DSCH Credits* and *HS-DSCH Interval* IEs.

5.3 General

5.3.1 DSCH transport bearer replacement

As described in RNSAP [8], transport bearer replacement can be achieved for a DSCH by using the Synchronised Radio Link Reconfiguration Preparation procedure in combination with the Synchronised Radio Link Reconfiguration Commit procedure. In both cases the following steps can be discerned:

- 1) The new transport bearer is established after which 2 transport bearers exist in parallel.
- 2) The transport channel(s) is/are switched to the new transport bearer.
- 3) The old transport bearer is released.

In step 1), communication on the old transport bearer continues as normal.

In step 2), the moment of switching is determined as follows:

- The DSCH DATA FRAMES shall be transported on the new transport bearer from the CFN indicated in the RADIO LINK RECONFIGURATION COMMIT message.

Starting from this CFN the RNCs shall support all the applicable Common Transport Channels frame protocol procedures on the new transport bearer and no requirements exist regarding support of Common Transport Channels frame protocol procedures on the old transport bearer.

Finally in step 3), the old transport bearer is released.

6 Frame Structure and Coding

6.1 General

The general structure of a Common Transport Channel frame consists of a header and a payload. This structure is depicted in the figure 7.

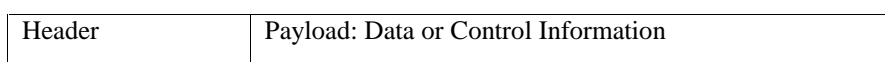


Figure 7: General Frame Structure

The header shall contain the frame type field and information related to the frame type.

There are two types of frames (indicated by the Frame Type field).

1. Data frame.

2. Control frame.

In the present document the structure of frames will be specified by using pictures similar to the following figure 8.

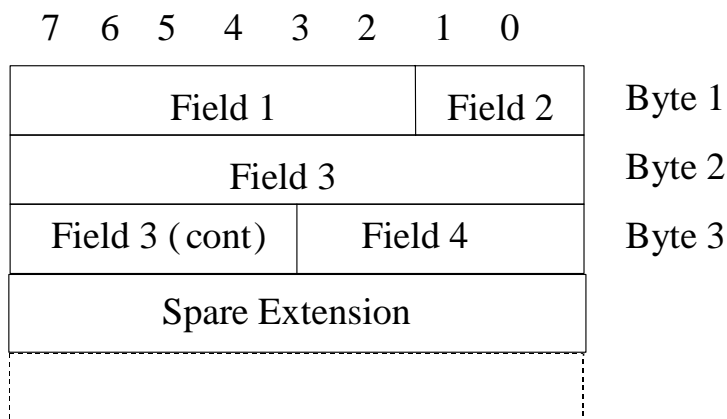


Figure 8: Example frame structure

Unless otherwise indicated, fields which consist of multiple bits within a byte will have the more significant bit located at the higher bit position (indicated above frame in figure 8). In addition, if a field spans several bytes, more significant bits will be located in lower numbered bytes (right of frame in figure 8).

On the Iur interface, the frame will be transmitted starting from the lowest numbered byte. Within each byte, the bits are sent according decreasing bit position (bit position 7 first).

The Spare Extension indicates the location where new IEs can in the future be added in a backward compatible way.

The Spare Extension shall not be used by the transmitter and shall be ignored by the receiver.

Spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

The parameters are specified giving the value range and the step (if not 1). The coding is done as follows (unless otherwise specified):

- Lowest value (in the range) coded as a sequence of 0's;
- Highest value in the range coded as a sequence of 1's.

6.2 Data Frame structure

6.2.1 RACH/CPCH[FDD] Channels

RACH/CPCH[FDD] Iur data stream corresponds to the data stream of one specific UE. The used transport bearer for the transport of FACH/RACH or FACH/CPCH[FDD] is bi-directional.

The RACH/CPCH[FDD]/FACH FP does not facilitate multiplexing of data streams from different UEs onto the same data frame, but does allow multiple UEs to share the same transport bearer.

The RACH DATA FRAME structure is defined as common for FDD and TDD with conditional fields, and CPCH[FDD] DATA FRAME structure is defined as common for FDD only.

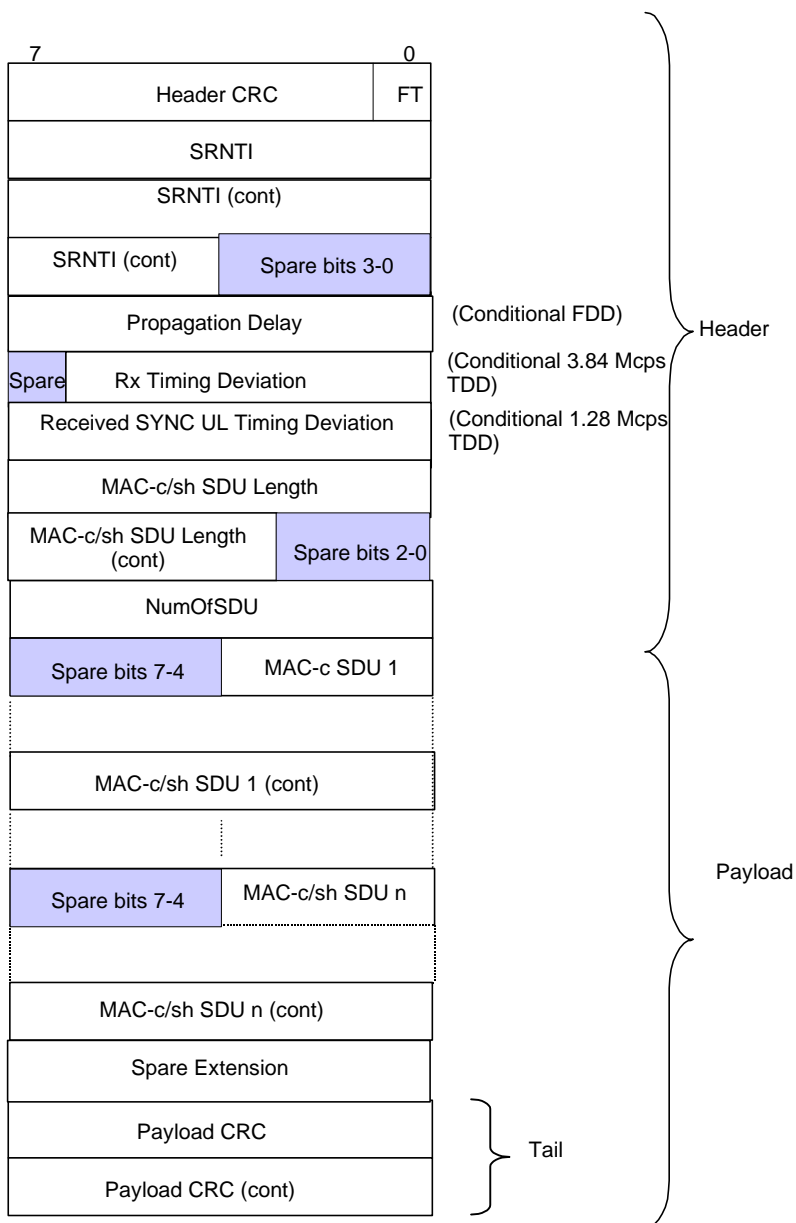


Figure 9: RACH/CPCH[FDD] DATA FRAME structure

Propagation delay is a conditional Information Element which is only present when the Cell supporting the RACH/CPCH[FDD] Transport Channel is a FDD Cell.

Rx Timing Deviation is a conditional Information Element which is only present when the Cell supporting the RACH Transport Channel is a 3.84 Mcps TDD Cell.

Received SYNC UL Timing Deviation is a conditional Information Element which is only present when the Cell supporting the RACH Transport Channel is a 1.28 Mcps TDD Cell.

6.2.2 FACH Channels

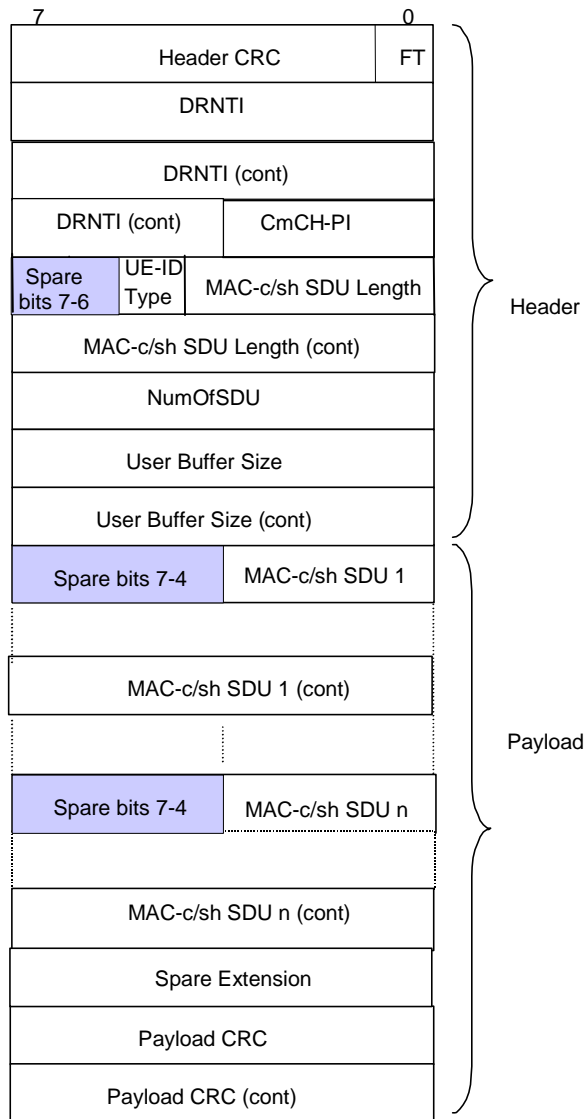


Figure 10: FACH DATA FRAME structure

6.2.3 USCH Channels [TDD]

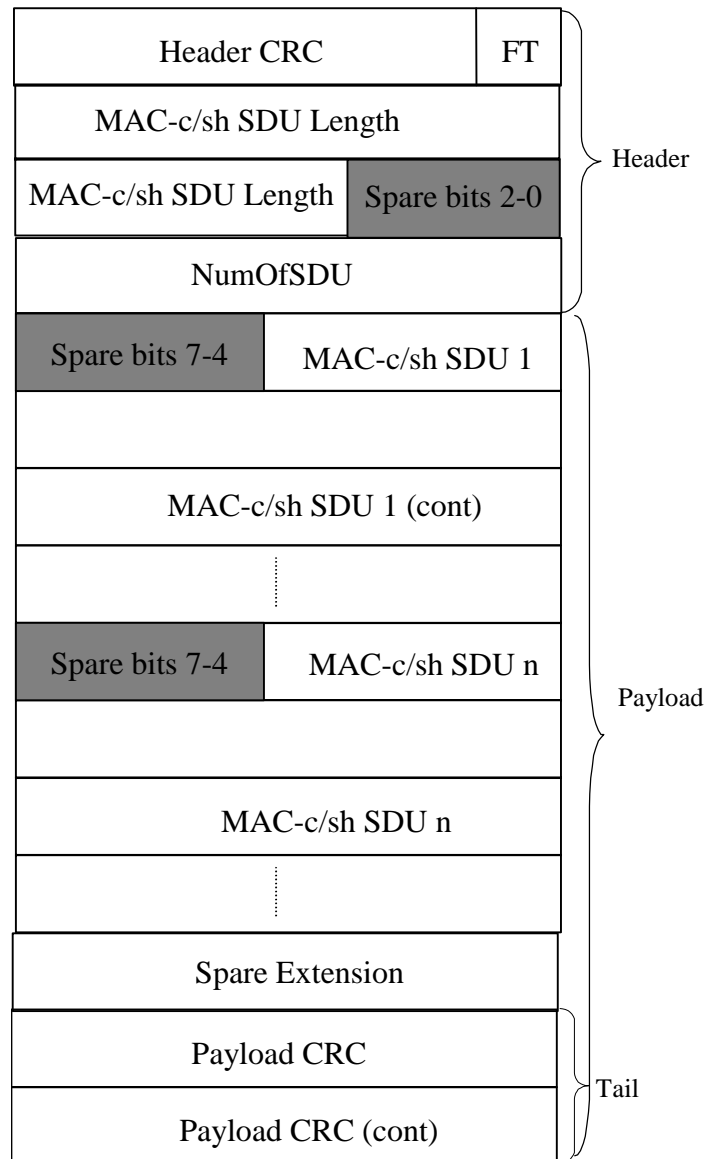


Figure 11: USCH DATA FRAME structure

6.2.4 DSCH Channels

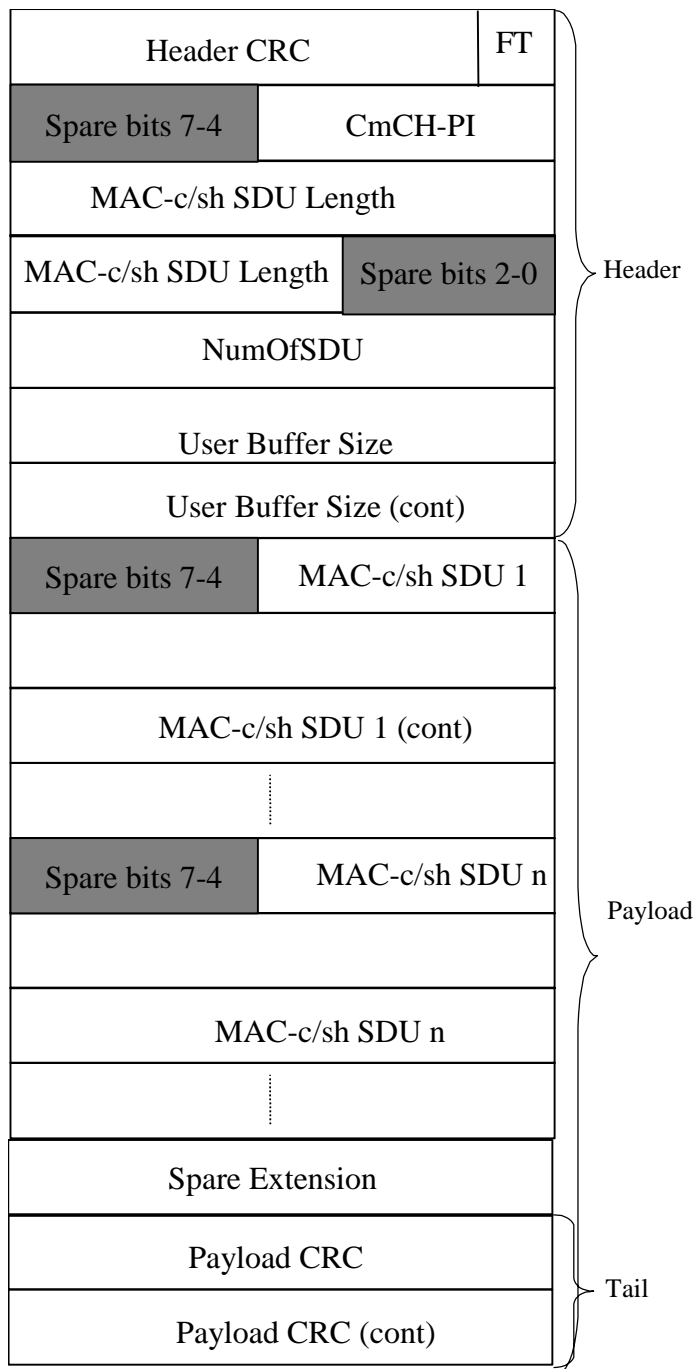
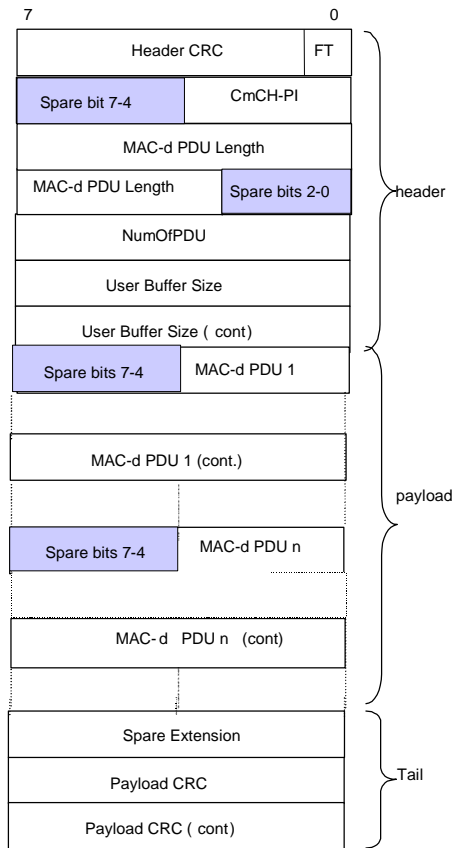


Figure 12: DSCH DATA FRAME structure

6.2.4A HS-DSCH Channels



[Figure 12A: HS-DSCH DATA FRAME structure](#)

6.2.5 Coding of Information Elements in DATA FRAMEs

6.2.5.1 Header CRC

Description: Cyclic Redundancy Checksum calculated on the header of a data frame with polynomial $X^7+X^6+X^2+1$. The CRC calculation shall cover all bits in the header, starting from bit 0 in the first byte (FT field) up to the end of the header.

Value range: {0-127}.

Field length: 7 bits.

6.2.5.2 Frame Type (FT)

Description: Describes if it is a control frame or a data frame.

Value range: {0=data, 1=control}.

Field Length: 1 bit.

6.2.5.3 DRNTI

Description: Identifies the UE in the DRNC.

Value range: {0-1048575}.

Field length: 20 bits.

6.2.5.4 S-RNTI

Description: S-RNTI is defined in [5]. S-RNTI is used in UL control frames to identify the UE context in the SRNC.

Value range: {0-1048575}.

Field length: 20 bits.

6.2.5.5 UE-ID Type Indicator (UE-ID Type)

Description: Indicates the UE Identifier Type to be included by MAC-c/sh in the MAC header.

Value range: {0=U-RNTI, 1=C-RNTI}.

Field Length: 1 bit.

6.2.5.6 S-CCPCH Indicator (S-CI)

Void.

6.2.5.7 Common Transport Channel Priority Indicator (CmCH-PI)

Description: CmCH-PI is the relative priority of the data frame and the SDUs included.

Value range: {0-15, where 0=lowest priority, 15=highest priority}.

Field length: 4 bits.

6.2.5.8 MAC-c/sh SDU Length

Description: The value of that field indicates the length of every MAC-c/sh SDU in the payload of the FACH, DSCH and [TDD - USCH] DATA FRAME in number of bits.

Value range: {0-5000}.

Field Length: 13 bits.

6.2.5.9 NumOfSDU

Description: Indicates the number of MAC-c/sh SDUs in the payload.

Value range: {1-255}.

Field Length: 8 bits.

6.2.5.10 Propagation delay [FDD]

Description: One-way air interface delay as measured during RACH access.

Value range: {0 - 765 chips}.

Granularity: 3 chips.

Field length: 8 bits.

6.2.5.11 Rx Timing Deviation [3.84Mcps TDD]

Description: Measured Rx Timing Deviation as a basis for timing advance.

Value range: {-256, ..., +256} chips

$\{N*4 - 256\}$ chips \leq RxTiming Deviation $< \{(N+1)*4 - 256\}$ chips

With N = 0, 1, ...,127

Granularity: 4 chips.

Field length: 7 bits.

6.2.5.11A Received SYNC UL Timing Deviation [1.28Mcps TDD]

Description: Measured Received SYNC UL Timing Deviation as a basis for propagation delay.

Value range: {0, ..., +256} chips

Granularity: 1 chip.

Field length: 8 bits.

6.2.5.12 User Buffer Size

Description: Indicates the users' buffer size (i.e. the amount of data in the buffer) in octets for a given Common Transport Channel Priority Indicator level.

Value range: {0-65535}.

Field length: 16 bits.

6.2.5.13 MAC-c/sh SDU

Description: A MAC-c/sh SDU contains the *C/T* IE field [7] of the MAC header followed by one RLC PDU. Field length: See the value of the *MAC-c/sh SDU Length* IE.

6.2.5.14 Payload CRC

Description: Cyclic Redundancy Checksum calculated on the payload of a data frame with polynomial $X^{16}+X^{15}+X^2+1$. The CRC calculation shall cover all bits in the data frame payload, starting from bit 7 in the first byte up to bit 0 in the byte before the payload CRC.

Field length: 16 bits.

6.2.5.15 Spare Extension

Description: Indicates the location where new IEs can in the future be added in a backward compatible way.

Field length: 0-2 octets.

6.2.5.16 MAC-d PDU Length

Description: The value of that field indicates the length of every MAC-d PDU in the payload of the HS-DSCH DATA FRAME in number of bits.

Value range: {0-5000}.

Field Length: 13 bits.

6.2.5.17 NumOfPDU

Description: Indicates the number of MAC-d PDUs in the payload.

Value range: {1-255}.

Field Length: 8 bits.

6.2.5.18 MAC-d PDU

Description: A MAC-d PDU contains the *C/T* IE field [7] of the MAC header followed by one RLC PDU. Field length: See the value of the *MAC-d PDU Length* IE.

6.3 Control Frame structure

6.3.1 Introduction

Control Frames are used to transport control information between SRNC and DRNC.

Figure 13 defines the Control Frame structure for common transport channels.

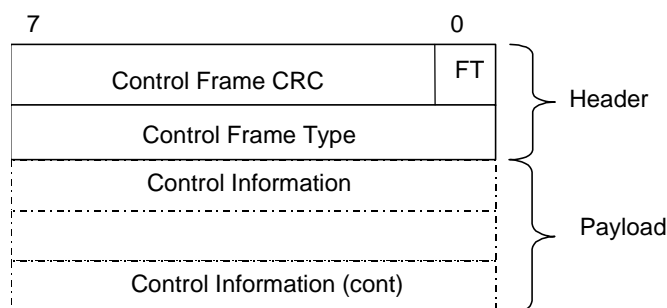


Figure 13: Iur Common Transport Channel Control Frame Format

The *Control Frame Type* IE defines the type of the control frames.

The length of the payload is variable accordingly to the control frame type.

The structure of the header and the payload of the control frames is defined in the following subclauses.

6.3.2 Header structure of the control frames

6.3.2.1 Control frame CRC

Description: Cyclic Redundancy Checksum calculated on a control frame with polynomial $X^7+X^6+X^2+1$. The CRC calculation shall cover all bits in the control frame, starting from bit 0 in the first byte (FT field) up to the end of the control frame.

Value range: {0-127}.

Field length: 7 bits.

6.3.2.2 Frame type (FT)

Refer to subclause 6.2.5.2.

6.3.2.3 Control Frame Type

Description: Indicates the type of the control information (information elements and length) contained in the payload (=type of control frame).

Value: values of the *Control Frame Type* IE parameter are defined in the table 1.

Table 1: Control Frame Type

Type of control frame	Value
FACH Flow Control	0000 0010
FACH Capacity Request	0000 0011
DSCH Capacity Request	0000 0100
DSCH Capacity Allocation	0000 0101
HS-DSCH Capacity Request	0000 1010
HS-DSCH Capacity Allocation	0000 1011

6.3.3 Payload structure and information elements

6.3.3.1 FACH FLOW CONTROL

Figure 14 shows the payload structure when the control frame is used for the above mentioned purpose. This control information is sent in the UL only.

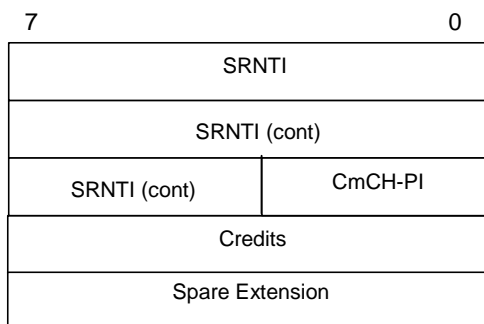


Figure 14: FACH FLOW CONTROL payload structure

6.3.3.1.1 S-RNTI

Refer to subclause 6.2.5.4.

6.3.3.1.2 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.1.3 Credits

Description: The *Credits* IE indicates the number of MAC-c/sh SDUs that a user may transmit.

Value range: {0-255, where 0=stop transmission, 255=unlimited}.

Field length: 8 bits.

6.3.3.1.4 Spare Extension

Description: Indicates the location where new IEs can in the future be added in a backward compatible way.

Field length: 0-32 octets.

6.3.3.2 DSCH CAPACITY REQUEST

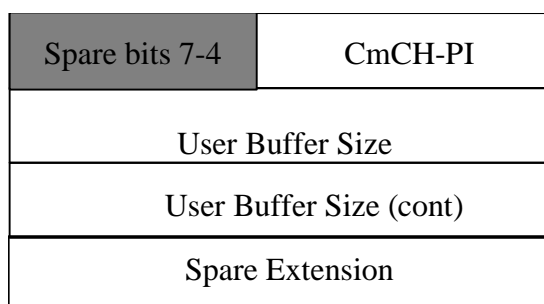


Figure 15: CAPACITY REQUEST payload structure

DSCH Capacity Request is sent for each priority group to indicate the user buffer size. The control frame is sent by the SRNC when the SRNC considers the user buffer status needs an increased buffer reporting frequency. This may be sent to signal an event, such as, data arrival or user-buffer discard. This control frame is used to improve user-buffer reporting above the level produced by the user-buffer reporting associated with the DSCH DATA FRAMES.

6.3.3.2.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.2.2 User Buffer Size

Refer to subclause 6.2.5.12.

6.3.3.2.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.3 DSCH CAPACITY ALLOCATION

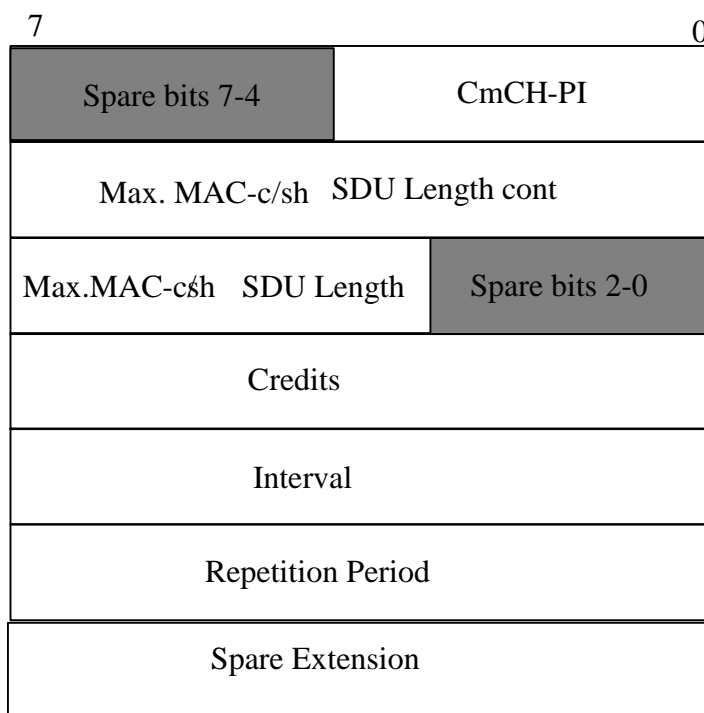


Figure 16: CAPACITY ALLOCATION payload structure

The CAPACITY ALLOCATION Control Frame describes an allocation that the SRNC may use. When the *Credits* IE has a value of 0 it signifies that there is no resources allocated for transmission and to thus stop transmission. When the *Credits* IE has a value of 255, it signifies unlimited capacity for transmission of SDUs. When the *Repetition Period* IE has a value of 0, it signifies that the allocation (*Maximum MAC-c/sh SDU Length*, *Credits* and *Interval* IEs) can be repeated without limit.

6.3.3.3.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.3.2 Maximum MAC-c/sh SDU Length

Description: The values indicated the maximum allowable SDU size. MAC-c/sh SDU contains the C/T field of the MAC header followed by one RLC PDU.

Field length: See the value of the *MAC-c/sh SDU Length* IE.

6.3.3.3.3 Credits

Refer to subclause 6.3.3.1.3.

6.3.3.3.4 Interval

Description: The value of this field indicates the time interval during which the *Credits* IE granted in the DSCH CAPACITY ALLOCATION Control Frame may be transmitted. This value is only applied to the DSCH transport channel.

Value range: {0-2550 ms}.

Granularity: 10ms.

Field Length: 8 bits.

6.3.3.3.5 Repetition Period

Description: The value of this field indicates the number of subsequent intervals that the *Credits* IE granted in the DSCH CAPACITY ALLOCATION Control Frame may be transmitted. These values represent an integer number of Intervals (see subclause 6.3.3.3.4). This field is only applied to the DSCH transport channel.

Value range: {0-255, where 0= unlimited repetition period}.

Field Length: 8 bits.

6.3.3.3.6 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.4 FACH CAPACITY REQUEST

Figure 17 shows the payload structure when the control frame is used for the above mentioned purpose. This control information is sent in the DL only.

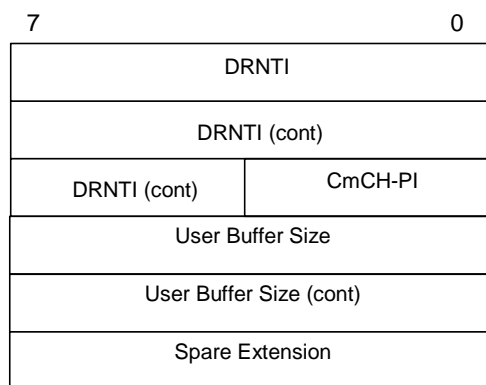


Figure 17: FACH CAPACITY REQUEST payload structure

6.3.3.4.1 D-RNTI

Refer to subclause 6.2.5.3.

6.3.3.4.2 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.4.3 User Buffer Size

Refer to subclause 6.2.5.12.

6.3.3.4.4 Spare extension

Refer to subclause 6.3.3.1.4.

6.3.3.5 HS-DSCH CAPACITY REQUEST

Spare bits 7-4	CmCH-PI
User Buffer Size	
User Buffer Size (cont)	
Spare Extension	

Figure 18: CAPACITY REQUEST payload structure

HS-DSCH Capacity Request is sent for each priority group to indicate the user buffer size. The control frame is sent by the HS-DSCH CAPACITY REQUEST is sent for each priority group to indicate the user buffer size. The control frame is sent by the SRNC when the SRNC considers the user buffer status needs an increased buffer reporting frequency. This may be sent to signal an event, such as, data arrival or user-buffer discard. This control frame is used to improve user-buffer reporting above the level produced by the user-buffer reporting associated with the HS-DSCH DATA FRAMES.

6.3.3.5.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.5.2 User Buffer Size

Refer to subclause 6.2.5.12.

6.3.3.5.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.6 HS-DSCH CAPACITY ALLOCATION

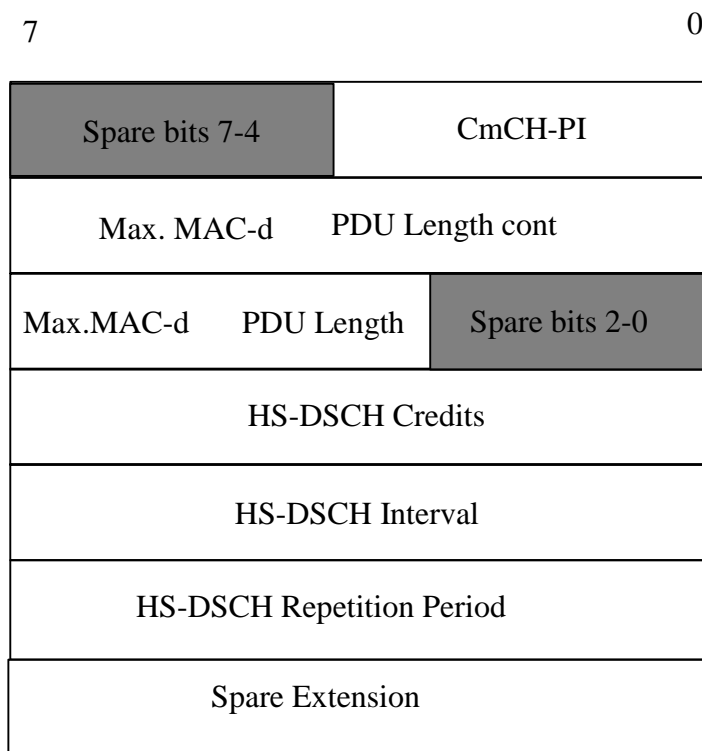


Figure 19: CAPACITY ALLOCATION payload structure

The CAPACITY ALLOCATION Control Frame describes an allocation that the SRNC may use. When the *HS-DSCH Credits* IE has a value of 0 it signifies that there is no resources allocated for transmission and to thus stop transmission. When the *HS-DSCH Credits* IE has a value of 255, it signifies unlimited capacity for transmission of PDUs. When the *HS-DSCH Repetition Period* IE has a value of 0, it signifies that the allocation (*Maximum MAC-d PDU Length*, *HS-DSCH Credits* and *HS-DSCH Interval* IEs) can be repeated without limit.

6.3.3.6.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.5.7.

6.3.3.6.2 Maximum MAC-d PDU Length

Description: The values indicated the maximum allowable PDU size. MAC-d PDU contains the C/T field of the MAC header followed by one RLC PDU.

Field length: See the value of the *MAC-d PDU Length* IE.

6.3.3.6.3 HS-DSCH Credits

Description: The *HS-DSCH Credits* IE indicates the number of MAC-d PDUs that a user may transmit.

Value range: Refer to subclause 6.3.3.1.3.

Field length: Refer to subclause 6.3.3.1.3.

6.3.3.6.4 HS-DSCH Interval

Description: The value of this field indicates the time interval during which the *HS-DSCH Credits* IE granted in the HS-DSCH CAPACITY ALLOCATION Control Frame may be transmitted. This value is only applied to the HS-DSCH transport channel.

Value range: Refer to subclause 6.3.3.3.4.

Granularity: Refer to subclause 6.3.3.3.4.

Field Length: Refer to subclause 6.3.3.3.4.

6.3.3.6.5 HS-DSCH Repetition Period

Description: The value of this field indicates the number of subsequent intervals that the *HS-DSCH Credits IE* granted in the HS-DSCH CAPACITY ALLOCATION Control Frame may be transmitted. These values represent an integer number of Intervals (see subclause 6.3.3.6.4). This field is only applied to the HS-DSCH transport channel.

Value range: Refer to subclause 6.3.3.3.5.

Field Length: Refer to subclause 6.3.3.3.5.

6.3.3.6.8 Spare Extension

Refer to subclause 6.3.3.1.4.

7 Handling of Unknown, Unforeseen and Erroneous Protocol Data

7.1 General

A Frame Protocol frame with an unknown IE or an illegal IE value shall be ignored.

CHANGE REQUEST

⌘ **25.430 CR 029** ⌘ rev **2** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘ HSDPA Additions for REL-5		
Source:	⌘ R-WG3		
Work item code:	⌘ HSDPA-lublur	Date:	⌘ February 21, 2002
Category:	⌘ B	Release:	⌘ REL-5
	Use <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),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		REL-4 (Release 4)
			REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification		
Summary of change:	⌘ Updated sections in Iub Interface Capabilities, Functional split over Iub, Node B logical Model over Iub, and Iub Interface Protocol Structure to now incorporate HS-DSCH transport channel addition.		
	Impact Analysis:		
	Impact assessment towards the previous version of the specification (same release):		
	This CR has no impact with the previous version of the specification (same release) because old nodes can coexist with nodes supporting HSDPA.		
Consequences if not approved:	⌘ HSDPA will not be able to be implemented.		

Clauses affected:	⌘ 3.2, 4.4.x, 4.5.1, 5.2.x, 6.1, 6.2.1, 6.2.2 , 6.2.3.3, 6.2.3.x, 6.2.4.4, 7		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications	⌘	
	<input type="checkbox"/> Test specifications		
	<input type="checkbox"/> O&M Specifications		
Other comments:	⌘		

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

3.2 Abbreviations

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

AAL2	ATM Adaptation Layer type 2
AAL5	ATM Adaptation Layer type 5
AICH	Acquisition Indication Channel
ALCAP	Access Link Control Application Part
AP-AICH	Access Preamble Acquisition Indication Channel
ATM	Asynchronous Transfer Mode
BCH	Broadcast Channel
BCCH	Broadcast Control Channel
CCH	Control Channel
CD/CA-ICH	Collision Detection/Channel Assignment Indication Channel
CPCH	Common Packet Channel
CPCId	Common Physical Channel Identifier
CPICH	Common Pilot Channel
CSICH	Common Packet Channel Status Indication Channel
CTCId	Common Transport Channel Identifier
CRNC	Controlling Radio Network Controller
DCH	Dedicated Transport Channel
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift Radio Network Controller
DSCH	Down-link Shared Channel
FACH	Forward Access Channel
FAUSCH	Fast Up-link Signalling Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
HS-DSCH	High Speed Downlink Shared Channel
NBAP	Node_B Application Part
O&M	Operation and Maintenance
PICH	Page Indication Channel
PCCH	Paging Control Channel
PCCPCH	Primary Common Control Physical Channel
PCPCH	Physical Common Packet Channel
PCPICH	Primary Common Pilot Channel
PCH	Paging Channel
PDSCH	Physical Downlink Shared Channel
PRACH	Physical Random Access Channel
PUSCH	Physical Uplink Shared Channel
RACH	Random Access Channel
RNC	Radio Network Controller
RNS	Radio Network Subsystem
SCCP	Signalling Connection Control Part
SCH	Synchronization Channel
SCCPCH	Secondary Common Control Physical Channel
SCPICH	Secondary Common Pilot Channel
SRNC	Serving Radio Network Controller
SSCF-UNI	Service Specific Co-ordination Function - User Network Interface
SSCOP	Service Specific Connection Oriented Protocol
TDD	Time Division Duplex
UE	User Equipment
UC-ID	UTRAN Cell Identifier
UMTS	Universal Mobile Telecommunication System
USCH	Up-link Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

4.4 Iub Interface Capabilities

4.4.1 Radio application related signalling

The Iub interface allows the RNC and the Node B to negotiate about radio resources, for example to add and delete cells controlled by the Node B to support communication of the dedicated connection between UE and SRNC. Information used to control the broadcast channel and information to be transported on the broadcast channel belongs to this category also. In addition, logical O&M [1] between the Node B and RNC shall also be included in this category.

4.4.2 Iub/Iur DCH data stream

The Iub interface provides the means for transport of uplink and downlink DCH transport frames between RNC and Node B. An Iub/Iur DCH data stream corresponds to the data carried on one DCH transport channel.

In the UTRAN, one DCH data stream always corresponds to a bi-directional transport channel. Although the TFS is configured separately for each DCH direction and a DCH could be configured with e.g. only a zero-bit transport format in one direction, the DCH is always treated as a bi-directional transport channel in the UTRAN. As a result, two uni-directional Uu DCH transport channels with opposite directions can be mapped to either one or two DCH transport channels in the UTRAN.

4.4.3 Iub RACH data stream

The Iub interface provides the means for transport of uplink RACH transport frames between Node B and RNC. An Iub RACH data stream corresponds to the data carried on one RACH transport channel.

4.4.4 Iub CPCH data stream [FDD]

The Iub interface provides the means for transport of uplink CPCH transport frames between Node B and RNC.

4.4.5 Iub FACH data stream

The Iub interface provides the means for transport of downlink FACH transport frames between RNC and Node B. An Iub FACH data stream corresponds to the data carried on one FACH transport channel.

4.4.6 Iub DSCH data stream

The Iub interface provides the means for transport of downlink shared channel, DSCH, data frames between RNC and Node B. An Iub DSCH data stream corresponds to the data carried on one DSCH transport channel for one UE. A UE may have multiple DSCH data streams.

[4.4.x Iub HS-DSCH data stream](#)

[The Iub interface provides the means for transport of high speed downlink shared channel, HS-DSCH, data frames between RNC and Node B. An Iub HS-DSCH data stream corresponds to the data carried on one MAC-d flow for one UE. A UE may have multiple HS-DSCH data streams.](#)

4.4.7 Iub USCH data stream [TDD]

The Iub interface provides the means for transport of uplink shared channel, USCH, data frames between Node B and RNC. An Iub USCH data stream corresponds to the data carried on one USCH transport channel for one UE. A UE may have multiple USCH data streams.

4.4.8 Iub PCH data stream

The Iub interface provides the means for transport of PCH transport frames between RNC and Node B. An Iub PCH data stream corresponds to the data carried on one PCH transport channel.

4.5 Iub Interface Characteristics

4.5.1 Mapping of Iub data streams

- DCH** One Iub DCH data stream is carried on one transport bearer. For each DCH data stream a transport bearer must be established over Iub, except in the case of coordinated DCHs in which case a set of coordinated DCHs are multiplexed onto the same transport bearer.
- [FDD - CPCH]** One Iub CPCH data stream is carried on one transport bearer. For each CPCH in a cell, an Iub CPCH data stream must be established over the Iub interface.]
- RACH** One Iub RACH data stream is carried on one transport bearer. For each RACH in a cell, a transport bearer must be established over the Iub interface.
- FACH** One Iub FACH data stream is carried on one transport bearer. For each FACH in a cell, a transport bearer must be established over the Iub Interface.
- DSCH** One Iub DSCH data stream is carried on one transport bearer. For each DSCH data stream, a transport bearer must be established over the Iub interface.
- HS-DSCH** One Iub HS-DSCH data stream is carried on one transport bearer. For each HS-DSCH data stream, a transport bearer must be established over the Iub interface.
- [TDD - USCH]** One Iub USCH data stream is carried on one transport bearer. For each USCH data stream, a transport bearer must be established over the Iub interface.]
- PCH** One Iub PCH data stream is carried on one transport bearer.

5.2 Functional split over Iub

5.2.1 Management of Iub Transport Resources

The underlying transport resources (AAL2 connections) shall be set up and controlled by the RNC. Further information on these functions is provided in the transport layer specifications [3], [8], [10].

5.2.2 Logical O&M of Node B

Logical O&M is the signalling associated with the control of logical resources (channels, cells,...) owned by the RNC but physically implemented in the Node B. The RNC controls these logical resources. A number of O&M procedures physically implemented in Node B impact on the logical resources and therefore require an information exchange between RNC and Node B. All messages needed to support this information exchange are classified as Logical O&M forming an integral part of NBAP over the Iub interface.

5.2.2.1 Handling of Node B Hardware Resources

Mapping of Node B logical resources onto Node B hardware resources, used for Iub data streams and radio interface transmission/reception, is performed by Node B.

5.2.3 Implementation Specific O&M Transport

The Iub interface may support the transport of Implementation specific O&M information. Further detail on this can be found in the UMTS technical specification on Implementation Specific O&M Transport [2].

5.2.4 System Information Management

System Information is sent by the CRNC to a Node B. CRNC can also request the Node B to autonomously create and update certain Node B related system information. Scheduling of system broadcast information is carried out in the CRNC. Scheduling information is always sent by the CRNC to the Node B. The Node B is responsible for transmitting the received system information according to the scheduling parameters provided. If requested by the CRNC, the Node B is also responsible for autonomously creating and updating the Node B related system information according to the scheduling parameters provided.

5.2.5 Traffic management of Common Channels

The common channels need to be controlled from the RNC. This is typically the control of the RACH, CPCH [FDD] and FACH channels, the information that is broadcast on the Broadcast control channel, and the control and request for sending information on the paging channels.

5.2.6 Traffic management of Dedicated Channels

These functions are related to the activation of logical resources (e.g. Radio Links, Iub ports), and the connection of these various resources together.

[FDD - Some freedom may be left for Node B implementation on some functions like soft combining within Node B, since soft combining has merits for being executed as close as possible to the radio (both in terms of transmission cost and efficiency).]

5.2.6.1 Combining/Splitting and Control

Node B may perform combining/splitting of data streams communicated via its cells. RNC performs combining/splitting of Iub data streams received from/sent to several Node B(s).

The UL combining of information streams may be performed using any suitable algorithm, for example:

- [FDD - based on maximum ratio algorithm (maximum ratio combining)];

- [FDD - based on quality information associated to each TBS (selection-combining)];
- [TDD - based on the presence/absence of the signal (selection)].

When requesting the addition of a new cell for a UE-UTRAN connection, the RNC can explicitly request to the Node B a new Iub data stream, in which case the combining and splitting function within the Node B is not used for that cell. Otherwise, the Node B takes the decision whether combining and splitting function is used inside the Node B for that cell i.e. whether a new Iub data stream shall be added or not.

The internal Node B handling of the combining/splitting of radio frames is controlled by the Node B.

5.2.6.2 Handover Decision

To support mobility of the UE to UTRAN connection between cells, UTRAN uses measurement reports from the UE and detectors at the cells.

The RNC takes the decision to add or delete cells from the connection.

5.2.6.3 Allocation of Physical Channel Resources

In FDD allocation of downlink channelisation codes of cells belonging to Node B is performed in the CRNC.

In TDD allocation of uplink and downlink physical channel resources of cells belonging to Node B is performed in the CRNC.

5.2.6.4 UpLink Power Control

This function controls the level of the transmitted power in order to minimise interference and keep the quality of the connections. The function uplink Outer Loop Power Control located in the SRNC sets the target quality for the uplink Inner Loop Power Control function. In FDD Inner Loop Power Control Function is located in Node B, while in TDD it is located in the UE.

5.2.6.5 Down-Link Power Control

This function controls the level of the downlink transmitted power. In FDD it is also used to correct the downlink power drifting between several radio links. A SRNC regularly (or under some algorithms) shall send the target down link power range based on the measurement report from UE.

5.2.6.6 Admission Control

The Admission Control function based on uplink interference and downlink power is located in the CRNC.

Node B shall report uplink interference measurements and downlink power information over the Iub.

The CRNC controls this reporting function, i.e. if this information needs to be reported and the period of these reports.

5.2.6.7 Power and Interference Reporting

A threshold for reporting may be given to Node B from the CRNC to prevent frequent reporting over the Iub. Node B shall have a function to measure "uplink interference level and downlink TX Power" and a function to compare the averaged "uplink interference level and downlink TX power" with the threshold value. Node B shall also have a function to report when the average measured value exceeds the threshold value. The CRNC shall have a function to modify the "threshold value" for neighbour cell co-ordination.

An indication of exceeding uplink interference threshold or downlink TX power may be included as a cause of failure when a Node B is requested to set-up a radio link or add to an existing radio link. This may be used when a number of radio links set-up requests or additions are received on the Iub during the reporting interval.

5.2.7 Traffic management of Shared Channels

The shared channels shall be controlled from the RNC. This is typically the control of the DSCH channels and the TDD USCH channels.

[5.2.x Traffic management of High Speed Shared Channels](#)

[The high speed shared channels shall be controlled from the Node B. This includes the control of the HS-DSCH channels as well as the required control channels on the radio interface.](#)

5.2.8 Timing and Synchronization Management

The Iub interface shall support timing and synchronization management functions. Further detail regarding these functions can be found in the UMTS technical specification on UTRAN synchronization [12].

6 Node B logical Model over Iub

6.1 Overview

The model described in figure 2 shows the Node B as seen from the controlling RNC. The model includes:

- The logical resources provided by Node B to UTRAN (via its Controlling RNC) - depicted as "cells" which include the physical channel resources DPCH, PDSCH, and PUSCH;
- The dedicated channels which have been established on Node B;
- The common transport channels that Node B provides to the RNC.

The procedures for controlling the connections between radio links and Iub DCH data ports are sent from the RNC to the Node B via the Communication Control Ports.

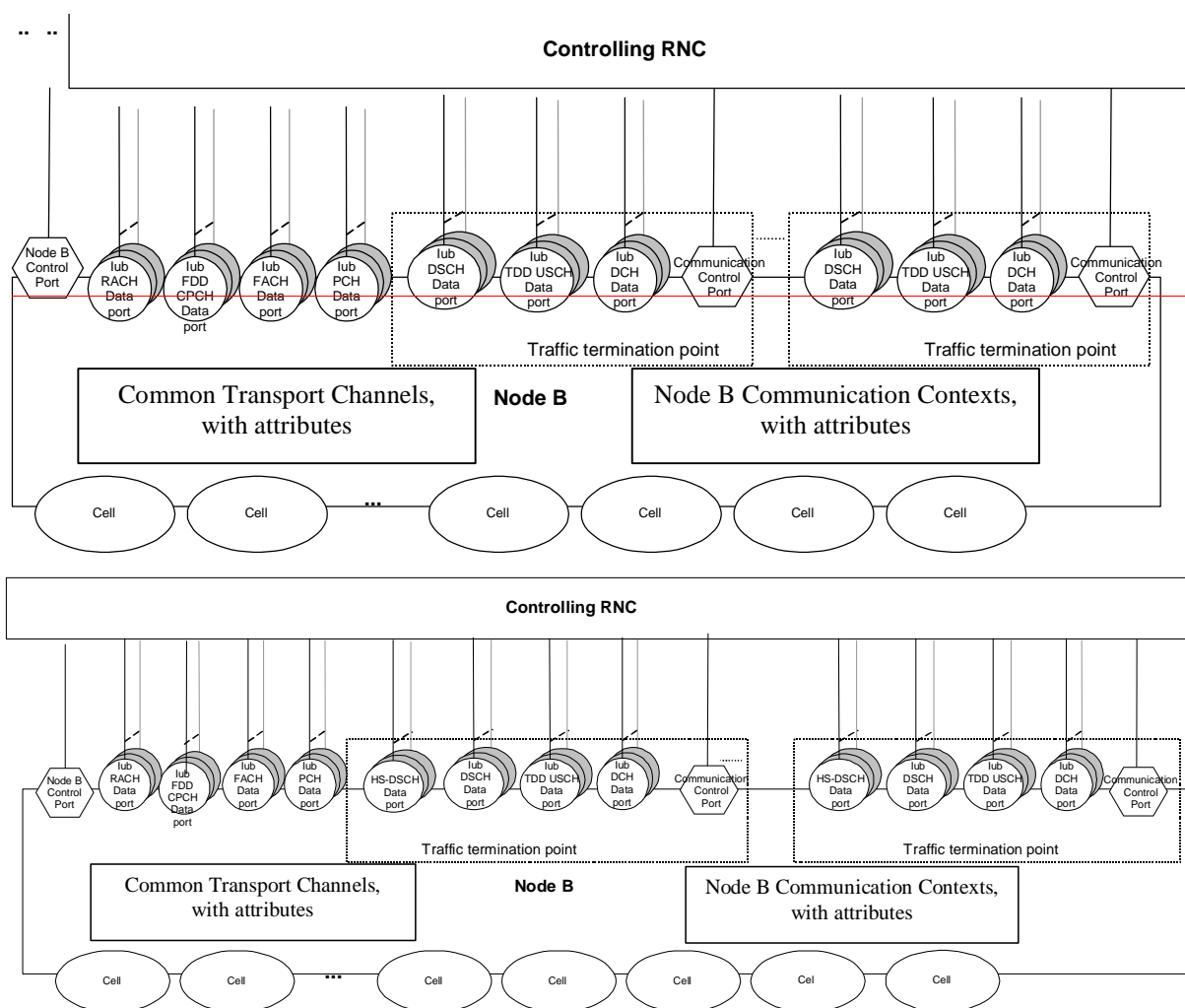


Figure 2: Logical Model of Node B

6.2 Elements of the logical model

6.2.1 Node B Communication Contexts for Dedicated and Shared Channels

A Node B Communication Context corresponds to all the dedicated resources that are necessary for a user in dedicated mode and using dedicated and/or shared channels as restricted to a given Node B. [TDD - The Node B Communication Context also exists for users in Cell_FACH mode (i.e. non-dedicated mode) provided a USCH and/or DSCH [and/or HS-DSCH](#) has been allocated to these users.]

There are a number of Node B Communication Contexts inside a given Node B.

The attributes to a Node B Communication Context shall include the following (not exhaustive):

- The list of Cells where dedicated and/or shared physical resources are used.
- The list of DCH which are mapped on the dedicated physical resources for that Node B Communication Context.
- The list of DSCH and USCH [TDD] which are used by the respective UE.
- [The list of HS-DSCH MAC-d flows which are used by the respective UE.](#)
- The complete DCH characteristics for each DCH, identified by its DCH-identifier [4].

- The complete Transport Channel characteristics for each DSCH and USCH, identified by its Shared Channel identifier [4].
- [HS-DSCH characteristics for each HS-DSCH.](#)
- The list of Iub DCH Data Ports.
- The list of Iub DSCH Data ports and Iub USCH data ports.
- [The list of Iub HS-DSCH Data ports.](#)
- For each Iub DCH Data Port, the corresponding DCH and cells which are carried on this data port.
- For each Iub DSCH and USCH data port, the corresponding DSCH or USCH and cells which serve that DSCH or USCH.
- [For each Iub HS-DSCH data port, the corresponding HS-DSCH data stream and cells which serve that HS-DSCH data stream.](#)
- Physical layer parameters (outer loop power control, etc).

6.2.2 Common Transport Channels

Common Transport Channels are defined in [9]. A Common Transport Channel is configured in the Node B, on request of the CRNC.

The BCH is carried directly on the Node B control port using NBAP procedures. This Common Channel will not be mapped to an individual data port.

The RACH has an associated Iub RACH Data Port and the FACH has an associated Iub FACH Data Port.

[FDD - The CPCH has an associated Iub CPCH Data Port.]

The Iub DSCH data port is associated to one DSCH and to one Node B Communication Context.

[TDD - the Iub USCH data port is associated to one USCH and to one Node B Communication Context.]

The attributes of a Common transport channel shall include (not exhaustive):

- Type (RACH, CPCH [FDD], FACH, DSCH, USCH [TDD], PCH).
- Associated Iub RACH Data Port for a RACH, Iub CPCH Data Port for a CPCH [FDD], Iub FACH Data Port for a FACH, Iub PCH Data Port for the PCH.
- [FDD - List of associated Iub FDD DSCH Data ports for the DSCH.]
- Physical parameters.

[TDD - The DSCHs used by one UE are multiplexed to one or several CCTrCHs where each CCTrCH is mapped to a set of PDSCH ("PDSCH Set"). These PDSCH Sets are included in the Common Transport Channel data base. The same applies for the USCHs and the corresponding PUSCH Sets.]

6.2.3 Transport network logical resources

6.2.3.1 Node B Control Port

The Node B Control Port is used to exchange the signalling information for the logical O&M of Node B, the creation of Node B Communication Contexts, the configuration of the common transport channels that Node B provides in a given cell, PCH and BCH control information between the RNC and the Node B. The Node B Control Port corresponds to one signalling bearer between the controlling RNC and the Node B. There is one Node B Control Port per Node B.

6.2.3.2 Communication Control Port

A Communication Control Port corresponds to one signalling bearer between the RNC and Node B for the control of Node B Communication Contexts. One signalling bearer between RNC and Node B can at most correspond to one Communication Control Port. Node B may have multiple Communication Control Ports (one per Traffic Termination Point). The Communication Control Port is selected at creation of the Node B Communication Context.

6.2.3.3 Traffic Termination Point

Traffic Termination Point represents DCH, DSCH, [HS-DSCH](#) and USCH [TDD] data streams belonging to one or more Node B Communication Contexts (UE contexts), which are controlled via one Communication Control Port. The Traffic Termination Point is thus a descriptive entity which neither is controlled over Iub nor by O&M.

6.2.3.4 Iub DCH Data Port

One Iub DCH Data port represents one user plane transport bearer. One user plane transport bearer will carry only one DCH data stream except in the case of coordinated DCHs, in which case the data streams of all combined DCHs shall be multiplexed on one and the same user plane transport bearer.

6.2.3.5 Iub RACH Data Port

An Iub RACH Data Port represents a user plane bearer carrying one Iub RACH Data Stream between the Node B and the RNC. There is one RACH Data Port for each RACH channel of Node B.

6.2.3.6 Iub CPCH Data Port [FDD]

An Iub CPCH Data Port represents a user plane bearer carrying one Iub CPCH Data Stream between the Node B and the RNC. There is one CPCH Data Port for each CPCH channel of Node B.

6.2.3.7 Iub FACH Data Port

An Iub FACH Data Port represents a user plane bearer carrying one Iub FACH Data Stream between the Node B and the RNC. There is one FACH Data Port for each FACH channel of Node B.

6.2.3.8 Iub DSCH Data Port

An Iub DSCH Data Port represents a user plane bearer carrying one Iub DSCH Data Stream between the Node B and the RNC. For each DSCH, that is used by an individual UE, there is one Iub DSCH Data Port per Node B exclusively assigned to the communication context of that UE. In FDD each DSCH is associated with a downlink DPCH.

[6.2.3.x Iub HS-DSCH Data Port](#)

[An Iub HS-DSCH Data Port represents a user plane bearer carrying one Iub HS-DSCH Data Streams between the Node B and the RNC.](#)

6.2.3.9 Iub TDD USCH Data Port

An Iub USCH Data Port represents a user plane bearer carrying one Iub USCH Data Stream between the Node B and the RNC. For each USCH, that is used by an individual UE, there is one Iub USCH Data Port with data exclusively assigned to the Node B communication context of that UE.

6.2.3.10 Iub PCH Data Port

An Iub PCH Data Port represents an Iub PCH Data Stream between the Node B and the RNC.

6.2.4.4 Physical Shared Channels

Physical Shared Channels includes the Physical Downlink Shared Channels (PDSCH), [High Speed Physical Shared Channels \(HS-PDSCH\)](#) and [TDD - The Physical Uplink Shared Channels (PUSCH)]. These PDSCH and PUSCH [TDD] are special cases of the Common Physical Channels.

[FDD - A PDSCH is defined by a channelisation code within a code subtree that is configured within a specific Communication Context. The PDSCH is activated dynamically as part of the DSCH scheduling.]

[\[FDD - A HS-PDSCH is defined by a channelisation code within a code subtree that is configured within a specific Communication Context. The HS-PDSCH is activated dynamically as part of the HS-DSCH scheduling.\]](#)

[TDD - A PDSCH is defined by a channelisation code, a time slot and other Physical Channel parameters. Several PDSCH may be grouped into a PDSCH Set, which is given a "PDSCH Set Id". The PDSCH Sets are configured in the Node B in the "Common Transport Channel" data base by Common NBAP messages. These PDSCH Sets are available to carry DSCH data. The PDSCH Sets are dynamically activated to carry DSCH data, as part of the DSCH scheduling.]

[\[TDD - A HS-PDSCH is defined by a channelisation code, a time slot and other Physical Channel parameters. The HS-PDSCH is activated dynamically as part of the HS-DSCH scheduling.\]](#)

[TDD - A PUSCH is defined by a channelisation code, a time slot and other Physical Channel parameters. Several PUSCH may be grouped into a PUSCH Set, which is given a "PUSCH Set Id". The PUSCH Sets are configured in the Node B in the "Common Transport Channel" data base by Common NBAP messages. These PUSCH Sets are available to carry USCH data. The PUSCH Sets are dynamically activated to carry USCH data, as part of the USCH scheduling.]

7 Iub Interface Protocol Structure

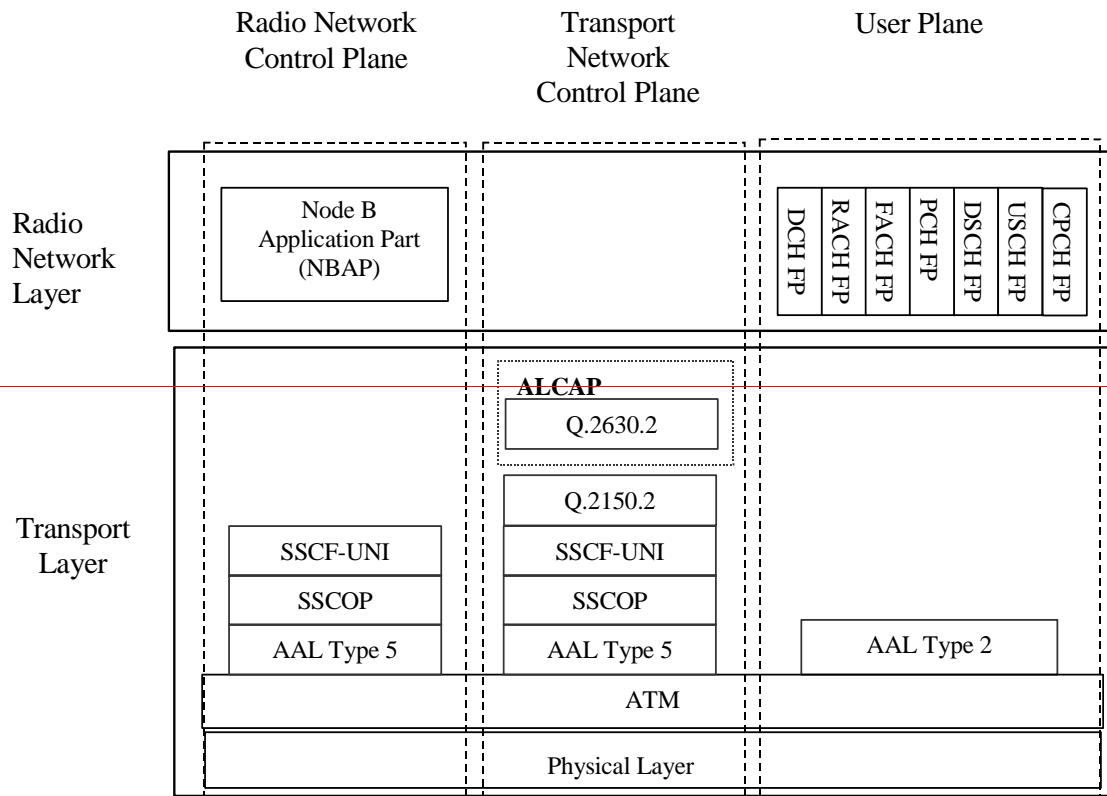
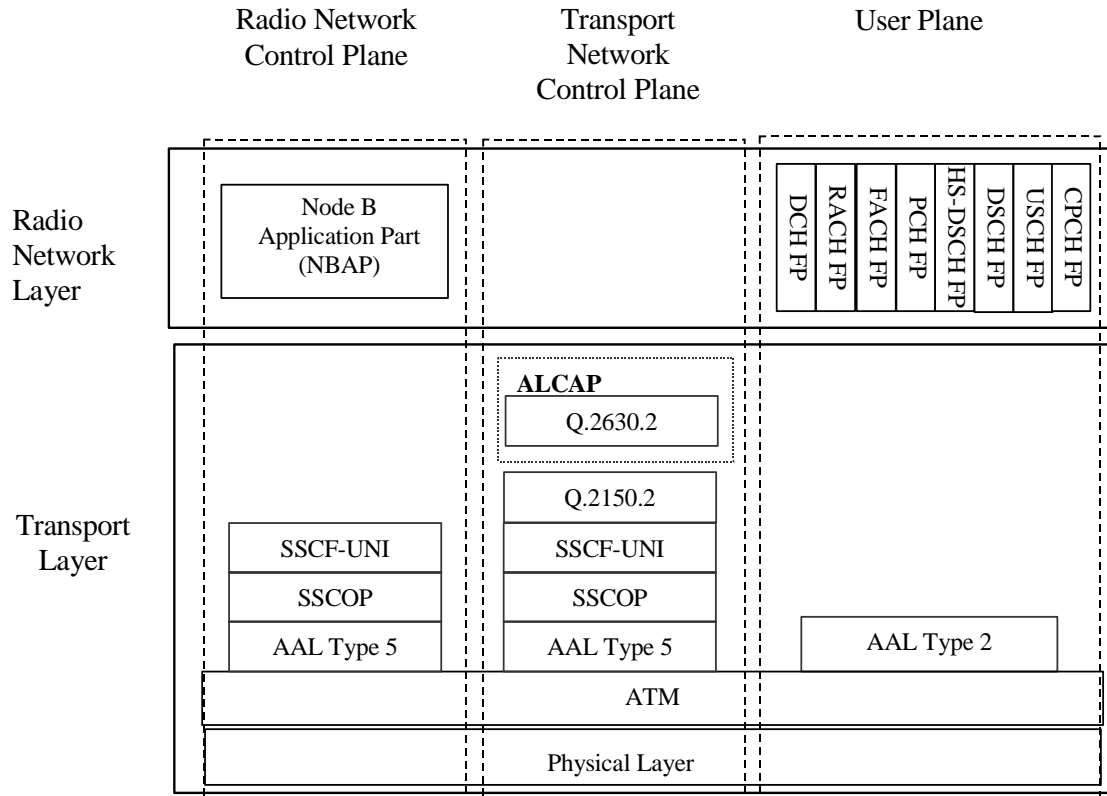


Figure 7: Iub Interface Protocol Structure.

The Iub interface protocol architecture consists of two functional layers:

1. Radio Network Layer, defines procedures related to the operation of Node B. The radio network layer consists of a radio network control plane and a radio network user plane.
2. Transport Layer, defines procedures for establishing physical connections between Node B and the RNC.

There shall be one dedicated AAL2 connection for each RACH, one for each FACH transport channel, and one for each CPCH [FDD].

CHANGE REQUEST

⌘ **25.433 CR 589** ⌘ rev **2-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘ HSDPA NBAP Common Procedure Modifications		
Source:	⌘ InterDigital Communications R-WG3		
Work item code:	⌘ HSDPA-lublur	Date:	⌘ February, 2002
Category:	⌘ B	Release:	⌘ REL-5
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification		
Summary of change:	⌘ Addition of PHYSICAL SHARED CHANNEL RECONFIGURATION procedure for FDD to handle HS-DSCH resource configuration and add HS-DSCH resource configuration to the existing TDD PHYSICAL SHARED CHANNEL RECONFIGURATION message. Revision 1 Alignment to new RAN3/RAN2/RAN1 decisions Revision 2 Fix minor error in tabular format .		
Consequences if not approved:	⌘ HSDPA will not be able to be implemented.		

Clauses affected:	⌘ 3.3, 7, 8.1,8.2.18, 9.1.62, 9.1.63. 9.1.64, 9.2.2.x1, 9.2.2.x2, 9.2.3.x1, 9.2.3.x2, 9.3.2, 9.3.3, 9.3.4, 9.3.6		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

How to create CRs using this form:

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

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

3.3 Abbreviations

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

A-GPS	Assisted GPS
AICH	Acquisition Indicator Channel
AP-AICH	Access Preamble Acquisition Indicator Channel
ASN.1	Abstract Syntax Notation One
BCCH	Broadcast Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CM	Compressed Mode
CPCH	Common Packet Channel
CPICH	Common Pilot Channel
CRNC	Controlling Radio Network Controller
CSICH	CPCH Status Indicator Channel
DCH	Dedicated Channel
DGPS	Differential GPS
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
GPS	Global Positioning System
HS-DSCH	High Speed Downlink Shared Channel
HS-PDSCH	High Speed Physical Downlink Shared Channel
HS-SCCH	High Speed Shared Control Channel
HS-SICH	High Speed Shared Information Channel
IPDL	Idle Periods in the DownLink
ISCP	Interference Signal Code Power
L1	Layer 1
L2	Layer 2
MIB	Master Information Block
NBAP	Node B Application Part
O&M	Operation and Maintenance
PCCPCH	Primary Common Control Physical Channel
PCH	Paging Channel
PCPCH	Physical Common Packet Channel
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
RACH	Random Access Channel
RL	Radio Link
RLS	Radio Link Set
RNC	Radio Network Controller
RRC	Radio Resource Control
SB	Scheduling Block
SCCPCH	Secondary Common Control Physical Channel
SCH	Synchronisation Channel
SCTD	Space Code Transmit Diversity
SIB	System Information Block
SRNC	Serving Radio Network Controller
SSDT	Site Selection Diversity Transmission
STTD	Space Time Transmit Diversity
TDD	Time Division Duplex
TFC	Transport Format Combination
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set

TPC	Transmit Power Control
TSTD	Time Switched Transmit Diversity
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
UMTS	Universal Mobile Telecommunications System
USCH	Uplink Shared Channel
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

4 General

4.1 Procedure Specification Principles

The principle for specifying the procedure logic is to specify the functional behaviour of the Node B exactly and completely. The CRNC functional behaviour is left unspecified. The Reset procedure is an exception from this principle.

The following specification principles have been applied for the procedure text in subclause 8:

- The procedure text discriminates between:

1) Functionality which "shall" be executed

The procedure text indicates that the receiving node "shall" perform a certain function Y under a certain condition. If the receiving node supports procedure X but cannot perform functionality Y requested in the REQUEST message of a Class 1 EP, the receiving node shall respond with the message used to report unsuccessful outcome for this procedure, containing an appropriate cause value.

2) Functionality which "shall, if supported" be executed

The procedure text indicates that the receiving node "shall, if supported," perform a certain function Y under a certain condition. If the receiving node supports procedure X, but does not support functionality Y, the receiving node shall proceed with the execution of the EP, possibly informing the requesting node about the not supported functionality.

- Any required inclusion of an optional IE in a response message is explicitly indicated in the procedure text. If the procedure text does not explicitly indicate that an optional IE shall be included in a response message, the optional IE shall not be included.

4.2 Forwards and Backwards Compatibility

The forwards and backwards compatibility of the protocol is assured by a mechanism where all current and future messages, and IEs or groups of related IEs, include Id and criticality fields that are coded in a standard format that will not be changed in the future. These parts can always be decoded regardless of the standard version.

4.3 Specification Notations

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

[FDD]	This tagging of a word indicates that the word preceding the tag "[FDD]" applies only to FDD. This tagging of a heading indicates that the heading preceding the tag "[FDD]" and the section following the heading applies only to FDD.
[TDD]	This tagging of a word indicates that the word preceding the tag "[TDD]" applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD.

- [3.84Mcps TDD] This tagging of a word indicates that the word preceding the tag “[3.84Mcps TDD]” applies only to 3.84Mcps TDD. This tagging of a heading indicates that the heading preceding the tag “[3.84Mcps TDD]” and the section following the heading applies only to 3.84Mcps TDD.
- [1.28Mcps TDD] This tagging of a word indicates that the word preceding the tag “[1.28Mcps TDD]” applies only to 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag “[1.28Mcps TDD]” and the section following the heading applies only to 1.28Mcps TDD.
- [FDD - ...] This tagging indicates that the enclosed text following the “[FDD - ” applies only to FDD. Multiple sequential paragraphs applying only to FDD are enclosed separately to enable insertion of TDD specific (or common) paragraphs between the FDD specific paragraphs.
- [TDD - ...] This tagging indicates that the enclosed text following the “[TDD - ” applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the TDD specific paragraphs.
- [3.84Mcps TDD - ...] This tagging indicates that the enclosed text following the “[3.84Mcps TDD - ” applies only to 3.84Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 3.84Mcps TDD specific paragraphs.
- [1.28Mcps TDD - ...] This tagging indicates that the enclosed text following the “[1.28Mcps TDD - ” applies only to 1.28Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 1.28Mcps TDD specific paragraphs.
- Procedure When referring to an elementary procedure in the specification the Procedure Name is written with the first letters in each word in upper case characters followed by the word “procedure”, e.g. Radio Link Setup procedure.
- Message When referring to a message in the specification the MESSAGE NAME is written with all letters in upper case characters followed by the word “message”, e.g. RADIO LINK SETUP REQUEST message.
- IE When referring to an information element (IE) in the specification the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in Italic font followed by the abbreviation “IE”, e.g. *Transport Format Set IE*.
- Value of an IE When referring to the value of an information element (IE) in the specification the “Value” is written as it is specified in subclause 9.2 enclosed by quotation marks, e.g. “Abstract Syntax Error (Reject)” or “SSDT Active in the UE”.

5 NBAP Services

5.1 Parallel Transactions

Unless explicitly indicated in the procedure description, at any instance in time one protocol peer shall have a maximum of one ongoing dedicated NBAP procedure related to a certain Node B communication context.

6 Services Expected from Signalling Transport

NBAP requires an assured in-sequence delivery service from the signalling bearer, and notification if the assured in-sequence delivery service is no longer available.

7 Functions of NBAP

The NBAP protocol provides the following functions:

- Cell Configuration Management. This function gives the CRNC the possibility to manage the cell configuration information in a Node B.
- Common Transport Channel Management. This function gives the CRNC the possibility to manage the configuration of Common Transport Channels in a Node B.
- System Information Management. This function gives the CRNC the ability to manage the scheduling of System Information to be broadcast in a cell.
- Resource Event Management. This function gives the Node B the ability to inform the CRNC about the status of Node B resources.
- Configuration Alignment. This function gives the CRNC and the Node B the possibility to verify and enforce that both nodes have the same information on the configuration of the radio resources.
- Measurements on Common Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- Radio Link Management. This function allows the CRNC to manage radio links using dedicated resources in a Node B.
- Radio Link Supervision. This function allows the CRNC to report failures and restorations of a Radio Link.
- Compressed Mode Control [FDD]. This function allows the CRNC to control the usage of compressed mode in a Node B.
- Measurements on Dedicated Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- DL Power Drifting Correction [FDD]. This function allows the CRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- Physical Shared Channel Management ~~[TDD]~~. This function allows the CRNC to manage physical resources in the Node B belonging to [High Speed Downlink Shared Channels and High Speed Shared Control Channels \[TDD – and High Speed Shared Indication Channels and Shared Channels \(USCH/DSCH\)\]](#).
- DL Power Timeslot Correction [TDD]. This function enables the Node B to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- Cell Synchronisation [TDD]. This function allows the synchronisation of cells or Node Bs via the air interface.
- Information Exchange. This function allows the CRNC to initiate information provision from the Node B. The function also allows the Node B to report the requested information.

The mapping between the above functions and NBAP elementary procedures is shown in the table below.

Table 1: Mapping between functions and NBAP elementary procedures

Function	Elementary Procedure(s)
Cell Configuration Management	a) Cell Setup b) Cell Reconfiguration c) Cell Deletion
Common Transport Channel Management	a) Common Transport Channel Setup b) Common Transport Channel Reconfiguration c) Common Transport Channel Deletion
System Information Management	System Information Update
Resource Event Management	a) Block Resource b) Unblock Resource c) Resource Status Indication
Configuration Alignment	a) Audit Required b) Audit c) Reset
Measurements on Common Resources	a) Common Measurement Initiation b) Common Measurement Reporting c) Common Measurement Termination d) Common Measurement Failure
Radio Link Management.	a) Radio Link Setup b) Radio Link Addition c) Radio Link Deletion d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation h) Radio Link Pre-emption
Radio Link Supervision.	a) Radio Link Failure b) Radio Link Restoration
Compressed Mode Control [FDD]	a) Radio Link Setup b) Radio Link Addition c) Compressed Mode Command d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Measurements on Dedicated Resources	a) Dedicated Measurement Initiation b) Dedicated Measurement Reporting c) Dedicated Measurement Termination d) Dedicated Measurement Failure
DL Power Drifting Correction [FDD]	Downlink Power Control
Reporting of General Error Situations	Error Indication
Physical Shared Channel Management [FDD]	Physical Shared Channel Reconfiguration
DL Power Timeslot Correction [TDD]	Downlink Power Timeslot Control
Cell Synchronisation [TDD]	a) Cell Synchronisation Initiation b) Cell Synchronisation Reconfiguration c) Cell Synchronisation Reporting d) Cell Synchronisation Termination e) Cell Synchronisation Failure f) Cell Synchronisation Adjustment
Information Exchange	a) Information Exchange Initiation b) Information Reporting c) Information Exchange Termination d) Information Exchange Failure

8 NBAP Procedures

8.1 Elementary Procedures

NBAP procedures are divided into common procedures and dedicated procedures.

- NBAP common procedures are procedures that request initiation of a UE context for a specific UE in Node B or are not related to a specific UE. NBAP common procedures also incorporate logical O&M [1] procedures.
- NBAP dedicated procedures are procedures that are related to a specific UE context in Node B. This UE context is identified by a UE context identity.

The two types of procedures may be carried on separate signalling links.

In the following tables, all EPs are divided into Class 1 and Class 2 EPs:

Table 2: Class 1

Elementary Procedure	Message	Successful Outcome	Unsuccessful Outcome
		Response message	Response message
Cell Setup	CELL SETUP REQUEST	CELL SETUP RESPONSE	CELL SETUP FAILURE
Cell Reconfiguration	CELL RECONFIGURATION REQUEST	CELL RECONFIGURATION RESPONSE	CELL RECONFIGURATION FAILURE
Cell Deletion	CELL DELETION REQUEST	CELL DELETION RESPONSE	
Common Transport Channel Setup	COMMON TRANSPORT CHANNEL SETUP REQUEST	COMMON TRANSPORT CHANNEL SETUP RESPONSE	COMMON TRANSPORT CHANNEL SETUP FAILURE
Common Transport Channel Reconfiguration	COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST	COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE	COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE
Common Transport Channel Deletion	COMMON TRANSPORT CHANNEL DELETION REQUEST	COMMON TRANSPORT CHANNEL DELETION RESPONSE	
Physical Shared Channel Reconfigure [FDD]	PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST	PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE	PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE
Audit	AUDIT REQUEST	AUDIT RESPONSE	AUDIT FAILURE
Block Resource	BLOCK RESOURCE REQUEST	BLOCK RESOURCE RESPONSE	BLOCK RESOURCE FAILURE
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE
System Information Update	SYSTEM INFORMATION UPDATE REQUEST	SYSTEM INFORMATION UPDATE RESPONSE	SYSTEM INFORMATION UPDATE FAILURE
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST	COMMON MEASUREMENT INITIATION RESPONSE	COMMON MEASUREMENT INITIATION FAILURE
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE	
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE
Dedicated Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE
Reset	RESET REQUEST	RESET RESPONSE	
Cell Synchronisation Initiation [TDD]	CELL SYNCHRONISATION INITIATION REQUEST	CELL SYNCHRONISATION INITIATION RESPONSE	CELL SYNCHRONISATION INITIATION FAILURE
Cell Synchronisation Reconfiguration [TDD]	CELL SYNCHRONISATION RECONFIGURATION REQUEST	CELL SYNCHRONISATION RECONFIGURATION RESPONSE	CELL SYNCHRONISATION RECONFIGURATION FAILURE
Cell Synchronisation Adjustment [TDD]	CELL SYNCHRONISATION ADJUSTMENT REQUEST	CELL SYNCHRONISATION ADJUSTMENT RESPONSE	CELL SYNCHRONISATION ADJUSTMENT FAILURE
Information Exchange Initiation	INFORMATION EXCHANGE INITIATION REQUEST	INFORMATION EXCHANGE INITIATION RESPONSE	INFORMATION EXCHANGE INITIATION FAILURE

Table 3: Class 2

Elementary Procedure	Message
Resource Status Indication	RESOURCE STATUS INDICATION
Audit Required	AUDIT REQUIRED INDICATION
Common Measurement Reporting	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCELLATION
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Dedicated Measurement Reporting	DEDICATED MEASUREMENT REPORT
Dedicated Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Dedicated Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Command [FDD]	COMPRESSED MODE COMMAND
Unblock Resource	UNBLOCK RESOURCE INDICATION
Error Indication	ERROR INDICATION
Downlink Power Timeslot Control [TDD]	DL POWER TIMESLOT CONTROL REQUEST
Radio Link Pre-emption	RADIO LINK PREEMPTION REQUIRED INDICATION
Cell Synchronisation Reporting [TDD]	CELL SYNCHRONISATION REPORT
Cell Synchronisation Termination [TDD]	CELL SYNCHRONISATION TERMINATION REQUEST
Cell Synchronisation Failure [TDD]	CELL SYNCHRONISATION FAILURE INDICATION
Information Reporting	INFORMATION REPORT
Information Exchange Termination	INFORMATION EXCHANGE TERMINATION REQUEST
Information Exchange Failure	INFORMATION EXCHANGE FAILURE INDICATION

8.2.18 Physical Shared Channel Reconfiguration ~~[TDD]~~

8.2.18.1 General

[This procedure is used to assign HS-DSCH related resources to the Node B.](#)

~~[TDD - This procedure is [also](#) used for handling PDSCH Sets and PUSCH Sets in the Node B, i.e.~~

- ~~- Adding new PDSCH Sets and/or PUSCH Sets,~~
- ~~- Modifying these, and~~
- ~~- Deleting them.]~~

8.2.18.2 Successful Operation

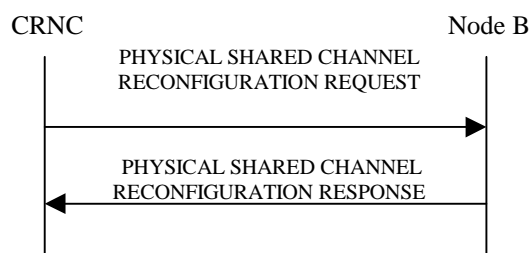


Figure 26: Physical Shared Channel Reconfiguration: Successful Operation

The procedure is initiated with a PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message sent from the CRNC to the Node B.

If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes an *SFN* IE the Node B will activate the new configuration on that specified SFN.

HS-DSCH Resources

[\[FDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-PDSCH* and *HS-SCCH Total Power* IE the Node B shall not exceed this maximum transmission power on all HS-PDSCH and HS-SCCH codes in the cell. If a value has never been set or if the value of the *HS-PDSCH Total Power* IE is equal to or greater than the maximum transmission power of the cell the Node B may use all unused power for HS-PDSCH and HS-SCCH codes.\]](#)

[\[FDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-PDSCH* and *HS-SCCH Scrambling Code* IE the Node B shall use this as the scrambling code for all HS-PDSCHs and HS-SCCHs. If a value has never been set the Node B shall use the primary scrambling code for all HS-PDSCH and HS-SCCH codes.\]](#)

[\[FDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-PDSCH FDD Code Information* IE the Node B shall:](#)

- [- If the *HS-PDSCH FDD Code Information* IE contains no codes, delete any existing HS-PDSCH resources from the cell.](#)
- [- If the *HS-PDSCH FDD Code Information* IE contains one or more codes and HS-PDSCH resources are not currently configured in the cell, use this list as the range of codes for HS-PDSCH channels.](#)
- [- If the *HS-PDSCH FDD Code Information* IE contains one or more codes and HS-PDSCH resources are currently configured in the cell, replace the current range of codes with this new range of codes for HS-PDSCH channels.\]](#)

[\[FDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-SCCH FDD Code Information* IE the Node B shall:](#)

- If the *HS-SCCH FDD Code Information IE* contains no codes, delete any existing HS-SCCH resources from the cell.
- If the *HS-SCCH FDD Code Information IE* contains one or more codes and HS-SCCH resources are not currently configured in the cell, use this list of codes as the list of codes for HS-SCCH channels.
- If the *HS-SCCH FDD Code Information IE* contains one or more codes and HS-SCCH resources are currently configured in the cell, replace the current list of codes with this new list of codes for HS-SCCH channels.]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-SCCH Maximum Power IE* the Node B shall not exceed this power for each HS-SCCH code.]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *HS-PDSCH TDD Information IE* the Node B shall:

- If the *HS-PDSCH TDD Code Information IE* contains no codes, delete any existing HS-PDSCH resources from the cell.
- If the *HS-PDSCH TDD Code Information IE* contains one or more codes and HS-PDSCH resources are not currently configured in the cell, use this list as the list of codes for HS-PDSCH channels.
- If the *HS-PDSCH TDD Code Information IE* contains one or more codes and HS-PDSCH resources are currently configured in the cell, replace the current list of codes with this new list of codes for HS-PDSCH channels.]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes *Add to HS-SCCH Resource Pool IE* the Node B shall add this resource to the HS-SCCH resource pool to be used to assign HS-SCCH sets.]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes any *Modify HS-SCCH Resource Pool IEs* and includes any of [3.84Mcps TDD - *TDD Channelisation Code IE, Midamble shift and burst type IE, Time Slot IE*], [1.28Mcps TDD - *TDD Channelisation Code LCR IE, Midamble shift LCR IE, Time Slot LCR IE*], for either HS-SCCH or HS-SICH channels the Node B shall apply these as the new values, otherwise the old values specified for this set are still applicable.]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes any *Delete from HS-SCCH Resource Pool IEs* the Node B shall delete these resources from the HS-SCCH resource pool.]

[TDD - PDSCH/PUSCH Addition]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes any PDSCH sets or PUSCH sets to be added the Node B shall add these new sets to its PDSCH/PUSCH configuration.]

[TDD - PDSCH/PUSCH Modification]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes any PDSCH sets or PUSCH sets to be modified, and includes any of [3.84Mcps TDD - *TDD Channelisation Code IE, Midamble shift and burst type IE, Time Slot IE*], [1.28Mcps TDD - *TDD Channelisation Code LCR IE, Midamble shift LCR IE, Time Slot LCR IE*], *TDD Physical Channel Offset IE, Repetition Period IE, Repetition Length IE*, or *TFCI presence IE* the Node B shall apply these as the new values, otherwise the old values specified for this set are still applicable.]

[TDD - PDSCH/PUSCH Deletion]

[TDD - If the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message includes any PDSCH sets or PUSCH sets to be deleted the Node B shall delete these new sets to its PDSCH/PUSCH configuration.]

Response Message

HS-DSCH/HS-SCCH Resources

In the successful case involving HS-PDSCH or HS-SCCH resources the Node B shall make these resources available to all the current and future HS-DSCH transport channels; and shall respond with PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE:

[TDD – PDSCH/PUSCH Addition/Modification/Deletion]

[TDD - In the successful case [involving PDSCH/PUSCH addition, modification or deletion](#), the Node B shall add, modify and delete the PDSCH Sets and PUSCH Sets in the Common Transport Channel data base, as requested in the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST, and shall make these available to all the current and future DSCH and USCH transport channels; and shall respond with PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE:]

8.2.18.3 Unsuccessful Operation

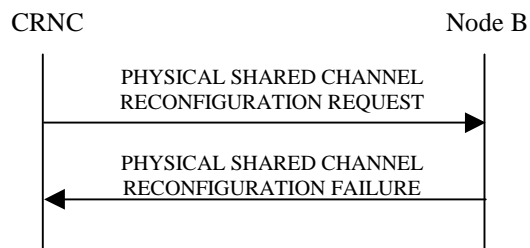


Figure 27: Physical Shared Channel Reconfiguration procedure: Unsuccessful Operation

If the Node B is not able to support all parts of the configuration, it shall reject the configuration of all the channels in the PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message. The *Cause Value* IE shall be set to an appropriate value.

If the configuration was unsuccessful, the Node B shall respond with the PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE message:

Typical cause values are as follows:

Radio Network Layer Cause

- Cell not available
- Node B Resources unavailable

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

- O&M Intervention
- Control processing overload
- HW failure

8.2.18.4 Abnormal Conditions

-

9.1.62 PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST [TDD]

9.1.62.1 FDD Message

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantic Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	M		9.2.1.45		-	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		-	
C-ID	M		9.2.1.9		YES	reject
SFN	O		9.2.1.53A		YES	reject
HS_PDSCH and HS-SCCH Total Power	O		Maximum Transmissi on Power 9.2.1.40	Maximum transmission power to be allowed for HS-PDSCH and HS-SCCH codes	YES	reject
HS-PDSCH and HS-SCCH Scrambling Code	O		DL Scrambling Code 9.2.2.13	Scrambling code on which HS-PDSCH and HS-SCCH is transmitted. 0= Primary scrambling code of the cell 1...15 = Secondary scrambling code	YES	reject
HS-PDSCH FDD Code Information		0..1	9.2.2.x1		YES	reject
HS-SCCH FDD Code Information		0..1	9.2.2.x2		YES	reject

9.1.62.2 TDD Message

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantic Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	M		9.2.1.45		-	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		-	
C-ID	M		9.2.1.9		YES	reject
SFN	O		9.2.1.53A		YES	reject
PDSCH Sets to add		<i>0..<maxnoof PDSCHSets ></i>			GLOBAL	reject
>PDSCH Set ID	M		9.2.3.11		-	
>PDSCH to add Information		<i>0..1</i>		Mandatory for 3.84Mcps TDD	YES	reject
>>Repetition Period	M		9.2.3.16		-	
>>Repetition Length	M		9.2.3.15		-	
>>TDD Physical Channel Offset	M		9.2.3.20		-	

>>DL Timeslot Information		1 .. <maxnoofDLts>			–	
>>>Time Slot	M		9.2.3.23		–	
>>>Midamble Shift and Burst Type	M		9.2.3.7		–	
>>>TFCI Presence	M		9.2.1.57		–	
>>>DL Code Information		1 .. <maxnoOfPDSCH>			–	
>>>>PDSCH ID	M		9.2.3.10		–	
>>>>TDD Channelisation Code	M		9.2.3.19		–	
>PDSCH to add Information LCR		0..1		Mandatory for 1.28Mcps TDD	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD Physical Channel Offset	M		9.2.3.20		–	
>>DL Timeslot Information LCR		1 .. <MaxnoofDLtsLCR>			GLOBAL	reject
>>>Time Slot LCR	M		9.2.3.24A		–	
>>>TFCI Presence	M		9.2.1.57		–	
>>>DL Code Information LCR		1 .. <maxnoOfPDSCH>			GLOBAL	reject
>>>>PDSCH ID	M		9.2.3.10		–	
>>>>TDD Channelisation Code LCR	M		9.2.3.19a		–	
PDSCH Sets to Modify		0..<maxnoofPDSCHSets>			GLOBAL	reject
>PDSCH Set ID	M		9.2.3.11		–	
>PDSCH to modify Information		0..1		Mandatory for 3.84Mcps TDD	YES	reject
>>Repetition Period	O		9.2.3.16		–	
>>Repetition Length	O		9.2.3.15		–	
>>TDD Physical Channel Offset	O		9.2.3.20		–	
>>DL Timeslot Information		0 .. <maxnoofDLts>			–	
>>>Time Slot	M		9.2.3.23		–	
>>>Midamble Shift and Burst Type	O		9.2.3.7		–	
>>>TFCI Presence	O		9.2.1.57		–	
>>>DL Code Information		0 .. <maxnoOfPDSCH>			–	
>>>>PDSCH ID	M		9.2.3.10		–	
>>>>TDD Channelisation Code	M		9.2.3.19		–	
>PDSCH to modify Information LCR		0..1		Mandatory for 1.28 Mcps TDD	YES	reject
>>Repetition Period	O		9.2.3.16		–	
>>Repetition Length	O		9.2.3.15		–	

>>TDD Physical Channel Offset	O		9.2.3.20		-	
>>DL Timeslot Information LCR		0 .. <MaxnoofDLtsLCR>			GLOBAL	reject
>>>Time Slot LCR	M		9.2.3.24A		-	
>>>Midamble shift LCR	O		9.2.3.7A			
>>>TFCI Presence	O		9.2.1.57		-	
>>>DL Code Information LCR		0 .. <maxnoOfPDSCHLCR>			GLOBAL	reject
>>>>PDSCH ID	M		9.2.3.10		-	
>>>>TDD Channelisation Code LCR	M		9.2.3.19a		-	
PDSCH Sets to Delete		0..<maxnoofPDSCHSets>			GLOBAL	reject
>PDSCH Set ID	M		9.2.3.11		-	
PUSCH Sets to add		0..<maxnoofPUSCHSets>			GLOBAL	reject
>PUSCH Set ID	M		9.2.3.13		-	
>PUSCH to add Information		0..1		Mandatory for 3.84Mcps TDD	YES	reject
>>Repetition Period	M		9.2.3.16		-	
>>Repetition Length	M		9.2.3.15		-	
>>TDD Physical Channel Offset	M		9.2.3.20		-	
>>UL Timeslot Information		1 .. <maxnoofULts>			-	
>>>Time Slot	M		9.2.3.23		-	
>>>Midamble Shift and Burst Type	M		9.2.3.7		-	
>>>TFCI Presence	M		9.2.1.57		-	
>>>UL Code Information		1 .. <maxnoOfPUSCH>			-	
>>>>PUSCH ID	M		9.2.3.12		-	
>>>>TDD Channelisation Code	M		9.2.3.19		-	
>PUSCH to add Information LCR	O	1		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		-	
>>Repetition Length	M		9.2.3.15		-	
>>TDD Physical Channel Offset	M		9.2.3.20		-	
>>UL Timeslot Information LCR		1 .. <MaxnoofULtsLCR>			GLOBAL	reject
>>>Time Slot LCR	M		9.2.3.24A		-	
>>>Midamble shift LCR	M		9.2.3.7A			
>>>TFCI Presence	M		9.2.1.57		-	
>>>UL Code Information LCR		1 .. <maxnoOfPUSCHLCR>			GLOBAL	reject
>>>>PUSCH ID	M		9.2.3.12		-	
>>>>TDD Channelisation Code LCR	M		9.2.3.19a		-	

PUSCH Sets to Modify		<i>0..<maxnoof PUSCHSets ></i>			GLOBAL	reject
>PUSCH Set ID	M		9.2.3.13		-	
>PUSCH to modify Information		<i>0..1</i>		For 3.84Mcps TDD only	YES	reject
>>Repetition Period	O		9.2.3.16		-	
>>Repetition Length	O		9.2.3.15		-	
>>TDD Physical Channel Offset	O		9.2.3.20		-	
>>UL Timeslot Information		<i>0 .. <maxnoofULts></i>			-	
>>>Time Slot	M		9.2.3.23		-	
>>>Midamble Shift and Burst Type	O		9.2.3.7		-	
>>>TFCI Presence	O		9.2.1.57		-	
>>>UL Code Information		<i>0 .. <maxnoOfPDSCH></i>			-	
>>>>PUSCH ID	M		9.2.3.12		-	
>>>>TDD Channelisation Code	M		9.2.3.19		-	
>PUSCH to modify Information LCR		<i>0..1</i>		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	O		9.2.3.16		-	
>>Repetition Length	O		9.2.3.15		-	
>>TDD Physical Channel Offset	O		9.2.3.20		-	
>>UL Timeslot Information LCR		<i>0 .. <MaxnoofULtsLCR></i>		For 1.28Mcps TDD only	GLOBAL	reject
>>>Time Slot LCR	M		9.2.3.24A		-	
>>>Midamble shift LCR	M		9.2.3.7A			
>>>TFCI Presence	O		9.2.1.57		-	
>>>UL Code Information LCR		<i>0 .. <maxnoOfPDSCHLCR></i>			GLOBAL	reject
>>>>PUSCH ID	M		9.2.3.12		-	
>>>>TDD Channelisation Code LCR	M		9.2.3.19a		-	
PUSCH Sets to Delete		<i>0..<maxnoof PUSCHSets ></i>			GLOBAL	reject
>PUSCH Set ID	M		9.2.3.13		-	
HS-PDSCH TDD Information		0..1			GLOBAL	reject

>DL Timeslot Information		<i>0.. <maxnoofDL ts></i>		For 3.84Mcps TDD only	=	
>>Time Slot	<u>M</u>		9.2.3.23		=	
>>Midamble Shift and Burst Type	<u>M</u>		9.2.3.7		=	
>DL Timeslot Information LCR		<i>0.. <maxnoofDL tsLCR></i>		For 1.28Mcps TDD only	<u>GLOBAL</u>	<u>reject</u>
>>Time Slot LCR	<u>M</u>		9.2.3.24a		=	
>>Midamble shift LCR	<u>M</u>		9.2.3.7A		=	
Add to HS-SCCH Resource Pool		<i>0..1</i>			<u>GLOBAL</u>	<u>reject</u>
>HS-SCCH Information		<i>0.. <maxnoofH SSCCH></i>		For 3.84Mcps TDD only	=	
>>HS-SCCH ID	<u>M</u>		9.2.3.x1		=	
>>Time Slot	<u>M</u>		9.2.3.23		=	
>>Midamble Shift and Burst Type	<u>M</u>		9.2.3.7		=	
>>TDD Channelisation Code	<u>M</u>		9.2.3.19		=	
>>Maximum HS- SCCH Power	<u>M</u>		DL Power 9.2.1.21		=	
>>HS-SICH Information		<i>1</i>			=	
>>>Time Slot	<u>M</u>		9.2.3.23		=	
>>>Midamble Shift and Burst Type	<u>M</u>		9.2.3.7		=	
>>>TDD Channelisation Code	<u>M</u>		9.2.3.19		=	
>HS-SCCH Information LCR		<i>0.. <maxnoofH SSCCH></i>		For 1.28Mcps TDD only	<u>GLOBAL</u>	<u>reject</u>
>>HS-SCCH ID	<u>M</u>		9.2.3.x1		=	
>>Time Slot LCR	<u>M</u>		9.2.3.24a		=	
>>Midamble shift LCR	<u>M</u>		9.2.3.7A		=	
>>TDD Channelisation Code LCR	<u>M</u>		9.2.3.19a		=	
>>Maximum HS- SCCH Power	<u>M</u>		DL Power 9.2.1.21		=	
>>HS-SICH Information LCR		<i>1</i>			=	
>>>Time Slot LCR	<u>M</u>		9.2.3.24a		=	
>>>Midamble shift LCR	<u>M</u>		9.2.3.7A		=	
>>>TDD Channelisation Code LCR	<u>M</u>		9.2.3.19a		=	
Modify HS-SCCH Resource Pool		<i>0..1</i>			<u>GLOBAL</u>	<u>reject</u>

>HS-SCCH Information		<u>0..<maxnoofHSSCCH></u>		<u>For 3.84Mcps TDD only</u>	=	
>>HS-SCCH ID	<u>M</u>		<u>9.2.3.x1</u>		=	
>>Time Slot	<u>Q</u>		<u>9.2.3.23</u>		=	
>>Midamble Shift and Burst Type	<u>Q</u>		<u>9.2.3.7</u>		=	
>>TDD Channelisation Code	<u>Q</u>		<u>9.2.3.19</u>		=	
>>Maximum HS-SCCH Power	<u>Q</u>		<u>DL Power 9.2.1.21</u>		=	
>>HS-SICH Information		<u>0..1</u>			=	
>>>Time Slot	<u>Q</u>		<u>9.2.3.23</u>		=	
>>>Midamble Shift and Burst Type	<u>Q</u>		<u>9.2.3.7</u>		=	
>>>TDD Channelisation Code	<u>Q</u>		<u>9.2.3.19</u>		=	
>HS-SCCH Information LCR		<u>0..<maxnoofHSSCCH></u>		<u>For 1.28Mcps TDD only</u>	<u>GLOBAL</u>	<u>reject</u>
>>HS-SCCH ID	<u>M</u>		<u>9.2.3.x1</u>		=	
>>Time Slot LCR	<u>Q</u>		<u>9.2.3.24a</u>		=	
>>Midamble shift LCR	<u>Q</u>		<u>9.2.3.7A</u>		=	
>>TDD Channelisation Code LCR	<u>Q</u>		<u>9.2.3.19a</u>		=	
>>Maximum HS-SCCH Power	<u>Q</u>		<u>DL Power 9.2.1.21</u>		=	
>>HS-SICH Information LCR		<u>0..1</u>			=	
>>>Time Slot LCR	<u>Q</u>		<u>9.2.3.24a</u>		=	
>>Midamble shift LCR	<u>Q</u>		<u>9.2.3.7A</u>		=	
>>>TDD Channelisation Code LCR	<u>Q</u>		<u>9.2.3.19a</u>		=	
Delete from HS-SCCH Resource Pool		<u>0..<maxnoofHSSCCHs></u>			<u>GLOBAL</u>	<u>reject</u>
>HS-SCCH ID	<u>M</u>		<u>9.2.3.x1</u>		:	

Range bound	Explanation
<i>Maxnoof PDSCH Sets</i>	Maximum number of PDSCH Sets in a cell.
<i>Maxnoof PDSCH</i>	Maximum number of PDSCH in a cell for 3.84Mcps TDD only.
<i>MaxnoOfPDSCHLCR</i>	Maximum number of PDSCH in a cell for 1.28Mcps TDD only.
<i>Maxnoof PUSCH Sets</i>	Maximum number of PUSCH Sets in a cell.
<i>Maxnoof PUSCH</i>	Maximum number of PUSCH in a cell for 3.84Mcps TDD.
<i>Maxnoof PUSCHLCR</i>	Maximum number of PUSCH in a cell for 1.28Mcps TDD.

<i>MaxnoofDLts</i>	Maximum number of Downlink time slots in a cell for 3.84Mcps TDD.
<i>MaxnoofULts</i>	Maximum number of Uplink time slots in a cell for 3.84Mcps TDD.
MaxnoofULtsLCR	Maximum number of Uplink time slots in a cell for 1.28Mcps TDD
MaxnoofHS-SCCHs	Maximum number of HS-SCCHs in a Cell

9.1.63 PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE

~~TDD~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		-	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		-	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

9.1.64 PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE

~~TDD~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		-	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		-	
CHOICE <i>cause level</i>	M				YES	ignore
> <i>General</i>					-	
>> <i>Cause</i>	M		9.2.1.6		-	
> <i>Set specific</i>				TDD Only	-	
>>Unsuccessful DL Shared channel set		0..<maxnoof PDSCHSets >			EACH	ignore
>>>PDSCH Set ID	M		9.2.3.13		-	
>>>Cause	M		9.2.1.6		YES	ignore
>>Unsuccessful UL Shared channel set		0..<maxnoof PUSCHSets >			EACH	ignore
>>>PUSCH Set ID	M		9.2.3.13		-	
>>>Cause	M		9.2.1.6		-	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Range bound	Explanation
<i>Maxnoof PDSCH Sets</i>	Maximum number of PDSCH Sets in a cell.
<i>Maxnoof PUSCH Sets</i>	Maximum number of PUSCH Sets in a cell.

9.2.2.x1 HS-PDSCH FDD Code Information

This parameter defines the codes which will be assigned for HS-PDSCHs.

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Number of HS-PDSCH Codes</u>	M		INTEGER (0..maxCodeNumComp-1)	.
<u>Start Code Number</u>	C- <u>NumCodes</u>		INTEGER (0..maxCodeNumComp-1)	

<u>Condition</u>	<u>Explanation</u>
<u>NumCodes</u>	The IE shall be present if the <i>Number of HS-PDSCH Codes</i> IE is set to a value greater than 0.

<u>Range bound</u>	<u>Explanation</u>
<u>MaxCodeNumComp</u>	Maximum number of codes at the defined spreading factor, within the complete code tree.

9.2.2.x2 HS-SCCH FDD Code Information

This parameter defines the codes which will be assigned for HS-SCCH. The Node B will assign codes for HS-SCCHs among these codes when it sets up a HS-DSCH.

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS SCCH Code</u>		0..< <i>MaxnoofHSSCCHs</i> >		
<u>>Code Number</u>	M		INTEGER (0..maxCodeNumComp-1)	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofHSSCCHs</u>	Maximum number of HS-SCCHs for one cell.
<u>MaxCodeNumComp</u>	Maximum number of codes at the defined spreading factor, within the complete code tree.

9.2.3.x1 HS-SCCH ID

The HS-SCCH ID identifies unambiguously a HS-SCCH and its paired HS-SICH within the set of HS-SCCHs.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS SCCH ID</u>			<u>INTEGER</u> <u>(0..31)</u>	

9.3.2 Elementary Procedure Definitions

```
-- *****
--
-- Elementary Procedure definitions
--
-- *****

NBAP-PDU-Discriptions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Criticality,
    ProcedureID,
    MessageDiscriminator,
    TransactionID
FROM NBAP-CommonDataTypes

    CommonTransportChannelSetupRequestFDD,
    CommonTransportChannelSetupRequestTDD,
    CommonTransportChannelSetupResponse,
    CommonTransportChannelSetupFailure,
    CommonTransportChannelReconfigurationRequestFDD,
    CommonTransportChannelReconfigurationRequestTDD,
    CommonTransportChannelReconfigurationResponse,
    CommonTransportChannelReconfigurationFailure,
    CommonTransportChannelDeletionRequest,
    CommonTransportChannelDeletionResponse,
    BlockResourceRequest,
    BlockResourceResponse,
    BlockResourceFailure,
    UnblockResourceIndication,
    AuditFailure,
    AuditRequiredIndication,
    AuditRequest,
    AuditResponse,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementInitiationFailure,
    CommonMeasurementReport,
```


CommonMeasurementTerminationRequest,
CommonMeasurementFailureIndication,
CellSetupRequestFDD,
CellSetupRequestTDD,
CellSetupResponse,
CellSetupFailure,
CellReconfigurationRequestFDD,
CellReconfigurationRequestTDD,
CellReconfigurationResponse,
CellReconfigurationFailure,
CellDeletionRequest,
CellDeletionResponse,
InformationExchangeInitiationRequest,
InformationExchangeInitiationResponse,
InformationExchangeInitiationFailure,
InformationReport,
InformationExchangeTerminationRequest,
InformationExchangeFailureIndication,
ResourceStatusIndication,
SystemInformationUpdateRequest,
SystemInformationUpdateResponse,
SystemInformationUpdateFailure,
ResetRequest,
ResetResponse,
RadioLinkPreemptionRequiredIndication,
RadioLinkSetupRequestFDD,
RadioLinkSetupRequestTDD,
RadioLinkSetupResponseFDD,
RadioLinkSetupResponseTDD,
RadioLinkSetupFailureFDD,
RadioLinkSetupFailureTDD,
RadioLinkAdditionRequestFDD,
RadioLinkAdditionRequestTDD,
RadioLinkAdditionResponseFDD,
RadioLinkAdditionResponseTDD,
RadioLinkAdditionFailureFDD,
RadioLinkAdditionFailureTDD,
RadioLinkReconfigurationPrepareFDD,
RadioLinkReconfigurationPrepareTDD,
RadioLinkReconfigurationReady,
RadioLinkReconfigurationFailure,
RadioLinkReconfigurationCommit,
RadioLinkReconfigurationCancel,
RadioLinkReconfigurationRequestFDD,
RadioLinkReconfigurationRequestTDD,
RadioLinkReconfigurationResponse,
RadioLinkDeletionRequest,
RadioLinkDeletionResponse,
DL-PowerControlRequest,
DL-PowerTimeslotControlRequest,
DedicatedMeasurementInitiationRequest,
DedicatedMeasurementInitiationResponse,
DedicatedMeasurementInitiationFailure,

DedicatedMeasurementReport,
 DedicatedMeasurementTerminationRequest,
 DedicatedMeasurementFailureIndication,
 RadioLinkFailureIndication,
 RadioLinkRestoreIndication,
 CompressedModeCommand,
 ErrorIndication,
 PrivateMessage,
 PhysicalSharedChannelReconfigurationRequestTDD,
PhysicalSharedChannelReconfigurationRequestFDD,
 PhysicalSharedChannelReconfigurationResponse~~TDD~~,
 PhysicalSharedChannelReconfigurationFailure~~TDD~~,
 CellSynchronisationInitiationRequestTDD,
 CellSynchronisationInitiationResponseTDD,
 CellSynchronisationInitiationFailureTDD,
 CellSynchronisationReconfigurationRequestTDD,
 CellSynchronisationReconfigurationResponseTDD,
 CellSynchronisationReconfigurationFailureTDD,
 CellSynchronisationAdjustmentRequestTDD,
 CellSynchronisationAdjustmentResponseTDD,
 CellSynchronisationAdjustmentFailureTDD,
 CellSynchronisationReportTDD,
 CellSynchronisationTerminationRequestTDD,
 CellSynchronisationFailureIndicationTDD
 FROM NBAP-PDU-Contents

id-audit,
 id-auditRequired,
 id-blockResource,
 id-cellDeletion,
 id-cellReconfiguration,
 id-cellSetup,
 id-cellSynchronisationInitiation,
 id-cellSynchronisationReconfiguration,
 id-cellSynchronisationReporting,
 id-cellSynchronisationTermination,
 id-cellSynchronisationFailure,
 id-commonMeasurementFailure,
 id-commonMeasurementInitiation,
 id-commonMeasurementReport,
 id-commonMeasurementTermination,
 id-commonTransportChannelDelete,
 id-commonTransportChannelReconfigure,
 id-commonTransportChannelSetup,
 id-compressedModeCommand,
 id-dedicatedMeasurementFailure,
 id-dedicatedMeasurementInitiation,
 id-dedicatedMeasurementReport,
 id-dedicatedMeasurementTermination,
 id-downlinkPowerControl,
 id-downlinkPowerTimeslotControl,
 id-errorIndicationForDedicated,
 id-errorIndicationForCommon,

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    id-informationExchangeFailure,
    id-informationExchangeInitiation,
    id-informationReporting,
    id-informationExchangeTermination,
    id-physicalSharedChannelReconfiguration,
    id-privateMessageForDedicated,
    id-privateMessageForCommon,
    id-radioLinkAddition,
    id-radioLinkDeletion,
    id-radioLinkFailure,
    id-radioLinkPreemption,
    id-radioLinkRestoration,
    id-radioLinkSetup,
    id-reset,
    id-resourceStatusIndication,
    id-cellSynchronisationAdjustment,
    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-systemInformationUpdate,
    id-unblockResource,
    id-unSynchronisedRadioLinkReconfiguration
FROM NBAP-Constants;

-- *****
--
-- Interface Elementary Procedure Class
--
-- *****

NBAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage          ,
    &SuccessfulOutcome          OPTIONAL,
    &UnsuccessfulOutcome        OPTIONAL,
    &Outcome                    OPTIONAL,
    &messageDiscriminator        MessageDiscriminator,
    &procedureID                ProcedureID    UNIQUE,
    &criticality                 Criticality    DEFAULT ignore
}

WITH SYNTAX {
    INITIATING MESSAGE          &InitiatingMessage
    [SUCCESSFUL OUTCOME]       &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME]    &UnsuccessfulOutcome]
    [OUTCOME]                  &Outcome]
    MESSAGE DISCRIMINATOR      &messageDiscriminator
    PROCEDURE ID                &procedureID
    [CRITICALITY]               &criticality]
}

-- *****
--
-- Interface PDU Definition

```

```

--
-- *****
NBAP-PDU ::= CHOICE {
    initiatingMessage      InitiatingMessage,
    successfulOutcome      SuccessfulOutcome,
    unsuccessfulOutcome    UnsuccessfulOutcome,
    outcome                Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID            NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality            NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    transactionID         TransactionID,
    value                 NBAP-ELEMENTARY-PROCEDURE.&InitiatingMessage ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} )
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID            NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality            NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    transactionID         TransactionID,
    value                 NBAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} )
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID            NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality            NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    transactionID         TransactionID,
    value                 NBAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} )
}

Outcome ::= SEQUENCE {
    procedureID            NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality            NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} ),
    transactionID         TransactionID,
    value                 NBAP-ELEMENTARY-PROCEDURE.&Outcome       ( {NBAP-ELEMENTARY-PROCEDURES} {@procedureID} )
}

-- *****
--
-- Interface Elementary Procedure List
--
-- *****

NBAP-ELEMENTARY-PROCEDURES NBAP-ELEMENTARY-PROCEDURE ::= {
    NBAP-ELEMENTARY-PROCEDURES-CLASS-1      |
    NBAP-ELEMENTARY-PROCEDURES-CLASS-2      ,
    ...
}

```

```

}

NBAP-ELEMENTARY-PROCEDURES-CLASS-1 NBAP-ELEMENTARY-PROCEDURE ::= {
    cellSetupFDD
    cellSetupTDD
    cellReconfigurationFDD
    cellReconfigurationTDD
    cellDeletion
    commonTransportChannelSetupFDD
    commonTransportChannelSetupTDD
    commonTransportChannelReconfigureFDD
    commonTransportChannelReconfigureTDD
    commonTransportChannelDelete
    audit
    blockResource
    radioLinkSetupFDD
    radioLinkSetupTDD
    systemInformationUpdate
    commonMeasurementInitiation
    radioLinkAdditionFDD
    radioLinkAdditionTDD
    radioLinkDeletion
    reset
    synchronisedRadioLinkReconfigurationPreparationFDD
    synchronisedRadioLinkReconfigurationPreparationTDD
    unSynchronisedRadioLinkReconfigurationFDD
    unSynchronisedRadioLinkReconfigurationTDD
    dedicatedMeasurementInitiation
    physicalSharedChannelReconfigurationTDD
    . . .
    informationExchangeInitiation
    cellSynchronisationInitiationTDD
    cellSynchronisationReconfigurationTDD
    cellSynchronisationAdjustmentTDD
    physicalSharedChannelReconfigurationFDD
}

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
    resourceStatusIndication
    auditRequired
    commonMeasurementReport
    commonMeasurementTermination
    commonMeasurementFailure
    synchronisedRadioLinkReconfigurationCommit
    synchronisedRadioLinkReconfigurationCancellation
    radioLinkFailure
    radioLinkPreemption
    radioLinkRestoration
    dedicatedMeasurementReport
    dedicatedMeasurementTermination
    dedicatedMeasurementFailure
    downlinkPowerControlFDD
    downlinkPowerTimeslotControl
}

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    compressedModeCommand
    unblockResource
    errorIndicationForDedicated
    errorIndicationForCommon
    privateMessageForDedicated
    privateMessageForCommon
    ...,
    informationReporting
    informationExchangeTermination
    informationExchangeFailure
    cellSynchronisationReportingTDD
    cellSynchronisationTerminationTDD
    cellSynchronisationFailureTDD
}

-- *****
--
-- Interface Elementary Procedures
--
-- *****

-- Class 1

-- *** CellSetup (FDD) ***
cellSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestFDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** CellSetup (TDD) ***
cellSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestTDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode tdd }
    CRITICALITY             reject
}

-- *** CellReconfiguration(FDD) ***
cellReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode fdd }
    CRITICALITY             reject
}

```

```

-- *** CellReconfiguration(TDD) ***
cellReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode tdd }
    CRITICALITY             reject
}

-- *** CellDeletion ***
cellDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellDeletionRequest
    SUCCESSFUL OUTCOME      CellDeletionResponse
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellDeletion, ddMode common }
    CRITICALITY             reject
}

-- *** CommonTransportChannelSetup (FDD) ***
commonTransportChannelSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelSetupRequestFDD
    SUCCESSFUL OUTCOME      CommonTransportChannelSetupResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelSetup (TDD) ***
commonTransportChannelSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelSetupRequestTDD
    SUCCESSFUL OUTCOME      CommonTransportChannelSetupResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelSetup, ddMode tdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelReconfigure (FDD) ***
commonTransportChannelReconfigureFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      CommonTransportChannelReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelReconfigure, ddMode fdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelReconfigure (TDD) ***
commonTransportChannelReconfigureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      CommonTransportChannelReconfigurationResponse

```

```

    UNSUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelReconfigure, ddMode tdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelDelete ***
commonTransportChannelDelete NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelDeletionRequest
    SUCCESSFUL OUTCOME      CommonTransportChannelDeletionResponse
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelDelete, ddMode common }
    CRITICALITY             reject
}

-- *** Audit ***
audit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      AuditRequest
    SUCCESSFUL OUTCOME      AuditResponse
    UNSUCCESSFUL OUTCOME    AuditFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-audit, ddMode common }
    CRITICALITY             reject
}

-- *** BlockResourceRequest ***
blockResource NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      BlockResourceRequest
    SUCCESSFUL OUTCOME      BlockResourceResponse
    UNSUCCESSFUL OUTCOME    BlockResourceFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-blockResource, ddMode common }
    CRITICALITY             reject
}

-- *** RadioLinkSetup (FDD) ***
radioLinkSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME      RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** RadioLinkSetup (TDD) ***
radioLinkSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME      RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY             reject
}

```



```
}

-- *** SystemInformationUpdate ***
systemInformationUpdate NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      SystemInformationUpdateRequest
    SUCCESSFUL OUTCOME      SystemInformationUpdateResponse
    UNSUCCESSFUL OUTCOME    SystemInformationUpdateFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-systemInformationUpdate, ddMode common }
    CRITICALITY             reject
}

-- *** Reset ***
reset NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      ResetRequest
    SUCCESSFUL OUTCOME      ResetResponse
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-reset, ddMode common }
    CRITICALITY             reject
}

-- *** CommonMeasurementInitiation ***
commonMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonMeasurementInitiationRequest
    SUCCESSFUL OUTCOME      CommonMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    CommonMeasurementInitiationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonMeasurementInitiation, ddMode common }
    CRITICALITY             reject
}

-- *** RadioLinkAddition (FDD) ***
radioLinkAdditionFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME      RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode fdd }
    CRITICALITY             reject
}

-- *** RadioLinkAddition (TDD) ***
radioLinkAdditionTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME      RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode tdd }
    CRITICALITY             reject
}
```

```

-- *** RadioLinkDeletion ***
radioLinkDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkDeletionRequest
    SUCCESSFUL OUTCOME      RadioLinkDeletionResponse
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkDeletion, ddMode common }
    CRITICALITY             reject
}

-- *** SynchronisedRadioLinkReconfigurationPreparation (FDD) ***
synchronisedRadioLinkReconfigurationPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationPrepareFDD
    SUCCESSFUL OUTCOME      RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode fdd }
    CRITICALITY             reject
}

-- *** SynchronisedRadioLinkReconfigurationPreparation (TDD) ***
synchronisedRadioLinkReconfigurationPreparationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME      RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode tdd }
    CRITICALITY             reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (FDD) ***
unSynchronisedRadioLinkReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
    CRITICALITY             reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (TDD) ***
unSynchronisedRadioLinkReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
    CRITICALITY             reject
}

-- *** DedicatedMeasurementInitiation ***
dedicatedMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME      DedicatedMeasurementInitiationResponse
}

```

```

UNSUCCESSFUL OUTCOME    DedicatedMeasurementInitiationFailure
MESSAGE DISCRIMINATOR   dedicated
PROCEDURE ID            { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
CRITICALITY             reject
}

```

```
-- *** PhysicalSharedChannelReconfiguration (FDD) ***
```

```

physicalSharedChannelReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE   PhysicalSharedChannelReconfigurationRequestFDD
  SUCCESSFUL OUTCOME   PhysicalSharedChannelReconfigurationResponse
  UNSUCCESSFUL OUTCOME PhysicalSharedChannelReconfigurationFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID        { procedureCode id-physicalSharedChannelReconfiguration, ddMode fdd }
  CRITICALITY         reject
}

```

```
-- *** PhysicalSharedChannelReconfiguration (TDD-only) ***
```

```

physicalSharedChannelReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE   PhysicalSharedChannelReconfigurationRequestTDD
  SUCCESSFUL OUTCOME   PhysicalSharedChannelReconfigurationResponseTDD
  UNSUCCESSFUL OUTCOME PhysicalSharedChannelReconfigurationFailureTDD
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID        { procedureCode id-physicalSharedChannelReconfiguration, ddMode tdd }
  CRITICALITY         reject
}

```

```
--*** InformationExchangeInitiation ***
```

```

informationExchangeInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE   InformationExchangeInitiationRequest
  SUCCESSFUL OUTCOME   InformationExchangeInitiationResponse
  UNSUCCESSFUL OUTCOME InformationExchangeInitiationFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID        { procedureCode id-informationExchangeInitiation, ddMode common }
  CRITICALITY         reject
}

```

```
-- *** CellSynchronisationInitiation (TDD only) ***
```

```

cellSynchronisationInitiationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE   CellSynchronisationInitiationRequestTDD
  SUCCESSFUL OUTCOME   CellSynchronisationInitiationResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationInitiationFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID        { procedureCode id-cellSynchronisationInitiation, ddMode tdd }
  CRITICALITY         reject
}

```

```
-- *** CellSynchronisationReconfiguration (TDD only) ***
```

```

cellSynchronisationReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE   CellSynchronisationReconfigurationRequestTDD
  SUCCESSFUL OUTCOME   CellSynchronisationReconfigurationResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationReconfigurationFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID        { procedureCode id-cellSynchronisationReconfiguration, ddMode tdd }
}

```

```
    CRITICALITY      reject
  }

-- *** CellSynchronisationAdjustment (TDD only) ***
cellSynchronisationAdjustmentTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CellSynchronisationAdjustmentRequestTDD
  SUCCESSFUL OUTCOME CellSynchronisationAdjustmentResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationAdjustmentFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-cellSynchronisationAdjustment, ddMode tdd }
  CRITICALITY      reject
}

-- Class 2

-- *** ResourceStatusIndication ***
resourceStatusIndication NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE ResourceStatusIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-resourceStatusIndication, ddMode common }
  CRITICALITY      ignore
}

-- *** AuditRequired ***
auditRequired NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE AuditRequiredIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-auditRequired, ddMode common }
  CRITICALITY      ignore
}

-- *** CommonMeasurementReport ***
commonMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CommonMeasurementReport
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-commonMeasurementReport, ddMode common }
  CRITICALITY      ignore
}

-- *** CommonMeasurementTermination ***
commonMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CommonMeasurementTerminationRequest
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-commonMeasurementTermination, ddMode common }
  CRITICALITY      ignore
}

-- *** CommonMeasurementFailure ***
commonMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CommonMeasurementFailureIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID      { procedureCode id-commonMeasurementFailure, ddMode common }
  CRITICALITY      ignore
}
```

```
}

-- *** SynchronisedRadioLinkReconfirurationCommit ***
synchronisedRadioLinkReconfigurationCommit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationCommit
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationCommit, ddMode common }
    CRITICALITY             ignore
}

-- *** SynchronisedRadioReconfigurationCancellation ***
synchronisedRadioLinkReconfigurationCancellation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationCancel
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationCancellation, ddMode common }
    CRITICALITY             ignore
}

-- *** RadioLinkFailure ***
radioLinkFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkFailureIndication
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkFailure, ddMode common }
    CRITICALITY             ignore
}

-- *** RadioLinkPreemption ***
radioLinkPreemption NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkPreemptionRequiredIndication
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkPreemption, ddMode common }
    CRITICALITY             ignore
}

-- *** RadioLinkRestoration ***
radioLinkRestoration NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkRestoreIndication
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY             ignore
}

-- *** DedicatedMeasurementReport ***
dedicatedMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementReport
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-dedicatedMeasurementReport, ddMode common }
    CRITICALITY             ignore
}

-- *** DedicatedMeasurementTermination ***
dedicatedMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementTerminationRequest
```

```
MESSAGE DISCRIMINATOR    dedicated
PROCEDURE ID             { procedureCode id-dedicatedMeasurementTermination, ddMode common }
CRITICALITY              ignore
}

-- *** DedicatedMeasurementFailure ***
dedicatedMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      DedicatedMeasurementFailureIndication
  MESSAGE DISCRIMINATOR    dedicated
  PROCEDURE ID             { procedureCode id-dedicatedMeasurementFailure, ddMode common }
  CRITICALITY              ignore
}

-- *** DLPowerControl (FDD only) ***
downlinkPowerControlFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      DL-PowerControlRequest
  MESSAGE DISCRIMINATOR    dedicated
  PROCEDURE ID             { procedureCode id-downlinkPowerControl, ddMode fdd }
  CRITICALITY              ignore
}

-- *** DLPowerTimeslotControl (TDD only) ***
downlinkPowerTimeslotControl NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      DL-PowerTimeslotControlRequest
  MESSAGE DISCRIMINATOR    dedicated
  PROCEDURE ID             { procedureCode id-downlinkPowerTimeslotControl, ddMode tdd }
  CRITICALITY              ignore
}

-- *** CompressedModeCommand (FDD only) ***
compressedModeCommand NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CompressedModeCommand
  MESSAGE DISCRIMINATOR    dedicated
  PROCEDURE ID             { procedureCode id-compressedModeCommand, ddMode fdd }
  CRITICALITY              ignore
}

-- *** UnblockResourceIndication ***
unblockResource NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      UnblockResourceIndication
  MESSAGE DISCRIMINATOR    common
  PROCEDURE ID             { procedureCode id-unblockResource, ddMode common }
  CRITICALITY              ignore
}

-- *** ErrorIndication for Dedicated procedures ***
errorIndicationForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      ErrorIndication
  MESSAGE DISCRIMINATOR    dedicated
  PROCEDURE ID             { procedureCode id-errorIndicationForDedicated, ddMode common }
  CRITICALITY              ignore
}
```

```
-- *** ErrorIndication for Common procedures ***
errorIndicationForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      ErrorIndication
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-errorIndicationForCommon, ddMode common }
  CRITICALITY             ignore
}

-- *** CellSynchronisationReporting (TDD only) ***
cellSynchronisationReportingTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CellSynchronisationReportTDD
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-cellSynchronisationReporting, ddMode tdd }
  CRITICALITY             ignore
}

-- *** CellSynchronisationTermination (TDD only) ***
cellSynchronisationTerminationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CellSynchronisationTerminationRequestTDD
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-cellSynchronisationTermination, ddMode tdd }
  CRITICALITY             ignore
}

-- *** CellSynchronisationFailure (TDD only) ***
cellSynchronisationFailureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CellSynchronisationFailureIndicationTDD
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-cellSynchronisationFailure, ddMode tdd }
  CRITICALITY             ignore
}

-- *** PrivateMessage for Dedicated procedures ***
privateMessageForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-privateMessageForDedicated, ddMode common }
  CRITICALITY             ignore
}

-- *** PrivateMessage for Common procedures ***
privateMessageForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-privateMessageForCommon, ddMode common }
  CRITICALITY             ignore
}

-- *** InformationReporting ***
informationReporting NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      InformationReport
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-informationReporting, ddMode common }
}
```

```
    CRITICALITY          ignore
  }

-- *** InformationExchangeTermination ***
informationExchangeTermination NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      InformationExchangeTerminationRequest
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-informationExchangeTermination, ddMode common }
  CRITICALITY            ignore
}

-- *** InformationExchangeFailure ***
informationExchangeFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      InformationExchangeFailureIndication
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-informationExchangeFailure, ddMode common }
  CRITICALITY            ignore
}

END
```


9.3.3 PDU Definitions

```
-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AddorDeleteIndicator,
    AICH-Power,
    AICH-TransmissionTiming,
    AllocationRetentionPriority,
    APPreambleSignature,
    APSubChannelNumber,
    AvailabilityStatus,
    BCCH-ModificationTime,
    BindingID,
    BlockingPriorityIndicator,
    SCTD-Indicator,
    Cause,
    CCTrCH-ID,
    CDSubChannelNumbers,
    CellParameterID,
    CellSyncBurstAvailabilityIndicator,
    CellSyncBurstCode,
    CellSyncBurstCodeShift,
    CellSyncBurstRepetitionPeriod,
    CellSyncBurstSIR,
    CellSyncBurstTiming,
    CellSyncBurstTimingThreshold,
    CFN,
    Channel-Assignment-Indication,
    ChipOffset,
    C-ID,
    Closedlooptimingadjustmentmode,
```

CommonChannelsCapacityConsumptionLaw,
Compressed-Mode-Deactivation-Flag,
CommonMeasurementAccuracy,
CommonMeasurementType,
CommonMeasurementValue,
CommonMeasurementValueInformation,
CommonPhysicalChannelID,
Common-PhysicalChannel-Status-Information,
Common-TransportChannel-Status-Information,
CommonTransportChannelID,
CommonTransportChannel-InformationResponse,
CommunicationControlPortID,
ConfigurationGenerationID,
ConstantValue,
CriticalityDiagnostics,
CPCH-Allowed-Total-Rate,
CPCHScramblingCodeNumber,
CPCH-UL-DPCCH-SlotFormat,
CRNC-CommunicationContextID,
CSBMeasurementID,
CSBTransmissionID,
DCH-FDD-Information,
DCH-InformationResponse,
DCH-ID,
FDD-DCHs-to-Modify,
TDD-DCHs-to-Modify,
DCH-TDD-Information,
DedicatedChannelsCapacityConsumptionLaw,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DiversityControlField,
DiversityMode,
DL-DPCH-SlotFormat,
DL-or-Global-CapacityCredit,
DL-Power,
DLPowerAveragingWindowSize,
DL-ScramblingCode,
DL-TimeslotISCP,
DL-Timeslot-Information,
DL-TimeslotLCR-Information,
DL-TimeslotISCPInfo,
DL-TimeslotISCPInfoLCR,
DL-TPC-Pattern01Count,
DPC-Mode,
DPCH-ID,
DSCH-ID,
DSCH-FDD-Common-Information,
DSCH-FDD-Information,
DSCH-InformationResponse,
DSCH-TDD-Information,
DwPCH-Power,
End-Of-Audit-Sequence-Indicator,

EnhancedDSCHPC,
EnhancedDSCHPCCounter,
EnhancedDSCHPCIndicator,
EnhancedDSCHPCWnd,
EnhancedDSCHPowerOffset,
FDD-DL-ChannelisationCodeNumber,
FDD-DL-CodeInformation,
FDD-S-CCPCH-Offset,
FDD-TPC-DownlinkStepSize,
FirstRLS-Indicator,
FNReportingIndicator,
FPACH-Power,
FrameAdjustmentValue,
FrameHandlingPriority,
FrameOffset,
[HS-PDSCH-FDD-Code-Information](#),
[HS-SCCH-ID](#),
[HS-SCCH-FDD-Code-Information](#),
IB-OC-ID,
IB-SG-DATA,
IB-SG-POS,
IB-SG-REP,
IB-Type,
IndicationType,
InformationExchangeID,
InformationReportCharacteristics,
InformationType,
InnerLoopDLPCStatus,
IPDL-FDD-Parameters,
IPDL-TDD-Parameters,
IPDL-Indicator,
LimitedPowerIncrease,
Local-Cell-ID,
MaximumDL-PowerCapability,
MaximumTransmissionPower,
Max-Number-of-PCPCHes,
MaxNrOfUL-DPDCHs,
MaxPRACH-MidambleShifts,
MeasurementFilterCoefficient,
MeasurementID,
MidambleAllocationMode,
MidambleShiftAndBurstType,
MidambleShiftLCR,
MinimumDL-PowerCapability,
MinSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
NEOT,
NCyclesPerSFNperiod,
NFmax,
NRepetitionsPerCyclePeriod,
N-INSYNC-IND,
N-OUTSYNC-IND,

NeighbouringCellMeasurementInformation,
NeighbouringFDDCellMeasurementInformation,
NeighbouringTDDCellMeasurementInformation,
NodeB-CommunicationContextID,
NStartMessage,
PagingIndicatorLength,
PayloadCRC-PresenceIndicator,
PCCPCH-Power,
PCP-Length,
PDSCH-CodeMapping,
PDSCHSet-ID,
PDSCH-ID,
PICH-Mode,
PICH-Power,
PowerAdjustmentType,
PowerOffset,
PowerRaiseLimit,
PRACH-Midamble,
PreambleSignatures,
PreambleThreshold,
PredictedSFNSFNDeviationLimit,
PredictedTUTRANGPSDeviationLimit,
PrimaryCPICH-Power,
PrimaryScramblingCode,
PropagationDelay,
SCH-TimeSlot,
PunctureLimit,
PUSCHSet-ID,
PUSCH-ID,
QE-Selector,
RACH-SlotFormat,
RACH-SubChannelNumbers,
ReferenceClockAvailability,
ReferenceSFNOffset,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
RequestedDataValue,
RequestedDataValueInformation,
ResourceOperationalState,
RL-Set-ID,
RL-ID,
Received-total-wide-band-power-Value,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
RNC-ID,
ScramblingCodeNumber,
SecondaryCCPCH-SlotFormat,
Segment-Type,
S-FieldLength,
SFN,
SFNSFNChangeLimit,

SFNSFNDriftRate,
SFNSFNDriftRateQuality,
SFNSFNQuality,
ShutdownTimer,
SIB-Originator,
SpecialBurstScheduling,
SSDT-Cell-Identity,
SSDT-CellID-Length,
SSDT-Indication,
Start-Of-Audit-Sequence-Indicator,
STTD-Indicator,
SSDT-SupportIndicator,
SyncCase,
SYNCD1CodeId,
SyncFrameNumber,
SynchronisationReportCharacteristics,
SynchronisationReportType,
T-Cell,
T-RLFFAILURE,
TDD-ChannelisationCode,
TDD-ChannelisationCodeLCR,
TDD-DL-Code-LCR-Information,
TDD-DPCHOffset,
TDD-TPC-DownlinkStepSize,
TDD-PhysicalChannelOffset,
TDD-UL-Code-LCR-Information,
TFCI2-BearerInformationResponse,
TFCI-Coding,
TFCI-Presence,
TFCI-SignallingMode,
TFCS,
TimeSlot,
TimeSlotLCR,
TimeSlotDirection,
TimeSlotStatus,
TimingAdjustmentValue,
TimingAdvanceApplied,
ToAWE,
ToAWS,
TransmissionDiversityApplied,
TransmitDiversityIndicator,
TransmissionGapPatternSequenceCodeInformation,
Transmission-Gap-Pattern-Sequence-Information,
TransportBearerRequestIndicator,
TransportFormatSet,
TransportLayerAddress,
TSTD-Indicator,
UARFCN,
TUTRANGPS,
TUTRANGPSChangeLimit,
TUTRANGPSDriftRate,
TUTRANGPSDriftRateQuality,

```
TUTRANGPSQuality,
UARFCN,
UC-Id,
USCH-Information,
USCH-InformationResponse,
UL-CapacityCredit,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-Timeslot-Information,
UL-TimeslotLCR-Information,
UL-TimeSlot-ISCP-Info,
UL-TimeSlot-ISCP-LCR-Info,
UL-TimeslotISCP-Value,
UL-TimeslotISCP-Value-IncrDecrThres,
USCH-ID
FROM NBAP-IEs

PrivateIE-Container{},
ProtocolExtensionContainer{},
ProtocolIE-Container{},
ProtocolIE-Single-Container{},
ProtocolIE-ContainerList{},
NBAP-PRIVATE-IES,
NBAP-PROTOCOL-IES,
NBAP-PROTOCOL-EXTENSION
FROM NBAP-Containers

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AICH-Information,
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-AP-AICH-Information,
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-BCH-Information,
id-BCCH-ModificationTime,
id-BlockingPriorityIndicator,
id-Cause,
id-CauseLevel-PSCH-ReconfFailureTDD,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CauseLevel-SyncAdjustmntFailureTDD,
id-CCP-InformationItem-AuditRsp,
id-CCP-InformationList-AuditRsp,
id-CCP-InformationItem-ResourceStatusInd,
id-CCTrCH-InformationItem-RL-FailureInd,
id-CCTrCH-InformationItem-RL-RestoreInd,
id-CDCA-ICH-Information,
```

id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD,
id-CellAdjustmentInfoItem-SyncAdjustmentRqstTDD,
id-Cell-InformationItem-AuditRsp,
id-Cell-InformationItem-ResourceStatusInd,
id-Cell-InformationList-AuditRsp,
id-CellParameterID,
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD,
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD,
id-cellSyncBurstRepetitionPeriod,
id-CellSyncBurstTransReconfReconfiguration-CellSyncReconfRqstTDD,
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD,
id-CellSyncBurstInfoList-CellSyncReconfRqstTDD,
id-CellSyncInfo-CellSyncReprtTDD,
id-CFN,
id-CFNReportingIndicator,
id-C-ID,
id-Closed-Loop-Timing-Adjustment-Mode,
id-CommonMeasurementAccuracy,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,
id-CommunicationContextInfoItem-Reset,
id-CommunicationControlPortID,
id-CommunicationControlPortInfoItem-Reset,
id-Compressed-Mode-Deactivation-Flag,
id-ConfigurationGenerationID,
id-CPCH-Information,
id-CPCH-Parameters-CTCH-SetupRsp,
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CRNC-CommunicationContextID,
id-CriticalityDiagnostics,
id-CSBTransmissionID,
id-CSBMeasurementID,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-DCH-InformationResponse,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,

id-DedicatedMeasurementObjectType-DM-Rprt ,
id-DedicatedMeasurementObjectType-DM-Rqst ,
id-DedicatedMeasurementObjectType-DM-Rsp ,
id-DedicatedMeasurementType ,
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD ,
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD ,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD ,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD ,
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD ,
id-DL-DPCH-InformationList-RL-SetupRqstTDD ,
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-Information-RL-ReconfPrepFDD ,
id-DL-DPCH-Information-RL-ReconfRqstFDD ,
id-DL-DPCH-Information-RL-SetupRqstFDD ,
id-DL-ReferencePowerInformationItem-DL-PC-Rqst ,
id-DLReferencePower ,
id-DLReferencePowerList-DL-PC-Rqst ,
id-DL-TPC-Pattern01Count ,
id-DPC-Mode ,
id-DPCHConstant ,
id-DSCH-AddItem-RL-ReconfPrepFDD ,
id-DSCHs-to-Add-FDD ,
id-DSCH-DeleteItem-RL-ReconfPrepFDD ,
id-DSCH-DeleteList-RL-ReconfPrepFDD ,
id-DSCHs-to-Add-TDD ,
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD ,
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD ,
id-DSCH-InformationResponse ,
id-DSCH-FDD-Information ,
id-DSCH-FDD-Common-Information ,
id-DSCH-TDD-Information ,
id-DSCH-ModifyItem-RL-ReconfPrepFDD ,
id-DSCH-ModifyList-RL-ReconfPrepFDD ,
id-End-Of-Audit-Sequence-Indicator ,
id-EnhancedDSCHPC ,
id-EnhancedDSCHPCIndicator ,
id-FACH-Information ,
id-FACH-ParametersList-CTCH-ReconfRqstTDD ,
id-FACH-ParametersList-CTCH-SetupRsp ,
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD ,
id-FACH-ParametersListIE-CTCH-SetupRqstFDD ,
id-FACH-ParametersListIE-CTCH-SetupRqstTDD ,
id-IndicationType-ResourceStatusInd ,
id-InformationExchangeID ,

id-InformationExchangeObjectType-InfEx-Rqst,
id-InformationExchangeObjectType-InfEx-Rsp,
id-InformationExchangeObjectType-InfEx-Rprt,
id-InformationReportCharacteristics,
id-InformationType,
id-InitDL-Power,
id-InnerLoopDLPCStatus,
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD,
id-IPDLParameter-Information-Cell-ReconfRqstFDD,
id-IPDLParameter-Information-Cell-SetupRqstFDD,
id-IPDLParameter-Information-Cell-ReconfRqstTDD,
id-IPDLParameter-Information-Cell-SetupRqstTDD,
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD,
id-Limited-power-increase-information-Cell-SetupRqstFDD,
id-Local-Cell-ID,
id-Local-Cell-Group-InformationItem-AuditRsp,
id-Local-Cell-Group-InformationItem-ResourceStatusInd,
id-Local-Cell-Group-InformationItem2-ResourceStatusInd,
id-Local-Cell-Group-InformationList-AuditRsp,
id-Local-Cell-InformationItem-AuditRsp,
id-Local-Cell-InformationItem-ResourceStatusInd,
id-Local-Cell-InformationItem2-ResourceStatusInd,
id-Local-Cell-InformationList-AuditRsp,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MaximumTransmissionPower,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,
id-NCyclesPerSFNperiod,
id-NeighbouringCellMeasurementInformation,
id-NodeB-CommunicationContextID,
id-NRepetitionsPerCyclePeriod,
id-P-CCPCH-Information,
id-P-CPICH-Information,
id-P-SCH-Information,
id-PCCPCH-Information-Cell-ReconfRqstTDD,
id-PCCPCH-Information-Cell-SetupRqstTDD,
id-PCH-Parameters-CTCH-ReconfRqstTDD,
id-PCH-Parameters-CTCH-SetupRsp,
id-PCH-ParametersItem-CTCH-ReconfRqstFDD,
id-PCH-ParametersItem-CTCH-SetupRqstFDD,
id-PCH-ParametersItem-CTCH-SetupRqstTDD,
id-PCH-Information,
id-PCPCH-Information,
id-PICH-ParametersItem-CTCH-ReconfRqstFDD,
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PDSCHSets-AddList-PSCH-ReconfRqst,
id-PDSCHSets-DeleteList-PSCH-ReconfRqst,
id-PDSCHSets-ModifyList-PSCH-ReconfRqst,
id-PICH-Information,
id-PICH-Parameters-CTCH-ReconfRqstTDD,

id-PICH-ParametersItem-CTCH-SetupRqstTDD,
id-PowerAdjustmentType,
id-PRACH-Information,
id-PRACHConstant,
id-PRACH-ParametersItem-CTCH-SetupRqstTDD,
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD,
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD,
id-PrimaryCPICH-Information-Cell-SetupRqstFDD,
id-PrimarySCH-Information-Cell-ReconfRqstFDD,
id-PrimarySCH-Information-Cell-SetupRqstFDD,
id-PrimaryScramblingCode,
id-SCH-Information-Cell-ReconfRqstTDD,
id-SCH-Information-Cell-SetupRqstTDD,
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PUSCHConstant,
id-PUSCHSets-AddList-PSCH-ReconfRqst,
id-PUSCHSets-DeleteList-PSCH-ReconfRqst,
id-PUSCHSets-ModifyList-PSCH-ReconfRqst,
id-RACH-Information,
id-RACH-Parameters-CTCH-SetupRsp,
id-RACH-ParametersItem-CTCH-SetupRqstFDD,
id-RACH-ParameterItem-CTCH-SetupRqstTDD,
id-ReferenceClockAvailability,
id-ReferenceSFNOffset,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporting-Object-RL-RestoreInd,
id-ResetIndicator,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-AdditionRqstFDD,
id-RL-informationItem-RL-DeletionRqst,
id-RL-InformationItem-RL-FailureInd,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-ReconfPrepFDD,
id-RL-InformationItem-RL-ReconfRqstFDD,
id-RL-InformationItem-RL-RestoreInd,
id-RL-InformationItem-RL-SetupRqstFDD,
id-RL-InformationList-RL-AdditionRqstFDD,
id-RL-informationList-RL-DeletionRqst,
id-RL-InformationList-RL-PreemptRequiredInd,
id-RL-InformationList-RL-ReconfPrepFDD,
id-RL-InformationList-RL-ReconfRqstFDD,
id-RL-InformationList-RL-SetupRqstFDD,
id-RL-InformationResponseItem-RL-AdditionRspFDD,
id-RL-InformationResponseItem-RL-ReconfReady,
id-RL-InformationResponseItem-RL-ReconfRsp,
id-RL-InformationResponseItem-RL-SetupRspFDD,
id-RL-InformationResponseList-RL-AdditionRspFDD,

id-RL-InformationResponseList-RL-ReconfReady,
id-RL-InformationResponseList-RL-ReconfRsp,
id-RL-InformationResponseList-RL-SetupRspFDD,
id-RL-InformationResponse-RL-AdditionRspTDD,
id-RL-InformationResponse-RL-SetupRspTDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-ReconfRqstTDD,
id-RL-Information-RL-ReconfPrepTDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-ReconfigurationFailureItem-RL-ReconfFailure,
id-RL-Set-InformationItem-DM-Rprt,
id-RL-Set-InformationItem-DM-Rsp,
id-RL-Set-InformationItem-RL-FailureInd,
id-RL-Set-InformationItem-RL-RestoreInd,
id-S-CCPCH-Information,
id-S-CPICH-Information,
id-SCH-Information,
id-S-SCH-Information,
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD,
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD,
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD,
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD,
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD,
id-SecondarySCH-Information-Cell-ReconfRqstFDD,
id-SecondarySCH-Information-Cell-SetupRqstFDD,
id-SegmentInformationListIE-SystemInfoUpdate,
id-SFN,
id-SFNReportingIndicator,
id-ShutdownTimer,
id-SSDT-CellIDforEDSCHPC,
id-Start-Of-Audit-Sequence-Indicator,
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Synchronisation-Configuration-Cell-ReconfRqst,
id-Synchronisation-Configuration-Cell-SetupRqst,
id-SyncCase,
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH,
id-SyncFrameNumber,
id-SynchronisationReportType,
id-SynchronisationReportCharacteristics,
id-SyncReportType-CellSyncReprtTDD,
id-T-Cell,
id-TFCI2-Bearer-Information-RL-SetupRqstFDD,
id-TFCI2-BearerInformationResponse,
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD,
id-Transmission-Gap-Pattern-Sequence-Information,
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD,
id-TimeSlotConfigurationList-Cell-SetupRqstTDD,
id-timeslotInfo-CellSyncInitiationRqstTDD,
id-TimeslotISCPInfo,
id-TimingAdvanceApplied,

id-TransmissionDiversityApplied,
id-UARFCNforNt,
id-UARFCNforNd,
id-UARFCNforNu,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD,
id-UL-DPCH-InformationList-RL-SetupRqstTDD,
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD,
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD,
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD,
id-USCH-Information-Add,
id-USCH-Information-DeleteList-RL-ReconfPrepTDD,
id-USCH-Information-ModifyList-RL-ReconfPrepTDD,
id-USCH-InformationResponse,
id-USCH-Information,
id-DL-DPCH-LCR-Information-RL-SetupRqstTDD,
id-DL-DPCH-LCR-InformationList-RL-SetupRqstTDD,
id-DwPCH-LCR-Information,
id-DwPCH-LCR-Information-AuditRsp,
id-DwPCH-LCR-InformationList-AuditRsp,
id-DwPCH-LCR-Information-Cell-SetupRqstTDD,
id-DwPCH-LCR-Information-Cell-ReconfRqstTDD,
id-DwPCH-LCR-Information-ResourceStatusInd,
id-maxFACH-Power-LCR-CTCH-SetupRqstTDD,
id-maxFACH-Power-LCR-CTCH-ReconfRqstTDD,
id-FPACH-LCR-Information,
id-FPACH-LCR-Information-AuditRsp,
id-FPACH-LCR-InformationList-AuditRsp,
id-FPACH-LCR-InformationList-ResourceStatusInd,
id-FPACH-LCR-Parameters-CTCH-SetupRqstTDD,
id-FPACH-LCR-ParametersItem-CTCH-SetupRqstTDD,
id-FPACH-LCR-Parameters-CTCH-ReconfRqstTDD,
id-PCCPCH-LCR-Information-Cell-SetupRqstTDD,

id-PCH-Power-LCR-CTCH-SetupRqstTDD,
 id-PCH-Power-LCR-CTCH-ReconfRqstTDD,
 id-PICH-LCR-Parameters-CTCH-SetupRqstTDD,
 id-PICH-LCR-ParametersItem-CTCH-SetupRqstTDD,
 id-PRACH-LCR-ParametersList-CTCH-SetupRqstTDD,
 id-PRACH-LCR-ParametersListIE-CTCH-SetupRqstTDD,
 id-RL-InformationResponse-LCR-RL-SetupRspTDD,
 id-Secondary-CCPCH-LCR-parameterListIE-CTCH-SetupRqstTDD,
 id-Secondary-CCPCH-LCR-parameterList-CTCH-SetupRqstTDD,
 id-TimeSlot,
 id-TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD,
 id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD,
 id-TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD,
 id-TimeSlotLCR-CM-Rqst,
 id-UL-DPCH-LCR-Information-RL-SetupRqstTDD,
 id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD,
 id-DL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
 id-UL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
 id-TimeslotISCP-InformationList-LCR-RL-AdditionRqstTDD,
 id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD,
 id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
 id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD,
 id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
 id-DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD,
 id-TimeslotISCPInfoList-LCR-DL-PC-RqstTDD,
 id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
 id-UL-DPCH-LCR-InformationModify-AddList,
 id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
 id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD,
 id-UL-SIRTarget,
 id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst,
 id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
 id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
 id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
 id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst,
 id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
 id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
 id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
 id-PUSCH-Info-DM-Rqst,
 id-PUSCH-Info-DM-Rsp,
 id-PUSCH-Info-DM-Rprt,
 id-RL-InformationResponse-LCR-RL-AdditionRspTDD,
[id-HS-PDSCH-HS-SCCH-MaxPower-PSCH-ReconfRqst,](#)
[id-HS-PDSCH-HS-SCCH-ScramblingCode-PSCH-ReconfRqst,](#)
[id-HS-PDSCH-FDD-Code-Information-PSCH-ReconfRqst,](#)
[id-HS-SCCH-FDD-Code-Information-PSCH-ReconfRqst,](#)
[id-HS-PDSCH-TDD-Information-PSCH-ReconfRqst,](#)
[id-Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst,](#)
[id-Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst,](#)
[id-Delete-From-HS-SCCH-Resource-Pool-PSCH-ReconfRqst,](#)
 maxNrOfCCTrCHs,
 maxNrOfCellSyncBursts,
 maxNrOfCodes,

maxNrOfCPCHs ,
maxNrOfDCHs ,
maxNrOfDLTSs ,
maxNrOfDLTSLCRs ,
maxNrOfDPCHs ,
maxNrOfDSCHs ,
maxNrOfFACHs ,
maxNrOfRLs ,
maxNrOfRLs-1 ,
maxNrOfRLs-2 ,
maxNrOfRLSets ,
maxNrOfPCPCHs ,
maxNrOfPDSCHs ,
maxNrOfPUSCHs ,
maxNrOfPRACHLCRs ,
maxNrOfPDSCHSets ,
maxNrOfPUSCHSets ,
maxNrOfReceptsPerSyncFrame ,
maxNrOfSCCPCHs ,
maxNrOfSCCPCHLCRs ,
maxNrOfULTSs ,
maxNrOfULTSLCRs ,
maxNrOfUSCHs ,
maxAPSigNum ,
maxCPCHCell ,
maxFACHCell ,
maxFPACHCell ,
maxNoofLen ,
maxRACHCell ,
maxPCPCHCell ,
maxPRACHCell ,
maxSCCPCHCell ,
maxSCPICHCell ,
maxCellinNodeB ,
maxCCPinNodeB ,
maxCommunicationContext ,
maxLocalCellinNodeB ,
maxNrOfSlotFormatsPRACH ,
maxNrOfCellSyncBursts ,
maxNrOfReceptsPerSyncFrame ,
maxIB ,
maxIBSEG ,
maxNrOfHSSCCHs

```

-- *****
--
-- PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST FDD
--
-- *****

```

```

PhysicalSharedChannelReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container  {{PhysicalSharedChannelReconfigurationRequestFDD-IEs}},
    protocolExtensions  ProtocolExtensionContainer  {{PhysicalSharedChannelReconfigurationRequestFDD-Extensions}}  OPTIONAL,
    ...
}

```

```

PhysicalSharedChannelReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID          CRITICALITY reject          TYPE C-ID          PRESENCE
      mandatory } |
    { ID id-SFN          CRITICALITY reject          TYPE SFN          PRESENCE
      optional } |
    { ID id-HS-PDSCH-HS-SCCH-MaxPower-PSCH-ReconfRqst  CRITICALITY reject          TYPE MaximumTransmissionPower  PRESENCE
      optional } |
    { ID id-HS-PDSCH-HS-SCCH-ScramblingCode-PSCH-ReconfRqst  CRITICALITY reject          TYPE DL-ScramblingCode          PRESENCE
      optional } |
    { ID id-HS-PDSCH-FDD-Code-Information-PSCH-ReconfRqst  CRITICALITY reject          TYPE HS-PDSCH-FDD-Code-Information  PRESENCE
      optional } |
    { ID id-HS-SCCH-FDD-Code-Information-PSCH-ReconfRqst  CRITICALITY reject          TYPE HS-SCCH-FDD-Code-Information  PRESENCE
      optional },
    ...
}

```

```

PhysicalSharedChannelReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

-- *****
--
-- PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST TDD
--
-- *****

```

```

PhysicalSharedChannelReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container  {{PhysicalSharedChannelReconfigurationRequestTDD-IEs}},
    protocolExtensions  ProtocolExtensionContainer  {{PhysicalSharedChannelReconfigurationRequestTDD-Extensions}}  OPTIONAL,
    ...
}

```

```

PhysicalSharedChannelReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID          CRITICALITY reject          TYPE C-ID          PRESENCE
      PRESENCE mandatory } |
    { ID id-SFN          CRITICALITY reject          TYPE SFN          PRESENCE
      PRESENCE optional } |
    { ID id-PDSCHSets-AddList-PSCH-ReconfRqst  CRITICALITY reject          TYPE PDSCHSets-AddList-PSCH-ReconfRqst  PRESENCE
      optional } |
    { ID id-PDSCHSets-ModifyList-PSCH-ReconfRqst  CRITICALITY reject          TYPE PDSCHSets-ModifyList-PSCH-ReconfRqst  PRESENCE
      optional } |
}

```

TS 25.433 version 4.3.0

439

```

{ ID id-PDSCHSets-DeleteList-PSCH-ReconfRqst CRITICALITY reject TYPE PDSCHSets-DeleteList-PSCH-ReconfRqst PRESENCE
optional } |
{ ID id-PUSCHSets-AddList-PSCH-ReconfRqst CRITICALITY reject TYPE PUSCHSets-AddList-PSCH-ReconfRqst PRESENCE
optional } |
{ ID id-PUSCHSets-ModifyList-PSCH-ReconfRqst CRITICALITY reject TYPE PUSCHSets-ModifyList-PSCH-ReconfRqst PRESENCE
optional } |
{ ID id-PUSCHSets-DeleteList-PSCH-ReconfRqst CRITICALITY reject TYPE PUSCHSets-DeleteList-PSCH-ReconfRqst PRESENCE
optional },
...
}

```

```

PhysicalSharedChannelReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
{ ID id-HS-PDSCH-TDD-Information-PSCH-ReconfRqst CRITICALITY reject EXTENSION HS-PDSCH-TDD-Information-PSCH-ReconfRqst
PRESENCE optional } |
{ ID id-Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst CRITICALITY reject EXTENSION Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst
PRESENCE optional } |
{ ID id-Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst CRITICALITY reject EXTENSION Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst
PRESENCE optional } |
{ ID id-Delete-From-HS-SCCH-Resource-Pool-PSCH-ReconfRqst CRITICALITY reject EXTENSION Delete-From-HS-SCCH-Resource-Pool-PSCH-
ReconfRqst PRESENCE optional },
...
}

```

PDSCHSets-AddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHSets)) OF PDSCHSets-AddItem-PSCH-ReconfRqst

```

PDSCHSets-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
pDSCHSet-ID PDSCHSet-ID,
pDSCH-InformationList PDSCH-Information-AddList-PSCH-ReconfRqst OPTIONAL,
iE-Extensions ProtocolExtensionContainer { {PDSCHSets-AddItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
...
}

```

```

PDSCHSets-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
{ID id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst CRITICALITY reject EXTENSION PDSCH-AddInformation-LCR-PSCH-ReconfRqst PRESENCE
optional}
}

```

PDSCH-Information-AddList-PSCH-ReconfRqst ::= ProtocolIE-Single-Container {{ PDSCH-Information-AddListIEs-PSCH-ReconfRqst }} -- Mandatory for 3.84Mcps TDD only

```

PDSCH-Information-AddListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
{ID id-PDSCH-Information-AddListIE-PSCH-ReconfRqst CRITICALITY reject TYPE PDSCH-Information-AddItem-PSCH-ReconfRqst PRESENCE
mandatory}
}

```

```

PDSCH-Information-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
repetitionPeriod RepetitionPeriod,
repetitionLength RepetitionLength,
tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
dL-Timeslot-InformationAddList-PSCH-ReconfRqst DL-Timeslot-InformationAddList-PSCH-ReconfRqst,
iE-Extensions ProtocolExtensionContainer { {PDSCH-Information-AddItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
...
}

```



```

}

PDSCH-Information-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-Timeslot-InformationAddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1.. maxNrOfDLTSs)) OF DL-Timeslot-InformationAddItem-PSCH-ReconfRqst

DL-Timeslot-InformationAddItem-PSCH-ReconfRqst ::= SEQUENCE {
  timeSlot                Timeslot,
  midambleShiftAndBurstType MidambleShiftAndBurstType,
  tFCI-Presence           TFCI-Presence,
  dL-Code-InformationAddList-PSCH-ReconfRqst DL-Code-InformationAddList-PSCH-ReconfRqst,
  iE-Extensions           ProtocolExtensionContainer { { DL-Timeslot-InformationAddItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
  ...
}

DL-Timeslot-InformationAddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-Code-InformationAddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF DL-Code-InformationAddItem-PSCH-ReconfRqst

DL-Code-InformationAddItem-PSCH-ReconfRqst ::= SEQUENCE {
  pDSCH-ID                PDSCH-ID,
  tdd-ChannelisationCode  TDD-ChannelisationCode,
  iE-Extensions           ProtocolExtensionContainer { { DL-Code-InformationAddItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
  ...
}

DL-Code-InformationAddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

PDSCH-AddInformation-LCR-PSCH-ReconfRqst ::= ProtocolIE-Single-Container {{ PDSCH-AddInformation-LCR-AddListIEs-PSCH-ReconfRqst }} -- Mandatory
for 1.28Mcps TDD only

PDSCH-AddInformation-LCR-AddListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
  {ID id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst CRITICALITY reject TYPE PDSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst
  PRESENCE optional}
}

PDSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
  repetitionPeriod        RepetitionPeriod,
  repetitionLength        RepetitionLength,
  tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
  dL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst DL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst,
  iE-Extensions           ProtocolExtensionContainer { {PDSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
  ...
}

PDSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

}

DL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1.. maxNrOfDLTSLCRs)) OF DL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst

DL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    timeslotLCR                TimeSlotLCR,
    tFCI-Presence              TFCI-Presence,
    dL-Code-InformationAddList-LCR-PSCH-ReconfRqst    DL-Code-InformationAddList-LCR-PSCH-ReconfRqst,
    iE-Extensions              ProtocolExtensionContainer { { DL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

DL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Code-InformationAddList-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF DL-Code-InformationAddItem-LCR-PSCH-ReconfRqst

DL-Code-InformationAddItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    pDSCH-ID                    PDSCH-ID,
    tdd-ChannelisationCodeLCR    TDD-ChannelisationCodeLCR,
    iE-Extensions              ProtocolExtensionContainer { { DL-Code-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

DL-Code-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHSets-ModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHSets)) OF PDSCHSets-ModifyItem-PSCH-ReconfRqst

PDSCHSets-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    pDSCHSet-ID                PDSCHSet-ID,
    pDSCH-InformationList      PDSCH-Information-ModifyList-PSCH-ReconfRqst,
    iE-Extensions              ProtocolExtensionContainer { {PDSCHSets-ModifyItem-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

PDSCHSets-ModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...,
    {ID id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst CRITICALITY reject EXTENSION PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst
    PRESENCE optional} -- Mandatory for 1.28Mcps TDD only
}

PDSCH-Information-ModifyList-PSCH-ReconfRqst ::= ProtocolIE-Single-Container {{ PDSCH-Information-ModifyListIEs-PSCH-ReconfRqst }}

PDSCH-Information-ModifyListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
    {ID id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst CRITICALITY reject TYPE PDSCH-Information-ModifyItem-PSCH-ReconfRqst
    PRESENCE optional} -- Mandatory for 3.84Mcps TDD only
}

PDSCH-Information-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod    OPTIONAL,

```

```

repetitionLength                RepetitionLength                OPTIONAL,
tdd-PhysicalChannelOffset        TDD-PhysicalChannelOffset    OPTIONAL,
dL-Timeslot-InformationModifyList-PSCH-ReconfRqst    DL-Timeslot-InformationModifyList-PSCH-ReconfRqst    OPTIONAL,
iE-Extensions                    ProtocolExtensionContainer { {PDSCH-Information-ModifyItem-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
...
}

PDSCH-Information-ModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

DL-Timeslot-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1.. maxNrOfDLTSs)) OF DL-Timeslot-InformationModifyItem-PSCH-ReconfRqst

DL-Timeslot-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
timeSlot                        TimeSlot,
midambleShiftAndBurstType        MidambleShiftAndBurstType    OPTIONAL,
tFCI-Presence                    TFCI-Presence    OPTIONAL,
dL-Code-InformationModifyList-PSCH-ReconfRqst        DL-Code-InformationModifyList-PSCH-ReconfRqst    OPTIONAL,
iE-Extensions                    ProtocolExtensionContainer { { DL-Timeslot-InformationModifyItem-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
...
}

DL-Timeslot-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

DL-Code-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHs)) OF DL-Code-InformationModifyItem-PSCH-ReconfRqst

DL-Code-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
pDSCH-ID                        PDSCH-ID,
tdd-ChannelisationCode            TDD-ChannelisationCode,
iE-Extensions                    ProtocolExtensionContainer { { DL-Code-InformationModifyItem-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
...
}

DL-Code-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
{ID id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst        CRITICALITY reject        TYPE        PDSCH-ModifyInformation-LCR-
ModifyItem-PSCH-ReconfRqst        PRESENCE        mandatory}
}

PDSCH-ModifyInformation-LCR-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
repetitionPeriod                RepetitionPeriod                OPTIONAL,
repetitionLength                RepetitionLength                OPTIONAL,
tdd-PhysicalChannelOffset        TDD-PhysicalChannelOffset    OPTIONAL,
dL-Timeslot-LCR-InformationModifyList-PSCH-ReconfRqst    DL-Timeslot-LCR-InformationModifyList-PSCH-ReconfRqst    OPTIONAL,
iE-Extensions                    ProtocolExtensionContainer { {PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
...
}

```

```

PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-LCR-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfDLTSLCRs)) OF DL-Timeslot-InformationModifyItem-PSCH-ReconfRqst

DL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    midambleShiftLCR           MidambleShiftLCR    OPTIONAL,
    tFCI-Presence              TFCI-Presence    OPTIONAL,
    dL-Code-LCR-InformationModifyList-PSCH-ReconfRqst    DL-Code-LCR-InformationModifyList-PSCH-ReconfRqst    OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { DL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } }
    OPTIONAL,
    ...
}

DL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Code-LCR-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHs)) OF DL-Code-InformationModifyItem-PSCH-ReconfRqst

DL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    pDSCH-ID                   PDSCH-ID,
    tdd-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR,
    iE-Extensions              ProtocolExtensionContainer { { DL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } }    OPTIONAL,
    ...
}

DL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHSets-DeleteList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHSets)) OF PDSCHSets-DeleteItem-PSCH-ReconfRqst

PDSCHSets-DeleteItem-PSCH-ReconfRqst ::= SEQUENCE {
    pDSCHSet-ID                PDSCHSet-ID,
    iE-Extensions              ProtocolExtensionContainer { { PDSCHSets-DeleteItem-PSCH-ReconfRqst-ExtIEs } }    OPTIONAL,
    ...
}

PDSCHSets-DeleteItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PUSCHSets-AddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPUSCHSets)) OF PUSCHSets-AddItem-PSCH-ReconfRqst

PUSCHSets-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCHSet-ID                PUSCHSet-ID,
    pUSCH-InformationList      PUSCH-Information-AddList-PSCH-ReconfRqst    OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { PUSCHSets-AddItem-PSCH-ReconfRqst-ExtIEs } }    OPTIONAL,
    ...
}

```

```

}

PUSCHSets-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
    {ID id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst CRITICALITY reject EXTENSION PUSCH-AddInformation-LCR-PSCH-ReconfRqst PRESENCE
    optional} -- Mandatory for 1.28Mcps TDD only
}

PUSCH-Information-AddList-PSCH-ReconfRqst ::= ProtocolIE-Single-Container {{ PUSCH-Information-AddListIEs-PSCH-ReconfRqst }} -- Mandatory for
3.84Mcps TDD only

PUSCH-Information-AddListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
    {ID id-PUSCH-Information-AddListIE-PSCH-ReconfRqst CRITICALITY reject TYPE PUSCH-Information-AddItem-PSCH-ReconfRqst PRESENCE
    mandatory}
}

PUSCH-Information-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
    repetitionPeriod RepetitionPeriod,
    repetitionLength RepetitionLength,
    tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
    uL-Timeslot-InformationAddList-PSCH-ReconfRqst UL-Timeslot-InformationAddList-PSCH-ReconfRqst,
    iE-Extensions ProtocolExtensionContainer { {PUSCH-Information-AddItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}

PUSCH-Information-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationAddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-Timeslot-InformationAddItem-PSCH-ReconfRqst

UL-Timeslot-InformationAddItem-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlot TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType,
    tFCI-Presence TFCI-Presence,
    uL-Code-InformationAddList-PSCH-ReconfRqst UL-Code-InformationAddList-PSCH-ReconfRqst,
    iE-Extensions ProtocolExtensionContainer { { UL-Timeslot-InformationAddItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationAddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Code-InformationAddList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHs)) OF UL-Code-InformationAddItem-PSCH-ReconfRqst

UL-Code-InformationAddItem-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCH-ID PUSCH-ID,
    tdd-ChannelisationCode TDD-ChannelisationCode,
    iE-Extensions ProtocolExtensionContainer { { UL-Code-InformationAddItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}

```

```

UL-Code-InformationAddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PUSCH-AddInformation-LCR-PSCH-ReconfRqst ::= ProtocolIE-Single-Container {{ PUSCH-AddInformation-LCR-AddListIEs-PSCH-ReconfRqst }}

PUSCH-AddInformation-LCR-AddListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
    {ID id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst    CRITICALITY reject        TYPE        PUSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst
    PRESENCE        optional}
}

PUSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tdd-PhysicalChannelOffset       TDD-PhysicalChannelOffset,
    uL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst        UL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst,
    iE-Extensions                   ProtocolExtensionContainer { {PUSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

PUSCH-AddInformation-LCR-AddItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationAddList-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1.. maxNrOfDLTSLCRs)) OF UL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst

UL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlotLCR                    TimeSlotLCR,
    midambleShiftLCR              MidambleShiftLCR,
    tFCI-Presence                 TFCI-Presence,
    uL-Code-InformationAddList-LCR-PSCH-ReconfRqst        UL-Code-InformationAddList-LCR-PSCH-ReconfRqst,
    iE-Extensions                 ProtocolExtensionContainer { { UL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

UL-Timeslot-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Code-InformationAddList-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-Code-InformationAddItem-LCR-PSCH-ReconfRqst

UL-Code-InformationAddItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCH-ID                      PUSCH-ID,
    tdd-ChannelisationCodeLCR     TDD-ChannelisationCodeLCR,
    iE-Extensions                 ProtocolExtensionContainer { { UL-Code-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs} }    OPTIONAL,
    ...
}

UL-Code-InformationAddItem-LCR-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PUSCHSets-ModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPUSCHSets)) OF PUSCHSets-ModifyItem-PSCH-ReconfRqst

```

```

PUSCHSets-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCHSet-ID                PUSCHSet-ID,
    pUSCH-InformationList      PUSCH-Information-ModifyList-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {PUSCHSets-ModifyItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}

PUSCHSets-ModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...,
    {ID id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst CRITICALITY reject EXTENSION PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst
    PRESENCE optional} -- For 1.28Mcps TDD only
}

PUSCH-Information-ModifyList-PSCH-ReconfRqst ::= ProtocolIE-Single-Container { { PUSCH-Information-ModifyListIEs-PSCH-ReconfRqst } } -- For 3.84Mcps
TDD only

PUSCH-Information-ModifyListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
    {ID id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst CRITICALITY reject TYPE PUSCH-Information-ModifyItem-PSCH-ReconfRqst
    PRESENCE mandatory}
}

PUSCH-Information-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod                OPTIONAL,
    repetitionLength          RepetitionLength                OPTIONAL,
    tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset      OPTIONAL,
    uL-Timeslot-InformationModifyList-PSCH-ReconfRqst          UL-Timeslot-InformationModifyList-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {PUSCH-Information-ModifyItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}

PUSCH-Information-ModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-Timeslot-InformationModifyItem-PSCH-ReconfRqst

UL-Timeslot-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlot                  TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType OPTIONAL,
    tFCI-Presence              TFCI-Presence OPTIONAL,
    uL-Code-InformationModifyList-PSCH-ReconfRqst          UL-Code-InformationModifyList-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { UL-Timeslot-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}

UL-Timeslot-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Code-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPUSCHs)) OF UL-Code-InformationModifyItem-PSCH-ReconfRqst

UL-Code-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {

```

```

    pUSCH-ID                PUSCH-ID,
    tdd-ChannelisationCode  TDD-ChannelisationCode,
    iE-Extensions           ProtocolExtensionContainer { { UL-Code-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}

UL-Code-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst ::= ProtocolIE-Single-Container { { PUSCH-ModifyInformation-LCR-ModifyListIEs-PSCH-ReconfRqst } }

PUSCH-ModifyInformation-LCR-ModifyListIEs-PSCH-ReconfRqst NBAP-PROTOCOL-IES ::= {
    {ID id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst      CRITICALITY reject          TYPE          PUSCH-ModifyInformation-LCR-
ModifyItem-PSCH-ReconfRqst      PRESENCE optional}
}

PUSCH-ModifyInformation-LCR-ModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod          OPTIONAL,
    repetitionLength          RepetitionLength          OPTIONAL,
    tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONAL,
    uL-Timeslot-InformationModifyList-LCR-PSCH-ReconfRqst UL-Timeslot-LCR-InformationModifyList-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {PUSCH-ModifyInformation-LCR-ModifyItem-PSCH-ReconfRqst-ExtIEs} }
OPTIONAL,
    ...
}

PUSCH-ModifyInformation-LCR-ModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-LCR-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfULTSLCRs)) OF UL-Timeslot-InformationModifyItem-PSCH-ReconfRqst

UL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    midambleShiftLCR          MidambleShiftLCR,
    tFCI-Presence              TFCI-Presence          OPTIONAL,
    uL-Code-InformationModifyList-PSCH-ReconfRqst UL-Code-InformationModifyList-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { { UL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } }
OPTIONAL,
    ...
}

UL-Timeslot-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Code-LCR-InformationModifyList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPDSCHs)) OF UL-Code-InformationModifyItem-PSCH-ReconfRqst

UL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCH-ID                PUSCH-ID,
    tdd-ChannelisationCodeLCR TDD-ChannelisationCodeLCR,
    iE-Extensions           ProtocolExtensionContainer { { UL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,

```



```

}
...
}
UL-Code-LCR-InformationModifyItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
PUSCHSets-DeleteList-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfPUSCHSets)) OF PUSCHSets-DeleteItem-PSCH-ReconfRqst
PUSCHSets-DeleteItem-PSCH-ReconfRqst ::= SEQUENCE {
    pUSCHSet-ID PUSCHSet-ID,
    iE-Extensions ProtocolExtensionContainer { {PUSCHSets-DeleteItem-PSCH-ReconfRqst-ExtIEs} } OPTIONAL,
    ...
}
PUSCHSets-DeleteItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
}
}
HS-PDSCH-TDD-Information-PSCH-ReconfRqst ::= SEQUENCE {
    DL-HS-PDSCH-Timeslot-Information-PSCH-ReconfRqst DL-HS-PDSCH-Timeslot-Information-PSCH-ReconfRqst OPTIONAL,
    DL-HS-PDSCH-Timeslot-Information-LCR-PSCH-ReconfRqst DL-HS-PDSCH-Timeslot-Information-LCR-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { HS-PDSCH-TDD-Information-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}
HS-PDSCH-TDD-Information-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
DL-HS-PDSCH-Timeslot-Information-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfDLTSs)) OF DL-HS-PDSCH-Timeslot-InformationItem-PSCH-ReconfRqst
DL-HS-PDSCH-Timeslot-InformationItem-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlot TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType,
    iE-Extensions ProtocolExtensionContainer { { DL-HS-PDSCH-Timeslot-InformationItem-PSCH-ReconfRqst-ExtIEs } }
    OPTIONAL,
    ...
}
DL-HS-PDSCH-Timeslot-InformationItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
DL-HS-PDSCH-Timeslot-Information-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfDLTSLCRs)) OF DL-HS-PDSCH-Timeslot-InformationItem-LCR-PSCH-ReconfRqst
DL-HS-PDSCH-Timeslot-InformationItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlot TimeSlotLCR,
    midambleShiftAndBurstType MidambleShiftLCR,
    iE-Extensions ProtocolExtensionContainer { { DL-HS-PDSCH-Timeslot-InformationItem-LCR-PSCH-ReconfRqst-ExtIEs } }
    OPTIONAL,
    ...
}

```

```

}
DL-HS-PDSCH-Timeslot-InformationItem-LCR-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst ::= SEQUENCE {
    hS-SCCH-Information-PSCH-ReconfRqst HS-SCCH-Information-PSCH-ReconfRqst OPTIONAL,
    hS-SCCH-Information-LCR-PSCH-ReconfRqst HS-SCCH-Information-PSCH-ReconfRqst OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}
Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
HS-SCCH-Information-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF HS-SCCH-InformationItem-PSCH-ReconfRqst
HS-SCCH-InformationItem-PSCH-ReconfRqst ::= SEQUENCE {
    hS-SCCH-ID HS-SCCH-ID,
    timeSlot TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType,
    tdd-ChannelisationCode TDD-ChannelisationCode,
    hS-SCCH-MaxPower DL-Power,
    hS-SICH-Information HS-SICH-Information-PSCH-ReconfRqst,
    iE-Extensions ProtocolExtensionContainer { { HS-SCCH-InformationItem-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}
HS-SCCH-InformationItem-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
HS-SICH-Information-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlot TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType,
    tdd-ChannelisationCode TDD-ChannelisationCode,
    iE-Extensions ProtocolExtensionContainer { { HS-SICH-Information-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}
HS-SICH-Information-PSCH-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
HS-SCCH-Information-LCR-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF HS-SCCH-InformationItem-LCR-PSCH-ReconfRqst
HS-SCCH-InformationItem-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    hS-SCCH-ID HS-SCCH-ID,
    timeSlotLCR TimeSlotLCR,
    midambleShiftLCR MidambleShiftLCR,

```

```

    tdd-ChannelisationCode          TDD-ChannelisationCodeLCR,
    hS-SCCH-MaxPower                DL-Power,
    hS-SICH-Information-LCR         HS-SICH-Information-LCR-PSCH-ReconfRqst,
    iE-Extensions                  ProtocolExtensionContainer { { HS-SCCH-InformationItem-LCR-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}

HS-SCCH-InformationItem-LCR-PSCH-ReconfRqst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HS-SICH-Information-LCR-PSCH-ReconfRqst ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    midambleShiftLCR          MidambleShiftLCR,
    tdd-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR,
    iE-Extensions            ProtocolExtensionContainer { { HS-SICH-Information-LCR-PSCH-ReconfRqst-ExtIEs } } OPTIONAL,
    ...
}

HS-SICH-Information-LCR-PSCH-ReconfRqst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst ::= SEQUENCE {
    hS-SCCH-InformationModify-PSCH-ReconfRqst  HS-SCCH-InformationModify-PSCH-ReconfRqst  OPTIONAL,
    hS-SCCH-InformationModify-LCR-PSCH-ReconfRqst  HS-SCCH-InformationModify-PSCH-ReconfRqst  OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { { Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst-ExtIEs } }
    OPTIONAL,
    ...
}

Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HS-SCCH-InformationModify-PSCH-ReconfRqst ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF HS-SCCH-InformationModifyItem-PSCH-ReconfRqst

HS-SCCH-InformationModifyItem-PSCH-ReconfRqst ::= SEQUENCE {
    hS-SCCH-ID                HS-SCCH-ID,
    timeSlot                  TimeSlot  OPTIONAL,
    midambleShiftAndBurstType  MidambleShiftAndBurstType  OPTIONAL,
    tdd-ChannelisationCode     TDD-ChannelisationCode  OPTIONAL,
    hS-SCCH-MaxPower          DL-Power  OPTIONAL,
    hS-SICH-Information        HS-SICH-Information-PSCH-ReconfRqst  OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { { HS-SCCH-InformationModifyItem-PSCH-ReconfRqst-ExtIEs } }  OPTIONAL,
    ...
}

HS-SCCH-InformationModifyItem-PSCH-ReconfRqst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HS-SICH-InformationModify-PSCH-ReconfRqst ::= SEQUENCE {

```

```

timeSlot                TimeSlot    OPTIONAL,
midambleShiftAndBurstType  MidambleShiftAndBurstType  OPTIONAL,
tdd-ChannelisationCode    TDD-ChannelisationCode  OPTIONAL,
iE-Extensions             ProtocolExtensionContainer { { HS-SICH-InformationModify-PSCH-ReconfRgst-ExtIEs } } OPTIONAL,
...
}

HS-SICH-InformationModify-PSCH-ReconfRgst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

HS-SCCH-InformationModify-LCR-PSCH-ReconfRgst ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF HS-SCCH-InformationModifyItem-LCR-PSCH-ReconfRgst

HS-SCCH-InformationModifyItem-LCR-PSCH-ReconfRgst ::= SEQUENCE {
hS-SCCH-ID                HS-SCCH-ID,
timeSlotLCR               TimeSlotLCR    OPTIONAL,
midambleShiftLCR          MidambleShiftLCR    OPTIONAL,
tdd-ChannelisationCode    TDD-ChannelisationCodeLCR    OPTIONAL,
hS-SCCH-MaxPower          DL-Power    OPTIONAL,
hS-SICH-Information-LCR   HS-SICH-Information-LCR-PSCH-ReconfRgst    OPTIONAL,
iE-Extensions             ProtocolExtensionContainer { { HS-SCCH-InformationModifyItem-LCR-PSCH-ReconfRgst-ExtIEs } } OPTIONAL,
...
}

HS-SCCH-InformationModifyItem-LCR-PSCH-ReconfRgst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

HS-SICH-InformationModify-LCR-PSCH-ReconfRgst ::= SEQUENCE {
timeSlotLCR               TimeSlotLCR    OPTIONAL,
midambleShiftLCR          MidambleShiftLCR    OPTIONAL,
tdd-ChannelisationCodeLCR TDD-ChannelisationCodeLCR    OPTIONAL,
iE-Extensions             ProtocolExtensionContainer { { HS-SICH-InformationModify-LCR-PSCH-ReconfRgst-ExtIEs } } OPTIONAL,
...
}

HS-SICH-InformationModify-LCR-PSCH-ReconfRgst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

Delete-From-HS-SCCH-Resource-Pool-PSCH-ReconfRgst ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF Delete-From-HS-SCCH-Resource-PoolItem-PSCH-ReconfRgst

Delete-From-HS-SCCH-Resource-PoolItem-PSCH-ReconfRgst ::= SEQUENCE {
hS-SCCH-ID                HS-SCCH-ID,
iE-Extensions             ProtocolExtensionContainer { { Delete-From-HS-SCCH-Resource-PoolItem-PSCH-ReconfRgst-ExtIEs } }
OPTIONAL,
...
}

Delete-From-HS-SCCH-Resource-PoolItem-PSCH-ReconfRgst-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

```

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxNrOfTFCS,
    maxNrOfErrors,
    maxCTFC,
    maxNrOfTFs,
    maxTTI-count,
    maxRateMatching,
    maxCodeNrComp-1,
    maxNrOfCellSyncBursts,
    maxNrOfCodeGroups,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell-1,
    maxNrOfReceptsPerSyncFrame,
    maxNrOfTFCIGroups,
    maxNrOfTFCI1Combs,
    maxNrOfTFCI2Combs,
    maxNrOfTFCI2Combs-1,
    maxNrOfSF,
    maxTGPS,
    maxNrOfUSCHs,
    maxNrOfULTSs,
    maxNrOfULTSLCRs,
    maxNrOfDPCHs,
    maxNrOfDPCHLCRs,
    maxNrOfCodes,
    maxNrOfDSCHs,
    maxNrOfDLTSSs,
    maxNrOfDLTSLCRs,
    maxNrOfDCHs,
    maxNrOfLevels,
    maxNoGPSItems,
    maxNoSat,
    maxNrOfHSSCCHs,

    id-MessageStructure,
    id-ReportCharacteristicsType-OnModification,

```

id-Rx-Timing-Deviation-Value-LCR,
id-SFNSFNMeasurementValueInformation,
id-SFNSFNMeasurementThresholdInformation,
id-TUTRANGPSMeasurementValueInformation,
id-TUTRANGPSMeasurementThresholdInformation,
id-TypeOfError

```
-- =====  
-- H  
-- =====  
  
HS-PDSCH-FDD-Code-Information ::= SEQUENCE {  
    number-of-HS-PDSCH-codes          INTEGER (0..maxCodeNrComp-1),  
    hS-PDSCH-Start-code-number       HS-PDSCH-Start-code-number    OPTIONAL,  
    -- Only included when number of HS-DSCH codes > 0  
    ...  
}  
  
HS-PDSCH-Start-code-number ::= INTEGER (0..maxCodeNrComp-1)  
  
HS-SCCH-ID ::= INTEGER (0..31)  
  
HS-SCCH-FDD-Code-Information ::= SEQUENCE {  
    hS-SCCH-FDD-Code-List            HS-SCCH-FDD-Code-List        OPTIONAL,  
    ...  
}  
  
HS-SCCH-FDD-Code-List ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHs)) OF HS-SCCH-FDD-Code-Information-Item  
  
HS-SCCH-FDD-Code-Information-Item ::= INTEGER (0..maxCodeNrComp-1)
```

9.3.6 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

NBAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

-- *****
--
-- Elementary Procedures
--
-- *****

id-audit                ProcedureCode ::= 0
id-auditRequired        ProcedureCode ::= 1
id-blockResource        ProcedureCode ::= 2
id-cellDeletion         ProcedureCode ::= 3
id-cellReconfiguration  ProcedureCode ::= 4
id-cellSetup            ProcedureCode ::= 5
id-cellSynchronisationInitiation ProcedureCode ::= 39
id-cellSynchronisationReconfiguration ProcedureCode ::= 40
id-cellSynchronisationReporting ProcedureCode ::= 41
id-cellSynchronisationTermination ProcedureCode ::= 42
id-cellSynchronisationFailure ProcedureCode ::= 43
id-commonMeasurementFailure ProcedureCode ::= 6
id-commonMeasurementInitiation ProcedureCode ::= 7
id-commonMeasurementReport ProcedureCode ::= 8
id-commonMeasurementTermination ProcedureCode ::= 9
id-commonTransportChannelDelete ProcedureCode ::= 10
id-commonTransportChannelReconfigure ProcedureCode ::= 11
id-commonTransportChannelSetup ProcedureCode ::= 12
id-compressedModeCommand ProcedureCode ::= 14
id-dedicatedMeasurementFailure ProcedureCode ::= 16
id-dedicatedMeasurementInitiation ProcedureCode ::= 17
id-dedicatedMeasurementReport ProcedureCode ::= 18
id-dedicatedMeasurementTermination ProcedureCode ::= 19
id-downlinkPowerControl ProcedureCode ::= 20

```


id-downlinkPowerTimeslotControl	ProcedureCode ::= 38
id-errorIndicationForCommon	ProcedureCode ::= 35
id-errorIndicationForDedicated	ProcedureCode ::= 21
id-informationExchangeFailure	ProcedureCode ::= 40
id-informationExchangeInitiation	ProcedureCode ::= 41
id-informationExchangeTermination	ProcedureCode ::= 42
id-informationReporting	ProcedureCode ::= 43
id-physicalSharedChannelReconfiguration	ProcedureCode ::= 37
id-privateMessageForCommon	ProcedureCode ::= 36
id-privateMessageForDedicated	ProcedureCode ::= 22
id-radioLinkAddition	ProcedureCode ::= 23
id-radioLinkDeletion	ProcedureCode ::= 24
id-radioLinkFailure	ProcedureCode ::= 25
id-radioLinkPreemption	ProcedureCode ::= 39
id-radioLinkRestoration	ProcedureCode ::= 26
id-radioLinkSetup	ProcedureCode ::= 27
id-reset	ProcedureCode ::= 13
id-resourceStatusIndication	ProcedureCode ::= 28
id-cellSynchronisationAdjustment	ProcedureCode ::= 44
id-synchronisedRadioLinkReconfigurationCancellation	ProcedureCode ::= 29
id-synchronisedRadioLinkReconfigurationCommit	ProcedureCode ::= 30
id-synchronisedRadioLinkReconfigurationPreparation	ProcedureCode ::= 31
id-systemInformationUpdate	ProcedureCode ::= 32
id-unblockResource	ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration	ProcedureCode ::= 34

```
-- *****
--
-- Lists
--
-- *****
```

maxNrOfCodes	INTEGER ::= 10
maxNrOfDLTSs	INTEGER ::= 15
maxNrOfDLTSLCRs	INTEGER ::= 6
maxNrOfErrors	INTEGER ::= 256
maxNrOfTFs	INTEGER ::= 32
maxNrOfTFCs	INTEGER ::= 1024
maxNrOfRLs	INTEGER ::= 16
maxNrOfRLs-1	INTEGER ::= 15 -- maxNrOfRLs - 1
maxNrOfRLs-2	INTEGER ::= 14 -- maxNrOfRLs - 2
maxNrOfRLSets	INTEGER ::= maxNrOfRLs
maxNrOfDPCHs	INTEGER ::= 240
maxNrOfDPCHLCRs	INTEGER ::= 240
maxNrOfSCCPCHs	INTEGER ::= 8
maxNrOfCPCHs	INTEGER ::= 16
maxNrOfPCPCHs	INTEGER ::= 64
maxNrOfDCHs	INTEGER ::= 128
maxNrOfDSCHs	INTEGER ::= 32
maxNrOfFACHs	INTEGER ::= 8
maxNrOfCCTrCHs	INTEGER ::= 16
maxNrOfPDSCHs	INTEGER ::= 256
maxNrOfPUSCHs	INTEGER ::= 256

```

maxNrOfPDSCHSets          INTEGER ::= 256
maxNrOfPRACHLCRs          INTEGER ::= 8
maxNrOfPUSCHSets          INTEGER ::= 256
maxNrOfSCCPCHLCRs        INTEGER ::= 8
maxNrOfULTSs              INTEGER ::= 15
maxNrOfULTSLCRs           INTEGER ::= 6
maxNrOfUSCHs              INTEGER ::= 32
maxAPSigNum               INTEGER ::= 16
maxNrOfSlotFormatsPRACH  INTEGER ::= 8
maxCellInNodeB            INTEGER ::= 256
maxCCPinNodeB             INTEGER ::= 256
maxCPCHCell               INTEGER ::= maxNrOfCPCHs
maxCTFC                   INTEGER ::= 16777215
maxLocalCellInNodeB      INTEGER ::= maxCellInNodeB
maxNoofLen                 INTEGER ::= 7
maxFPACHCell              INTEGER ::= 8
maxRACHCell               INTEGER ::= maxPRACHCell
maxPRACHCell              INTEGER ::= 16
maxPCPCHCell              INTEGER ::= 64
maxSCCPCHCell             INTEGER ::= 32
maxSCPICHCell             INTEGER ::= 32
maxTTI-count              INTEGER ::= 4
maxIBSEG                  INTEGER ::= 16
maxIB                      INTEGER ::= 64
maxFACHCell               INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching           INTEGER ::= 256
maxCodeNrComp-1           INTEGER ::= 256
maxNrOfCellSyncBursts    INTEGER ::= 10
maxNrOfCodeGroups         INTEGER ::= 256
maxNrOfReceptsPerSyncFrame INTEGER ::= 16
maxNrOfMeasNCell          INTEGER ::= 96
maxNrOfMeasNCell-1        INTEGER ::= 95 -- maxNrOfMeasNCell - 1
maxNrOfTFCIGroups         INTEGER ::= 256
maxNrOfTFCI1Combs         INTEGER ::= 512
maxNrOfTFCI2Combs         INTEGER ::= 1024
maxNrOfTFCI2Combs-1       INTEGER ::= 1023
maxNrOfSF                  INTEGER ::= 8
maxTGPS                   INTEGER ::= 6
maxCommunicationContext   INTEGER ::= 1048575
maxNrOfLevels              INTEGER ::= 256
maxNoSat                   INTEGER ::= 16
maxNoGPSItems              INTEGER ::= 8
maxNrOfHSSCCHs            INTEGER ::= 32
-- *****
--
-- IEs
--
-- *****

id-AICH-Information          ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 1
id-BCH-Information           ProtocolIE-ID ::= 7

```

TS 25.433 version 4.3.0

id-BCH-InformationItem-ResourceStatusInd
id-BCCH-ModificationTime
id-BlockingPriorityIndicator
id-Cause
id-CCP-InformationItem-AuditRsp
id-CCP-InformationList-AuditRsp
id-CCP-InformationItem-ResourceStatusInd
id-Cell-InformationItem-AuditRsp
id-Cell-InformationItem-ResourceStatusInd
id-Cell-InformationList-AuditRsp
id-CellParameterID
id-CFN
id-C-ID
id-CommonMeasurementAccuracy
id-CommonMeasurementObjectType-CM-Rprt
id-CommonMeasurementObjectType-CM-Rqst
id-CommonMeasurementObjectType-CM-Rsp
id-CommonMeasurementType
id-CommonPhysicalChannelID
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD
id-CommunicationControlPortID
id-ConfigurationGenerationID
id-CRNC-CommunicationContextID
id-CriticalityDiagnostics
id-DCHs-to-Add-FDD
id-DCH-AddList-RL-ReconfPrepTDD
id-DCHs-to-Add-TDD
id-DCH-DeleteList-RL-ReconfPrepFDD
id-DCH-DeleteList-RL-ReconfPrepTDD
id-DCH-DeleteList-RL-ReconfRqstFDD
id-DCH-DeleteList-RL-ReconfRqstTDD
id-DCH-FDD-Information
id-DCH-TDD-Information
id-DCH-InformationResponse
id-FDD-DCHs-to-Modify
id-TDD-DCHs-to-Modify
id-DCH-ModifyList-RL-ReconfRqstTDD
id-DedicatedMeasurementObjectType-DM-Rprt
id-DedicatedMeasurementObjectType-DM-Rqst
id-DedicatedMeasurementObjectType-DM-Rsp
id-DedicatedMeasurementType
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD
id-DL-DPCH-InformationList-RL-SetupRqstTDD
id-DL-DPCH-Information-RL-ReconfPrepFDD
id-DL-DPCH-Information-RL-ReconfRqstFDD
id-DL-DPCH-Information-RL-SetupRqstFDD
id-DL-ReferencePowerInformationItem-DL-PC-Rqst
id-DLReferencePower
id-DLReferencePowerList-DL-PC-Rqst

529

ProtocolIE-ID ::= 8
ProtocolIE-ID ::= 9
ProtocolIE-ID ::= 10
ProtocolIE-ID ::= 13
ProtocolIE-ID ::= 14
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ProtocolIE-ID ::= 81
ProtocolIE-ID ::= 82
ProtocolIE-ID ::= 83
ProtocolIE-ID ::= 84
ProtocolIE-ID ::= 85
ProtocolIE-ID ::= 86

TS 25.433 version 4.3.0

id-DSCH-AddItem-RL-ReconfPrepFDD
id-DSCHs-to-Add-FDD
id-DSCH-DeleteItem-RL-ReconfPrepFDD
id-DSCH-DeleteList-RL-ReconfPrepFDD
id-DSCHs-to-Add-TDD
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD
id-DSCH-InformationResponse
id-DSCH-FDD-Information
id-DSCH-TDD-Information
id-DSCH-ModifyItem-RL-ReconfPrepFDD
id-DSCH-ModifyList-RL-ReconfPrepFDD
id-End-Of-Audit-Sequence-Indicator
id-FACH-Information
id-FACH-InformationItem-ResourceStatusInd
id-FACH-ParametersList-CTCH-ReconfRqstTDD
id-FACH-ParametersListIE-CTCH-SetupRqstFDD
id-FACH-ParametersListIE-CTCH-SetupRqstTDD
id-IndicationType-ResourceStatusInd
id-Local-Cell-ID
id-Local-Cell-Group-InformationItem-AuditRsp
id-Local-Cell-Group-InformationItem-ResourceStatusInd
id-Local-Cell-Group-InformationItem2-ResourceStatusInd
id-Local-Cell-Group-InformationList-AuditRsp
id-Local-Cell-InformationItem-AuditRsp
id-Local-Cell-InformationItem-ResourceStatusInd
id-Local-Cell-InformationItem2-ResourceStatusInd
id-Local-Cell-InformationList-AuditRsp
id-AdjustmentPeriod
id-MaxAdjustmentStep
id-MaximumTransmissionPower
id-MeasurementFilterCoefficient
id-MeasurementID
id-MessageStructure
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst
id-NodeB-CommunicationContextID
id-NeighbouringCellMeasurementInformation
id-P-CCPCH-Information
id-P-CCPCH-InformationItem-ResourceStatusInd
id-P-CPICH-Information
id-P-CPICH-InformationItem-ResourceStatusInd
id-P-SCH-Information
id-PCCPCH-Information-Cell-ReconfRqstTDD
id-PCCPCH-Information-Cell-SetupRqstTDD
id-PCH-Parameters-CTCH-ReconfRqstTDD
id-PCH-ParametersItem-CTCH-SetupRqstFDD
id-PCH-ParametersItem-CTCH-SetupRqstTDD
id-PCH-Information
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst
id-PDSCHSets-AddList-PSCH-ReconfRqst
id-PDSCHSets-DeleteList-PSCH-ReconfRqst
id-PDSCHSets-ModifyList-PSCH-ReconfRqst

530

ProtocolIE-ID ::= 87
ProtocolIE-ID ::= 89
ProtocolIE-ID ::= 91
ProtocolIE-ID ::= 93
ProtocolIE-ID ::= 96
ProtocolIE-ID ::= 98
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ProtocolIE-ID ::= 158
ProtocolIE-ID ::= 161
ProtocolIE-ID ::= 162
ProtocolIE-ID ::= 163
ProtocolIE-ID ::= 164
ProtocolIE-ID ::= 165

TS 25.433 version 4.3.0

id-PICH-Information
id-PICH-Parameters-CTCH-ReconfRqstTDD
id-PowerAdjustmentType
id-PRACH-Information
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD
id-PrimaryCPICH-Information-Cell-SetupRqstFDD
id-PrimarySCH-Information-Cell-ReconfRqstFDD
id-PrimarySCH-Information-Cell-SetupRqstFDD
id-PrimaryScramblingCode
id-SCH-Information-Cell-ReconfRqstTDD
id-SCH-Information-Cell-SetupRqstTDD
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst
id-PUSCHSets-AddList-PSCH-ReconfRqst
id-PUSCHSets-DeleteList-PSCH-ReconfRqst
id-PUSCHSets-ModifyList-PSCH-ReconfRqst
id-RACH-Information
id-RACH-ParametersItem-CTCH-SetupRqstFDD
id-RACH-ParameterItem-CTCH-SetupRqstTDD
id-ReportCharacteristics
id-Reporting-Object-RL-FailureInd
id-Reporting-Object-RL-RestoreInd
id-RL-InformationItem-DM-Rprt
id-RL-InformationItem-DM-Rqst
id-RL-InformationItem-DM-Rsp
id-RL-InformationItem-RL-AdditionRqstFDD
id-RL-informationItem-RL-DeletionRqst
id-RL-InformationItem-RL-FailureInd
id-RL-InformationItem-RL-PreemptRequiredInd
id-RL-InformationItem-RL-ReconfPrepFDD
id-RL-InformationItem-RL-ReconfRqstFDD
id-RL-InformationItem-RL-RestoreInd
id-RL-InformationItem-RL-SetupRqstFDD
id-RL-InformationList-RL-AdditionRqstFDD
id-RL-informationList-RL-DeletionRqst
id-RL-InformationList-RL-PreemptRequiredInd
id-RL-InformationList-RL-ReconfPrepFDD
id-RL-InformationList-RL-ReconfRqstFDD
id-RL-InformationList-RL-SetupRqstFDD
id-RL-InformationResponseItem-RL-AdditionRspFDD
id-RL-InformationResponseItem-RL-ReconfReady
id-RL-InformationResponseItem-RL-ReconfRsp
id-RL-InformationResponseItem-RL-SetupRspFDD
id-RL-InformationResponseList-RL-AdditionRspFDD
id-RL-InformationResponseList-RL-ReconfReady
id-RL-InformationResponseList-RL-ReconfRsp
id-RL-InformationResponseList-RL-SetupRspFDD
id-RL-InformationResponse-RL-AdditionRspTDD
id-RL-InformationResponse-RL-SetupRspTDD
id-RL-Information-RL-AdditionRqstTDD
id-RL-Information-RL-ReconfRqstTDD

531

ProtocolIE-ID ::= 166
ProtocolIE-ID ::= 168
ProtocolIE-ID ::= 169
ProtocolIE-ID ::= 170
ProtocolIE-ID ::= 175
ProtocolIE-ID ::= 176
ProtocolIE-ID ::= 177
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ProtocolIE-ID ::= 223
ProtocolIE-ID ::= 224
ProtocolIE-ID ::= 225
ProtocolIE-ID ::= 226
ProtocolIE-ID ::= 227
ProtocolIE-ID ::= 228

TS 25.433 version 4.3.0

id-RL-Information-RL-ReconfPrepTDD
id-RL-Information-RL-SetupRqstTDD
id-RL-ReconfigurationFailureItem-RL-ReconfFailure
id-RL-Set-InformationItem-DM-Rprt
id-RL-Set-InformationItem-DM-Rsp
id-RL-Set-InformationItem-RL-FailureInd
id-RL-Set-InformationItem-RL-RestoreInd
id-S-CCPCH-Information
id-S-CPICH-Information
id-SCH-Information
id-S-SCH-Information
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD
id-SecondarySCH-Information-Cell-ReconfRqstFDD
id-SecondarySCH-Information-Cell-SetupRqstFDD
id-SegmentInformationListIE-SystemInfoUpdate
id-SFN
id-ShutdownTimer
id-Start-Of-Audit-Sequence-Indicator
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD
id-SyncCase
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH
id-T-Cell
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD
id-TimeSlotConfigurationList-Cell-SetupRqstTDD
id-TransmissionDiversityApplied
id-TypeOfError
id-UARFCNforNt
id-UARFCNforNd
id-UARFCNforNu
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD
id-UL-DPCH-InformationList-RL-SetupRqstTDD
id-UL-DPCH-Information-RL-ReconfPrepFDD
id-UL-DPCH-Information-RL-ReconfRqstFDD
id-UL-DPCH-Information-RL-SetupRqstFDD
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD
id-USCH-Information-Add
id-USCH-Information-DeleteList-RL-ReconfPrepTDD
id-USCH-Information-ModifyList-RL-ReconfPrepTDD
id-USCH-InformationResponse
id-USCH-Information

532

ProtocolIE-ID ::= 229
ProtocolIE-ID ::= 230
ProtocolIE-ID ::= 236
ProtocolIE-ID ::= 238
ProtocolIE-ID ::= 240
ProtocolIE-ID ::= 241
ProtocolIE-ID ::= 242
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ProtocolIE-ID ::= 306
ProtocolIE-ID ::= 309
ProtocolIE-ID ::= 310

TS 25.433 version 4.3.0

id-Active-Pattern-Sequence-Information
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD
id-AdjustmentRatio
id-AP-AICH-Information
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD
id-CauseLevel-PSCH-ReconfFailureTDD
id-CauseLevel-RL-AdditionFailureFDD
id-CauseLevel-RL-AdditionFailureTDD
id-CauseLevel-RL-ReconfFailure
id-CauseLevel-RL-SetupFailureFDD
id-CauseLevel-RL-SetupFailureTDD
id-CDCA-ICH-Information
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD
id-Closed-Loop-Timing-Adjustment-Mode
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD
id-Compressed-Mode-Deactivation-Flag
id-CPCH-Information
id-CPCH-Parameters-CTCH-SetupRsp
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD
id-DL-TPC-Pattern01Count
id-DPC-Mode
id-DPCHConstant
id-DSCH-FDD-Common-Information
id-EnhancedDSCHPC
id-EnhancedDSCHPCIndicator
id-FACH-ParametersList-CTCH-SetupRsp
id-Limited-power-increase-information-Cell-SetupRqstFDD
id-PCH-Parameters-CTCH-SetupRsp
id-PCH-ParametersItem-CTCH-ReconfRqstFDD
id-PCPCH-Information
id-PTCH-ParametersItem-CTCH-ReconfRqstFDD
id-PRACHConstant
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD
id-PUSCHConstant
id-RACH-Parameters-CTCH-SetupRsp
id-SSDT-CellIDforEDSCHPC
id-Synchronisation-Configuration-Cell-ReconfRqst
id-Synchronisation-Configuration-Cell-SetupRqst
id-Transmission-Gap-Pattern-Sequence-Information
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD

533

ProtocolIE-ID ::= 315
ProtocolIE-ID ::= 316
ProtocolIE-ID ::= 317
ProtocolIE-ID ::= 320
ProtocolIE-ID ::= 322
ProtocolIE-ID ::= 323
ProtocolIE-ID ::= 324
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ProtocolIE-ID ::= 397

TS 25.433 version 4.3.0

id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD
id-CommunicationContextInfoItem-Reset
id-CommunicationControlPortInfoItem-Reset
id-ResetIndicator
id-TFCI2-Bearer-Information-RL-SetupRqstFDD
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD
id-TFCI2-BearerInformationResponse
id-TimingAdvanceApplied
id-CFNReportingIndicator
id-SFNReportingIndicator
id-InnerLoopDLPCStatus
id-TimeslotISCPInfo
id-PICH-ParametersItem-CTCH-SetupRqstTDD
id-PRACH-ParametersItem-CTCH-SetupRqstTDD
id-CCTrCH-InformationItem-RL-FailureInd
id-CCTrCH-InformationItem-RL-RestoreInd
id-CauseLevel-SyncAdjustmntFailureTDD
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD
id-CellAdjustmentInfoItem-SyncAdjustmentRqstTDD
id-CellSyncBurstInfoList-CellSyncReconfRqstTDD
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD
id-CellSyncBurstTransReconfiguration-CellSyncReconfRqstTDD
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id-CellSyncBurstTransInfoList-CellSyncReconfRqstTDD
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD
id-CellSyncInfo-CellSyncReprtTDD
id-CSBTransmissionID
id-CSBMeasurementID
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD
id-NCyclesPerSFNperiod
id-NRepetitionsPerCyclePeriod
id-SyncFrameNumber
id-SynchronisationReportType
id-SynchronisationReportCharacteristics
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD
id-ReferenceClockAvailability
id-ReferenceSFNoffset
id-InformationExchangeID
id-InformationExchangeObjectType-InfEx-Rqst
id-InformationType

534

ProtocolIE-ID ::= 398
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id-InformationReportCharacteristics
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 id-InformationExchangeObjectType-InfEx-Rprt
 id-IPDLParameter-Information-Cell-ReconfRqstFDD
 id-IPDLParameter-Information-Cell-SetupRqstFDD
 id-IPDLParameter-Information-Cell-ReconfRqstTDD
 id-IPDLParameter-Information-Cell-SetupRqstTDD
 id-DL-DPCH-LCR-Information-RL-SetupRqstTDD
 id-DL-DPCH-LCR-InformationList-RL-SetupRqstTDD
 id-DwPCH-LCR-Information
 id-DwPCH-LCR-Information-AuditRsp
 id-DwPCH-LCR-InformationList-AuditRsp
 id-DwPCH-LCR-Information-Cell-SetupRqstTDD
 id-DwPCH-LCR-Information-Cell-ReconfRqstTDD
 id-DwPCH-LCR-Information-ResourceStatusInd
 id-maxFACH-Power-LCR-CTCH-SetupRqstTDD
 id-maxFACH-Power-LCR-CTCH-ReconfRqstTDD
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 id-FPACH-LCR-Information-AuditRsp
 id-FPACH-LCR-InformationList-AuditRsp
 id-FPACH-LCR-InformationList-ResourceStatusInd
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 id-FPACH-LCR-ParametersItem-CTCH-SetupRqstTDD
 id-FPACH-LCR-Parameters-CTCH-ReconfRqstTDD
 id-PCCPCH-LCR-Information-Cell-SetupRqstTDD
 id-PCH-Power-LCR-CTCH-SetupRqstTDD
 id-PCH-Power-LCR-CTCH-ReconfRqstTDD
 id-PICH-LCR-Parameters-CTCH-SetupRqstTDD
 id-PICH-LCR-ParametersItem-CTCH-SetupRqstTDD
 id-PRACH-LCR-ParametersList-CTCH-SetupRqstTDD
 id-PRACH-LCR-ParametersListIE-CTCH-SetupRqstTDD
 id-RL-InformationResponse-LCR-RL-SetupRspTDD
 id-Secondary-CCPCH-LCR-parameterListIE-CTCH-SetupRqstTDD
 id-Secondary-CCPCH-LCR-parameterList-CTCH-SetupRqstTDD
 id-TimeSlot
 id-TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD
 id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD
 id-TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD
 id-TimeSlotLCR-CM-Rqst
 id-UL-DPCH-LCR-Information-RL-SetupRqstTDD
 id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD
 id-DL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD
 id-UL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD
 id-TimeslotISCP-InformationList-LCR-RL-AdditionRqstTDD
 id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD
 id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD
 id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD
 id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD
 id-DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD
 id-TimeslotISCPInfoList-LCR-DL-PC-RqstTDD
 id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD
 id-UL-DPCH-LCR-InformationModify-AddList
 id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD

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TS 25.433 version 4.3.0

id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD
id-UL-SIRTarget
id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst
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id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst
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id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst
id-timeslotInfo-CellSyncInitiationRqstTDD
id-SyncReportType-CellSyncReprtTDD
id-PUSCH-Info-DM-Rqst
id-PUSCH-Info-DM-Rsp
id-PUSCH-Info-DM-Rprt
id-InitDL-Power
id-cellSyncBurstRepetitionPeriod
id-ReportCharacteristicsType-OnModification
id-SFNFSNMeasurementValueInformation
id-SFNFSNMeasurementThresholdInformation
id-TUTRANGPSMeasurementValueInformation
id-TUTRANGPSMeasurementThresholdInformation
id-Rx-Timing-Deviation-Value-LCR
id-RL-InformationResponse-LCR-RL-AdditionRspTDD
id-HS-PDSCH-HS-SCCH-MaxPower-PSCH-ReconfRqst
id-HS-PDSCH-HS-SCCH-ScramblingCode-PSCH-ReconfRqst
id-HS-PDSCH-FDD-Code-Information-PSCH-ReconfRqst
id-HS-SCCH-FDD-Code-Information-PSCH-ReconfRqst
id-HS-PDSCH-TDD-Information-PSCH-ReconfRqst
id-Add-To-HS-SCCH-Resource-Pool-PSCH-ReconfRqst
id-Modify-HS-SCCH-Resource-Pool-PSCH-ReconfRqst
id-Delete-From-HS-SCCH-Resource-Pool-PSCH-ReconfRqst

536

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END

Orlando, FL, USA, 18th – 22nd February 2002

CR-Form-v3

CHANGE REQUEST⌘ **25.433** **CR 612** ⌘ rev **3** ⌘ Current version: **4.3.0** ⌘For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ HSDPA RL-Level Signalling for TDD & FDD
Source:	⌘ R-WG3
Work item code:	⌘ HSDPA-lublur
Date:	⌘ February 2002
Category:	⌘ B
Release:	⌘ REL-5

Use one of the following categories:

F (essential correction)
A (corresponds to a correction in an earlier release)
B (Addition of feature),
C (Functional modification of feature)
D (Editorial modification)

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘ This CR contains the proposed changes to the NBAP protocol caused by the Release-5 WI High Speed Downlink Packet Access.
Summary of change:	⌘ This CR introduces the following new functionality: - Setup and Modication of HS-DSCH See TR25.877 for more details. Impact Analysis: No previous version exists.
Consequences if not approved:	⌘ HSDPA will not be able to be implemented.

Clauses affected:	⌘ 8.2.17, 8.3.2, 8.3.15, 9.1.36.2, 9.1.37.2, 9.1.42.2, 9.1.43, 9.1.67, new: 9.2.1.x, 9.2.2.x, 9.2.3.x
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘

How to create CRs using this form:Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.2.17 Radio Link Setup

8.2.17.1 General

This procedure is used for establishing the necessary resources for a new Node B Communication Context in the Node B.

[FDD – The RL Setup procedure is used to establish one or more radio links. The procedure establishes one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs or an HS-DSCH on one radio link.]

[TDD – The RL Setup procedure is used for establish one radio link including one or more transport channels. The transport channels can be a mixture of DCHs, DSCHs, and USCHs, or DCHs and an HS-DSCH, including also combinations where one or more transport channel types are not present.]

8.2.17.2 Successful Operation

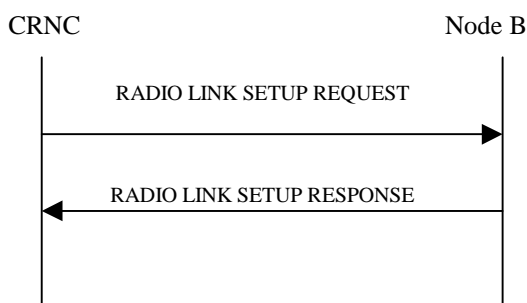


Figure 24: Radio Link Setup procedure, Successful Operation

The procedure is initiated with a RADIO LINK SETUP REQUEST message sent from the CRNC to Node B.

Upon reception of RADIO LINK SETUP REQUEST message, the Node B shall reserve necessary resources and configure the new Radio Link(s) according to the parameters given in the message.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channels Handling:

DCH(s):

[TDD – If the *DCH Information* IE is present, the Node B shall configure the new DCH(s) according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then, the Node B shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

[FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the *QE-Selector* is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [16]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [16].]

The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The received *Frame Handling Priority* IE specified for each Transport Channel should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new RL(s) has been activated.

[FDD – The *Diversity Control Field* IE indicates for each RL (except the first RL in the message) whether the Node B shall combine the concerned RL or not. If the *Diversity Control Field* IE is set to "May", then Node B shall decide for either of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. Diversity combining is applied to Dedicated Transport Channels (DCH), i.e. it is not applied to the DSCHs. When a new RL is to be combined, the Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to "Must not", the Node B shall not combine the RL with any other existing RL.]

[FDD – In the RADIO LINK SETUP RESPONSE message the Node B shall indicate with the *Diversity Indication* IE whether the RL is combined or not. In case of combining, only the *Reference RL ID* IE shall be included to indicate one of the existing RLs that the concerned RL is combined with. In case of not combining the Node B shall include in the RL SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

[TDD – The Node B shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specified for only one of the coordinated DCHs.

DSCH(s):

If the *DSCH Information* IE is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[FDD – If the RADIO LINK SETUP REQUEST message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received. The Node B shall manage the time of arrival of these frames according to the values of *ToAWS* and *ToAWE* specified in the IE's. The *Binding ID* IE and *Transport Layer Address* IE for the new bearer to be set up for this purpose shall be returned in the RADIO LINK SETUP RESPONSE message.]

The Node B shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DSCH of this RL.

[TDD – USCH(s):

[TDD – If the *USCH Information* IE is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

[TDD – In case the *USCH Information* IE is present, the Node B shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each USCH of this RL.]

HS-DSCH(s):

If the *HS-DSCH Information* IE is present the Node B shall configure the new HS-DSCH resources according to the parameters given in the message.

[FDD – If the *HS-DSCH Information IE* and the *HS-PDSCH RL ID IE* are present, the Node B shall configure the new HS-DSCH resources in the radio link specified by the HS-PDSCH RL ID.]

In addition the Node B shall include in the RADIO LINK SETUP RESPONSE the *Binding ID IE* and *Transport Layer Address IE* for the transport bearers to be established for the HS-DSCH MAC-d flows of this RL.

If the *HS-DSCH-RNTI IE* is present, the Node B shall use the HS-DSCH RNTI value for HS-DSCH processing for the respective Node B Communication Context.

Physical Channels Handling:

[FDD – Compressed Mode]:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information IE*, the Node B shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[FDD – If the *Downlink compressed mode method IE* in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the Node B shall use or not the alternate scrambling code as indicated for each DL Channelisation Code in the *Transmission Gap Pattern Sequence Code Information IE*.]

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information IE* and the *Active Pattern Sequence Information IE*, the Node B shall use the information to activate the indicated Transmission Gap Pattern Sequence(s) in the new RL. The received *CM Configuration Change CFN* refers to the latest passed CFN with that value. The Node B shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN IE* has the same value as the received *CM Configuration Change CFN IE*, the Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]
- [FDD - If any received *TGCFN IE* does not have the same value as the received *CM Configuration Change CFN IE* but the first CFN after the *CM Configuration Change CFN* with a value equal to the *TGCFN IE* has already passed, the Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]
- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information IE*, the Node B shall activate each Transmission Gap Pattern Sequence at the first CFN after the *CM Configuration Change CFN* with a value equal to the *TGCFN IE* for the Transmission Gap Pattern Sequence.]

[FDD – DL Code Information]:

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When p number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the p th to "*PhCH number p*".]

General:

[FDD – If the *Propagation Delay IE* is included, the Node B may use this information to speed up the detection of L1 synchronisation.]

[FDD – The *UL SIR Target IE* included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control.]

[1.28Mcps TDD – The *UL SIR Target IE* included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control according [19] and [21].]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the Node B shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI field but the *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power.]

[FDD - If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronization is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer (see ref.[24]).]

Radio Link Handling:

[FDD – Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "STTD", "Closedloop mode1", or "Closedloop mode2", the Node B shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE]

DL Power Control:

[FDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until either UL synchronisation on the Uu is achieved for the RLS or Power Balancing is activated. No inner loop power control or balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) and the power control procedure (see subclause 8.3.7), but shall always be kept within the maximum and minimum limit specified in the RADIO LINK SETUP REQUEST message. During compressed mode, the $P_{SR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK SETUP REQUEST message, the Node B shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK SETUP REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

[TDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH and on each Time Slot of the RL until the UL synchronisation on the Uu is achieved for the RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3), but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.]

[TDD – If the [3.84Mcps TDD - *DL Time Slot ISCPInfo* IE] or [1.28Mcps TDD - *DL Timeslot ISCP LCR* IE] is present, the Node B shall use the indicated value when deciding the initial DL TX Power for each timeslot as specified in [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

[FDD – If the received *Inner Loop DL PC Status* IE is set to "Active", the Node B shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the Node B shall deactivate the inner loop DL power control for all RLs according to ref. [10]]

General:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE and the *S-Field Length* E, the Node B shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

[FDD – Irrespective of SSDT activation, the Node B shall include in the RADIO LINK SETUP RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK SETUP REQUEST message requested SSDT activation and the RADIO LINK SETUP RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the Node B.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity for EDSCHPC* IE, the Node B shall activate enhanced DSCH power control, if supported, using the *SSDT Cell Identity for EDSCHPC* IE and *SSDT Cell Identity Length* IE as well as *Enhanced DSCH PC* IE in accordance with ref.

[10] subclause 5.2.2. If the RADIO LINK SETUP REQUEST message includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then the Node B shall ignore the value in *SSDT Cell Identity for EDSCHPC* IE]

[FDD – Radio Link Set Handling]:

[FDD – The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the Node B together with the value of the *DL TPC pattern 01 count* IE which the Node B has received in the Cell Setup procedure, to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD – The UL out-of-sync algorithm defined in [10] shall for each of the established RL Set(s) use the maximum value of the parameters *N_OUTSYNC_IND* and *T_RLFAILURE*, and the minimum value of the parameters *N_INSYNC_IND*, that are configured in the cells supporting the radio links of the RL Set]

Response Message:

If the RLs are successfully established, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

After sending of the RADIO LINK SETUP RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]

8.2.17.3 Unsuccessful Operation

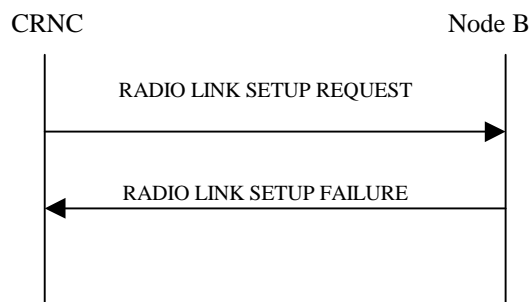


Figure 25: Radio Link Setup procedure: Unsuccessful Operation

If the establishment of at least one radio link is unsuccessful, the Node B shall respond with a RADIO LINK SETUP FAILURE message. The message contains the failure cause in the *Cause* IE.

[FDD – If some radio links were established successfully, the Node B shall indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.]

Typical cause values are as follows:

Radio Network Layer Cause

- Combining not supported
- Combining Resources not available

- Requested Tx Diversity Mode not supported
- Number of DL codes not supported
- Number of UL codes not supported
- UL SF not supported
- DL SF not supported
- Dedicated Transport Channel Type not supported
- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported
- DPC mode change not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

- O&M Intervention
- Control processing overload
- HW failure

8.2.17.4 Abnormal Conditions

[FDD – If the RADIO LINK SETUP REQUEST message contains the *Active Pattern Sequence Information IE*, but the *Transmission Gap Pattern Sequence Information IE* is not present, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector IE* set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector IE* set to "selected"] the Node B shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message includes a *DCH Information IE* with multiple *DCH Specific Info IEs*, and if the DCHs in the *DCH Information IE* do not have the same *Transmission Time Interval IE* in the *Semi-static Transport Format Information IE*, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message

8.3.2 Synchronised Radio Link Reconfiguration Preparation

8.3.2.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of Radio Link(s) related to one UE-UTRAN connection within a Node B.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.2.2 Successful Operation

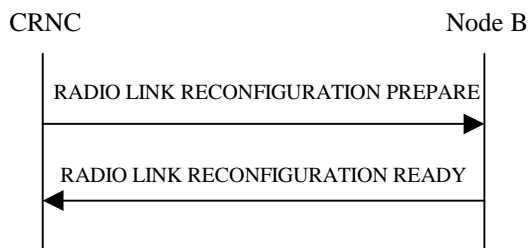


Figure 30: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION PREPARE to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the Node B shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The Node B shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Modify* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Modify* IE includes the *Frame Handling Priority* IE, the Node B should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.
- If the *DCHs to Modify* IE includes the *Transport Format Set* IE for the UL of a DCH, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.
- If the *DCHs to Modify* IE includes the *Transport Format Set* IE for the DL of a DCH, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.
- If the *DCHs to Modify* IE includes multiple *DCH Specific Info* IEs then the Node B shall treat the DCHs in the *DCHs to Modify* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.
- If the *DCHs to Modify* IE includes the *UL FP Mode* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- If the *DCHs to Modify* IE includes the *ToAWS* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- If the *DCHs to Modify* IE includes the *ToAWE* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the DL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Downlink of this DCH in the new configuration.]
- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the UL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Uplink of this DCH in the new configuration.]

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Add* IE includes multiple *DCH specific Info* IEs then, the Node B shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.
- [FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the *QE-Selector* is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]
- For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [16]. [FDD – If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [16].]
- The Node B should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received *Frame Handling Priority* should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.
- The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.
- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the DL) in the Downlink of this DCH in the new configuration.]
- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the UL) in the Uplink of this DCH in the new configuration.]

DCH Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Delete* IEs, the Node B shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of coordinated DCHs are requested to be deleted, the Node B shall not include this set of coordinated DCHs in the new configuration.

Physical Channel Modification:

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes an *UL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]
- [FDD – If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the Node B shall apply the value in the new configuration. The Node B shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]
- [FDD – If the *UL DPCH Information* IE includes the *UL SIR Target* IE, the Node B shall use the value for the UL inner loop power control when the new configuration is being used.]
- [FDD – If the *UL DPCH Information* IE includes the *Puncture Limit* IE, the Node B shall apply the value in the uplink of the new configuration.]

- [FDD – The Node B shall use the *TFCS* IE for the UL (if present) when reserving resources for the uplink of the new configuration. The Node B shall apply the new TFCS in the Uplink of the new configuration.]
- [FDD – If the *UL DPCH Information* IE includes the *UL DPCCCH Slot Format* IE, the Node B shall set the new Uplink DPCCCH Structure to the new configuration.]
- [FDD - If the *UL DPCH Information* IE includes the *Diversity Mode* IE, the Node B shall apply diversity according to the given value.]
- [FDD – If the *UL DPCH Information* IE includes an *SSDT Cell Identity Length* IE and/or an *S-Field Length* IE, the Node B shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – The Node B shall use the *TFCS* IE for the DL (if it is present) when reserving resources for the downlink of the new configuration. The Node B shall apply the new TFCS in the Downlink of the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE or the *TFCI Presence* IE, the Node B shall use the information when building TFCIs in the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *DL DPCCCH Slot Format* IE, group the Node B shall set the new Downlink DPCCCH Structure to the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *Multiplexing Position* IE, the Node B shall apply the indicated multiplexing type in the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Used', the Node B shall use Limited Power Increase ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Not Used', the Node B shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]
- [FDD – If the *DL DPCH Information* IE includes the *PDSCH code mapping* IE then the Node B shall apply the defined mapping between TFCI values and PDSCH channelisation codes.]
- [FDD – If the *DL DPCH Information* IE includes the *PDSCH RL ID* IE then the Node B shall infer that the PDSCH for the specified user will be transmitted on the defined radio link.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE the Node B shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. This new Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[TDD – UL/DL CCTrCH Modification]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Modify* or *DL CCTrCH to Modify* IEs, then the Node B shall treat them each as follows:]

- [TDD – If the IE includes any of *TFCS* IE, *TFCI coding* IE or *Puncture Limit* IE the Node B shall apply these as the new values, otherwise the old values specified for this CCTrCH are still applicable.]
- [TDD – If the IE includes any *UL DPCH to add* or *DL DPCH to add* IEs, the Node B shall include this DPCH in the new configuration.]
- [TDD – If the IE includes any *UL DPCH to delete* or *DL DPCH to delete* IEs, the Node B shall remove this DPCH in the new configuration.]
- [TDD – If the IE includes any *UL DPCH to modify* or *DL DPCH to modify* IEs, and includes any of *Repetition Period* IE, *Repetition Length* IE, or *TDD DPCH Offset* IE or the message includes UL/DL Timeslot Information and includes any of [*3.84Mcps TDD - Midamble shift and Burst Type* IE, *Time Slot* IE], [*1.28Mcps TDD - Midamble shift LCR* IE, *Time Slot LCR* IE], or *TFCI presence* IE or the message includes UL/DL Code information and includes [*3.84Mcps TDD - TDD Channelisation Code* IE], [*1.28Mcps TDD - TDD*

Channelisation Code LCR IE], the Node B shall apply these specified information elements as the new values, otherwise the old values specified for this DPCH configuration are still applicable.]

- [1.28Mcps TDD – If the *UL CCH to Modify* IE includes the *UL SIR Target* IE, the Node B shall use the value for the UL inner loop power control according [19] and [21] when the new configuration is being used.]

[TDD – UL/DL CCH Addition]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCH to Add* IE or *DL CCH to Add* IE, the Node B shall include this CCH in the new configuration.]

[TDD – If the *UL/DL CCH to Add* IE includes any *UL/DL DPCH Information* IE, the Node B shall reserve necessary resources for the new configuration of the UL/DL DPCH(s) according to the parameters given in the message.]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL CCH to Add* IE, the Node B shall set the TPC step size of that CCH to the same value as the lowest numbered DL CCH in the current configuration.]

[1.28Mcps TDD –The Node B shall use the *UL SIR Target* IE in the *UL CCH to Add* IE as the UL SIR value for the inner loop power control for this CCH according [19] and [21] in the new configuration.]

[TDD – UL/DL CCH Deletion]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any UL or DL CCH to be deleted , the Node B shall remove this CCH in the new configuration.]

DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to modify*, *DSCH to add* or *DSCH to delete* IEs, then the Node B shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH.

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signalling control frames shall be received if one does not already exist or shall apply the new values if such a bearer does already exist. The *Binding ID* IE and *Transport Layer Address* IE of any new bearer to be set up for this purpose shall be returned in the RADIO LINK RECONFIGURATION READY message. If the RADIO LINK RECONFIGURATION PREPARE message specifies that the TFCI2 transport bearer is to be deleted then the Node B shall release the resources associated with that bearer in the new configuration.

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI field but a TFCI2 transport bearer has not already been set up and *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power in the new configuration.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronisation is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer in the new configuration (see ref. [24]).]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *DSCH Common Information* IE, the Node B shall treat it as follows:]

- [FDD - If the *Enhanced DSCH PC Indicator* IE is included and set to "Enhanced DSCH PC Active in the UE ", the Node B shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]
 - [FDD - the *SSDT Cell Identity for EDSCHPC* IE in the *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

- [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* IE are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the Node B shall deactivate enhanced DSCH power control in the new configuration.]

[TDD – USCH Addition/Modification/Deletion:]

- [TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes USCH information for the USCHs to be added/modified/deleted then the Node B shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.]
- [TDD – The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each USCH.]

RL Information:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *RL Information* IE, the Node B shall treat it as follows:

- [FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When p number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the p th to "*PhCH number p*".]
- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE in the new configuration.]
- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]
- [FDD – If the *RL Information* IE includes a *DL Code Information* IE, the Node B shall apply the values in the new configuration.]
- [FDD – If the *RL Information* IE contains the *Transmission Gap Pattern Sequence Code Information* IE in the *DL Code Information* IE for any of the allocated DL Channelisation Codes, the Node B shall apply the alternate scrambling code as indicated whenever the downlink compressed mode method SF/2 is active in the new configuration.]
- If the *RL Information* IE includes the *Maximum DL Power* and/or the *Minimum DL Power* IEs, the Node B shall apply the values in the new configuration. [FDD - During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k .]
- [TDD – If the *RL Information* IE includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DPCH of the CCTrCH when starting transmission on a new CCTrCH until the UL synchronisation on the Uu is achieved for the CCTrCH. If no *Initial DL Transmission power* IE is included with a new CCTrCH, the Node B shall use any transmission power level currently used on already existing CCTrCH's when starting transmission for a new CCTrCH. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

HS-DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *HS-DSCH Information to add* IE or *HS-DSCH Information to delete* IEs or *HS-DSCH Information to modify* IE, then the Node B shall use this information to add/modify/delete the indicated HS-DSCH channel to/from the radio link.

If the RADIO LINK RECONFIGURATION PREPARE message includes an *HS-PDSCH RL ID IE*, then the Node B shall configure the HS-PDSCH in the radio link indicated by this IE, while removing any existing HS-PDSCH resources from other radio links associated with the Node B Communication Context.

If the RADIO LINK RECONFIGURATION PREPARE message includes an *HS-DSCH-RNTI IE*, then the Node shall use the HS-DSCH-RNTI for the Node B Communication Context.

If the RADIO LINK CONFIGURATION PREPARE message includes an *HS-DSCH Information to delete IE* requesting the deletion of certain HS-DSCH resources for the Node B Communication Context, the Node B shall remove the indicated HS-DSCH in the new configuration.

General

If the requested modifications are allowed by the Node B and the Node B has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the CRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exist a Prepared Reconfiguration, as defined in subclause 3.1.

In the RADIO LINK RECONFIGURATION READY message, the Node B shall include the *RL Information Response IE* for each affected Radio Link.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator IE*.

In case of a DCH requiring a new transport bearer on Iub, the *Transport Layer Address IE* and the *Binding ID* shall be included in the *IE DCH Information Response IE*.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the *Transport Layer Address IE* and the *Binding ID IE* in the *DCH Information Response IE* shall be included only for one of the DCH in the set of coordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the Node B, the *RL Information Response IE* shall be included only for one of the combined RLs. The *Transport Layer Address IE* and the *Binding ID IE* in the *DCH Information Response IE* shall be included only for one of the combined Radio Links.

8.3.2.3 Unsuccessful Operation

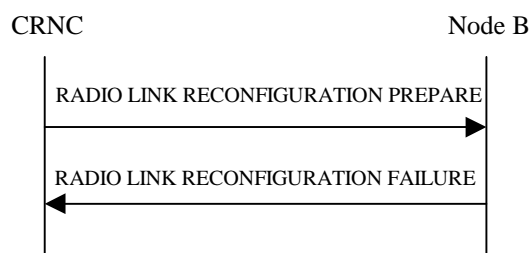


Figure 31: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of co-ordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration Preparation procedure fails for one or more RLs the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC, indicating the reason for failure.

Typical cause values are as follows:

Radio Network Layer Cause

- UL SF not supported
- DL SF not supported

- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported
- Number of DL codes not supported
- Number of UL codes not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

- O&M Intervention
- Control processing overload
- HW failure

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected”] the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed and shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE" and SSDT is not active in the current configuration, the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed if the *UL DPCH Information* IE does not include the *SSDT Cell Identity Length* IE. In this case, it shall respond with a RADIO LINK RECONFIGURATION FAILURE message.]

If the RADIO LINK RECONFIGURATION PREPARE message includes a DCHs to Modify IE or DCHs to Add IE with multiple DCH Specific Info IEs, and if the DCHs in the DCHs to Modify IE or DCHs to Add IE do not have the same Transmission Time Interval IE in the Semi-static Transport Format Information IE, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.

/* Partly omitted*/

8.3.15 Downlink Power Timeslot Control [TDD]

8.3.15.1 General

The purpose of this procedure is to enable the Node B to use the indicated DL Timeslot ISCP values when deciding the DL TX Power for each timeslot

The Downlink Power Timeslot Control procedure can be initiated by the CRNC at any time when the Node B communication context exists, irrespective of other ongoing CRNC initiated dedicated NBAP procedures towards this Node B communication context. The only exception occurs when the CRNC has requested the deletion of the last RL via this Node B, in which case the Downlink Power Timeslot Control procedure shall no longer be initiated.

8.3.15.2 Successful Operation



Figure 47A: Downlink Power Timeslot Control procedure, Successful Operation

The procedure is initiated by the CRNC sending a DL POWER TIMESLOT CONTROL REQUEST message to the Node B.

Upon reception, the Node B shall use the indicated DL Timeslot ISCP value when deciding the DL TX Power for each timeslot as specified in ref. [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged.

If the *Primary CCPCH RSCP* IE is present, the Node B should use the indicated value for HS-DSCH scheduling and transmit power adjustment.

/* Partly omitted*/

8.3.15.3 Abnormal Conditions

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9.1.36 RADIO LINK SETUP REQUEST

9.1.36.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	reject
Transaction ID	M		9.2.1.62		–	
UL DPCH Information		1			YES	reject
>UL Scrambling Code	M		9.2.2.59		–	
>Min UL Channelisation Code length	M		9.2.2.22		–	
>Max Number of UL DPCHs	C – CodeLen		9.2.2.21		–	
>puncture Limit	M		9.2.1.50	For UL	–	
>TFCS	M		9.2.1.58	for UL	–	
>UL DPCH Slot Format	M		9.2.2.57		–	
> UL SIR Target	M		UL SIR 9.2.1.67A		–	
>Diversity mode	M		9.2.2.9		–	
>SSDT cell ID Length	O		9.2.2.45		–	
>S Field Length	O		9.2.2.40		–	
>DPC mode	O		9.2.2.13C		YES	reject
DL DPCH Information		1			YES	reject
>TFCS	M		9.2.1.58	For DL	–	
>DL DPCH Slot Format	M		9.2.2.10		–	
>TFCI signalling mode	M		9.2.2.50		–	
>TFCI presence	C- SlotFormat		9.2.1.57		–	
>Multiplexing Position	M		9.2.2.23		–	
>PDSCH RL ID	C-DSCH		RL ID 9.2.1.53		–	
>PDSCH code mapping	C-DSCH		9.2.2.25		–	
>Power Offset Information		1			–	
>>PO1	M		Power Offset 9.2.2.29	Power offset for the TFCI bits	–	
>>PO2	M		Power Offset 9.2.2.29	Power offset for the TPC bits	–	
>>PO3	M		Power Offset 9.2.2.29	Power offset for the pilot bits	–	
>FDD TPC DL Step Size	M		9.2.2.16		–	
>Limited Power Increase	M		9.2.2.18A		–	
>Inner Loop DL PC Status	M		9.2.2.18B		–	
DCH Information	M		DCH FDD Information 9.2.2.4D		YES	reject
DSCH Information	O		DSCH FDD Information 9.2.2.13B		YES	reject

TFCI2 bearer information		0..1			YES	ignore
>ToAWS	M		9.2.1.61		-	
>ToAWE	M		9.2.1.60		-	
RL Information		1 to <maxnoof RLs>			EACH	notify
>RL ID	M		9.2.1.53		-	
>C-ID	M		9.2.1.9		-	
>First RLS Indicator	M		9.2.2.16A		-	
>Frame Offset	M		9.2.1.31		-	
>Chip Offset	M		9.2.2.2		-	
>Propagation Delay	O		9.2.2.35		-	
>Diversity Control Field	C – NotFirstRL		9.2.1.25		-	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		-	
>Initial DL transmission Power	M		DL Power 9.2.1.21	Initial power on DPCH	-	
>Maximum DL power	M		DL Power 9.2.1.21	Maximum allowed power on DPCH	-	
>Minimum DL power	M		DL Power 9.2.1.21	Minimum allowed power on DPCH	-	
>SSDT Cell Identity	O		9.2.2.44		-	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.53		-	
>SSDT Cell Identity for EDSCHPC	C- EDSCHPC		9.2.2.44A		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.53A		YES	reject
Active Pattern Sequence Information	O		9.2.2.A		YES	reject
DSCH Common Information	O		DSCH FDD Common Information 9.2.2.13D		YES	ignore
<u>HS-DSCH Information</u>	<u>O</u>		<u>HS-DSCH</u> <u>FDD</u> <u>Information</u> <u>9.2.2.x1</u>		<u>YES</u>	<u>reject</u>
<u>HS-DSCH-RNTI</u>	<u>O</u>		<u>INTEGER</u> <u>9.2.1.x6</u>		<u>YES</u>	<u>reject</u>
<u>HS-PDSCH RL ID</u>	<u>C –</u> <u>InfoHSDS</u> <u>CH</u>		<u>RL ID</u> <u>9.2.1.53</u>		<u>YES</u>	<u>reject</u>

Condition	Explanation
CodeLen	The IE shall be present if <i>Min UL Channelisation Code Length</i> IE equals to 4.
NotFirstRL	The IE shall be present if the RL is not the first one in the <i>RL Information</i> IE.
DSCH	The IE shall be present if the <i>DSCH Information</i> IE is present.
SlotFormat	The IE shall be present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values from 12 to 16.
Diversity mode	The IE shall be present if <i>Diversity Mode</i> IE in <i>UL DPCH Information</i> IE is not set to "none".
EDSCHPC	The IE shall be present if <i>Enhanced DSCH PC</i> IE is present in the <i>DSCH Common Information</i> IE.
<u>InfoHSDSCH</u>	The IE shall be present if <u><i>HS-DSCH FDD Information</i></u> IE is present as well

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

9.1.36.2 TDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	reject
Transaction ID	M		9.2.1.62		–	
UL CCTrCH Information		0 to <maxno CCTrCH>			EACH	notify
>CCTrCH ID	M		9.2.3.3		–	
>TFCS	M		9.2.1.58		–	
>TFCI Coding	M		9.2.3.22		–	
>Puncture Limit	M		9.2.1.50		–	
> UL SIR Target	O		UL SIR 9.2.1.67A	Mandatory for 1.28Mcps TDD; not applicable for 3.84Mcps TDD	YES	reject
>UL DPCH Information		0..1		For 3.84Mcps TDD only	YES	notify
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information	M		9.2.3.26C		–	
>UL DPCH Information LCR		0..1		For 1.28Mcps TDD only	YES	notify
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information LCR	M		9.2.3.26E		–	
DL CCTrCH Information		0 to <maxno CCTrCH>			EACH	notify
>CCTrCH ID	M		9.2.3.3		–	
>TFCS	M		9.2.1.58		–	
>TFCI Coding	M		9.2.3.22		–	
>Puncture Limit	M		9.2.1.50		–	
>TDD TPC DL Step Size	M		9.2.3.21		–	
>TPC CCTrCH List		0 to <maxno CCTrCH>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	
>DL DPCH information		0..1		For 3.84Mcps TDD only	YES	notify
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	

>>TDD DPCH Offset	M		9.2.3.19A		-	
>>DL Timeslot Information	M		9.2.3.4E		-	
>DL DPCH information LCR		0..1		For 1.28Mcps TDD only	YES	notify
>>Repetition Period	M		9.2.3.16		-	
>>Repetition Length	M		9.2.3.15		-	
>>TDD DPCH Offset	M		9.2.3.19A		-	
>>DL Timeslot Information LCR	M		9.2.3.4O		-	
>>TSTD Indicator	M		9.2.1.64		-	
DCH Information	O		DCH TDD Information 9.2.3.4C		YES	reject
DSCH Information	O		DSCH TDD Information 9.2.3.5A		YES	reject
USCH Information	O		9.2.3.28		YES	reject
RL Information		1			YES	reject
>RL ID	M		9.2.1.53		-	
>C-ID	M		9.2.1.9		-	
>Frame Offset	M		9.2.1.31		-	
>Special Burst Scheduling	M		9.2.3.18A		-	
>Initial DL transmission Power	M		DL Power 9.2.1.21	Initial power on DPCH	-	
>Maximum DL power	M		DL Power 9.2.1.21	Maximum allowed power on DPCH	-	
>Minimum DL power	M		DL Power 9.2.1.21	Minimum allowed power on DPCH	-	
>DL Time Slot ISCP Info	O		9.2.3.4F	For 3.84Mcps TDD only	-	
>DL Time Slot ISCP Info LCR	O		9.2.3.40A	For 1.28Mcps TDD only	YES	Reject
HS-DSCH Information	O		HS-DSCH TDD Information 9.2.3.x1		YES	reject
HS-DSCH-RNTI	O		INTEGER 9.2.1.x3		YES	reject
HS-PDSCH RL ID	C - InfoHSDSCH		RL ID 9.2.1.53		YES	reject

Range bound	Explanation
MaxnoCCTrCH	Number of CCTrCH for one UE.

/* Partly omitted*/

9.1.37 RADIO LINK SETUP RESPONSE

9.1.37.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
Node B Communication Context ID	M		9.2.1.48	The reserved value "All NBCC" shall not be used.	YES	ignore
Communication Control Port ID	M		9.2.1.15		YES	ignore
RL Information Response		1 to <maxnoofRLs>			EACH	ignore
>RL ID	M		9.2.1.53		–	
>RL Set ID	M		9.2.2.39			
>Received total wide band power	M		9.2.2.39A		–	
>Diversity Indication	C-NotFirstRL		9.2.1.26		–	
>CHOICE <i>diversity Indication</i>	M				–	
>>Combining					–	
>>>RL ID	M		9.2.1.53	Reference RL ID for the combining	–	
>>Non Combining or First RL					–	
>>>DCH Information Response	M		9.2.1.20C		-	
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>SSDT Support Indicator	M		9.2.2.46		–	
>HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.x2		YES	ignore
TFCI2 Bearer Information Response	O		9.2.2.49A		YES	ignore
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Condition	Explanation
NotFirstRL	The IE shall be present if the RL is not the first one in the <i>RL Information Response</i> IE.

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

9.1.37.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
Node B Communication Context ID	M		9.2.1.48	The reserved value "All NBCC" shall not be used.	YES	ignore
Communication Control Port ID	M		9.2.1.15		YES	ignore
RL Information Response		0..1		Mandatory For 3.84Mcps TDD only	YES	ignore
>RL ID	M		9.2.1.53		–	
>UL Time Slot ISCP Info	M		9.2.3.26D		–	
>UL PhysCH SF Variation	M		9.2.3.26B		–	
>DCH Information Response	O		9.2.1.20C		YES	ignore
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>USCH Information Response	O		9.2.3.28		YES	ignore
>HS-DSCH Information Response	<u>O</u>		<u>HS-DSCH TDD Information Response 9.2.3.x2</u>		<u>YES</u>	<u>ignore</u>
RL Information Response LCR		0 .. 1		Mandatory For 1.28Mcps TDD only	YES	ignore
>RL ID	M		9.2.1.53		–	
>UL Time Slot ISCP Info LCR	M		9.2.3.26F		–	
>UL PhysCH SF Variation	M		9.2.3.26B		–	
>DCH Information Response	O		9.2.1.20C		YES	ignore
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>USCH Information Response	O		9.2.3.28		YES	ignore
>HS-DSCH Information Response	<u>O</u>		<u>HS-DSCH TDD Information Response 9.2.3.x2</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.17		YES	ignore

9.1.38 RADIO LINK SETUP FAILURE

9.1.38.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
Node B Communication Context ID	C-Success		9.2.1.48	The reserved value "All NBCC" shall not be used	YES	ignore
Communication Control Port ID	O		9.2.1.15		YES	ignore
CHOICE <i>Cause Level</i>	M				YES	ignore
> <i>General</i>					–	
>> <i>Cause</i>	M		9.2.1.6		–	
> <i>RL specific</i>					–	
>> Unsuccessful RL Information Response		1 to <maxnoo fRLs>			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>>>Cause	M		9.2.1.6		–	
>> Successful RL Information Response		0 to <maxnoo fRLs–1>			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>>>RL Set ID	M		9.2.2.39			
>>>Received total wide band power	M		9.2.2.39A		–	
>>>Diversity Indication	C-NotFirstRL		9.2.1.26		–	
>>>CHOICE <i>Diversity Indication</i>	M				–	
>>>> <i>Combining</i>					–	
>>>>>RL ID	M		9.2.1.53	Reference RL ID for the combining	–	
>>>> <i>Non Combining or First RL</i>					–	
>>>>>DCH Information Response	M		9.2.1.20C		-	
>>>DSCH Information Response	O		9.2.1.27A		YES	ignore
>>>TFCI2 Bearer Information Response	O		9.2.2.49A		-	
>>>SSDT Support Indicator	M		9.2.2.46		–	
>>>HS-DSCH Information Response	<u>O</u>		<u>HS-DSCH FDD</u>		<u>YES</u>	<u>ignore</u>

			<u>Information Response</u> 9.2.2.x			
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Condition	Explanation
Success	The IE shall be present if at least one of the radio links has been successfully set up.
NotFirstRL	The IE shall be present if the RL is not the first one in the <i>Successful RL Information Response IE</i> .

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.

/* Partly omitted*/

9.1.42 RADIO LINK RECONFIGURATION PREPARE

9.1.42.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Node B Communication Context ID	M		9.2.1.48	The reserved value "All NBCC" shall not be used.	YES	reject
Transaction ID	M		9.2.1.62		–	
UL DPCH Information		0..1			YES	reject
>UL Scrambling code	O		9.2.2.59		–	
>UL SIR Target	O		UL SIR 9.2.1.67A		–	
>Min UL Channelisation Code Length	O		9.2.2.22		–	
>Max Number of UL DPDCHs	C – CodeLen		9.2.2.21		–	
>Puncture Limit	O		9.2.1.50	For UL	–	
>TFCS	O		9.2.1.58		–	
>UL DPCCH Slot Format	O		9.2.2.57		–	
>Diversity mode	O		9.2.2.9		–	
>SSDT Cell Identity Length	O		9.2.2.45		–	
>S-Field Length	O		9.2.2.40		–	
DL DPCH Information		0..1			YES	reject
>TFCS	O		9.2.1.58		–	
>DL DPCH Slot Format	O		9.2.2.10		–	
>TFCI Signalling Mode	O		9.2.2.50		–	
>TFCI presence	C-Slot Format		9.2.1.57		–	
>Multiplexing Position	O		9.2.2.23		–	
>PDSCH code mapping	O		9.2.2.25		–	
>PDSCH RL ID	O		RL ID 9.2.1.53		–	
>Limited Power Increase	O		9.2.2.18A		–	
DCHs to Modify	O		DCHs FDD to Modify 9.2.2.4E		YES	reject
DCHs to Add	O		DCH FDD Information 9.2.2.4D		YES	reject
DCHs to Delete		0..<max noofDC Hs>			GLOBAL	reject
>DCH ID	M		9.2.1.20		–	
DSCH to modify		0..<max noofDS CHs>			YES	reject
>DSCH ID	M		9.2.1.27		–	
>Transport Format Set	O		9.2.1.59	For the DL.	–	
>Allocation/Retention Priority	O		9.2.1.1A		–	
>Frame Handling Priority	O		9.2.1.30		–	
>ToAWS	O		9.2.1.61		–	
>ToAWE	O		9.2.1.60		–	

>Transport Bearer Request Indicator	M		9.2.1.62A		–	
DSCH to add	O		DSCH FDD Information 9.2.2.13B		YES	reject
DSCH to Delete		<i>0..<max noofDS CHs></i>			YES	reject
>DSCH ID	M		9.2.1.27		–	
TFCI2 bearer specific information		0..1			YES	reject
>CHOICE <i>TFCI2 bearer action</i>	M				–	
>>Add or modify					–	
>>>ToAWS	M		9.2.1.61		–	
>>>ToAWE	M		9.2.1.60		–	
>>Delete			NULL		–	
RL Information		<i>0..<max noofRLs ></i>			EACH	reject
>RL ID	M		9.2.1.53		–	
>DL Code Information	O		FDD DL Code Information 9.2.2.14A		–	
>Maximum DL Power	O		DL Power 9.2.1.21	Maximum allowed power on DPCH	–	
>Minimum DL Power	O		DL Power 9.2.1.21	Minimum allowed power on DPCH	–	
>SSDT Indication	O		9.2.2.47		–	
>SSDT Cell Identity	C–SSDTIndON		9.2.2.44		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.53		–	
>SSDT Cell Identity for EDSCHPC	C-EDSCHPC		9.2.2.44A		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.53A		YES	reject
DSCH Common Information	O		DSCH FDD Common Information 9.2.2.13D		YES	ignore
<u>HS-DSCH Information to modify</u>	<u>O</u>		<u>9.2.1.x5</u>		<u>YES</u>	<u>reject</u>
<u>HS-DSCH Information to Add</u>	<u>O</u>		<u>HS-DSCH FDD Information 9.2.2.x1</u>		<u>YES</u>	<u>reject</u>
<u>HS-DSCH Information to Delete</u>		<i>0..<Max NoOfM ACdFlo ws></i>			<u>GLOBAL</u>	<u>reject</u>
> <u>HS-DSCH MAC-D flow ID</u>	<u>M</u>		<u>9.2.1.x2</u>		<u>–</u>	
<u>HS-DSCH-RNTI</u>	<u>O</u>		<u>9.2.1.x3</u>		<u>YES</u>	<u>reject</u>
<u>HS-PDSCH RL ID</u>	<u>O</u>		<u>RL ID 9.2.1.53</u>		<u>YES</u>	<u>reject</u>

Condition	Explanation
SSDTIndON	The IE shall be present if the <i>SSDT Indication</i> IE is set to "SSDT Active in the UE".
CodeLen	The IE shall be present if the <i>Min UL Channelisation Code Length</i> IE is equals to 4.
SlotFormat	The IE shall be present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values from 12 to 16.
Diversity mode	The IE shall be present if <i>Diversity Mode</i> IE is present in the <i>UL DPCH Information</i> IE and is not set to "none".
EDSCHPC	The IE shall be present if <i>Enhanced DSCH PC</i> IE is present in the <i>DSCH Common Information</i> IE.

Range Bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs for a UE.
<i>MaxnoofDSCHs</i>	Maximum number of DSCHs for a UE.
<i>MaxnoofRLs</i>	Maximum number of RLs for a UE.
<i>MaxnoofMACdFlows</i>	Maximum number of MAC-d Flows

9.1.42.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Node B Communication Context ID	M		9.2.1.48	The reserved value "All NBCC" shall not be used.	YES	reject
Transaction ID	M		9.2.1.62		–	
UL CCTrCH to Add		0..<maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3		–	
>TFCS	M		9.2.1.58		–	
>TFCI Coding	M		9.2.3.22		–	
>Puncture Limit	M		9.2.1.50		–	
> UL SIR Target	O		UL SIR 9.2.1.67A	Mandatory for 1.28Mcps TDD; not applicable for 3.84Mcps TDD	YES	reject
>UL DPCH Information		0..1		For 3.84Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information	M		9.2.3.26C		–	
>UL DPCH Information LCR		0..1		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information LCR	M		9.2.3.26E		–	
UL CCTrCH to Modify		0..<maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3		–	
>TFCS	O		9.2.1.58		–	
>TFCI Coding	O		9.2.3.22		–	
>Puncture Limit	O		9.2.1.50		–	
> UL SIR Target	O		UL SIR 9.2.1.67A	For 1.28Mcps TDD only	YES	reject
>UL DPCH to add		0..1		For 3.84Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information	M		9.2.3.26C		–	

>UL DPCH to modify		0..1			YES	reject
>>Repetition Period	O		9.2.3.16		–	
>>Repetition Length	O		9.2.3.15		–	
>>TDD DPCH Offset	O		9.2.3.19A		–	
>>UL Timeslot Information		0 to <maxno ofULts>		For 3.84Mcps TDD only	–	
>>>Time Slot	M		9.2.3.23		–	
>>>Midamble Shift and Burst Type	O		9.2.3.7		–	
>>>TFCI Presence	O		9.2.1.57		–	
>>>UL Code Information		0 to <maxno OfDPC H>			–	
>>>>DPCH ID	M		9.2.3.5		–	
>>UL Timeslot Information LCR		0 to <Maxno ofULtsLCR>		For 1.28Mcps TDD only	GLOBAL	reject
>>>Time Slot LCR	M		9.2.3.24A		–	
>>>Midamble shift LCR	O		9.2.3.7A		–	
>>>TFCI Presence	O		9.2.1.57		–	
>>>UL Code Information LCR		0 to <maxno OfDPC HLCR>			–	
>>>>DPCH ID	M		9.2.3.5		–	
>>>>TDD Channelisation Code LCR	O		9.2.3.19a		–	
>UL DPCH to delete		0.. <maxno of DPCHs >			GLOBAL	reject
>>DPCH ID	M		9.2.3.5		–	
>UL DPCH to add LCR		0..1		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>UL Timeslot Information LCR	M		9.2.3.26E		–	
UL CCTrCH to Delete		0.. <maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3		–	
DL CCTrCH to Add		0.. <maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3		–	
>TFCS	M		9.2.1.58		–	
>TFCI Coding	M		9.2.3.22		–	
>PunctureLimit	M		9.2.1.50		–	
>TPC CCTrCH List		0 to <maxno CCTrC		List of uplink CCTrCH which	–	

		Hs>		provide TPC		
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	
>DL DPCH Information		0..1		For 3.84Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>DL Timeslot Information	M		9.2.3.4E		–	
>DL DPCH Information LCR		0..1		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>DL Timeslot Information LCR	M		9.2.3.4O		–	
DL CCTrCH to Modify		0.. <maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3.		–	
>TFCS	O		9.2.1.58		–	
>TFCI Coding	O		9.2.3.22		–	
>PunctureLimit	O		9.2.1.50		–	
>TPC CCTrCH List		0 to <maxno CCTrC Hs>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	
>DL DPCH to add		0..1		For 3.84Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>DL Timeslot Information	M		9.2.3.4E		–	
>DL DPCH to modify		0..1			YES	reject
>>Repetition Period	O		9.2.3.16		–	
>>Repetition Length	O		9.2.3.15		–	
>>TDD DPCH Offset	O		9.2.3.19A		–	
>>DL Timeslot Information		0 .. <maxno ofDLts>		For 3.84Mcps TDD only	–	
>>>Time Slot	M		9.2.3.23		–	
>>>Midamble Shift and Burst Type	O		9.2.3.7		–	
>>>TFCI Presence	O		9.2.1.57		–	
>>>DL Code Information		0 .. <maxno OfDPC H>			–	
>>>>DPCH ID	M		9.2.3.5		–	
>>>>TDD Channelisation Code	O		9.2.3.19		–	
>>DL Timeslot Information		0 .. <Maxno		For 1.28Mcps	GLOBAL	reject

LCR		ofDLtsL CR>		TDD only		
>>>Time Slot LCR	M		9.2.3.24A		–	
>>>Midamble shift LCR	O		9.2.3.7A			
>>>TFCI Presence	O		9.2.1.57		–	
>>>DL Code Information LCR		0 .. <maxno OfDPC HLCRs >			–	
>>>>DPCH ID	M		9.2.3.5		–	
>>>>TDD Channelisation Code LCR	O		9.2.3.19a		–	
>DL DPCH to delete		0.. <maxno of DPCHs >			GLOBAL	reject
>>DPCH ID	M		9.2.3.5		–	
>DL DPCH to add LCR		0..1		For 1.28Mcps TDD only	YES	reject
>>Repetition Period	M		9.2.3.16		–	
>>Repetition Length	M		9.2.3.15		–	
>>TDD DPCH Offset	M		9.2.3.19A		–	
>>DL Timeslot Information LCR	M		9.2.3.4O		–	
DL CCTrCH to Delete		0.. <maxno of CCTrC Hs>			GLOBAL	reject
>CCTrCH ID	M		9.2.3.3		–	
DCHs to Modify	O		DCHs TDD to Modify 9.2.3.4D		YES	reject
DCHs to Add	O		DCH TDD Information 9.2.3.4C		YES	reject
DCHs to Delete		0..<max noofDC Hs>			GLOBAL	reject
>DCH ID	M		9.2.1.20		–	
DSCH Information to modify		0 .. <Maxno of DSCHs >			GLOBAL	reject
>DSCH ID	M		9.2.1.27		–	
>CCTrCH ID	O		9.2.3.3	DL CCTrCH in which the DSCH is mapped	–	
>Transport Format Set	O		9.2.1.59		–	
>Allocation/Retention Priority	O		9.2.1.1A		–	
>Frame Handling Priority	O		9.2.1.30		–	
>ToAWS	O		9.2.1.61		–	
>ToAWE	O		9.2.1.60		–	
>Transport Bearer Request Indicator	M		9.2.1.62A		–	
DSCH Information to add	O		DSCH TDD		YES	reject

			Information 9.2.3.5A			
DSCH Information to delete		0 .. <Maxno of DSCHs >			GLOBAL	reject
>DSCH ID	M		9.2.1.27		-	
USCH Information to modify		0 .. <Maxno of USCHs >			GLOBAL	reject
>USCH ID	M		9.2.3.27		-	
>Transport Format Set	O		9.2.1.59		-	
> Allocation/Retention Priority	O		9.2.1.1A		-	
>CCTrCH ID	O		9.2.3.2	UL CCTrCH in which the USCH is mapped	-	
>Transport Bearer Request Indicator	M		9.2.1.62A		-	
USCH Information to add	O		USCH Information 9.2.3.28		YES	reject
USCH Information to delete		0 .. <Maxno of USCHs >			GLOBAL	reject
>USCH ID	M		9.2.3.27		-	
RL Information		0..1			YES	reject
>RL ID	M		9.2.1.53		-	
>Maximum Downlink Power	O		DL Power 9.2.1.21	Maximum allowed power on DPCH	-	
>Minimum Downlink Power	O		DL Power 9.2.1.21	Minimum allowed power on DPCH	-	
>Initial DL transmission Power	O		DL Power 9.2.1.21	Initial power on DPCH	YES	Ignore
<u>HS-DSCH Information to modify</u>	<u>O</u>		<u>9.2.1.x5</u>		<u>YES</u>	<u>reject</u>
<u>HS-DSCH Information to Add</u>	<u>O</u>		<u>HS-DSCH TDD Information 9.2.3.x2</u>		<u>YES</u>	<u>reject</u>
<u>HS-DSCH Information to Delete</u>		0..<Max NoOfM ACdFlo ws>			GLOBAL	reject
> HS-DSCH MAC-D flow ID	<u>M</u>		<u>9.2.1.x2</u>		-	
<u>HS-DSCH-RNTI</u>	<u>O</u>		<u>9.2.1.x3</u>		<u>YES</u>	<u>reject</u>
<u>HS-PDSCH RL ID</u>	<u>O</u>		<u>RL ID 9.2.1.53</u>		<u>YES</u>	<u>reject</u>

Range Bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs for a UE.
<i>MaxnoofCCTrCHs</i>	Maximum number of CCTrCHs for a UE.
<i>Maxnoof DPCHs</i>	Maximum number of DPCHs in one CCTrCH for 3.84Mcps TDD.
<i>MaxnoOfDPCHLCRs</i>	Maximum number of DPCHs in one CCTrCH for 1.28Mcps TDD.
<i>MaxnoofDSCHs</i>	Maximum number of DSCHs for one UE
<i>MaxnoofUSCHs</i>	Maximum number of USCHs for one UE
<i>MaxnoofDLts</i>	Maximum number of Downlink time slots per Radio Link for 3.84Mcps TDD.
<i>MaxnoofDLtsLCR</i>	Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD.
<i>MaxnoofULts</i>	Maximum number of Uplink time slots per Radio Link for 3.84Mcps TDD.
<i>MaxnoofULtsLCR</i>	Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD.
<i>MaxNoOfMACdFlows</i>	Maximum number of HS-DSCH MAC-d flows

/* Partly omitted*/

9.1.43 RADIO LINK RECONFIGURATION READY

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
RL Information Response		<i>0..<maxnoofRLs></i>		Only one RL information response group for one group of combined RLs shall be present	EACH	ignore
>RL ID	M		9.2.1.53		–	
>DCH Information Response	O		9.2.1.20C		YES	ignore
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>USCH Information Response	O		9.2.3.29	TDD only	YES	ignore
>TFCI2 Bearer Information Response	O		9.2.2.49A	FDD only	–	
>HS-DSCH FDD Information Response	<u>O</u>		<u>9.2.2.x2</u>		<u>YES</u>	<u>ignore</u>
>HS-DSCH TDD Information Response	<u>O</u>		<u>9.2.3.x2</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Range Bound	Explanation
<i>MaxnoofRLs</i>	Maximum number of RLs for a UE.

/* Partly omitted*/

9.1.67 DL POWER TIMESLOT CONTROL REQUEST [TDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
Node B Communication Context ID	M		9.2.1.48	The reserved value "All NBCC" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
DL Time Slot ISCP Info	O		9.2.3.4F	Mandatory For 3.84Mcps TDD only	YES	ignore
DL Time Slot ISCP Info LCR	O		9.2.3.40A	Mandatory For 1.28Mcps TDD only	YES	ignore
Primary CCPCH RSCP	O		9.2.3.x3		YES	ignore

/* Partly omitted*/

9.2 Information Element Functional Definition and Contents

9.2.1 Common parameters

9.2.1.x1 BLER

This Block Error Rate defines the target radio interface Transport Block Error Rate of the transport channel. BLER is used by the Node B to determine the needed SIR targets, for admission control and power management reasons.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>BLER</u>			INTEGER (-63..0)	Step 0.1. (Range -6.3...0). It is the Log10 of the BLER

9.2.1.x2 HS-DSCH MAC-d Flow ID

HS-DSCH MAC-d Flow ID is the unique identifier for one MAC-d flow.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS-DSCH MAC-d Flow ID</u>			INTEGER (0..7)	

9.2.1.x3 HS-DSCH RNTI

The HS-DSCH RNTI is used for the UE-specific CRC in HS-SCCH and HS-DSCH.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>HS-DSCH RNTI</u>			INTEGER(0..65535)	

9.2.1.x4 Scheduling Priority Indicator

Indicates the relative priority of the HS-DSCH data frame. Used by the Node B when scheduling HS-DSCH.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Scheduling Priority Indicator</u>			INTEGER (0..15)	Relative priority of the HS-DSCH data frame: 0=Lowest Priority ... 15=Highest Priority

9.2.1.x5 HS-DSCH Information to modify

The HS-DSCH Information to modify provides information for HS-DSCH to be modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
HS-DSCH MAC-d Flow Specific Information		<i>0..<Maxno ofMACdFl ows></i>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>BLER	O		9.2.1.x1		=	
>Allocation/Retention Priority	O		9.2.1.1A		=	
>Priority Queue Information		<i>0..<Maxno ofPrioQue ues></i>			:	
>>Priority Queue ID	M		9.2.1.x6		:	
>>Scheduling Priority Indicator	O		9.2.1.x4		=	
>>MAC-d PDU Size Index		<i>0..<Maxno ofMACdP DUindexes ></i>			:	
>>>SID	M		9.2.1.x7		:	
>>>MAC-d PDU Size	O		9.2.1.x8		:	
>Transport Bearer Request Indicator	M		9.2.1.62A		:	
Measurement Reporting cycle	O		ENUMERATED (k1, k2)	For FDD only	:	

9.2.1.x6 Priority Queue ID

The Priority Queue ID provides the identity of the Priority Queue.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
Priority Queue ID			INTEGER (0..7)	

9.2.1.x7 SID

The SID provides the identity of the Size Index.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
SID			INTEGER (0..7)	

9.2.1.x8 MAC-d PDU Size

The MAC-d PDU Size provides the size in bits of the MAC-d PDU.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
MAC-d PDU Size			INTEGER (1..5000,...)	

9.2.2 FDD specific parameters

9.2.2.x1 HS-DSCH FDD Information

The HS-DSCH Information provides information for HS-DSCH MAC-d flows to be established.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information</u>		<i>1..<Maxno ofMACdFlows></i>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>BLER	M		9.2.1.x1		=	
>Allocation/Retention Priority	M		9.2.1.1A		=	
<u>>Priority Queue Information</u>	M	<i>1..<Maxno ofPrioQueues></i>			:	
>>Priority Queue ID	M		9.2.1.x6		:	
>>Scheduling Priority Indicator	M		9.2.1.x4		=	
<u>>>MAC-d PDU Size Index</u>		<i>1..<Maxno ofMACdPDUindexes></i>			:	
>>>SID	M		9.2.1.x7		-	
>>>MAC-d PDU Size	M		9.2.1.x8		:	
<u>UE Capabilities information</u>		1			:	
>Max TrCH Bits per HS-DSCH TTI	M		ENUMERATED (7300, 14600, 20456, 28800,...)		:	
>HS-DSCH multi-code capability	M		ENUMERATED (5, 10, 15,...)		:	
>Min Inter-TTI Interval	M		INTEGER (1.. 3,...)		:	
>MAC-hs reordering buffer size	M		INTEGER (1..300,...)	Total combined receiving buffer capability in RLC and MAC-hs in kBytes	:	
<u>HARQ memory partitioning</u>		<i>1..<Maxno ofHARQprocesses></i>			:	
>Process memory size	M		INTEGER (1..172800,...)		:	
Measurement feedback offset	M		INTEGER (0..79,...)		:	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of HS-DSCH MAC-d flows
<u>MaxnoofPrioQueues</u>	Maximum number of Priority Queues
<u>MaxnoofHARQprocesses</u>	Maximum number of HARQ processes for one UE.
<u>MaxnoofMACdPDUindexes</u>	Maximum number of different MAC-d PDU SIDs
<u>MaxAllowedInterTTI</u>	Maximum Inter-TTI Interval that should be supported by any UE.
<u>MaxRecordBuffSize</u>	Maximum MAC-hs re-ordering buffer size.
<u>MaxProcessMemSize</u>	Maximum HARQ process memory size.

9.2.2.x2 HS-DSCH FDD Information Response

The HS-DSCH Information Response provides information for HS-DSCH that have been established or modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
HS-DSCH MAC-d Flow Specific Information Response		<u>1..<Maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>Binding ID	O		9.2.1.4		=	
>Transport Layer Address	O		9.2.1.63		=	
HS-SCCH Code		<u>1..<Maxno ofHSSCHcodes></u>				
>Code Number	M		INTEGER (0..127)			
Measurement feedback reporting cycle k1	M		Measurement Feedback Reporting Cycle 9.2.2.x3	employed by the UE when not in soft handover	:	
Measurement feedback reporting cycle k2	M		Measurement Feedback Reporting Cycle 9.2.2.x3	employed by the UE when in soft handover	:	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of HS-DSCH MAC-d flows.
<u>MaxnoofPrioQueues</u>	Maximum number of Priority Queues
<u>MaxnoofMACdPDUindexes</u>	Maximum number of MAC-d PDU Size Indexes
<u>MaxnoofHSSCHcodes</u>	Maximum number of HS-SCCH codes.
<u>MaxCodeNumComp</u>	Maximum number of codes at the defined spreading factor, within the complete code tree.

9.2.2.x3 Measurement Feedback Reporting Cycle

The *Measurement Feedback Reporting Cycle* IE provides the duration of the measurement feedback reporting cycle.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Measurement Feedback Reporting Cycle</u>			<u>ENUMERATED (0, 1, 5, 10, 20, 40, 80,...)</u>	<u>Multiples of 2 ms intervals;</u>

9.2.3 TDD specific Parameters

9.2.3.x1 HS-DSCH TDD Information

The HS-DSCH TDD Information provides information for HS-DSCH MAC-d flows to be established.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>HS-DSCH MAC-d Flow Specific Information</u>		<u>1..<Maxno ofMACdFlows></u>			=	
>HS-DSCH MAC-d Flow ID	M		9.2.1.x2		=	
>BLER	M		9.2.1.x1		=	
>Allocation/Retention Priority	M		9.2.1.1A		=	
<u>>Priority Queue Information</u>	M	<u>1..<Maxno ofPrioQueues></u>			:	
>>Priority Queue ID	M		9.2.1.x6		:	
>>Scheduling Priority Indicator	M		9.2.1.x4		=	
<u>>>MAC-d PDU Size Index</u>		<u>1..<Maxno ofMACdPDUindexes></u>			:	
>>>SID	M		9.2.1.x7		:	
>>>MAC-d PDU Size	M		9.2.1.x8		:	
<u>UE Capabilities information</u>		<u>1</u>			:	
>HS-DSCH TrCh Bits per TTI	M		ENUMERATED (7040, 10228, 14080,...)		:	
>HS-DSCH multi-code capability	M		ENUMERATED (8, 12, 16,...)		:	
>MAC-hs reordering buffer size	M		INTEGER (1..300,...)	Total combined receiving buffer capability in RLC and MAC-hs in kBytes	:	
<u>HARQ Memory partitioning</u>		<u>1..<Maxno ofHARQprocesses></u>			:	
>Process memory size	M		INTEGER (1..168960,...)		:	

<u>Range bound</u>	<u>Explanation</u>
<u>MaxnoofMACdFlows</u>	Maximum number of HS-DSCH MAC-d flows
<u>MaxnoofPrioQueues</u>	Maximum number of Priority Queues
<u>MaxnoofHARQprocesses</u>	Maximum number of HARQ processes for one UE.
<u>MaxnoofMACdPDUindexes</u>	Maximum number of different MAC-d PDU SIDs
<u>MaxNoOfHSDSCHTrChBitsPerTTI</u>	Maximum Number of HS-DSCH Transport Channel Bits per TTI

9.2.3.x2 HS-DSCH TDD Information Response

The HS-DSCH TDD Information Response provides information for HS-DSCH MAC-d flows that have been established or modified.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
HS-DSCH MAC-d Flow Specific Information Response		<i>1..<MaxNo ofMACdFlows></i>			=	
>HS-DSCH MAC-d Flow ID	<u>M</u>		<u>9.2.1.x2</u>		=	
>Binding ID	<u>O</u>		<u>9.2.1.4</u>		=	
>Transport Layer Address	<u>O</u>		<u>9.2.1.63</u>		=	
HS-SCCH Specific Information Response		<i>0..<MaxNo OfHSSCCH codes></i>			<u>GLOBAL-</u>	<u>reject</u>
>Time Slot	<u>M</u>		<u>9.2.3.23</u>		:	
>Midamble Shift and Burst Type	<u>M</u>		<u>9.2.3.7</u>		:	
>TDD Channelisation Code	<u>M</u>		<u>9.2.3.19</u>		:	
>HS-SICH Information		<u>1</u>			:	
>>Time Slot	<u>M</u>		<u>9.2.3.23</u>		:	
>>Midamble Shift and Burst Type	<u>M</u>		<u>9.2.3.7</u>		:	
>>TDD Channelisation Code	<u>M</u>		<u>9.2.3.19</u>		:	
HS-SCCH Specific Information Response LCR		<i>0..<MaxNo OfHSSCCH codes></i>			<u>GLOBAL</u>	<u>reject</u>
>Time Slot LCR	<u>M</u>		<u>9.2.3.24A</u>		:	
>Midamble Shift LCR	<u>M</u>		<u>9.2.3.7a</u>		:	
>TDD Channelisation Code LCR	<u>M</u>		<u>9.2.3.19a</u>		:	
>HS-SICH Information LCR		<u>1</u>			:	
>>Time Slot LCR	<u>M</u>		<u>9.2.3.24A</u>		:	
>>Midamble Shift LCR	<u>M</u>		<u>9.2.3.7a</u>		:	
>>TDD Channelisation Code LCR	<u>M</u>		<u>9.2.3.19a</u>		:	

<u>Range bound</u>	<u>Explanation</u>
<i>MaxnoofMACdFlows</i>	Maximum number of HS-DSCH MAC-d flows.
<i>MaxnoofPrioQueues</i>	Maximum number of Priority Queues
<i>MaxnoofMACdPDUindexes</i>	Maximum number of different MAC-d Size Indexes (SIDs)
<i>MaxnoofHSSCCHcodes</i>	Maximum number of HS-SCCH codes

9.2.3.x3 Primary CCPCH RSCP

Received Signal Code Power is the received power on PCCPCH of the target cell after despreading. The reference point for the RSCP is the antenna connector at the UE.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
Primary CCPCH RSCP			INTEGER (0..91)	

9.3.3 PDU Definitions

```
-- *****  
--  
-- PDU definitions for NBAP.  
--  
-- *****
```

/* Unaffected parts omitted */

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

IMPORTS

```
Active-Pattern-Sequence-Information,  
AddorDeleteIndicator,  
AICH-Power,  
AICH-TransmissionTiming,  
AllocationRetentionPriority,  
APPreambleSignature,  
APSubChannelNumber,  
AvailabilityStatus,  
BCCH-ModificationTime,  
BindingID,  
BlockingPriorityIndicator,  
SCTD-Indicator,  
Cause,  
CCTrCH-ID,  
CDSUBChannelNumbers,  
CellParameterID,  
CellSyncBurstAvailabilityIndicator,  
CellSyncBurstCode,  
CellSyncBurstCodeShift,  
CellSyncBurstRepetitionPeriod,  
CellSyncBurstSIR,  
CellSyncBurstTiming,  
CellSyncBurstTimingThreshold,  
CFN,  
Channel-Assignment-Indication,  
ChipOffset,
```

C-ID,
ClosedloopTimingAdjustmentMode,
CommonChannelsCapacityConsumptionLaw,
Compressed-Mode-Deactivation-Flag,
CommonMeasurementAccuracy,
CommonMeasurementType,
CommonMeasurementValue,
CommonMeasurementValueInformation,
CommonPhysicalChannelID,
Common-PhysicalChannel-Status-Information,
Common-TransportChannel-Status-Information,
CommonTransportChannelID,
CommonTransportChannel-InformationResponse,
CommunicationControlPortID,
ConfigurationGenerationID,
ConstantValue,
CriticalityDiagnostics,
CPCH-Allowed-Total-Rate,
CPCHScramblingCodeNumber,
CPCH-UL-DPCCCH-SlotFormat,
CRNC-CommunicationContextID,
CSBMeasurementID,
CSBTransmissionID,
DCH-FDD-Information,
DCH-InformationResponse,
DCH-ID,
FDD-DCHs-to-Modify,
TDD-DCHs-to-Modify,
DCH-TDD-Information,
DedicatedChannelsCapacityConsumptionLaw,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DiversityControlField,
DiversityMode,
DL-DPCH-SlotFormat,
DL-or-Global-CapacityCredit,
DL-Power,
DLPowerAveragingWindowSize,
DL-ScramblingCode,
DL-TimeslotISCP,
DL-Timeslot-Information,
DL-TimeslotLCR-Information,
DL-TimeslotISCPInfo,
DL-TimeslotISCPInfoLCR,
DL-TPC-Pattern01Count,
DPC-Mode,
DPCH-ID,
DSCH-ID,
DSCH-FDD-Common-Information,
DSCH-FDD-Information,
DSCH-InformationResponse,
DSCH-TDD-Information,

DwPCH-Power,
End-Of-Audit-Sequence-Indicator,
EnhancedDSCHPC,
EnhancedDSCHPCCounter,
EnhancedDSCHPCIndicator,
EnhancedDSCHPCWnd,
EnhancedDSCHPowerOffset,
FDD-DL-ChannelisationCodeNumber,
FDD-DL-CodeInformation,
FDD-S-CCPCH-Offset,
FDD-TPC-DownlinkStepSize,
FirstRLS-Indicator,
FNReportingIndicator,
FPACH-Power,
FrameAdjustmentValue,
FrameHandlingPriority,
FrameOffset,
IB-OC-ID,
IB-SG-DATA,
IB-SG-POS,
IB-SG-REP,
IB-Type,
IndicationType,
InformationExchangeID,
InformationReportCharacteristics,
InformationType,
InnerLoopDLPCStatus,
IPDL-FDD-Parameters,
IPDL-TDD-Parameters,
IPDL-Indicator,
LimitedPowerIncrease,
Local-Cell-ID,
MaximumDL-PowerCapability,
MaximumTransmissionPower,
Max-Number-of-PCPCHes,
MaxNrOfUL-DPDCHs,
MaxPRACH-MidambleShifts,
MeasurementFilterCoefficient,
MeasurementID,
MidambleAllocationMode,
MidambleShiftAndBurstType,
MidambleShiftLCR,
MinimumDL-PowerCapability,
MinSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
NEOT,
NCyclesPerSFNperiod,
NFmax,
NRRepetitionsPerCyclePeriod,
N-INSYNC-IND,
N-OUTSYNC-IND,
NeighbouringCellMeasurementInformation,

NeighbouringFDDCellMeasurementInformation,
NeighbouringTDDCellMeasurementInformation,
NodeB-CommunicationContextID,
NStartMessage,
PagingIndicatorLength,
PayloadCRC-PresenceIndicator,
PCCPCH-Power,
PCP-Length,
PDSCH-CodeMapping,
PDSCHSet-ID,
PDSCH-ID,
PICH-Mode,
PICH-Power,
PowerAdjustmentType,
PowerOffset,
PowerRaiseLimit,
PRACH-Midamble,
PreambleSignatures,
PreambleThreshold,
PredictedSFNSFNDeviationLimit,
PredictedTUTRANGPSDeviationLimit,
PrimaryCPICH-Power,
PrimaryScramblingCode,
PropagationDelay,
SCH-TimeSlot,
PunctureLimit,
PUSCHSet-ID,
PUSCH-ID,
QE-Selector,
RACH-SlotFormat,
RACH-SubChannelNumbers,
ReferenceClockAvailability,
ReferenceSFNOffset,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
RequestedDataValue,
RequestedDataValueInformation,
ResourceOperationalState,
RL-Set-ID,
RL-ID,
Received-total-wide-band-power-Value,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
RNC-ID,
ScramblingCodeNumber,
SecondaryCCPCH-SlotFormat,
Segment-Type,
S-FieldLength,
SFN,
SFNSFNChangeLimit,
SFNSFNDriftRate,

SFNSFNDriftRateQuality,
SFNSFNQuality,
ShutdownTimer,
SIB-Originator,
SpecialBurstScheduling,
SSDT-Cell-Identity,
SSDT-CellID-Length,
SSDT-Indication,
Start-Of-Audit-Sequence-Indicator,
STTD-Indicator,
SSDT-SupportIndicator,
SyncCase,
SYNCD1CodeId,
SyncFrameNumber,
SynchronisationReportCharacteristics,
SynchronisationReportType,
T-Cell,
T-RLFAILURE,
TDD-ChannelisationCode,
TDD-ChannelisationCodeLCR,
TDD-DL-Code-LCR-Information,
TDD-DPCHOffset,
TDD-TPC-DownlinkStepSize,
TDD-PhysicalChannelOffset,
TDD-UL-Code-LCR-Information,
TFCI2-BearerInformationResponse,
TFCI-Coding,
TFCI-Presence,
TFCI-SignallingMode,
TFCS,
TimeSlot,
TimeSlotLCR,
TimeSlotDirection,
TimeSlotStatus,
TimingAdjustmentValue,
TimingAdvanceApplied,
ToAWE,
ToAWS,
TransmissionDiversityApplied,
TransmitDiversityIndicator,
TransmissionGapPatternSequenceCodeInformation,
Transmission-Gap-Pattern-Sequence-Information,
TransportBearerRequestIndicator,
TransportFormatSet,
TransportLayerAddress,
TSTD-Indicator,
UARFCN,
TUTRANGPS,
TUTRANGPSChangeLimit,
TUTRANGPSDriftRate,
TUTRANGPSDriftRateQuality,
TUTRANGPSQuality,

UARFCN,
 UC-Id,
 USCH-Information,
 USCH-InformationResponse,
 UL-CapacityCredit,
 UL-DPCCH-SlotFormat,
 UL-SIR,
 UL-FP-Mode,
 UL-PhysCH-SF-Variation,
 UL-ScramblingCode,
 UL-Timeslot-Information,
 UL-TimeslotLCR-Information,
 UL-TimeSlot-ISCP-Info,
 UL-TimeSlot-ISCP-LCR-Info,
 UL-TimeslotISCP-Value,
 UL-TimeslotISCP-Value-IncrDecrThres,
 USCH-ID,
HSDSCH-FDD-Information,
HSDSCH-FDD-Information-Response,
HSDSCH-Information-to-Modify,
HSDSCH-MACdFlow-ID,
HSDSCH-RNTI,
HSDSCH-TDD-Information,
HSDSCH-TDD-Information-Response,
PrimaryCCPCH-RSCP

FROM NBAP-IEs

PrivateIE-Container{},
 ProtocolExtensionContainer{},
 ProtocolIE-Container{},
 ProtocolIE-Single-Container{},
 ProtocolIE-ContainerList{},
 NBAP-PRIVATE-IES,
 NBAP-PROTOCOL-IES,
 NBAP-PROTOCOL-EXTENSION

FROM NBAP-Containers

id-Active-Pattern-Sequence-Information,
 id-AdjustmentRatio,
 id-AICH-Information,
 id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
 id-AP-AICH-Information,
 id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
 id-BCH-Information,
 id-BCCH-ModificationTime,
 id-BlockingPriorityIndicator,
 id-Cause,
 id-CauseLevel-PSCH-ReconfFailureTDD,
 id-CauseLevel-RL-AdditionFailureFDD,
 id-CauseLevel-RL-AdditionFailureTDD,
 id-CauseLevel-RL-ReconfFailure,
 id-CauseLevel-RL-SetupFailureFDD,

id-CauseLevel-RL-SetupFailureTDD,
id-CauseLevel-SyncAdjustmntFailureTDD,
id-CCP-InformationItem-AuditRsp,
id-CCP-InformationList-AuditRsp,
id-CCP-InformationItem-ResourceStatusInd,
id-CCTrCH-InformationItem-RL-FailureInd,
id-CCTrCH-InformationItem-RL-RestoreInd,
id-CDCA-ICH-Information,
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD,
id-CellAdjustmentInfoItem-SyncAdjustmentRqstTDD,
id-Cell-InformationItem-AuditRsp,
id-Cell-InformationItem-ResourceStatusInd,
id-Cell-InformationList-AuditRsp,
id-CellParameterID,
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD,
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD,
id-cellSyncBurstRepetitionPeriod,
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD,
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD,
id-CellSyncBurstInfoList-CellSyncReconfRqstTDD,
id-CellSyncInfo-CellSyncReprtTDD,
id-CFN,
id-CFNReportingIndicator,
id-C-ID,
id-Closed-Loop-Timing-Adjustment-Mode,
id-CommonMeasurementAccuracy,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,
id-CommunicationContextInfoItem-Reset,
id-CommunicationControlPortID,
id-CommunicationControlPortInfoItem-Reset,
id-Compressed-Mode-Deactivation-Flag,
id-ConfigurationGenerationID,
id-CPCH-Information,
id-CPCH-Parameters-CTCH-SetupRsp,
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CRNC-CommunicationContextID,
id-CriticalityDiagnostics,
id-CSBTransmissionID,
id-CSBMeasurementID,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,

id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-DCH-InformationResponse,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DedicatedMeasurementObjectType-DM-Rprrt ,
id-DedicatedMeasurementObjectType-DM-Rqst ,
id-DedicatedMeasurementObjectType-DM-Rsp ,
id-DedicatedMeasurementType ,
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD ,
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD ,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD ,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD ,
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD ,
id-DL-DPCH-InformationList-RL-SetupRqstTDD ,
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD ,
id-DL-DPCH-Information-RL-ReconfPrepFDD ,
id-DL-DPCH-Information-RL-ReconfRqstFDD ,
id-DL-DPCH-Information-RL-SetupRqstFDD ,
id-DL-ReferencePowerInformationItem-DL-PC-Rqst ,
id-DLReferencePower ,
id-DLReferencePowerList-DL-PC-Rqst ,
id-DL-TPC-Pattern01Count ,
id-DPC-Mode ,
id-DPCHConstant ,
id-DSCH-AddItem-RL-ReconfPrepFDD ,
id-DSCHs-to-Add-FDD ,
id-DSCH-DeleteItem-RL-ReconfPrepFDD ,
id-DSCH-DeleteList-RL-ReconfPrepFDD ,
id-DSCHs-to-Add-TDD ,
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD ,
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD ,
id-DSCH-InformationResponse ,
id-DSCH-FDD-Information ,
id-DSCH-FDD-Common-Information ,
id-DSCH-TDD-Information ,
id-DSCH-ModifyItem-RL-ReconfPrepFDD ,
id-DSCH-ModifyList-RL-ReconfPrepFDD ,
id-End-Of-Audit-Sequence-Indicator ,
id-EnhancedDSCHPC ,
id-EnhancedDSCHPCIndicator ,

id-FACH-Information,
id-FACH-ParametersList-CTCH-ReconfRqstTDD,
id-FACH-ParametersList-CTCH-SetupRsp,
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD,
id-FACH-ParametersListIE-CTCH-SetupRqstFDD,
id-FACH-ParametersListIE-CTCH-SetupRqstTDD,
id-IndicationType-ResourceStatusInd,
id-InformationExchangeID,
id-InformationExchangeObjectType-InfEx-Rqst,
id-InformationExchangeObjectType-InfEx-Rsp,
id-InformationExchangeObjectType-InfEx-Rprt,
id-InformationReportCharacteristics,
id-InformationType,
id-InitDL-Power,
id-InnerLoopDLPCStatus,
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD,
id-IPDLParameter-Information-Cell-ReconfRqstFDD,
id-IPDLParameter-Information-Cell-SetupRqstFDD,
id-IPDLParameter-Information-Cell-ReconfRqstTDD,
id-IPDLParameter-Information-Cell-SetupRqstTDD,
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD,
id-Limited-power-increase-information-Cell-SetupRqstFDD,
id-Local-Cell-ID,
id-Local-Cell-Group-InformationItem-AuditRsp,
id-Local-Cell-Group-InformationItem-ResourceStatusInd,
id-Local-Cell-Group-InformationItem2-ResourceStatusInd,
id-Local-Cell-Group-InformationList-AuditRsp,
id-Local-Cell-InformationItem-AuditRsp,
id-Local-Cell-InformationItem-ResourceStatusInd,
id-Local-Cell-InformationItem2-ResourceStatusInd,
id-Local-Cell-InformationList-AuditRsp,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MaximumTransmissionPower,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,
id-NCyclesPerSFNperiod,
id-NeighbouringCellMeasurementInformation,
id-NodeB-CommunicationContextID,
id-NRepetitionsPerCyclePeriod,
id-P-CCPCH-Information,
id-P-CPICH-Information,
id-P-SCH-Information,
id-PCCPCH-Information-Cell-ReconfRqstTDD,
id-PCCPCH-Information-Cell-SetupRqstTDD,
id-PCH-Parameters-CTCH-ReconfRqstTDD,
id-PCH-Parameters-CTCH-SetupRsp,
id-PCH-ParametersItem-CTCH-ReconfRqstFDD,
id-PCH-ParametersItem-CTCH-SetupRqstFDD,
id-PCH-ParametersItem-CTCH-SetupRqstTDD,
id-PCH-Information,
id-PCPCH-Information,

id-PICH-ParametersItem-CTCH-ReconfRqstFDD,
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PDSCHSets-AddList-PSCH-ReconfRqst,
id-PDSCHSets-DeleteList-PSCH-ReconfRqst,
id-PDSCHSets-ModifyList-PSCH-ReconfRqst,
id-PICH-Information,
id-PICH-Parameters-CTCH-ReconfRqstTDD,
id-PICH-ParametersItem-CTCH-SetupRqstTDD,
id-PowerAdjustmentType,
id-PRACH-Information,
id-PRACHConstant,
id-PRACH-ParametersItem-CTCH-SetupRqstTDD,
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD,
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD,
id-PrimaryCPICH-Information-Cell-SetupRqstFDD,
id-PrimarySCH-Information-Cell-ReconfRqstFDD,
id-PrimarySCH-Information-Cell-SetupRqstFDD,
id-PrimaryScramblingCode,
id-SCH-Information-Cell-ReconfRqstTDD,
id-SCH-Information-Cell-SetupRqstTDD,
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PUSCHConstant,
id-PUSCHSets-AddList-PSCH-ReconfRqst,
id-PUSCHSets-DeleteList-PSCH-ReconfRqst,
id-PUSCHSets-ModifyList-PSCH-ReconfRqst,
id-RACH-Information,
id-RACH-Parameters-CTCH-SetupRsp,
id-RACH-ParametersItem-CTCH-SetupRqstFDD,
id-RACH-ParameterItem-CTCH-SetupRqstTDD,
id-ReferenceClockAvailability,
id-ReferenceSFNoffset,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporting-Object-RL-RestoreInd,
id-ResetIndicator,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-AdditionRqstFDD,
id-RL-informationItem-RL-DeletionRqst,
id-RL-InformationItem-RL-FailureInd,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-ReconfPrepFDD,
id-RL-InformationItem-RL-ReconfRqstFDD,
id-RL-InformationItem-RL-RestoreInd,
id-RL-InformationItem-RL-SetupRqstFDD,
id-RL-InformationList-RL-AdditionRqstFDD,
id-RL-informationList-RL-DeletionRqst,
id-RL-InformationList-RL-PreemptRequiredInd,

id-RL-InformationList-RL-ReconfPrepFDD,
id-RL-InformationList-RL-ReconfRqstFDD,
id-RL-InformationList-RL-SetupRqstFDD,
id-RL-InformationResponseItem-RL-AdditionRspFDD,
id-RL-InformationResponseItem-RL-ReconfReady,
id-RL-InformationResponseItem-RL-ReconfRsp,
id-RL-InformationResponseItem-RL-SetupRspFDD,
id-RL-InformationResponseList-RL-AdditionRspFDD,
id-RL-InformationResponseList-RL-ReconfReady,
id-RL-InformationResponseList-RL-ReconfRsp,
id-RL-InformationResponseList-RL-SetupRspFDD,
id-RL-InformationResponse-RL-AdditionRspTDD,
id-RL-InformationResponse-RL-SetupRspTDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-ReconfRqstTDD,
id-RL-Information-RL-ReconfPrepTDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-ReconfigurationFailureItem-RL-ReconfFailure,
id-RL-Set-InformationItem-DM-Rprt,
id-RL-Set-InformationItem-DM-Rsp,
id-RL-Set-InformationItem-RL-FailureInd,
id-RL-Set-InformationItem-RL-RestoreInd,
id-S-CCPCH-Information,
id-S-CPICH-Information,
id-SCH-Information,
id-S-SCH-Information,
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD,
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD,
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD,
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD,
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD,
id-SecondarySCH-Information-Cell-ReconfRqstFDD,
id-SecondarySCH-Information-Cell-SetupRqstFDD,
id-SegmentInformationListIE-SystemInfoUpdate,
id-SFN,
id-SFNReportingIndicator,
id-ShutdownTimer,
id-SSDT-CellIDforEDSCHPC,
id-Start-Of-Audit-Sequence-Indicator,
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Synchronisation-Configuration-Cell-ReconfRqst,
id-Synchronisation-Configuration-Cell-SetupRqst,
id-SyncCase,
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH,
id-SyncFrameNumber,
id-SynchronisationReportType,
id-SynchronisationReportCharacteristics,
id-SyncReportType-CellSyncReprtTDD,
id-T-Cell,
id-TFCI2-Bearer-Information-RL-SetupRqstFDD,

id-TFCI2-BearerInformationResponse,
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD,
id-Transmission-Gap-Pattern-Sequence-Information,
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD,
id-TimeSlotConfigurationList-Cell-SetupRqstTDD,
id-timeslotInfo-CellSyncInitiationRqstTDD,
id-TimeslotISCPInfo,
id-TimingAdvanceApplied,
id-TransmissionDiversityApplied,
id-UARFCNforNt,
id-UARFCNforNd,
id-UARFCNforNu,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD,
id-UL-DPCH-InformationList-RL-SetupRqstTDD,
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD,
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD,
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD,
id-USCH-Information-Add,
id-USCH-Information-DeleteList-RL-ReconfPrepTDD,
id-USCH-Information-ModifyList-RL-ReconfPrepTDD,
id-USCH-InformationResponse,
id-USCH-Information,
id-DL-DPCH-LCR-Information-RL-SetupRqstTDD,
id-DL-DPCH-LCR-InformationList-RL-SetupRqstTDD,
id-DwPCH-LCR-Information,
id-DwPCH-LCR-Information-AuditRsp,
id-DwPCH-LCR-InformationList-AuditRsp,
id-DwPCH-LCR-Information-Cell-SetupRqstTDD,
id-DwPCH-LCR-Information-Cell-ReconfRqstTDD,
id-DwPCH-LCR-Information-ResourceStatusInd,
id-maxFACH-Power-LCR-CTCH-SetupRqstTDD,
id-maxFACH-Power-LCR-CTCH-ReconfRqstTDD,

id-FPACH-LCR-Information,
id-FPACH-LCR-Information-AuditRsp,
id-FPACH-LCR-InformationList-AuditRsp,
id-FPACH-LCR-InformationList-ResourceStatusInd,
id-FPACH-LCR-Parameters-CTCH-SetupRqstTDD,
id-FPACH-LCR-ParametersItem-CTCH-SetupRqstTDD,
id-FPACH-LCR-Parameters-CTCH-ReconfRqstTDD,
id-PCCPCH-LCR-Information-Cell-SetupRqstTDD,
id-PCH-Power-LCR-CTCH-SetupRqstTDD,
id-PCH-Power-LCR-CTCH-ReconfRqstTDD,
id-PICH-LCR-Parameters-CTCH-SetupRqstTDD,
id-PICH-LCR-ParametersItem-CTCH-SetupRqstTDD,
id-PRACH-LCR-ParametersList-CTCH-SetupRqstTDD,
id-PRACH-LCR-ParametersListIE-CTCH-SetupRqstTDD,
id-RL-InformationResponse-LCR-RL-SetupRspTDD,
id-Secondary-CCPCH-LCR-parameterListIE-CTCH-SetupRqstTDD,
id-Secondary-CCPCH-LCR-parameterList-CTCH-SetupRqstTDD,
id-TimeSlot,
id-TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD,
id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD,
id-TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD,
id-TimeSlotLCR-CM-Rqst,
id-UL-DPCH-LCR-Information-RL-SetupRqstTDD,
id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD,
id-DL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
id-UL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
id-TimeslotISCP-InformationList-LCR-RL-AdditionRqstTDD,
id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD,
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD,
id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD,
id-TimeslotISCPInfoList-LCR-DL-PC-RqstTDD,
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-LCR-InformationModify-AddList,
id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD,
id-UL-SIRTarget,
id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst,
id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst,
id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
id-PUSCH-Info-DM-Rqst,
id-PUSCH-Info-DM-Rsp,
id-PUSCH-Info-DM-Rprt,
id-RL-InformationResponse-LCR-RL-AdditionRspTDD,
id-HSDSCH-FDD-Information,
id-HSDSCH-FDD-Information-Response,
id-HSDSCH-FDD-Information-to-Add,

id-HSDSCH-FDD-Information-to-Delete,
id-HSDSCH-Information-to-Modify,
id-HSDSCH-RNTI,
id-HSDSCH-TDD-Information,
id-HSDSCH-TDD-Information-Response,
id-HSDSCH-TDD-Information-Response-LCR,
id-HSDSCH-TDD-Information-to-Add,
id-HSDSCH-TDD-Information-to-Delete,
id-HSPDSCH-RL-ID,
id-PrimCCPCH-RSCP-DL-PC-RqstTDD,

maxNrOfCCTrCHs,
maxNrOfCellSyncBursts,
maxNrOfCodes,
maxNrOfCPCHs,
maxNrOfDCHs,
maxNrOfDLTSs,
maxNrOfDLTSLCRs,
maxNrOfDPCHs,
maxNrOfDSCHs,
maxNrOfFACHs,
maxNrOfRLs,
maxNrOfRLs-1,
maxNrOfRLs-2,
maxNrOfRLSets,
maxNrOfPCPCHs,
maxNrOfPDSCHs,
maxNrOfPUSCHs,
maxNrOfPRACHLCRs,
maxNrOfPDSCHSets,
maxNrOfPUSCHSets,
maxNrOfReceptsPerSyncFrame,
maxNrOfSCCPCHs,
maxNrOfSCCPCHLCRs,
maxNrOfULTSs,
maxNrOfULTSLCRs,
maxNrOfUSCHs,
maxAPSigNum,
maxCPCHCell,
maxFACHCell,
maxFPACHCell,
maxNoofLen,
maxRACHCell,
maxPCPCHCell,
maxPRACHCell,
maxSCCPCHCell,
maxSCPICHCell,
maxCellinNodeB,
maxCCPinNodeB,
maxCommunicationContext,
maxLocalCellinNodeB,

```

maxNrOfSlotFormatsPRACH,
maxNrOfCellSyncBursts,
maxNrOfReceptsPerSyncFrame,
maxIB,
maxIBSEG,
maxNrOfMACdFlows

```

```
FROM NBAP-Constants;
```

```
/* Unaffected parts omitted. */
```

```

-- *****
--
-- RADIO LINK SETUP REQUEST FDD
--
-- *****

```

```

RadioLinkSetupRequestFDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{RadioLinkSetupRequestFDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{RadioLinkSetupRequestFDD-Extensions}}          OPTIONAL,
    ...
}

RadioLinkSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID          CRITICALITY reject          TYPE          CRNC-CommunicationContextID
      PRESENCE mandatory }|
    { ID id-UL-DPCH-Information-RL-SetupRqstFDD   CRITICALITY reject          TYPE          UL-DPCH-Information-RL-
      SetupRqstFDD PRESENCE mandatory }|
    { ID id-DL-DPCH-Information-RL-SetupRqstFDD   CRITICALITY reject          TYPE          DL-DPCH-Information-RL-
      SetupRqstFDD PRESENCE mandatory }|
    { ID id-DCH-FDD-Information                   CRITICALITY reject          TYPE          DCH-FDD-Information
      PRESENCE mandatory }|
    { ID id-DSCH-FDD-Information                   CRITICALITY reject          TYPE          DSCH-FDD-Information
      PRESENCE optional }|
    { ID id-TFCI2-Bearer-Information-RL-SetupRqstFDD CRITICALITY ignore          TYPE          TFCI2-Bearer-Information-RL-
      SetupRqstFDD PRESENCE optional }|
    { ID id-RL-InformationList-RL-SetupRqstFDD   CRITICALITY notify          TYPE          RL-InformationList-RL-
      SetupRqstFDD PRESENCE mandatory }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information CRITICALITY reject          TYPE Transmission-Gap-Pattern-Sequence-Information
      PRESENCE optional }|
    { ID id-Active-Pattern-Sequence-Information   CRITICALITY reject          TYPE Active-Pattern-Sequence-Information PRESENCE optional
    },
    ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-DSCH-FDD-Common-Information           CRITICALITY ignore EXTENSION DSCH-FDD-Common-Information PRESENCE optional }|
    { ID id-HSDSCH-FDD-Information                CRITICALITY reject EXTENSION HSDSCH-FDD-Information PRESENCE optional }|
    { ID id-HSDSCH-RNTI                          CRITICALITY reject EXTENSION HSDSCH-RNTI PRESENCE optional }|
    { ID id-HSPDSCH-RL-ID                        CRITICALITY reject EXTENSION RL-ID PRESENCE conditional },
    ...
}

```

```

}
UL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    ul-ScramblingCode                UL-ScramblingCode,
    minUL-ChannelisationCodeLength    MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPDCHs                  MaxNrOfUL-DPDCHs    OPTIONAL,
    -- This IE shall be present if Min UL Channelisation Code length IE is set to 4 --
    ul-PunctureLimit                  PunctureLimit,
    tFCS                               TFCS,
    ul-DPCCH-SlotFormat                UL-DPCCH-SlotFormat,
    ul-SIR-Target                      UL-SIR,
    diversityMode                      DiversityMode,
    sSDT-CellID-Length                 SSdT-CellID-Length    OPTIONAL,
    s-FieldLength                      S-FieldLength      OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { { UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}
UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    {ID id-DPC-Mode                CRITICALITY reject EXTENSION DPC-Mode PRESENCE optional },
    ...
}
DL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    tFCS                               TFCS,
    dl-DPCH-SlotFormat                DL-DPCH-SlotFormat,
    tFCI-SignallingMode                TFCI-SignallingMode,
    tFCI-Presence                      TFCI-Presence    OPTIONAL,
    -- this IE shall be present if the DL DPCH slot format IE is set to any of the values from 12 to 16 --
    multiplexingPosition                MultiplexingPosition,
    pDSCH-RL-ID                        RL-ID            OPTIONAL,
    -- This IE shall be present if the DSCH Information IE is present --
    pDSCH-CodeMapping                  PDSCH-CodeMapping    OPTIONAL,
    -- This IE shall be present if the DSCH Information IE is present --
    powerOffsetInformation              PowerOffsetInformation-RL-SetupRqstFDD,
    fdd-TPC-DownlinkStepSize           FDD-TPC-DownlinkStepSize,
    limitedPowerIncrease                LimitedPowerIncrease,
    innerLoopDLPCStatus                InnerLoopDLPCStatus,
    iE-Extensions                      ProtocolExtensionContainer { { DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}
DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
PowerOffsetInformation-RL-SetupRqstFDD ::= SEQUENCE {
    p01-ForTFCI-Bits                  PowerOffset,
    p02-ForTPC-Bits                   PowerOffset,
    p03-ForPilotBits                  PowerOffset,
    iE-Extensions                      ProtocolExtensionContainer { { PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

```

```

PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TFCI2-Bearer-Information-RL-SetupRqstFDD ::= SEQUENCE {
  toAWS          ToAWS,
  toAWE          ToAWE,
  iE-Extensions ProtocolExtensionContainer { { TFCI2-Bearer-Information-RL-SetupRqstFDD-ExtIEs } } OPTIONAL,
  ...
}

TFCI2-Bearer-Information-RL-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

RL-InformationList-RL-SetupRqstFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF
  ProtocolIE-Single-Container{{ RL-InformationItemIE-RL-SetupRqstFDD }}

RL-InformationItemIE-RL-SetupRqstFDD NBAP-PROTOCOL-IES ::= {
  { ID id-RL-InformationItem-RL-SetupRqstFDD CRITICALITY notify TYPE RL-InformationItem-RL-
  SetupRqstFDD PRESENCE mandatory}
}

RL-InformationItem-RL-SetupRqstFDD ::= SEQUENCE {
  rL-ID          RL-ID,
  c-ID          C-ID,
  firstRLS-indicator FirstRLS-Indicator,
  frameOffset    FrameOffset,
  chipOffset     ChipOffset,
  propagationDelay PropagationDelay OPTIONAL,
  diversityControlField DiversityControlField OPTIONAL,
  -- This IE shall be present if the RL is not the first one in the RL Information IE
  dl-CodeInformation FDD-DL-CodeInformation,
  initialDL-transmissionPower DL-Power,
  maximumDL-power DL-Power,
  minimumDL-power DL-Power,
  sSDT-Cell-Identity SSdT-Cell-Identity OPTIONAL,
  transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL,
  -- This IE shall be present if Diversity Mode IE in UL DPCH Information group is not set to "none"
  iE-Extensions ProtocolExtensionContainer { { RL-InformationItem-RL-SetupRqstFDD-ExtIEs } } OPTIONAL,
  ...
}

RL-InformationItem-RL-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSdT-Cell-Identity PRESENCE conditional },
  -- This IE shall be present if Enhanced DSCH PC IE is present in the DSCH Common Information IE.
  ...
}

-- *****
--
-- RADIO LINK SETUP REQUEST TDD

```

```

--
-- *****
RadioLinkSetupRequestTDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container   {{RadioLinkSetupRequestTDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{RadioLinkSetupRequestTDD-Extensions}}      OPTIONAL,
    ...
}

RadioLinkSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID          CRITICALITY reject          TYPE          CRNC-CommunicationContextID
      PRESENCE mandatory }|
    { ID id-UL-CCTrCH-InformationList-RL-SetupRqstTDD CRITICALITY notify          TYPE          UL-CCTrCH-InformationList-RL-
      SetupRqstTDD PRESENCE optional }|
    { ID id-DL-CCTrCH-InformationList-RL-SetupRqstTDD CRITICALITY notify          TYPE          DL-CCTrCH-InformationList-RL-
      SetupRqstTDD PRESENCE optional }|
    { ID id-DCH-TDD-Information          CRITICALITY reject          TYPE          DCH-TDD-Information          PRESENCE optional }|
    { ID id-DSCH-TDD-Information          CRITICALITY reject          TYPE          DSCH-TDD-Information          PRESENCE optional }|
    { ID id-USCH-Information          CRITICALITY reject          TYPE          USCH-Information          PRESENCE optional }|
    { ID id-RL-Information-RL-SetupRqstTDD CRITICALITY reject          TYPE          RL-Information-RL-SetupRqstTDD
      PRESENCE mandatory },
    ...
}

RadioLinkSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-TDD-Information          CRITICALITY reject          EXTENSION HSDSCH-TDD-Information          PRESENCE optional }|
    { ID id-HSDSCH-RNTI          CRITICALITY reject          EXTENSION HSDSCH-RNTI          PRESENCE optional }|
    { ID id-HSPDSCH-RL-ID          CRITICALITY reject          EXTENSION RL-ID          PRESENCE conditional },
    ...
}

UL-CCTrCH-InformationList-RL-SetupRqstTDD ::= SEQUENCE (SIZE(1..maxNrOfCCTrCHs)) OF
    ProtocolIE-Single-Container{{ UL-CCTrCH-InformationItemIE-RL-SetupRqstTDD }}

UL-CCTrCH-InformationItemIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD CRITICALITY notify          TYPE          UL-CCTrCH-InformationItem-RL-
      SetupRqstTDD PRESENCE mandatory}
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID          CCTrCH-ID,
    tFCS          TFCS,
    tFCI-Coding          TFCI-Coding,
    punctureLimit          PunctureLimit,
    uL-DPCH-Information          UL-DPCH-Information-RL-SetupRqstTDD OPTIONAL, -- For 3.84Mcps TDD only
    iE-Extensions          ProtocolExtensionContainer { { UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-DPCH-LCR-Information-RL-SetupRqstTDD CRITICALITY notify          EXTENSION UL-DPCH-LCR-Information-RL-SetupRqstTDD PRESENCE optional
    }| -- For 1.28Mcps TDD only
    { ID id-UL-SIRTarget          CRITICALITY reject          EXTENSION UL-SIR          PRESENCE optional
    },
}

```



```

-- This IE shall be mandatory for 1.28Mcps TDD, not applicable for 3.84Mcps TDD.
...
}

UL-DPCH-Information-RL-SetupRqstTDD ::= ProtocolIE-Single-Container{{ UL-DPCH-InformationIE-RL-SetupRqstTDD }}

UL-DPCH-InformationIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationList-RL-SetupRqstTDD      CRITICALITY notify  TYPE UL-DPCH-InformationItem-RL-SetupRqstTDD      PRESENCE mandatory  }
}

UL-DPCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  repetitionPeriod      RepetitionPeriod,
  repetitionLength      RepetitionLength,
  tdd-DPCHOffset        TDD-DPCHOffset,
  uL-Timeslot-Information  UL-Timeslot-Information,
  iE-Extensions          ProtocolExtensionContainer { { UL-DPCH-InformationItem-RL-SetupRqstTDD-ExtIEs } }  OPTIONAL,
  ...
}

UL-DPCH-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-LCR-Information-RL-SetupRqstTDD ::= ProtocolIE-Single-Container{{ UL-DPCH-LCR-InformationIE-RL-SetupRqstTDD }}

UL-DPCH-LCR-InformationIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD      CRITICALITY notify  TYPE UL-DPCH-LCR-InformationItem-RL-SetupRqstTDD      PRESENCE
optional  }
}

UL-DPCH-LCR-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  repetitionPeriod      RepetitionPeriod,
  repetitionLength      RepetitionLength,
  tdd-DPCHOffset        TDD-DPCHOffset,
  uL-TimeslotLCR-Information  UL-TimeslotLCR-Information,
  iE-Extensions          ProtocolExtensionContainer { { UL-DPCH-LCR-InformationItem-RL-SetupRqstTDD-ExtIEs } }  OPTIONAL,
  ...
}

UL-DPCH-LCR-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-CCTrCH-InformationList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container{{ DL-CCTrCH-InformationItemIE-RL-SetupRqstTDD }}

DL-CCTrCH-InformationItemIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD      CRITICALITY      notify      TYPE DL-CCTrCH-InformationItem-RL-SetupRqstTDD      PRESENCE      mandatory }
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  cCtRch-ID      cCtRch-ID,

```

```

tFCS                                TFCS,
tFCI-Coding                          TFCI-Coding,
punctureLimit                        PunctureLimit,
tdd-TPC-DownlinkStepSize            TDD-TPC-DownlinkStepSize,
cCtRCH-TPCList                       CCTrCH-TPCList-RL-SetupRqstTDD    OPTIONAL,
dL-DPCH-Information                  DL-DPCH-Information-RL-SetupRqstTDD  OPTIONAL, -- For 3.84Mcps TDD only
iE-Extensions                         ProtocolExtensionContainer { { DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs } }  OPTIONAL,
...
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-DL-DPCH-LCR-Information-RL-SetupRqstTDD CRITICALITY notify      EXTENSION    DL-DPCH-LCR-Information-RL-SetupRqstTDD  PRESENCE optional
  }, -- For 1.28Mcps TDD only
  ...
}

CCTrCH-TPCList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCItem-RL-SetupRqstTDD

CCTrCH-TPCItem-RL-SetupRqstTDD ::= SEQUENCE {
  cCtRCH-ID                          CCTrCH-ID,
  iE-Extensions                       ProtocolExtensionContainer { { CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs } }  OPTIONAL,
  ...
}

CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-DPCH-Information-RL-SetupRqstTDD ::= ProtocolIE-Single-Container{{ DL-DPCH-InformationIE-RL-SetupRqstTDD }}

DL-DPCH-InformationIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-DL-DPCH-InformationList-RL-SetupRqstTDD      CRITICALITY notify  TYPE DL-DPCH-InformationItem-RL-SetupRqstTDD      PRESENCE mandatory  }
}

DL-DPCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
  repetitionPeriod                    RepetitionPeriod,
  repetitionLength                    RepetitionLength,
  tdd-DPCHOffset                      TDD-DPCHOffset,
  dL-Timeslot-Information              DL-Timeslot-Information,
  iE-Extensions                       ProtocolExtensionContainer { { DL-DPCH-InformationItem-RL-SetupRqstTDD-ExtIEs } }  OPTIONAL,
  ...
}

DL-DPCH-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-DPCH-LCR-Information-RL-SetupRqstTDD ::= ProtocolIE-Single-Container{{ DL-DPCH-LCR-InformationIE-RL-SetupRqstTDD }}

DL-DPCH-LCR-InformationIE-RL-SetupRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-DL-DPCH-LCR-InformationList-RL-SetupRqstTDD  CRITICALITY notify  TYPE DL-DPCH-LCR-InformationItem-RL-SetupRqstTDD      PRESENCE
  mandatory  }
}

```

```

DL-DPCH-LCR-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    repetitionPeriod      RepetitionPeriod,
    repetitionLength      RepetitionLength,
    tdd-DPCHOffset        TDD-DPCHOffset,
    dL-TimeslotLCR-Information
    tstdIndicator          TSTD-Indicator,
    iE-Extensions          ProtocolExtensionContainer { { DL-DPCH-LCR-InformationItem-RL-SetupRqstTDD-ExtIEs } }    OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-SetupRqstTDD ::= SEQUENCE {
    rL-ID                  RL-ID,
    c-ID                    C-ID,
    frameOffset            FrameOffset,
    specialBurstScheduling SpecialBurstScheduling,
    initialDL-transmissionPower
    maximumDL-power        DL-Power,
    minimumDL-power        DL-Power,
    dL-TimeslotISCPInfo    DL-TimeslotISCPInfo OPTIONAL, -- For 3.84Mcps TDD only
    iE-Extensions          ProtocolExtensionContainer { { RL-Information-RL-SetupRqstTDD-ExtIEs } }    OPTIONAL,
    ...
}

RL-Information-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD    CRITICALITY reject      EXTENSION    TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD    PRESENCE
optional    }, -- For 1.28Mcps TDD only
    ...
}

TimeslotISCP-LCR-InfoList-RL-SetupRqstTDD ::= SEQUENCE {
    dL-TimeslotISCP-LCR-Info    DL-TimeslotISCPInfoLCR,
    iE-Extensions              ProtocolExtensionContainer { {TimeslotISCP-LCR-InfoItem-RL-SetupRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

TimeslotISCP-LCR-InfoItem-RL-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- RADIO LINK SETUP RESPONSE FDD
--
-- *****

RadioLinkSetupResponseFDD ::= SEQUENCE {
    protocolIEs            ProtocolIE-Container    {{RadioLinkSetupResponseFDD-IEs}},
    protocolExtensions     ProtocolExtensionContainer {{RadioLinkSetupResponseFDD-Extensions}}    OPTIONAL,
}

```

```

}
...
RadioLinkSetupResponseFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID
    PRESENCE mandatory }|
  { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID
    PRESENCE mandatory }|
  { ID id-CommunicationControlPortID CRITICALITY ignore TYPE CommunicationControlPortID
    PRESENCE mandatory }|
  { ID id-RL-InformationResponseList-RL-SetupRspFDD CRITICALITY ignore TYPE RL-InformationResponseList-RL-
SetupRspFDD PRESENCE mandatory }|
  { ID id-TFCI2-BearerInformationResponse CRITICALITY ignore TYPE TFCI2-BearerInformationResponse PRESENCE optional }|
  { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics
    PRESENCE optional },
  ...
}

RadioLinkSetupResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

RL-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container{{ RL-InformationResponseItemIE-RL-
SetupRspFDD }}

RL-InformationResponseItemIE-RL-SetupRspFDD NBAP-PROTOCOL-IES ::= {
  { ID id-RL-InformationResponseItem-RL-SetupRspFDD CRITICALITY ignore TYPE RL-InformationResponseItem-RL-
SetupRspFDD PRESENCE mandatory }
}

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
  rL-ID RL-ID,
  rL-Set-ID RL-Set-ID,
  received-total-wide-band-power Received-total-wide-band-power-Value,
  diversityIndication DiversityIndication-RL-SetupRspFDD,
  -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
  -- the tabular message format in subclause 9.1.
  dSCH-InformationResponseList DSCH-InformationResponseList-RL-SetupRspFDD OPTIONAL,
  sSDT-SupportIndicator SSDT-SupportIndicator,
  iE-Extensions ProtocolExtensionContainer { { RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs } } OPTIONAL,
  ...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-HSDSCH-FDD-Information-Response CRITICALITY ignore EXTENSION HSDSCH-FDD-Information-Response PRESENCE optional },
  ...
}

DiversityIndication-RL-SetupRspFDD ::= CHOICE {
  combining Combining-RL-SetupRspFDD,
  nonCombiningOrFirstRL NonCombiningOrFirstRL-RL-SetupRspFDD
}

```

```

Combining-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID
    iE-Extensions
    ...
    RL-ID,
    ProtocolExtensionContainer { { Combining-RL-SetupRspFDD-ExtIEs } } OPTIONAL,
}

Combining-RL-SetupRspFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

NonCombiningOrFirstRL-RL-SetupRspFDD ::= SEQUENCE {
    dCH-InformationResponse
    iE-Extensions
    ...
    DCH-InformationResponse,
    ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs } } OPTIONAL,
}

NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponseList-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-SetupRspFDD }}

DSCH-InformationResponseListIEs-RL-SetupRspFDD NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse CRITICALITY ignore TYPE DSCH-InformationResponse PRESENCE mandatory }
}

-- *****
--
-- RADIO LINK SETUP RESPONSE TDD
--
-- *****

RadioLinkSetupResponseTDD ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{RadioLinkSetupResponseTDD-IEs}},
    protocolExtensions ProtocolExtensionContainer {{RadioLinkSetupResponseTDD-Extensions}} OPTIONAL,
    ...
}

RadioLinkSetupResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID
      PRESENCE mandatory }|
    { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID
      PRESENCE mandatory }|
    { ID id-CommunicationControlPortID CRITICALITY ignore TYPE CommunicationControlPortID
      PRESENCE mandatory }|
    { ID id-RL-InformationResponse-RL-SetupRspTDD CRITICALITY ignore TYPE RL-InformationResponse-RL-
      SetupRspTDD PRESENCE optional }| -- Mandatory for 3.84Mcps TDD only
    { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics
      PRESENCE optional },
    ...
}

RadioLinkSetupResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```

```

    { ID id-RL-InformationResponse-LCR-RL-SetupRspTDD
InformationResponse-LCR-RL-SetupRspTDD PRESENCE optional }, -- Mandatory for 1.28Mcps TDD only
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID RL-ID,
    uL-TimeSlot-ISCP-Info UL-TimeSlot-ISCP-Info,
    ul-PhysCH-SF-Variation UL-PhysCH-SF-Variation,
    dCH-InformationResponseList DCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    dSCH-InformationResponseList DSCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    uSCH-InformationResponseList USCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { RL-InformationResponseList-RL-SetupRspTDD-ExtIEs } } OPTIONAL,
    ...
}

RL-InformationResponseList-RL-SetupRspTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-TDD-Information-Response CRITICALITY ignore EXTENSION HSDSCH-TDD-Information-Response PRESENCE optional },
    ...
}

DCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container{{ DCH-InformationResponseListIEs-RL-SetupRspTDD }}

DCH-InformationResponseListIEs-RL-SetupRspTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse CRITICALITY ignore TYPE DCH-InformationResponse PRESENCE mandatory}
}

DSCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-SetupRspTDD }}

DSCH-InformationResponseListIEs-RL-SetupRspTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse CRITICALITY ignore TYPE DSCH-InformationResponse PRESENCE mandatory }
}

USCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{ USCH-InformationResponseListIEs-RL-SetupRspTDD }}

USCH-InformationResponseListIEs-RL-SetupRspTDD NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationResponse CRITICALITY ignore TYPE USCH-InformationResponse PRESENCE mandatory }
}

RL-InformationResponse-LCR-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID RL-ID,
    uL-TimeSlot-ISCP-LCR-Info UL-TimeSlot-ISCP-LCR-Info,
    ul-PhysCH-SF-Variation UL-PhysCH-SF-Variation,
    dCH-InformationResponseList DCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    dSCH-InformationResponseList DSCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    uSCH-InformationResponseList USCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { RL-InformationResponseList-LCR-RL-SetupRspTDD-ExtIEs } }
    OPTIONAL,
    ...
}

RL-InformationResponseList-LCR-RL-SetupRspTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-TDD-Information-Response-LCR CRITICALITY ignore EXTENSION HSDSCH-TDD-Information-Response PRESENCE optional },

```

```

}
...
-- *****
--
-- RADIO LINK SETUP FAILURE FDD
--
-- *****

RadioLinkSetupFailureFDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{RadioLinkSetupFailureFDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{RadioLinkSetupFailureFDD-Extensions}}          OPTIONAL,
    ...
}

RadioLinkSetupFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-CRNC-CommunicationContextID          CRITICALITY    ignore          TYPE    CRNC-
CommunicationContextID          PRESENCE    mandatory    }|
    { ID      id-NodeB-CommunicationContextID        CRITICALITY    ignore          TYPE    NodeB-
CommunicationContextID          PRESENCE    conditional  }|
    -- This IE shall be present if at least one of the radio links has been successfully set up
    { ID      id-CommunicationControlPortID          CRITICALITY    ignore          TYPE
CommunicationControlPortID          PRESENCE    optional    }|
    { ID      id-CauseLevel-RL-SetupFailureFDD       CRITICALITY    ignore          TYPE    CauseLevel-RL-
SetupFailureFDD          PRESENCE    mandatory    }|
    { ID      id-CriticalityDiagnostics              CRITICALITY    ignore          TYPE
CriticalityDiagnostics          PRESENCE    optional    },
    ...
}

RadioLinkSetupFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CauseLevel-RL-SetupFailureFDD ::= CHOICE {
    generalCause          GeneralCauseList-RL-SetupFailureFDD,
    rLSpecificCause      RLSpecificCauseList-RL-SetupFailureFDD,
    ...
}

GeneralCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    cause                Cause,
    iE-Extensions        ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureFDD-ExtIEs } }    OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-SetupFailureFDD    Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD,
    successful-RL-InformationRespList-RL-SetupFailureFDD      Successful-RL-InformationRespList-RL-SetupFailureFDD    OPTIONAL,
}

```

```

    iE-Extensions          ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ Unsuccessful-RL-
InformationRespItemIE-RL-SetupFailureFDD }}

Unsuccessful-RL-InformationRespItemIE-RL-SetupFailureFDD NBAP-PROTOCOL-IES ::= {
    { ID      id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD      CRITICALITY      ignore      TYPE      Unsuccessful-RL-
InformationRespItem-RL-SetupFailureFDD      PRESENCE      mandatory}
}

Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID          RL-ID,
    cause          Cause,
    iE-Extensions ProtocolExtensionContainer { { Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD-ExtIEs} }
    OPTIONAL,
    ...
}

Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Successful-RL-InformationRespList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1.. maxNrOfRLs)) OF ProtocolIE-Single-Container {{ Successful-RL-
InformationRespItemIE-RL-SetupFailureFDD }}

Successful-RL-InformationRespItemIE-RL-SetupFailureFDD NBAP-PROTOCOL-IES ::= {
    { ID      id-Successful-RL-InformationRespItem-RL-SetupFailureFDD      CRITICALITY      ignore      TYPE      Successful-RL-
InformationRespItem-RL-SetupFailureFDD      PRESENCE      mandatory}
}

Successful-RL-InformationRespItem-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID          RL-ID,
    rL-Set-ID      RL-Set-ID,
    received-total-wide-band-power          Received-total-wide-band-power-Value,
    diversityIndication          DiversityIndication-RL-SetupFailureFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    dSCH-InformationResponseList          DSCH-InformationRespList-RL-SetupFailureFDD      OPTIONAL,
    tFCI2-BearerInformationResponse          TFCI2-BearerInformationResponse      OPTIONAL,
    sSDT-SupportIndicator          SSDT-SupportIndicator,
    iE-Extensions          ProtocolExtensionContainer { { Successful-RL-InformationRespItem-RL-SetupFailureFDD-ExtIEs} }
    OPTIONAL,
    ...
}

Successful-RL-InformationRespItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID      id-HSDSCH-FDD-Information-Response          CRITICALITY      ignore      EXTENSION      HSDSCH-FDD-Information-Response      PRESENCE      optional },

```



```

}
...
DiversityIndication-RL-SetupFailureFDD ::= CHOICE {
    combining                Combining-RL-SetupFailureFDD,
    nonCombiningOrFirstRL    NonCombiningOrFirstRL-RL-SetupFailureFDD
}

Combining-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                    RL-ID,
    iE-Extensions            ProtocolExtensionContainer { { CombiningItem-RL-SetupFailureFDD-ExtIEs } } OPTIONAL,
    ...
}

CombiningItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

NonCombiningOrFirstRL-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-InformationResponse   DCH-InformationResponse,
    iE-Extensions            ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs } } OPTIONAL,
    ...
}

NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationRespList-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationRespListIEs-RL-SetupFailureFDD }}

DSCH-InformationRespListIEs-RL-SetupFailureFDD NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse CRITICALITY ignore TYPE DSCH-InformationResponse PRESENCE mandatory }
}

```

/* Unaffected parts omitted. */

```

-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
--
-- *****

```

```

RadioLinkReconfigurationPrepareFDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{RadioLinkReconfigurationPrepareFDD-IEs}},
  protocolExtensions  ProtocolExtensionContainer  {{RadioLinkReconfigurationPrepareFDD-Extensions}}
  ...
}

RadioLinkReconfigurationPrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID          CRITICALITY reject          TYPE          NodeB-CommunicationContextID
    PRESENCE mandatory } |
  { ID id-UL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY reject          TYPE          UL-DPCH-Information-RL-
  ReconfPrepFDD PRESENCE optional } |
  { ID id-DL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY reject          TYPE          DL-DPCH-Information-RL-
  ReconfPrepFDD PRESENCE optional } |
  { ID id-FDD-DCHs-to-Modify                    CRITICALITY reject          TYPE          FDD-DCHs-to-Modify
    PRESENCE optional } |
  { ID id-DCHs-to-Add-FDD                      CRITICALITY reject          TYPE          DCH-FDD-Information
    PRESENCE optional } |
  { ID id-DCH-DeleteList-RL-ReconfPrepFDD      CRITICALITY reject          TYPE          DCH-DeleteList-RL-ReconfPrepFDD
    PRESENCE optional } |
  { ID id-DSCH-ModifyList-RL-ReconfPrepFDD     CRITICALITY reject          TYPE          DSCH-ModifyList-RL-ReconfPrepFDD
    PRESENCE optional } |
  { ID id-DSCHs-to-Add-FDD                    CRITICALITY reject          TYPE          DSCH-FDD-Information
    PRESENCE optional } |
  { ID id-DSCH-DeleteList-RL-ReconfPrepFDD     CRITICALITY reject          TYPE          DSCH-DeleteList-RL-ReconfPrepFDD
    PRESENCE optional } |
  { ID id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD
  CRITICALITY reject          TYPE          TFCI2-BearerSpecificInformation-
  RL-ReconfPrepFDD
  PRESENCE optional } |
  { ID id-RL-InformationList-RL-ReconfPrepFDD  CRITICALITY reject          TYPE          RL-InformationList-RL-
  ReconfPrepFDD PRESENCE optional } |
  { ID id-Transmission-Gap-Pattern-Sequence-Information
  CRITICALITY reject          TYPE          Transmission-Gap-Pattern-Sequence-Information
  PRESENCE optional },
  ...
}

RadioLinkReconfigurationPrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-DSCH-FDD-Common-Information          CRITICALITY ignore EXTENSION DSCH-FDD-Common-Information
  PRESENCE optional } |
  { ID id-HSDSCH-Information-to-Modify        CRITICALITY reject EXTENSION HSDSCH-Information-to-Modify
  PRESENCE optional } |
  { ID id-HSDSCH-FDD-Information-to-Add      CRITICALITY reject EXTENSION HSDSCH-FDD-Information
  PRESENCE optional } |
  { ID id-HSDSCH-FDD-Information-to-Delete   CRITICALITY reject EXTENSION HSDSCH-DeleteList-RL-ReconfPrepFDD
  PRESENCE optional } |
  { ID id-HSDSCH-RNTI                       CRITICALITY reject EXTENSION HSDSCH-RNTI
  PRESENCE optional } |
  { ID id-HSPDSCH-RL-ID                     CRITICALITY reject EXTENSION RL-ID
  PRESENCE optional },
  ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
  ul-ScramblingCode          UL-ScramblingCode          OPTIONAL,
  ul-SIR-Target              UL-SIR                      OPTIONAL,
  minUL-ChannelisationCodeLength
  MinUL-ChannelisationCodeLength  OPTIONAL,
  maxNrOfUL-DPDCHs          MaxNrOfUL-DPDCHs          OPTIONAL,
  -- This IE shall be present if minUL-ChannelisationCodeLength Ie is set to 4
  ul-PunctureLimit          PunctureLimit          OPTIONAL,
  tFCS                      TFCS              OPTIONAL,
  ul-DPCCH-SlotFormat       UL-DPCCH-SlotFormat       OPTIONAL,
  diversityMode             DiversityMode          OPTIONAL,

```

```

sSDT-CellIDLength          SSdT-CellID-Length          OPTIONAL,
s-FieldLength              S-FieldLength          OPTIONAL,
iE-Extensions              ProtocolExtensionContainer { { UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs } } OPTIONAL,
...
}

UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

DL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
  tFCS                      TFCS                      OPTIONAL,
  dl-DPCH-SlotFormat        DL-DPCH-SlotFormat        OPTIONAL,
  tFCI-SignallingMode       TFCI-SignallingMode       OPTIONAL,
  tFCI-Presence              TFCI-Presence              OPTIONAL,
  -- This IE shall be present if the DL DPCH Slot Format IE is set to any of the values from 12 to 16
  multiplexingPosition      MultiplexingPosition      OPTIONAL,
  pDSCH-CodeMapping         PDSCH-CodeMapping         OPTIONAL,
  pDSCH-RL-ID               RL-ID                  OPTIONAL,
  limitedPowerIncrease      LimitedPowerIncrease      OPTIONAL,
  iE-Extensions              ProtocolExtensionContainer { { DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs } } OPTIONAL,
  ...
}

DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

DCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepFDD

DCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
  dCH-ID                    DCH-ID,
  iE-Extensions              ProtocolExtensionContainer { { DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs } } OPTIONAL,
  ...
}

DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
...
}

DSCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF ProtocolIE-Single-Container {{DSCH-ModifyItemIE-RL-ReconfPrepFDD }}

DSCH-ModifyItemIE-RL-ReconfPrepFDD NBAP-PROTOCOL-IES ::= {
  { ID      id-DSCH-ModifyItem-RL-ReconfPrepFDD      CRITICALITY reject      TYPE      DSCH-ModifyItem-RL-ReconfPrepFDD      PRESENCE mandatory}
}

DSCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
  dSCH-ID                    DSCH-ID,
  dl-TransportFormatSet      TransportFormatSet          OPTIONAL,
  allocationRetentionPriority AllocationRetentionPriority  OPTIONAL,
  frameHandlingPriority       FrameHandlingPriority        OPTIONAL,
  toAWS                       ToAWS                       OPTIONAL,
  toAWE                       ToAWE                       OPTIONAL,

```

```

    transportBearerRequestIndicator      TransportBearerRequestIndicator,
    iE-Extensions                        ProtocolExtensionContainer { { DSCH-ModifyItem-RL-ReconfPrepFDD-ExtIEs } }    OPTIONAL,
    ...
}

DSCH-ModifyItem-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF ProtocolIE-Single-Container {{DSCH-DeleteItemIE-RL-ReconfPrepFDD }}

DSCH-DeleteItemIE-RL-ReconfPrepFDD NBAP-PROTOCOL-IES ::= {
    { ID      id-DSCH-DeleteItem-RL-ReconfPrepFDD      CRITICALITY reject          TYPE      DSCH-DeleteItem-RL-ReconfPrepFDD      PRESENCE mandatory}
}

DSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    iE-Extensions   ProtocolExtensionContainer { { DSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs } }    OPTIONAL,
    ...
}

DSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD ::= CHOICE {
    addOrModify      AddOrModify-TFCI2-RL-ReconfPrepFDD,
    delete           NULL
}

AddOrModify-TFCI2-RL-ReconfPrepFDD ::= SEQUENCE {
    toAWS            ToAWS,
    toAWE            ToAWE,
    iE-Extensions   ProtocolExtensionContainer { { AddOrModify-TFCI2-RL-ReconfPrepFDD-ExtIEs } }    OPTIONAL,
    ...
}

AddOrModify-TFCI2-RL-ReconfPrepFDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationItemIE-RL-ReconfPrepFDD }}

RL-InformationItemIE-RL-ReconfPrepFDD NBAP-PROTOCOL-IES ::= {
    { ID      id-RL-InformationItem-RL-ReconfPrepFDD      CRITICALITY reject          TYPE      RL-InformationItem-RL-
ReconfPrepFDD      PRESENCE mandatory}
}

RL-InformationItem-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID          RL-ID,
    dl-CodeInformation  FDD-DL-CodeInformation    OPTIONAL,
    maxDL-Power      DL-Power          OPTIONAL,
    minDL-Power      DL-Power          OPTIONAL,
}

```

```

sSDT-Indication          SSdT-Indication          OPTIONAL,
sSDT-Cell-Identity       SSdT-Cell-Identity       OPTIONAL,
-- The IE shall be present if the SSdT Indication IE is set to "SSdT Active in the UE"
transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL,
-- This IE shall be present if Diversity Mode IE is present in UL DPCH Information IE and it is not set to "none"
iE-Extensions            ProtocolExtensionContainer { { RL-InformationItem-RL-ReconfPrepFDD-ExtIEs } } OPTIONAL,
...
}

```

```

RL-InformationItem-RL-ReconfPrepFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-SSdT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSdT-Cell-Identity PRESENCE conditional },
  -- This IE shall be present if Enhanced DSCH PC IE is present in the DSCH Common Information IE.
  ...
}

```

HSDSCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-DeleteItem-RL-ReconfPrepFDD

```

HSDSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
  hsDSCH-MACdFlow-ID          HSDSCH-MACdFlow-ID,
  iE-Extensions              ProtocolExtensionContainer { { HSDSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs } } OPTIONAL,
  ...
}

```

```

HSDSCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE TDD
--
-- *****

```

```

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{RadioLinkReconfigurationPrepareTDD-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareTDD-Extensions}}
  ...
}

```

```

RadioLinkReconfigurationPrepareTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID          CRITICALITY reject TYPE NodeB-CommunicationContextID
    PRESENCE mandatory } |
  { ID id-UL-CCH-InformationAddList-RL-ReconfPrepTDD          CRITICALITY reject TYPE UL-CCH-
    InformationAddList-RL-ReconfPrepTDD PRESENCE optional } |
  { ID id-UL-CCH-InformationModifyList-RL-ReconfPrepTDD       CRITICALITY reject TYPE UL-CCH-
    InformationModifyList-RL-ReconfPrepTDD PRESENCE optional } |
  { ID id-UL-CCH-InformationDeleteList-RL-ReconfPrepTDD       CRITICALITY reject TYPE UL-CCH-
    InformationDeleteList-RL-ReconfPrepTDD PRESENCE optional } |
  { ID id-DL-CCH-InformationAddList-RL-ReconfPrepTDD          CRITICALITY reject TYPE DL-CCH-
    InformationAddList-RL-ReconfPrepTDD PRESENCE optional } |
  { ID id-DL-CCH-InformationModifyList-RL-ReconfPrepTDD       CRITICALITY reject TYPE DL-CCH-
    InformationModifyList-RL-ReconfPrepTDD PRESENCE optional } |
}

```

```

    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD CRITICALITY reject TYPE DL-CCTrCH-
InformationDeleteList-RL-ReconfPrepTDD PRESENCE optional } |
    { ID id-TDD-DCHs-to-Modify CRITICALITY reject TYPE TDD-DCHs-to-Modify PRESENCE optional
} |
    { ID id-DCHs-to-Add-TDD CRITICALITY reject TYPE DCH-TDD-Information PRESENCE optional
} |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD CRITICALITY reject TYPE DCH-DeleteList-RL-ReconfPrepTDD
PRESENCE optional } |
    { ID id-DSCH-Information-ModifyList-RL-ReconfPrepTDD CRITICALITY reject TYPE DSCH-Information-ModifyList-RL-
ReconfPrepTDD PRESENCE optional } |
    { ID id-DSCHs-to-Add-TDD CRITICALITY reject TYPE DSCH-TDD-Information PRESENCE optional } |
    { ID id-DSCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY reject TYPE DSCH-Information-DeleteList-RL-
ReconfPrepTDD PRESENCE optional } |
    { ID id-USCH-Information-ModifyList-RL-ReconfPrepTDD CRITICALITY reject TYPE USCH-Information-ModifyList-RL-
ReconfPrepTDD PRESENCE optional } |
    { ID id-USCH-Information-Add CRITICALITY reject TYPE USCH-Information PRESENCE optional } |
    { ID id-USCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY reject TYPE USCH-Information-DeleteList-RL-
ReconfPrepTDD PRESENCE optional } |
    { ID id-RL-Information-RL-ReconfPrepTDD CRITICALITY reject TYPE RL-Information-RL-ReconfPrepTDD
PRESENCE optional },
    ...
}

```

```

RadioLinkReconfigurationPrepareTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-Information-to-Modify CRITICALITY reject EXTENSION HSDSCH-Information-to-Modify PRESENCE optional } |
    { ID id-HSDSCH-TDD-Information-to-Add CRITICALITY reject EXTENSION HSDSCH-TDD-Information PRESENCE optional } |
    { ID id-HSDSCH-TDD-Information-to-Delete CRITICALITY reject EXTENSION HSDSCH-DeleteList-RL-ReconfPrepTDD PRESENCE optional } |
    { ID id-HSDSCH-RNTI CRITICALITY reject EXTENSION HSDSCH-RNTI PRESENCE optional } |
    { ID id-HSPDSCH-RL-ID CRITICALITY reject EXTENSION RL-ID PRESENCE optional },
    ...
}

```

```

UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD

```

```

UL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID CCTrCH-ID,
    tFCS TFCS,
    tFCI-Coding TFCI-Coding,
    punctureLimit PunctureLimit,
    ul-DPCH-InformationList UL-DPCH-InformationAddList-RL-ReconfPrepTDD OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { UL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs } } OPTIONAL,
    ...
}

```

```

UL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD CRITICALITY reject EXTENSION UL-DPCH-InformationAddList-RL-ReconfPrepTDD
PRESENCE optional } | -- For 3.84Mcps TDD only
    { ID id-UL-SIRTarget CRITICALITY reject EXTENSION UL-SIR PRESENCE optional },
    -- This IE shall be mandatory for 1.28Mcps TDD, not applicable for 3.84Mcps TDD.
    ...
}

```

```

UL-DPCH-InformationAddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container { { UL-DPCH-InformationAddListIEs-RL-ReconfPrepTDD } }

```

```

UL-DPCH-InformationAddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD  CRITICALITY reject      TYPE UL-DPCH-InformationAddItem-RL-ReconfPrepTDD      PRESENCE
  mandatory }
}

```

```

UL-DPCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod      RepetitionPeriod,
  repetitionLength      RepetitionLength,
  tdd-DPCHOffset        TDD-DPCHOffset,
  uL-Timeslot-Information  UL-Timeslot-Information,
  iE-Extensions         ProtocolExtensionContainer { { UL-DPCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs } }      OPTIONAL,
  ...
}

```

```

UL-DPCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

UL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container { { UL-DPCH-LCR-InformationAddListIEs-RL-ReconfPrepTDD } }

```

```

UL-DPCH-LCR-InformationAddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD  CRITICALITY reject      TYPE UL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD
  PRESENCE mandatory }      -- For 1.28Mcps TDD only
}

```

```

UL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod      RepetitionPeriod,
  repetitionLength      RepetitionLength,
  tdd-DPCHOffset        TDD-DPCHOffset,
  uL-Timeslot-InformationLCR  UL-TimeslotLCR-Information,
  iE-Extensions         ProtocolExtensionContainer { { UL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD-ExtIEs } }      OPTIONAL,
  ...
}

```

```

UL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD

```

```

UL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  cCTrCH-ID      CCTrCH-ID,
  tFCS           TFCS                                OPTIONAL,
  tFCI-Coding    TFCI-Coding                        OPTIONAL,
  punctureLimit  PunctureLimit                      OPTIONAL,
  ul-DPCH-InformationAddList  UL-DPCH-InformationModify-AddList-RL-ReconfPrepTDD      OPTIONAL,
  ul-DPCH-InformationModifyList  UL-DPCH-InformationModify-ModifyList-RL-ReconfPrepTDD      OPTIONAL,
  ul-DPCH-InformationDeleteList  UL-DPCH-InformationModify-DeleteList-RL-ReconfPrepTDD      OPTIONAL,
  iE-Extensions         ProtocolExtensionContainer { { UL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}

```

```

UL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-UL-DPCH-LCR-InformationModify-AddList CRITICALITY reject EXTENSION UL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD
  PRESENCE optional } | -- For 1.28Mcps TDD only
  { ID id-UL-SIRTarget CRITICALITY reject EXTENSION UL-SIR PRESENCE optional },
  -- This IE shall be applicable for 1.28Mcps TDD only.
  ...
}

UL-DPCH-InformationModify-AddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ UL-DPCH-InformationModify-AddListIEs-RL-ReconfPrepTDD }}

UL-DPCH-InformationModify-AddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD CRITICALITY reject TYPE UL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD
  PRESENCE mandatory }
}

UL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod RepetitionPeriod,
  repetitionLength RepetitionLength,
  tdd-DPCHOffset TDD-DPCHOffset,
  uL-Timeslot-Information UL-Timeslot-Information,
  iE-Extensions ProtocolExtensionContainer { { UL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}

UL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ UL-DPCH-LCR-InformationModify-AddListIEs-RL-ReconfPrepTDD
}}

UL-DPCH-LCR-InformationModify-AddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD CRITICALITY reject TYPE UL-DPCH-LCR-InformationModify-AddItem-RL-
  ReconfPrepTDD PRESENCE mandatory }
}

UL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod RepetitionPeriod,
  repetitionLength RepetitionLength,
  tdd-DPCHOffset TDD-DPCHOffset,
  uL-Timeslot-InformationLCR UL-TimeslotLCR-Information,
  iE-Extensions ProtocolExtensionContainer { { UL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}

UL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-InformationModify-ModifyList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ UL-DPCH-InformationModify-ModifyListIEs-RL-ReconfPrepTDD }}

```



```

UL-DPCH-InformationModify-ModifyListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD  CRITICALITY reject          TYPE UL-DPCH-InformationModify-ModifyItem-RL-
ReconfPrepTDD          PRESENCE mandatory }
}

UL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod          RepetitionPeriod          OPTIONAL,
  repetitionLength         RepetitionLength          OPTIONAL,
  tdd-DPCHOffset           TDD-DPCHOffset            OPTIONAL,
  uL-Timeslot-InformationModify-ModifyList-RL-ReconfPrepTDD          UL-Timeslot-InformationModify-ModifyList-RL-ReconfPrepTDD          OPTIONAL,
  iE-Extensions           ProtocolExtensionContainer { { UL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs} }
  OPTIONAL,
  ...
}

UL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD  CRITICALITY reject          EXTENSION  UL-TimeslotLCR-InformationModify-ModifyList-RL-
ReconfPrepTDD          PRESENCE optional }, -- For 1.28Mcps TDD only
  ...
}

UL-Timeslot-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-Timeslot-InformationModify-ModifyItem-RL-
ReconfPrepTDD -- For 3.84Mcps TDD only

UL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  timeSlot                 TimeSlot,
  midambleShiftAndBurstType MidambleShiftAndBurstType          OPTIONAL,
  tFCI-Presence           TFCI-Presence          OPTIONAL,
  uL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD          UL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD          OPTIONAL,
  iE-Extensions           ProtocolExtensionContainer { { UL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs} }
  OPTIONAL,
  ...
}

UL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD

UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  dPCH-ID                 DPCH-ID,
  tdd-ChannelisationCode  TDD-ChannelisationCode          OPTIONAL,
  iE-Extensions           ProtocolExtensionContainer { { UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs} }
  OPTIONAL,
  ...
}

UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

UL-TimeslotLCR-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfULTSLCRs)) OF UL-Timeslot-LCR-InformationModify-
ModifyItem-RL-ReconfPrepTDD -- For 1.28Mcps TDD only
UL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    midambleShiftLCR          MidambleShiftLCR          OPTIONAL,
    tFCI-Presence              TFCI-Presence            OPTIONAL,
    uL-Code-InformationModify-ModifyList-RL-ReconfPrepTDDLDCR          UL-Code-InformationModify-ModifyList-RL-ReconfPrepTDDLDCR          OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { UL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

UL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Code-InformationModify-ModifyList-RL-ReconfPrepTDDLDCR ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-Code-InformationModify-ModifyItem-RL-
ReconfPrepTDD

UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDDLDCR ::= SEQUENCE {
    dPCH-ID                    DPCH-ID,
    tdd-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR          OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDDLDCR-ExtIEs } }
    OPTIONAL,
    ...
}

UL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDDLDCR-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationModify-DeleteList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container { { UL-DPCH-InformationModify-DeleteListIEs-RL-ReconfPrepTDD } }

UL-DPCH-InformationModify-DeleteListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD  CRITICALITY reject          TYPE UL-DPCH-InformationModify-DeleteListIE-RL-
ReconfPrepTDD          PRESENCE mandatory }
}

UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationModify-DeleteItem-RL-
ReconfPrepTDD

UL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dPCH-ID                    DPCH-ID,
    iE-Extensions              ProtocolExtensionContainer { { UL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

UL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD

```

```

UL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    iE-Extensions            ProtocolExtensionContainer { { UL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs} }
    OPTIONAL,
    ...
}

UL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    tFCS                    TFCS,
    tFCI-Coding             TFCI-Coding,
    punctureLimit           PunctureLimit,
    cCTrCH-TPCList          CCTrCH-TPCAddList-RL-ReconfPrepTDD                OPTIONAL,
    dl-DPCH-InformationList DL-DPCH-InformationAddList-RL-ReconfPrepTDD    OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs} }
    OPTIONAL,
    ...
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD  CRITICALITY reject          EXTENSION          DL-DPCH-LCR-
InformationAddList-RL-ReconfPrepTDD  PRESENCE optional } -- For 1.28Mcps TDD only
}

CCTrCH-TPCAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCAddItem-RL-ReconfPrepTDD -- For 3.84Mcps TDD only

CCTrCH-TPCAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    iE-Extensions            ProtocolExtensionContainer { { CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs} }    OPTIONAL,
    ...
}

CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationAddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ DL-DPCH-InformationAddListIEs-RL-ReconfPrepTDD }}

DL-DPCH-InformationAddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD  CRITICALITY reject          TYPE DL-DPCH-InformationAddItem-RL-ReconfPrepTDD  PRESENCE
mandatory }
}

DL-DPCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    repetitionPeriod        RepetitionPeriod,

```

```

    repetitionLength          RepetitionLength,
    tdd-DPCHOffset           TDD-DPCHOffset,
    dl-Timeslot-Information  DL-Timeslot-Information,
    iE-Extensions            ProtocolExtensionContainer { { DL-DPCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs } }    OPTIONAL,
    ...
}

DL-DPCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ DL-DPCH-LCR-InformationAddListIEs-RL-ReconfPrepTDD }}

DL-DPCH-LCR-InformationAddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD  CRITICALITY reject          TYPE DL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD
    PRESENCE mandatory } -- For 1.28Mcps TDD only
}

DL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    repetitionPeriod          RepetitionPeriod,
    repetitionLength         RepetitionLength,
    tdd-DPCHOffset           TDD-DPCHOffset,
    dl-Timeslot-InformationLCR DL-TimeslotLCR-Information,
    iE-Extensions            ProtocolExtensionContainer { { DL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD-ExtIEs } }    OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationAddItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    tFCS                      TFCS                                OPTIONAL,
    tFCI-Coding              TFCI-Coding                        OPTIONAL,
    punctureLimit            PunctureLimit                    OPTIONAL,
    cCTrCH-TPCList           CCTrCH-TPCModifyList-RL-ReconfPrepTDD  OPTIONAL,
    dl-DPCH-InformationAddList DL-DPCH-InformationModify-AddList-RL-ReconfPrepTDD  OPTIONAL,
    dl-DPCH-InformationModifyList DL-DPCH-InformationModify-ModifyList-RL-ReconfPrepTDD  OPTIONAL,
    dl-DPCH-InformationDeleteList DL-DPCH-InformationModify-DeleteList-RL-ReconfPrepTDD  OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { { DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
    { ID id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD  CRITICALITY reject          EXTENSION          DL-DPCH-LCR-InformationModify-
    AddList-RL-ReconfPrepTDD          PRESENCE optional }
}

```

```

CCTrCH-TPCModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCModifyItem-RL-ReconfPrepTDD

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID          CCTrCH-ID,
    iE-Extensions     ProtocolExtensionContainer { { CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModify-AddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ DL-DPCH-InformationModify-AddListIEs-RL-ReconfPrepTDD }} --
For 3.84Mcps TDD only

DL-DPCH-InformationModify-AddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD CRITICALITY reject TYPE DL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD
    PRESENCE mandatory } -- For 1.28Mcps TDD only
}

DL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    repetitionPeriod      RepetitionPeriod,
    repetitionLength      RepetitionLength,
    tdd-DPCHOffset        TDD-DPCHOffset,
    dL-Timeslot-Information DL-Timeslot-Information,
    iE-Extensions         ProtocolExtensionContainer { { DL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ DL-DPCH-LCR-InformationModify-AddListIEs-RL-ReconfPrepTDD
}}

DL-DPCH-LCR-InformationModify-AddListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD CRITICALITY reject TYPE DL-DPCH-LCR-InformationModify-AddItem-RL-
ReconfPrepTDD PRESENCE mandatory }
}

DL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    repetitionPeriod      RepetitionPeriod,
    repetitionLength      RepetitionLength,
    tdd-DPCHOffset        TDD-DPCHOffset,
    dL-Timeslot-InformationLCR DL-TimeslotLCR-Information,
    iE-Extensions         ProtocolExtensionContainer { { DL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs} }
OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationModify-AddItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

}

DL-DPCH-InformationModify-ModifyList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container {{ DL-DPCH-InformationModify-ModifyListIEs-RL-ReconfPrepTDD }}

DL-DPCH-InformationModify-ModifyListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
  { ID id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD CRITICALITY reject TYPE DL-DPCH-InformationModify-ModifyItem-RL-
ReconfPrepTDD PRESENCE mandatory }
}

DL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  repetitionPeriod RepetitionPeriod OPTIONAL,
  repetitionLength RepetitionLength OPTIONAL,
  tdd-DPCHOffset TDD-DPCHOffset OPTIONAL,
  dL-Timeslot-InformationAddModify-ModifyList-RL-ReconfPrepTDD DL-Timeslot-InformationModify-ModifyList-RL-ReconfPrepTDD OPTIONAL,
  iE-Extensions ProtocolExtensionContainer { { DL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
OPTIONAL,
  ...
}

DL-DPCH-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
  { ID id-DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD CRITICALITY reject EXTENSION DL-Timeslot-
LCR-InformationModify-ModifyList-RL-ReconfPrepTDD PRESENCE optional }
}

DL-Timeslot-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDLTs)) OF DL-Timeslot-InformationModify-ModifyItem-RL-
ReconfPrepTDD

DL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  timeSlot TimeSlot,
  midambleShiftAndBurstType MidambleShiftAndBurstType OPTIONAL,
  tFCI-Presence TFCI-Presence OPTIONAL,
  dL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD DL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD OPTIONAL,
  iE-Extensions ProtocolExtensionContainer { { DL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
OPTIONAL,
  ...
}

DL-Timeslot-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

DL-Code-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF DL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD

DL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  dPCH-ID DPCH-ID,
  tdd-ChannelisationCode TDD-ChannelisationCode OPTIONAL,
  iE-Extensions ProtocolExtensionContainer { { DL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
OPTIONAL,
  ...
}

DL-Code-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

}

DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDLTSLCRs)) OF DL-Timeslot-InformationModify-ModifyItem-
RL-ReconfPrepTDD

DL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    midambleShiftLCR           MidambleShiftLCR           OPTIONAL,
    tFCI-Presence              TFCI-Presence              OPTIONAL,
    dL-Code-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD           DL-Code-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD           OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { DL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

DL-Timeslot-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Code-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF DL-Code-InformationModify-ModifyItem-RL-
ReconfPrepTDD

DL-Code-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dPCH-ID                    DPCH-ID,
    tdd-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR           OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { DL-Code-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

DL-Code-LCR-InformationModify-ModifyItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModify-DeleteList-RL-ReconfPrepTDD ::= ProtocolIE-Single-Container { { DL-DPCH-InformationModify-DeleteListIEs-RL-ReconfPrepTDD } }

DL-DPCH-InformationModify-DeleteListIEs-RL-ReconfPrepTDD NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD   CRITICALITY reject           TYPE DL-DPCH-InformationModify-DeleteListIE-RL-
ReconfPrepTDD           PRESENCE mandatory }
}

DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationModify-DeleteItem-RL-
ReconfPrepTDD

DL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dPCH-ID                    DPCH-ID,
    iE-Extensions              ProtocolExtensionContainer { { DL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD-ExtIEs } }
    OPTIONAL,
    ...
}

DL-DPCH-InformationModify-DeleteItem-RL-ReconfPrepTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD

```
DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  cCTrCH-ID                CCTrCH-ID,
  iE-Extensions            ProtocolExtensionContainer { { DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}
```

```
DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

DCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepTDD

```
DCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  dCH-ID                DCH-ID,
  iE-Extensions            ProtocolExtensionContainer { { DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}
```

```
DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

DSCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF DSCH-Information-ModifyItem-RL-ReconfPrepTDD

```
DSCH-Information-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  dSCH-ID                DSCH-ID,
  cCTrCH-ID                CCTrCH-ID                OPTIONAL,
  transportFormatSet      TransportFormatSet        OPTIONAL,
  allocationRetentionPriority AllocationRetentionPriority OPTIONAL,
  frameHandlingPriority    FrameHandlingPriority      OPTIONAL,
  toAWS                    ToAWS                    OPTIONAL,
  toAWE                    ToAWE                    OPTIONAL,
  transportBearerRequestIndicator TransportBearerRequestIndicator,
  iE-Extensions            ProtocolExtensionContainer { { DSCH-Information-ModifyItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}
```

```
DSCH-Information-ModifyItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

DSCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF DSCH-Information-DeleteItem-RL-ReconfPrepTDD

```
DSCH-Information-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  dSCH-ID                DSCH-ID,
  iE-Extensions            ProtocolExtensionContainer { { DSCH-Information-DeleteItem-RL-ReconfPrepTDD-ExtIEs } }
  OPTIONAL,
  ...
}
```



```

DSCH-Information-DeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

USCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfUSCHs)) OF USCH-Information-ModifyItem-RL-ReconfPrepTDD

USCH-Information-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
  uSCH-ID                USCH-ID,
  transportFormatSet     TransportFormatSet      OPTIONAL,
  allocationRetentionPriority AllocationRetentionPriority OPTIONAL,
  cCTrCH-ID              CCTrCH-ID              OPTIONAL,
  transportBearerRequestIndicator TransportBearerRequestIndicator,
  iE-Extensions          ProtocolExtensionContainer { { USCH-Information-ModifyItem-RL-ReconfPrepTDD-ExtIEs} }  OPTIONAL,
  ...
}

USCH-Information-ModifyItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

USCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfUSCHs)) OF USCH-Information-DeleteItem-RL-ReconfPrepTDD

USCH-Information-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  uSCH-ID                USCH-ID,
  iE-Extensions          ProtocolExtensionContainer { { USCH-Information-DeleteItem-RL-ReconfPrepTDD-ExtIEs} }  OPTIONAL,
  ...
}

USCH-Information-DeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

RL-Information-RL-ReconfPrepTDD ::= SEQUENCE {
  rL-ID                RL-ID,
  maxDL-Power          DL-Power          OPTIONAL,
  minDL-Power          DL-Power          OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { { RL-Information-RL-ReconfPrepTDD-ExtIEs} }  OPTIONAL,
  ...
}

RL-Information-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-InitDL-Power  CRITICALITY ignore  EXTENSION DL-Power  PRESENCE optional  },
  ...
}

HSDSCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-DeleteItem-RL-ReconfPrepTDD

HSDSCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
  hsDSCH-MACdFlow-ID  HSDSCH-MACdFlow-ID,
  iE-Extensions          ProtocolExtensionContainer { { HSDSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} }  OPTIONAL,
  ...
}

```

```

HSDSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- RADIO LINK RECONFIGURATION READY
--
-- *****

RadioLinkReconfigurationReady ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{RadioLinkReconfigurationReady-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{RadioLinkReconfigurationReady-Extensions}}    OPTIONAL,
    ...
}

RadioLinkReconfigurationReady-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-CRNC-CommunicationContextID          CRITICALITY  ignore      TYPE          CRNC-CommunicationContextID
      PRESENCE  mandatory } |
    { ID      id-RL-InformationResponseList-RL-ReconfReady  CRITICALITY  ignore      TYPE          RL-InformationResponseList-RL-
ReconfReady  PRESENCE  optional } |
    { ID      id-CriticalityDiagnostics              CRITICALITY  ignore      TYPE          CriticalityDiagnostics
      PRESENCE  optional },
    ...
}

RadioLinkReconfigurationReady-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationResponseItemIE-RL-
ReconfReady}}

RL-InformationResponseItemIE-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID      id-RL-InformationResponseItem-RL-ReconfReady  CRITICALITY  ignore      TYPE  RL-InformationResponseItem-
RL-ReconfReady  PRESENCE  mandatory}
}

RL-InformationResponseItem-RL-ReconfReady ::= SEQUENCE {
    rL-ID          RL-ID,
    dCH-InformationResponseList-RL-ReconfReady  DCH-InformationResponseList-RL-ReconfReady  OPTIONAL,
    dSCH-InformationResponseList-RL-ReconfReady  DSCH-InformationResponseList-RL-ReconfReady  OPTIONAL,
    uSCH-InformationResponseList-RL-ReconfReady  USCH-InformationResponseList-RL-ReconfReady  OPTIONAL,
    tFCI2-BearerInformationResponse  TFCI2-BearerInformationResponse  OPTIONAL, --FDD only
    iE-Extensions  ProtocolExtensionContainer { { RL-InformationResponseItem-RL-ReconfReady-ExtIEs} }    OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReady-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID      id-HSDSCH-FDD-Information-Response  CRITICALITY  ignore      EXTENSION  HSDSCH-FDD-Information-Response  PRESENCE  optional } ||
    { ID      id-HSDSCH-TDD-Information-Response  CRITICALITY  ignore      EXTENSION  HSDSCH-TDD-Information-Response  PRESENCE  optional },
}

```

```

}
...
}
DCH-InformationResponseList-RL-ReconfReady ::= ProtocolIE-Single-Container {{ DCH-InformationResponseListIEs-RL-ReconfReady }}
DCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
  { ID id-DCH-InformationResponse  CRITICALITY ignore  TYPE DCH-InformationResponse  PRESENCE mandatory }
}
DSCH-InformationResponseList-RL-ReconfReady ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-ReconfReady }}
DSCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-InformationResponse  CRITICALITY ignore  TYPE DSCH-InformationResponse  PRESENCE mandatory }
}
USCH-InformationResponseList-RL-ReconfReady ::= ProtocolIE-Single-Container {{ USCH-InformationResponseListIEs-RL-ReconfReady }}
USCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
  { ID id-USCH-InformationResponse  CRITICALITY ignore  TYPE USCH-InformationResponse  PRESENCE mandatory }
}

```

/* Unaffected parts omitted */

```

-- *****
--
-- DL POWER TIMESLOT CONTROL REQUEST TDD
--
-- *****

DL-PowerTimeslotControlRequest ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{DL-PowerTimeslotControlRequest-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{DL-PowerTimeslotControlRequest-Extensions}}      OPTIONAL,
  ...
}

DL-PowerTimeslotControlRequest-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID          CRITICALITY ignore          TYPE          NodeB-CommunicationContextID          PRESENCE mandatory
  } |
  { ID id-TimeslotISCPInfo          CRITICALITY ignore          TYPE          DL-TimeslotISCPInfo          PRESENCE optional }, -- Mandatory for 3.84Mcps TDD
  only
}

```

```

}
...
DL-PowerTimeslotControlRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
    { ID id-TimeslotISCPInfoList-LCR-DL-PC-RqstTDD CRITICALITY ignore EXTENSION TimeslotISCPInfoList-LCR-DL-PC-RqstTDD PRESENCE
optional }
    { ID id-PrimCCPCH-RSCP-DL-PC-RqstTDD CRITICALITY ignore EXTENSION PrimaryCCPCH-RSCP PRESENCE optional },
    ...
}

TimeslotISCPInfoList-LCR-DL-PC-RqstTDD ::= SEQUENCE {
    dL-TimeslotISCP-LCR-Info DL-TimeslotISCPInfoLCR, -- Mandatory for 1.28Mcps TDD only
    iE-Extensions ProtocolExtensionContainer { {TimeslotISCPInfoItem-LCR-DL-PC-RqstTDD-ExtIEs} } OPTIONAL,
    ...
}

TimeslotISCPInfoItem-LCR-DL-PC-RqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

```

```

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

```

```

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

```

```

IMPORTS
    maxNrOfTFcs,
    maxNrOfErrors,
    maxCTFC,
    maxNrOfTFs,
    maxTTI-count,
    maxRateMatching,
    maxCodeNrComp-1,
    maxNrOfCellSyncBursts,
    maxNrOfCodeGroups,
    maxNrOfMeasNCell,

```

```

maxNrOfMeasNCell-1,
maxNrOfReceiptsPerSyncFrame,
maxNrOfTFCIGroups,
maxNrOfTFCI1Combs,
maxNrOfTFCI2Combs,
maxNrOfTFCI2Combs-1,
maxNrOfSF,
maxTGPS,
maxNrOfUSCHs,
maxNrOfULTSs,
maxNrOfULTSLCRs,
maxNrOfDPCHs,
maxNrOfDPCHLCRs,
maxNrOfCodes,
maxNrOfDSCHs,
maxNrOfDLTSSs,
maxNrOfDLTSLCRs,
maxNrOfDCHs,
maxNrOfLevels,
maxNoGPSItems,
maxNoSat,
maxNrOfHSSCCHCodes,
maxNrOfMACdFlows,
maxNrOfMACdFlows-1,
maxNrOfMACdPDUIndexes,
maxNrOfMACdPDUIndexes-1,
maxNrOfPriorityQueues,
maxNrOfPriorityQueues-1,
maxNrOfHARQProcesses,

id-MessageStructure,
id-ReportCharacteristicsType-OnModification,
id-Rx-Timing-Deviation-Value-LCR,
id-SFNSFNMeasurementValueInformation,
id-SFNSFNMeasurementThresholdInformation,
id-TUTRANGPSMeasurementValueInformation,
id-TUTRANGPSMeasurementThresholdInformation,
id-TypeOfError
FROM NBAP-Constants

Criticality,
ProcedureID,
ProtocolIE-ID,
TransactionID,
TriggeringMessage
FROM NBAP-CommonDataTypes

NBAP-PROTOCOL-IES,
ProtocolExtensionContainer{},
ProtocolIE-Single-Container{},
NBAP-PROTOCOL-EXTENSION
FROM NBAP-Containers;

```

```
/* Unaffected parts omitted. */
```

```
BLER ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER
```

```
/* Unaffected parts omitted. */
```

```
-- =====
-- H
-- =====
```

```
HARQMemoryPartitioningFDD ::= SEQUENCE (SIZE (1..maxNrOfHARQProcesses)) OF HARQMemoryPartitioning-ItemFDD
```

```
HARQMemoryPartitioning-ItemFDD ::= SEQUENCE {
    process-Memory-Size          INTEGER (0..172800,...),
    iE-Extensions                ProtocolExtensionContainer { { HARQMemoryPartitioning-ItemFDD-ExtIEs } } OPTIONAL,
    ...
}
```

```
HARQMemoryPartitioning-ItemFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
HARQMemoryPartitioningTDD ::= SEQUENCE (SIZE (1..maxNrOfHARQProcesses)) OF HARQMemoryPartitioning-ItemTDD
```

```
HARQMemoryPartitioning-ItemTDD ::= SEQUENCE {
    process-Memory-Size          INTEGER (0..168960,...),
    iE-Extensions                ProtocolExtensionContainer { { HARQMemoryPartitioning-ItemTDD-ExtIEs } } OPTIONAL,
    ...
}
```

```
HARQMemoryPartitioning-ItemTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
HSDSCH-FDD-Information ::= SEQUENCE {
    hsDSCH-MACdFlow-Specific-Info HSDSCH-MACdFlow-Specific-InfoList,
    ueCapability-Info              UE-Capability-InformationFDD,
    harqMemoryPartitioningFDD      HARQMemoryPartitioningFDD,
    measFeedbackOffset             INTEGER (0..79,...),
    iE-Extensions                  ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs } } OPTIONAL,
    ...
}
```

```

HSDSCH-FDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Information ::= SEQUENCE {
    hsDSCH-MACdFlow-Specific-Info          HSDSCH-MACdFlow-Specific-InfoList,
    ueCapability-Info                      UE-Capability-InformationTDD,
    harqMemoryPartitioningTDD             HARQMemoryPartitioningTDD,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs} } OPTIONAL,
    ...
}

HSDSCH-TDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-MACdFlow-Specific-InfoList ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem

HSDSCH-MACdFlow-Specific-InfoItem ::= SEQUENCE {
    hsDSCH-MACdFlow-ID                    HSDSCH-MACdFlow-ID,
    bler                                  BLER,
    allocationRetentionPriority            AllocationRetentionPriority,
    priorityQueueInfo                     PriorityQueue-InfoList,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-Information-to-Modify ::= SEQUENCE {
    hsDSCH-MACdFlow-Specific-Info-to-Modify HSDSCH-MACdFlow-Specific-InfoList-to-Modify OPTIONAL,
    measFeedbackRepCycleK                  ENUMERATED { measurement-Feedback-Reporting-Cycle-K1, measurement-Feedback-Reporting-Cycle-K2 } OPTIONAL,
    -- only for FDD
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-FDD-Information-to-Modify-ExtIEs} } OPTIONAL,
    ...
}

HSDSCH-FDD-Information-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-MACdFlow-Specific-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem-to-Modify

HSDSCH-MACdFlow-Specific-InfoItem-to-Modify ::= SEQUENCE {
    hsDSCH-MACdFlow-ID                    HSDSCH-MACdFlow-ID,
    bler                                  BLER OPTIONAL,
    allocationRetentionPriority            AllocationRetentionPriority OPTIONAL,
    priorityQueueInfoToModify             PriorityQueue-InfoList-to-Modify OPTIONAL,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs} } OPTIONAL,

```

```

...
}
HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
HSDSCH-FDD-Information-Response ::= SEQUENCE {
  hsDSCH-MACdFlow-Specific-InformationResp          HSDSCH-MACdFlow-Specific-InformationResp,
  hsSCCH-Specific-Information-ResponseFDD           HSSCCH-Specific-InformationRespListFDD,
  measFeedback-CycleK1                             Measurement-Feedback-Reporting-Cycle,
  measFeedback-CycleK2                             Measurement-Feedback-Reporting-Cycle,

  iE-Extensions                                     ProtocolExtensionContainer { { HSDSCH-FDD-Information-Response-ExtIEs } } OPTIONAL,
  ...
}
HSDSCH-FDD-Information-Response-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
HSDSCH-TDD-Information-Response ::= SEQUENCE {
  hsDSCH-MACdFlow-Specific-InformationResp          HSDSCH-MACdFlow-Specific-InformationResp,
  hsSCCH-Specific-Information-ResponseTDD           HSSCCH-Specific-InformationRespListTDD OPTIONAL,
  hsSCCH-Specific-Information-ResponseTDDLRCR       HSSCCH-Specific-InformationRespListTDDLRCR OPTIONAL,
  iE-Extensions                                     ProtocolExtensionContainer { { HSDSCH-TDD-Information-Response-ExtIEs } } OPTIONAL,
  ...
}
HSDSCH-TDD-Information-Response-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
HSDSCH-MACdFlow-Specific-InformationResp ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InformationResp-Item
HSDSCH-MACdFlow-Specific-InformationResp-Item ::= SEQUENCE {
  hsDSCHMacdFlow-Id                                HSDSCH-MACdFlow-ID,
  bindingID                                         BindingID OPTIONAL,
  transportLayerAddress                             TransportLayerAddress OPTIONAL,
  iE-Extensions                                     ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InformationRespItem-ExtIEs } } OPTIONAL,
  ...
}
HSDSCH-MACdFlow-Specific-InformationRespItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
HSSCCH-Specific-InformationRespListFDD ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-Codes

```



```

HSSCCH-Codes ::= SEQUENCE {
  codeNumber          INTEGER (1..127),
  iE-Extensions       ProtocolExtensionContainer { { HSSCCH-Specific-InformationRespItemFDD-ExtIEs } } OPTIONAL,
  ...
}

HSSCCH-Specific-InformationRespItemFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

HSSCCH-Specific-InformationRespListTDD ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-Specific-InformationRespItemTDD

HSSCCH-Specific-InformationRespItemTDD ::= SEQUENCE {
  timeslot            TimeSlot,
  midambleShiftAndBurstType MidambleShiftAndBurstType,
  tDD-ChannelisationCode TDD-ChannelisationCode,
  hSSICH-Info         HSSICH-Info,
  iE-Extensions       ProtocolExtensionContainer { { HSSCCH-Specific-InformationRespItemTDD-ExtIEs } } OPTIONAL,
  ...
}

HSSCCH-Specific-InformationRespItemTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

HSSCCH-Specific-InformationRespListTDDLDCR ::= SEQUENCE (SIZE (1..maxNrOfHSSCCHCodes)) OF HSSCCH-Specific-InformationRespItemTDDLDCR

HSSCCH-Specific-InformationRespItemTDDLDCR ::= SEQUENCE {
  timeslotLCR         TimeSlotLCR,
  midambleShiftLCR    MidambleShiftLCR,
  tDD-ChannelisationCodeLCR TDD-ChannelisationCodeLCR,
  hSSICH-InfoLCR      HSSICH-InfoLCR,
  iE-Extensions       ProtocolExtensionContainer { { HSSCCH-Specific-InformationRespItemTDDLDCR-ExtIEs } } OPTIONAL,
  ...
}

HSSCCH-Specific-InformationRespItemTDDLDCR-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

HSSICH-Info ::= SEQUENCE {
  timeslot            TimeSlot,
  midambleShiftAndBurstType MidambleShiftAndBurstType,
  tDD-ChannelisationCode TDD-ChannelisationCode,
  iE-Extensions       ProtocolExtensionContainer { { HSSICH-Info-ExtIEs } } OPTIONAL,
  ...
}

HSSICH-Info-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

HSSICH-InfoLCR ::= SEQUENCE {

```

```

timeslotLCR                               TimeSlotLCR,
midambleShiftLCR                           MidambleShiftLCR,
tDD-ChannelisationCodeLCR                  TDD-ChannelisationCodeLCR,
iE-Extensions                               ProtocolExtensionContainer { { HSSICH-Info-LCR-ExtIEs } } OPTIONAL,
...
}

HSSICH-Info-LCR-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

HSDSCH-MACdFlow-ID ::= INTEGER (0..maxNrOfMACdFlows-1)

HSDSCH-RNTI ::= INTEGER (0..65535)

/* Unaffected parts omitted. */

MACdPDU-Size ::= INTEGER (1..5000,...)

MACdPDU-Size-Indexlist ::= SEQUENCE (Size (1..maxNrOfMACdPDUIndexes)) OF MACdPDU-Size-IndexItem

MACdPDU-Size-IndexItem ::= SEQUENCE {
sID                                         INTEGER (0..7),
macdPDU-Size                               MACdPDU-Size,
iE-Extensions                             ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-ExtIEs } } OPTIONAL,
...
}

MACdPDU-Size-IndexItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

MACdPDU-Size-Indexlist-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfMACdPDUIndexes)) OF MACdPDU-Size-IndexItem-to-Modify

MACdPDU-Size-IndexItem-to-Modify ::= SEQUENCE {
sID                                         INTEGER (0..7),
macdPDU-Size                               MACdPDU-Size OPTIONAL,
iE-Extensions                             ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-to-Modify-ExtIEs } } OPTIONAL,
...
}

MACdPDU-Size-IndexItem-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

Measurement-Feedback-Reporting-Cycle ::= ENUMERATED {
v0,

```

```

____ v1,
____ v5,
____ v10,
____ v20,
____ v40,
____ v80,
____ ...
}

```

```
/* Unaffected parts omitted. */
```

```
PriorityQueue-Id ::= INTEGER (0..maxNrOfPriorityQueues-1)
```

```
PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF PriorityQueue-InfoItem
```

```
PriorityQueue-InfoItem ::= SEQUENCE {
____ priorityQueueId           PriorityQueue-Id,
____ schedulingPriorityIndicator SchedulingPriorityIndicator,
____ macdPDU-Size-Index        MACdPDU-Size-Indexlist,
____ iE-Extensions              ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs } } OPTIONAL,
____ ...
}

```

```
PriorityQueue-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
```

```
____ ...
}
```

```
PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF PriorityQueue-InfoItem-to-Modify
```

```
PriorityQueue-InfoItem-to-Modify ::= SEQUENCE {
____ priorityQueueId           PriorityQueue-Id,
____ schedulingPriorityIndicator SchedulingPriorityIndicator OPTIONAL,
____ macdPDU-Size-Index-to-Modify MACdPDU-Size-Indexlist-to-Modify OPTIONAL,
____ iE-Extensions              ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Modify-ExtIEs } } OPTIONAL,
____ ...
}

```

```
PriorityQueue-InfoItem-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
```

```
____ ...
}
```

```
PrimaryCCPCH-RSCP ::= INTEGER (0..91)
```

```
/* Unaffected parts omitted. */
```

```
SchedulingPriorityIndicator ::= INTEGER (0..15) -- lowest (0), highest (15)
```

```
SID ::= INTEGER (0..maxNrOfMACdPDUIndexes-1)
```

```
/* Unaffected parts omitted. */
```

```
UE-Capability-InformationFDD ::= SEQUENCE {
  hSDSCH-TrCH-Bits-Per-HSDSCH-TTI      ENUMERATED {v7300, v14600, v20456, v28800,...},
  hSDSCH-Multi-Code-Capability        ENUMERATED {v5, v10, v15,...},
  min-Inter-TTI-Interval              INTEGER (1..3,...),
  mAChs-Reordering-Buffer-Size       INTEGER (1..300,...),
  iE-Extensions                       ProtocolExtensionContainer { { UE-Capability-InformationFDD-ExtIEs } } OPTIONAL,
  ...
}
```

```
UE-Capability-InformationFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
UE-Capability-InformationTDD ::= SEQUENCE {
  hsDSCHTrCHBitsPerTTI              ENUMERATED { v7040, v10228, v14080, ... },
  hSDSCH-Multi-Code-Capability      ENUMERATED {v8, v12, v16,...},
  mAChs-Reordering-Buffer-Size     INTEGER (1..300,...),
  iE-Extensions                     ProtocolExtensionContainer { { UE-Capability-InformationTDD-ExtIEs } } OPTIONAL,
  ...
}
```

```
UE-Capability-InformationTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
/* Unaffected parts omitted. */
```

9.3.6 Constant Definitions

```
-- *****
--
-- Constant definitions
--
-- *****
```

```

-- *****
--
-- Lists
--
-- *****

maxNrOfCodes                INTEGER ::= 10
maxNrOfDLTSs                INTEGER ::= 15
maxNrOfDLTSLCRs            INTEGER ::= 6
maxNrOfErrors               INTEGER ::= 256
maxNrOfTFs                  INTEGER ::= 32
maxNrOfTFCs                 INTEGER ::= 1024
maxNrOfRLLs                 INTEGER ::= 16
maxNrOfRLLs-1               INTEGER ::= 15 -- maxNrOfRLLs - 1
maxNrOfRLLs-2               INTEGER ::= 14 -- maxNrOfRLLs - 2
maxNrOfRLLSets              INTEGER ::= maxNrOfRLLs
maxNrOfDPCHs                INTEGER ::= 240
maxNrOfDPCHLCRs             INTEGER ::= 240
maxNrOfSCCPCHs              INTEGER ::= 8
maxNrOfCPCHs                INTEGER ::= 16
maxNrOfPCPCHs               INTEGER ::= 64
maxNrOfDCHs                 INTEGER ::= 128
maxNrOfDSCHs                INTEGER ::= 32
maxNrOfFACHs                INTEGER ::= 8
maxNrOfCCTrCHs              INTEGER ::= 16
maxNrOfPDSCHs               INTEGER ::= 256
maxNrOfPUSCHs               INTEGER ::= 256
maxNrOfPDSCHSets            INTEGER ::= 256
maxNrOfPRACHLCRs            INTEGER ::= 8
maxNrOfPUSCHSets            INTEGER ::= 256
maxNrOfSCCPCHLCRs           INTEGER ::= 8
maxNrOfULTSs                 INTEGER ::= 15
maxNrOfULTSLCRs             INTEGER ::= 6
maxNrOfUSCHs                 INTEGER ::= 32
maxAPSigNum                  INTEGER ::= 16
maxNrOfSlotFormatsPRACH     INTEGER ::= 8
maxCellInNodeB               INTEGER ::= 256
maxCCPinNodeB                INTEGER ::= 256
maxCPCHCell                  INTEGER ::= maxNrOfCPCHs
maxCTFC                       INTEGER ::= 16777215
maxLocalCellInNodeB          INTEGER ::= maxCellInNodeB
maxNoofLen                   INTEGER ::= 7
maxFPACHCell                 INTEGER ::= 8
maxRACHCell                  INTEGER ::= maxPRACHCell
maxPRACHCell                 INTEGER ::= 16
maxPCPCHCell                 INTEGER ::= 64
maxSCCPCHCell                INTEGER ::= 32
maxSCPICHCell                INTEGER ::= 32
maxTTI-count                 INTEGER ::= 4
maxIBSEG                      INTEGER ::= 16
maxIB                         INTEGER ::= 64
maxFACHCell                  INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching              INTEGER ::= 256

```

```

maxCodeNrComp-1          INTEGER ::= 256
maxNrOfCellSyncBursts   INTEGER ::= 10
maxNrOfCodeGroups       INTEGER ::= 256
maxNrOfReceptsPerSyncFrame  INTEGER ::= 16
maxNrOfMeasNCell        INTEGER ::= 96
maxNrOfMeasNCell-1      INTEGER ::= 95 -- maxNrOfMeasNCell - 1
maxNrOfTFCIGroups       INTEGER ::= 256
maxNrOfTFCI1Combs       INTEGER ::= 512
maxNrOfTFCI2Combs       INTEGER ::= 1024
maxNrOfTFCI2Combs-1     INTEGER ::= 1023
maxNrOfSF                INTEGER ::= 8
maxTGPS                 INTEGER ::= 6
maxCommunicationContext  INTEGER ::= 1048575
maxNrOfLevels           INTEGER ::= 256
maxNoSat                INTEGER ::= 16
maxNoGPSItems           INTEGER ::= 8
maxNrOfHSSCCHCodes      INTEGER ::= 128
maxNrOfMACdFlows        INTEGER ::= 8
maxNrOfMACdFlows-1      INTEGER ::= 7 -- maxNrOfMACdFlows - 1
maxNrOfMACdPDUIndexes   INTEGER ::= 8
maxNrOfMACdPDUIndexes-1  INTEGER ::= 7 -- maxNoOfMACdPDUIndexes - 1
maxNrOfPriorityQueues    INTEGER ::= 8
maxNrOfPriorityQueues-1  INTEGER ::= 7 -- maxNoOfPriorityQueues - 1
maxNrOfHARQProcesses    INTEGER ::= 8
    
```

```

-- *****
--
-- IEs
--
-- *****
    
```

```

id-AICH-Information          ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd  ProtocolIE-ID ::= 1
id-BCH-Information          ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd  ProtocolIE-ID ::= 8
id-BCCH-ModificationTime    ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator ProtocolIE-ID ::= 10
id-Cause                    ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp  ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp  ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd  ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp  ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd  ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp  ProtocolIE-ID ::= 19
id-CellParameterID         ProtocolIE-ID ::= 23
id-CFN                      ProtocolIE-ID ::= 24
id-C-ID                     ProtocolIE-ID ::= 25
id-CommonMeasurementAccuracy  ProtocolIE-ID ::= 39
id-CommonMeasurementObjectType-CM-Rprt    ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst    ProtocolIE-ID ::= 32
id-CommonMeasurementObjectType-CM-Rsp     ProtocolIE-ID ::= 33
id-CommonMeasurementType       ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID     ProtocolIE-ID ::= 35
    
```

id-CommonPhysicalChannelType-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 37
id-CommunicationControlPortID	ProtocolIE-ID ::= 40
id-ConfigurationGenerationID	ProtocolIE-ID ::= 43
id-CRNC-CommunicationContextID	ProtocolIE-ID ::= 44
id-CriticalityDiagnostics	ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 55
id-DCH-FDD-Information	ProtocolIE-ID ::= 56
id-DCH-TDD-Information	ProtocolIE-ID ::= 57
id-DCH-InformationResponse	ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 63
id-DCH-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 68
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 69
id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformationItem-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123

id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3
id-Local-Cell-Group-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 4
id-Local-Cell-Group-InformationList-AuditRsp	ProtocolIE-ID ::= 5
id-Local-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 125
id-Local-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 126
id-Local-Cell-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 127
id-Local-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 128
id-AdjustmentPeriod	ProtocolIE-ID ::= 129
id-MaxAdjustmentStep	ProtocolIE-ID ::= 130
id-MaximumTransmissionPower	ProtocolIE-ID ::= 131
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 132
id-MeasurementID	ProtocolIE-ID ::= 133
id-MessageStructure	ProtocolIE-ID ::= 115
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst	ProtocolIE-ID ::= 134
id-NodeB-CommunicationContextID	ProtocolIE-ID ::= 143
id-NeighbouringCellMeasurementInformation	ProtocolIE-ID ::= 455
id-P-CCPCH-Information	ProtocolIE-ID ::= 144
id-P-CCPCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 145
id-P-CPICH-Information	ProtocolIE-ID ::= 146
id-P-CPICH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 147
id-P-SCH-Information	ProtocolIE-ID ::= 148
id-PCCPCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 150
id-PCCPCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 151
id-PCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 155
id-PCH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 156
id-PCH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 157
id-PCH-Information	ProtocolIE-ID ::= 158
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 161
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 162
id-PDSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 163
id-PDSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 164
id-PDSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 165
id-PICH-Information	ProtocolIE-ID ::= 166
id-PICH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-PowerAdjustmentType	ProtocolIE-ID ::= 169
id-PRACH-Information	ProtocolIE-ID ::= 170
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 175
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 176
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 177
id-PrimaryCPICH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 178
id-PrimarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 179
id-PrimarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 180
id-PrimaryScramblingCode	ProtocolIE-ID ::= 181
id-SCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 183
id-SCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 184
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 185
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 186
id-PUSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 187
id-PUSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 188
id-PUSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 189
id-RACH-Information	ProtocolIE-ID ::= 190

id-RACH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 196
id-RACH-ParameterItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 197
id-ReportCharacteristics	ProtocolIE-ID ::= 198
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 199
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 200
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 202
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 203
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 204
id-RL-InformationItem-RL-AdditionRqstFDD	ProtocolIE-ID ::= 205
id-RL-informationItem-RL-DeletionRqst	ProtocolIE-ID ::= 206
id-RL-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 207
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 286
id-RL-InformationItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 208
id-RL-InformationItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 209
id-RL-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 210
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 211
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 212
id-RL-informationList-RL-DeletionRqst	ProtocolIE-ID ::= 213
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 237
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 214
id-RL-InformationList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 215
id-RL-InformationList-RL-SetupRqstFDD	ProtocolIE-ID ::= 216
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 217
id-RL-InformationResponseItem-RL-ReconfReady	ProtocolIE-ID ::= 218
id-RL-InformationResponseItem-RL-ReconfRsp	ProtocolIE-ID ::= 219
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 220
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 221
id-RL-InformationResponseList-RL-ReconfReady	ProtocolIE-ID ::= 222
id-RL-InformationResponseList-RL-ReconfRsp	ProtocolIE-ID ::= 223
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 224
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 225
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 226
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 227
id-RL-Information-RL-ReconfRqstTDD	ProtocolIE-ID ::= 228
id-RL-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 229
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 230
id-RL-ReconfigurationFailureItem-RL-ReconfFailure	ProtocolIE-ID ::= 236
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 238
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 240
id-RL-Set-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 241
id-RL-Set-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 242
id-S-CCPCH-Information	ProtocolIE-ID ::= 247
id-S-CPICH-Information	ProtocolIE-ID ::= 249
id-SCH-Information	ProtocolIE-ID ::= 251
id-S-SCH-Information	ProtocolIE-ID ::= 253
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 257
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 258
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 259
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 260
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD	ProtocolIE-ID ::= 261
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 262
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD	ProtocolIE-ID ::= 263
id-SecondarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 264

id-SecondarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 265
id-SegmentInformationListIE-SystemInfoUpdate	ProtocolIE-ID ::= 266
id-SFN	ProtocolIE-ID ::= 268
id-ShutdownTimer	ProtocolIE-ID ::= 269
id-Start-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 114
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 270
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 271
id-SyncCase	ProtocolIE-ID ::= 274
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH	ProtocolIE-ID ::= 275
id-T-Cell	ProtocolIE-ID ::= 276
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 277
id-TimeSlotConfigurationList-Cell-SetupRqstTDD	ProtocolIE-ID ::= 278
id-TransmissionDiversityApplied	ProtocolIE-ID ::= 279
id-TypeOfError	ProtocolIE-ID ::= 508
id-UARFCNforNt	ProtocolIE-ID ::= 280
id-UARFCNforNd	ProtocolIE-ID ::= 281
id-UARFCNforNu	ProtocolIE-ID ::= 282
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 284
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 285
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 288
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 289
id-UL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 291
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 293
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 294
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 295
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 296
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 297
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD	ProtocolIE-ID ::= 300
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD	ProtocolIE-ID ::= 301
id-USCH-Information-Add	ProtocolIE-ID ::= 302
id-USCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 304
id-USCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 306
id-USCH-InformationResponse	ProtocolIE-ID ::= 309
id-USCH-Information	ProtocolIE-ID ::= 310
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 315
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 316
id-AdjustmentRatio	ProtocolIE-ID ::= 317
id-AP-AICH-Information	ProtocolIE-ID ::= 320
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 322
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 323
id-CauseLevel-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 324
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 325
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 326
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 327
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 328
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 329
id-CDCA-ICH-Information	ProtocolIE-ID ::= 330
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 332
id-Closed-Loop-Timing-Adjustment-Mode	ProtocolIE-ID ::= 333
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 334
id-Compressed-Mode-Deactivation-Flag	ProtocolIE-ID ::= 335
id-CPCH-Information	ProtocolIE-ID ::= 336
id-CPCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 342

id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 343
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 346
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 347
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 348
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 349
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 350
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 351
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 352
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 353
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 355
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 356
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 357
id-DL-TPC-Pattern01Count	ProtocolIE-ID ::= 358
id-DPC-Mode	ProtocolIE-ID ::= 450
id-DPCHConstant	ProtocolIE-ID ::= 359
id-DSCH-FDD-Common-Information	ProtocolIE-ID ::= 94
id-EnhancedDSCHPC	ProtocolIE-ID ::= 110
id-EnhancedDSCHPCIndicator	ProtocolIE-ID ::= 111
id-FACH-ParametersList-CTCH-SetupRsp	ProtocolIE-ID ::= 362
id-Limited-power-increase-information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 369
id-PCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 374
id-PCH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 375
id-PCPCH-Information	ProtocolIE-ID ::= 376
id-PICH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 380
id-PRACHConstant	ProtocolIE-ID ::= 381
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 383
id-PUSCHConstant	ProtocolIE-ID ::= 384
id-RACH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 385
id-SSDT-CellIDforEDSCHPC	ProtocolIE-ID ::= 443
id-Synchronisation-Configuration-Cell-ReconfRqst	ProtocolIE-ID ::= 393
id-Synchronisation-Configuration-Cell-SetupRqst	ProtocolIE-ID ::= 394
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 395
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 396
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 397
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 398
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 399
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 400
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 401
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 402
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 403
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 405
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 406
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 407
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 408
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 409
id-CommunicationContextInfoItem-Reset	ProtocolIE-ID ::= 412
id-CommunicationControlPortInfoItem-Reset	ProtocolIE-ID ::= 414
id-ResetIndicator	ProtocolIE-ID ::= 416
id-TFCl2-Bearer-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 417
id-TFCl2-BearerSpecificInformation-RL-ReconfPrepFDD	ProtocolIE-ID ::= 418
id-TFCl2-BearerInformationResponse	ProtocolIE-ID ::= 419
id-TimingAdvanceApplied	ProtocolIE-ID ::= 287
id-CFNReportingIndicator	ProtocolIE-ID ::= 6

id-SFNReportingIndicator	ProtocolIE-ID ::= 11
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 12
id-TimeslotISCPInfo	ProtocolIE-ID ::= 283
id-PICH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 167
id-PRACH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 20
id-CCTrCH-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 46
id-CCTrCH-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 47
id-CauseLevel-SyncAdjustmntFailureTDD	ProtocolIE-ID ::= 420
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD	ProtocolIE-ID ::= 421
id-CellAdjustmentInfoItem-SyncAdjustmentRqstTDD	ProtocolIE-ID ::= 494
id-CellSyncBurstInfoList-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 482
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD	ProtocolIE-ID ::= 422
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD	ProtocolIE-ID ::= 423
id-CellSyncBurstTransReconfiguration-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 424
id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 425
id-CellSyncBurstTransInfoList-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 426
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 427
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 428
id-CellSyncInfo-CellSyncReprtTDD	ProtocolIE-ID ::= 429
id-CSBTransmissionID	ProtocolIE-ID ::= 430
id-CSBMeasurementID	ProtocolIE-ID ::= 431
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD	ProtocolIE-ID ::= 432
id-NCyclesPerSFNperiod	ProtocolIE-ID ::= 433
id-NRepetitionsPerCyclePeriod	ProtocolIE-ID ::= 434
id-SyncFrameNumber	ProtocolIE-ID ::= 437
id-SynchronisationReportType	ProtocolIE-ID ::= 438
id-SynchronisationReportCharacteristics	ProtocolIE-ID ::= 439
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD	ProtocolIE-ID ::= 440
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD	ProtocolIE-ID ::= 119
id-ReferenceClockAvailability	ProtocolIE-ID ::= 435
id-ReferenceSFNoffset	ProtocolIE-ID ::= 436
id-InformationExchangeID	ProtocolIE-ID ::= 444
id-InformationExchangeObjectType-InfEx-Rqst	ProtocolIE-ID ::= 445
id-InformationType	ProtocolIE-ID ::= 446
id-InformationReportCharacteristics	ProtocolIE-ID ::= 447
id-InformationExchangeObjectType-InfEx-Rsp	ProtocolIE-ID ::= 448
id-InformationExchangeObjectType-InfEx-Rprt	ProtocolIE-ID ::= 449
id-IPDLParameter-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 451
id-IPDLParameter-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 452
id-IPDLParameter-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 453
id-IPDLParameter-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 454
id-DL-DPCH-LCR-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 74
id-DL-DPCH-LCR-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 75
id-DwPCH-LCR-Information	ProtocolIE-ID ::= 78
id-DwPCH-LCR-Information-AuditRsp	ProtocolIE-ID ::= 80
id-DwPCH-LCR-InformationList-AuditRsp	ProtocolIE-ID ::= 90
id-DwPCH-LCR-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 97
id-DwPCH-LCR-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 99
id-DwPCH-LCR-Information-ResourceStatusInd	ProtocolIE-ID ::= 101
id-maxFACH-Power-LCR-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 154
id-maxFACH-Power-LCR-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 174
id-FPACH-LCR-Information	ProtocolIE-ID ::= 290
id-FPACH-LCR-Information-AuditRsp	ProtocolIE-ID ::= 292

id-FPACH-LCR-InformationList-AuditRsp	ProtocolIE-ID ::= 310
id-FPACH-LCR-InformationList-ResourceStatusInd	ProtocolIE-ID ::= 311
id-FPACH-LCR-Parameters-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 312
id-FPACH-LCR-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 313
id-FPACH-LCR-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 314
id-PCCPCH-LCR-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 456
id-PCH-Power-LCR-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 457
id-PCH-Power-LCR-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 458
id-PICH-LCR-Parameters-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 459
id-PICH-LCR-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 460
id-PRACH-LCR-ParametersList-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 461
id-PRACH-LCR-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 462
id-RL-InformationResponse-LCR-RL-SetupRspTDD	ProtocolIE-ID ::= 463
id-Secondary-CCPCH-LCR-parameterListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 464
id-Secondary-CCPCH-LCR-parameterList-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 465
id-TimeSlot	ProtocolIE-ID ::= 495
id-TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 466
id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD	ProtocolIE-ID ::= 467
id-TimeSlotISCP-LCR-InfoList-RL-SetupRqstTDD	ProtocolIE-ID ::= 468
id-TimeSlotLCR-CM-Rqst	ProtocolIE-ID ::= 469
id-UL-DPCH-LCR-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 470
id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 471
id-DL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD	ProtocolIE-ID ::= 472
id-UL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD	ProtocolIE-ID ::= 473
id-TimeSlotISCP-InformationList-LCR-RL-AdditionRqstTDD	ProtocolIE-ID ::= 474
id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 475
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 476
id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 477
id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 478
id-DL-TimeSlot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 479
id-TimeSlotISCPInfoList-LCR-DL-PC-RqstTDD	ProtocolIE-ID ::= 480
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 481
id-UL-DPCH-LCR-InformationModify-AddList	ProtocolIE-ID ::= 483
id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 484
id-UL-TimeSlotLCR-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 485
id-UL-SIRTarget	ProtocolIE-ID ::= 510
id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst	ProtocolIE-ID ::= 486
id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 487
id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst	ProtocolIE-ID ::= 488
id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 489
id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst	ProtocolIE-ID ::= 490
id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 491
id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst	ProtocolIE-ID ::= 492
id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 493
id-timeslotInfo-CellSyncInitiationRqstTDD	ProtocolIE-ID ::= 496
id-SyncReportType-CellSyncReprtTDD	ProtocolIE-ID ::= 497
id-PUSCH-Info-DM-Rqst	ProtocolIE-ID ::= 505
id-PUSCH-Info-DM-Rsp	ProtocolIE-ID ::= 506
id-PUSCH-Info-DM-Rprt	ProtocolIE-ID ::= 507
id-InitDL-Power	ProtocolIE-ID ::= 509
id-cellSyncBurstRepetitionPeriod	ProtocolIE-ID ::= 511
id-ReportCharacteristicsType-OnModification	ProtocolIE-ID ::= 512
id-SFNMeasurementValueInformation	ProtocolIE-ID ::= 513

id-SFNMeasurementThresholdInformation	ProtocolIE-ID ::= 514
id-TUTRANGPSMeasurementValueInformation	ProtocolIE-ID ::= 515
id-TUTRANGPSMeasurementThresholdInformation	ProtocolIE-ID ::= 516
id-Rx-Timing-Deviation-Value-LCR	ProtocolIE-ID ::= 520
id-RL-InformationResponse-LCR-RL-AdditionRspTDD	ProtocolIE-ID ::= 51
id-HSDSCH-FDD-Information	ProtocolIE-ID ::= 530
id-HSDSCH-FDD-Information-Response	ProtocolIE-ID ::= 531
id-HSDSCH-FDD-Information-to-Add	ProtocolIE-ID ::= 532
id-HSDSCH-FDD-Information-to-Delete	ProtocolIE-ID ::= 533
id-HSDSCH-Information-to-Modify	ProtocolIE-ID ::= 534
id-HSDSCH-RNTI	ProtocolIE-ID ::= 535
id-HSDSCH-TDD-Information	ProtocolIE-ID ::= 536
id-HSDSCH-TDD-Information-Response	ProtocolIE-ID ::= 537
id-HSDSCH-TDD-Information-Response-LCR	ProtocolIE-ID ::= 538
id-HSDSCH-TDD-Information-to-Add	ProtocolIE-ID ::= 539
id-HSDSCH-TDD-Information-to-Delete	ProtocolIE-ID ::= 540
id-HSDSCH-RL-ID	ProtocolIE-ID ::= 541
id-PrimCCPCH-RSCP-DL-PC-RqstTDD	ProtocolIE-ID ::= 542

END

3GPP TSG-RAN3 Meeting #27
Orlando, USA, 18th – 22nd February 2002

Tdoc R3-020570

CR-Form-v3

CHANGE REQUEST

⌘ 25.435 CR 075 ⌘ rev 1 ⌘ Current version: 4.3.0 ⌘

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

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

Title:	⌘ HSDPA Frame Protocol-25.435
Source:	⌘ R-WG3
Work item code:	⌘ HSDPA-lublur
Date:	⌘ Feb 2002
Category:	⌘ B
Release:	⌘ REL-5

Use one of the following categories:

F (essential 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)

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘ To incorporate HSDPA changes into this RAN3 specification.
Summary of change:	⌘ - HS-DSCH data frame, HS-DSCH Capacity Request control frame and HS-DSCH Capacity Allocation control frame were added.
Consequences if not approved:	⌘ If this CR is not approved, HSDPA will not be able to be implemented.

Clauses affected:	⌘ 1, 3.2, 5.1.6, 5.8.1, 5.9, 5.10, 6.2.6A, 6.2.7.21, 6.2.7.22, 6.2.7.23, 6.2.7.24, 6.2.7.25, 6.3.2.3, 6.3.3.10, 6.3.3.11
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications ⌘ CR044 on TS 25.425 <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:

http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

1 Scope

The present document provides a description of the UTRAN RNC-Node B (Iub) interface user plane protocols for Common Transport Channel data streams as agreed within the TSG-RAN working group 3.

NOTE: By Common Transport Channel one must understand RACH, CPCH [FDD], FACH/PCH, DSCH, ~~and~~ USCH and HS-DSCH.

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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 25.301: "Radio Interface Protocol Architecture".
 - [2] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".
 - [3] 3GPP TS 25.302: "Services provided by the Physical Layer".
 - [4] 3GPP TS 25.221: "Physical channels and mapping of transport channels to physical channels (TDD)".
 - [5] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
 - [6] 3GPP TS 25.433: "UTRAN Iub interface NBAP signalling".
 - [7] 3GPP TS 25.225: "Physical layer – Measurements (TDD)".
 - [8] 3GPP TS 25.331: "Radio Ressource Control (RRC) protocol specification".
-

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions in [2] and the following apply:

Transport Connection: service provided by the transport layer and used by Frame Protocol for the delivery of FP PDU

3.2 Abbreviations

For the purposes of the present document, the abbreviations in [2] and the following apply:

CFN	Connection Frame Number
CPCH	Common Packet Channel
CRC	Cyclic Redundancy Checksum
CRCI	CRC Indicator
DCH	Dedicated Transport Channel
DL	Downlink
DSCH	Downlink Shared Channel
FP	Frame Protocol

FT	Frame Type
<u>HS-DSCH</u>	<u>High Speed Downlink Shared Channel</u>
LTOA	Latest Time of Arrival
PC	Power Control
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
QE	Quality Estimate
TB	Transport Block
TBS	Transport Block Set
TFI	Transport Format Indicator
ToA	Time of Arrival
ToAWE	Time of Arrival Window Endpoint
ToAWS	Time of Arrival Window Startpoint
TTI	Transmission Time Interval
UL	Uplink
USCH	Uplink Shared Channel

3.3 Specification Notations

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

[FDD]	This tagging of a word indicates that the word preceding the tag "[FDD]" applies only to FDD. This tagging of a heading indicates that the heading preceding the tag "[FDD]" and the section following the heading applies only to FDD.
[TDD]	This tagging of a word indicates that the word preceding the tag "[TDD]" applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD.
[3.84Mcps TDD]	This tagging of a word indicates that the word preceding the tag "[3.84Mcps TDD]" applies only to 3.84Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[3.84Mcps TDD]" and the section following the heading applies only to 3.84Mcps TDD.
[1.28Mcps TDD]	This tagging of a word indicates that the word preceding the tag "[1.28Mcps TDD]" applies only to 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[1.28Mcps TDD]" and the section following the heading applies only to 1.28Mcps TDD.
[FDD - ...]	This tagging indicates that the enclosed text following the "[FDD - " applies only to FDD. Multiple sequential paragraphs applying only to FDD are enclosed separately to enable insertion of TDD specific (or common) paragraphs between the FDD specific paragraphs.
[TDD - ...]	This tagging indicates that the enclosed text following the "[TDD - " applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the TDD specific paragraphs.
[3.84Mcps TDD - ...]	This tagging indicates that the enclosed text following the "[3.84Mcps TDD - " applies only to 3.84Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 3.84Mcps TDD specific paragraphs.
[1.28Mcps TDD - ...]	This tagging indicates that the enclosed text following the "[1.28Mcps TDD - " applies only to 1.28Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 1.28Mcps TDD specific paragraphs.
Procedure	When referring to a procedure in the specification the Procedure Name is written with the first letters in each word in upper case characters followed by the word "procedure", e.g. Node Synchronisation procedure.
Frame	When referring to a control or data frame in the specification the CONTROL/DATA FRAME NAME is written with all letters in upper case characters followed by the words "control/data frame", e.g. TIMING ADJUSTMENT control frame.

- IE When referring to an information element (IE) in the specification the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in Italic font followed by the abbreviation "IE", e.g. *Frame Type IE*.
- Value of an IE When referring to the value of an information element (IE) in the specification the "Value" is written as it is specified in subclause 6.2.7 or 6.3.3 enclosed by quotation marks, e.g. "0" or "255".

4 General aspects

4.1 Common Transport Channel Data Stream User Plane Protocol Services

Common transport channel provides the following services:

- Transport of TBS between the Node B and the CRNC for common transport channels.
- Support of transport channel synchronisation mechanism.
- Support of Node Synchronisation mechanism.

4.2 Services expected from the Data Transport Network layer

The following services are expected from the transport layer:

- Delivery of Frame Protocol PDUs.

In sequence delivery is not required. However, frequent out-of-sequence delivery may impact the performance and should be avoided.

4.3 Protocol Version

This revision of the specification specifies version 1 of the protocols.

5 Data Streams User Plane Procedures

5.1 Data Transfer

5.1.1 RACH Channels

Data Transfer procedure is used to transfer data received from Uu interface from Node B to CRNC. Data Transfer procedure consists of a transmission of Data Frame from Node B to CRNC.

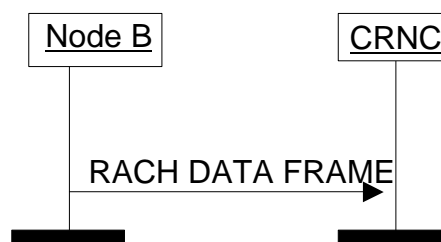


Figure 1: RACH Data Transfer procedure

5.1.2 CPCH Channels [FDD]

Data Transfer procedure is used to transfer data received from Uu interface from Node B to CRNC. Data Transfer procedure consists of a transmission of Data Frame from Node B to CRNC.

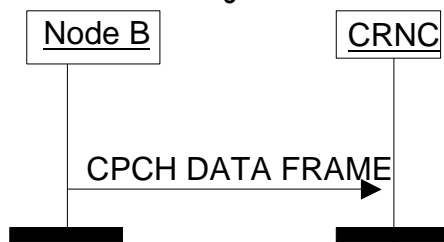


Figure 2: CPCH Data Transfer procedure

5.1.3 Secondary-CCPCH related transport Channels

For the FACH transport channel, a Data Transfer procedure is used to transfer data from CRNC to Node B. Data Transfer procedure consists of a transmission of Data Frame from CRNC to Node B.

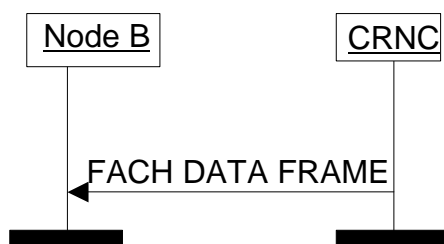


Figure 3: FACH Data Transfer procedure

For the PCH transport channel, a Data Transfer procedure is used to transfer data from CRNC to Node B. Data Transfer procedure consists of a transmission of Data Frame from CRNC to Node B.

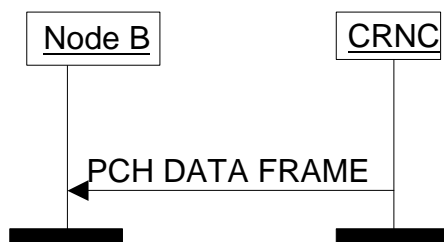


Figure 4: PCH Data Transfer procedure

In this case the PCH DATA FRAME may also transport information related to the PICH channel.

If the Node B does not receive a valid FP frame in a TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the FACH and PCH transport channels, the TFS shall never define a Transport Block Size of zero bits.

If the Node B is aware of a TFI value corresponding to zero bits for this transport channel, this TFI is assumed. When combining the TFI's of the different transport channels, a valid TFCI might result and in this case data shall be transmitted on the Uu.

If the Node B is not aware of a TFI value corresponding to zero bits for this transport channel or if combining the TFI corresponding to zero bits with other TFI's results in an unknown TFI combination, the handling as described in the following paragraph shall be applied.

At each frame, the Node B shall build the TFCI value of each secondary-CCPCH according to the TFIs of the transport channels multiplexed on this secondary-CCPCH and scheduled for that frame. [FDD - In case the Node B receives an unknown TFI combination, no pilot bits, TFCI bits or Data bits shall be transmitted.] [TDD - In case the Node B receives an unknown TFI combination, it shall apply DTX, i.e. suspend transmission on the corresponding S-CCPCH - except if this S-CCPCH provides the "beacon function", in which case the Node B shall maintain the physical layer transmission as specified in TS 25.221].

If the Node B does not receive a valid FP frame in a TTI or a frame without paging indication information, it assumes that no UE's have to be paged on the Uu in this TTI. In this case the default PICH bit pattern of all zeros shall be transmitted.

Data Frames sent on Iub for different transport channels multiplexed on one secondary-CCPCH might indicate different transmission power levels to be used in a certain Uu frame. Node-B shall determine the highest DL power level required for any of the transport channels multiplexed in a certain Uu frame and use this power level as the desired output level.

5.1.4 Downlink Shared Channels

The Data Transfer procedure is used to transfer a DSCH DATA FRAME from the CRNC to a Node B.

If the Node B does not receive a valid DSCH DATA FRAME for transmission in a given TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the DSCH transport channel, the TFS shall never define a Transport Block Size of zero bits.

[FDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which channelisation code(s) and power offset should be used in the PDSCH Uu frame associated to the specified CFN. The specified channelisation code(s) and power offset shall then be used for PDSCH transmission for as long as there is data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH channelisation code(s) and/or power offset should be used. This feature enables multiple DSCH's with different TTI to be supported].

[FDD - In the event that the DSCH FP header indicates that a multi-code PDSCH transmission is to be applied ('MC Info' value > 1) then the 'power offset' field indicates the power offset at which each individual code should be transmitted relative to the power of the TFCI bits of the downlink DPCCCH directed to the same UE as the DSCH].

[FDD - The Node B may receive a DSCH DATA FRAME which contains a TFI value corresponding to there being no data to transmit, such a DSCH DATA FRAME will have no transport blocks. On receiving such a data frame the Node B shall apply the specified channelisation code(s) and power offset as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B should determine what channelisation code(s) and power offset should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

[TDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which PDSCH Set and power offset should be used in the PDSCH Uu frames associated to the specified CFN. The specified PDSCH Set and power offset shall then be used for DSCH transmission for as long as there is data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH Set and/or power offset should be used. This feature enables multiple DSCH's with different TTI to be supported].

[TDD - The Node B may receive a DSCH data frame which contains a TFI value corresponding to there being no data to transmit, such a DSCH DATA FRAME will have no transport blocks. On receiving such a DATA FRAME the Node B shall apply the specified PDSCH Set and power offset as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B should determine what PDSCH Set and power offset should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

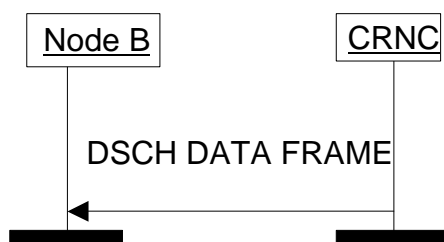


Figure 5: DSCH Data Transfer procedure

5.1.5 Uplink Shared Channels [TDD]

Data Transfer procedure is used to transfer data received from Uu interface from Node B to CRNC. Data Transfer procedure consists of a transmission of Data Frame from Node B to CRNC.

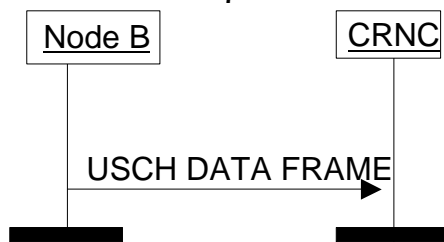


Figure 6: USCH Data Transfer procedure

Node B shall always send an USCH DATA FRAME to the CRNC provided the Transport Format addressed by the TFI indicates that the number of Transport Blocks is greater than 0.

When UL synchronisation is lost or not yet achieved on the Uu, USCH DATA FRAMEs shall not be sent to the CRNC.

When Node B receives an invalid TFCI in the PUSCH, USCH DATA FRAMEs shall not be sent to the CRNC.

5.1.6 High Speed Downlink Shared Channels

[The Data Transfer procedure is used to transfer a HS-DSCH DATA FRAME from the CRNC to a Node B.](#)

[When the CRNC has been granted capacity by the Node B via the HS-DSCH CAPACITY ALLOCATION Control Frame and the CRNC has data waiting to be sent, then the HS-DSCH DATA FRAME is used to transfer the data. When data is waiting to be transferred, and a CAPACITY ALLOCATION is received, a DATA FRAME will be transmitted immediately according to allocation received.](#)

[Multiple MAC-d PDUs of same length and same priority level \(CmCH-PI\) may be transmitted in one MAC-d flow in the same HS-DSCH DATA FRAME.](#)

[The HS-DSCH DATA FRAME includes a *User Buffer Size IE* to indicate the amount of data pending for the respective MAC-d flow for the indicated priority level. Within one priority level and size the MAC-d PDUs shall be transmitted by the Node B on the Uu interface in the same order as they were received from the CRNC.](#)

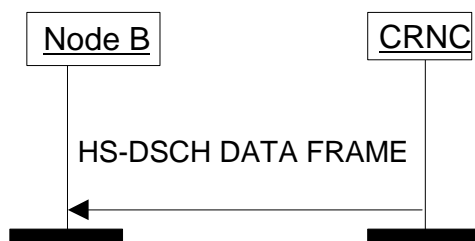


Figure 6A: DSCH Data Transfer procedure

5.2 Node Synchronisation

In the Node Synchronisation procedure, the RNC sends a DL NODE SYNCHRONISATION control frame to Node B containing the parameter T1. Upon reception of a DL NODE SYNCHRONISATION control frame, the Node B shall respond with UL NODE SYNCHRONISATION control frame, indicating T2 and T3, as well as T1 which was indicated in the initiating DL NODE SYNCHRONISATION control frame.

The T1, T2, T3 parameters are defined as:

T1:RNC specific frame number (RFN) that indicates the time when RNC sends the frame through the SAP to the transport layer.

T2:Node B specific frame number (BFN) that indicates the time when Node B receives the correspondent DL NODE SYNCHRONISATION control frame through the SAP from the transport layer.

T3:Node B specific frame number (BFN) that indicates the time when Node B sends the frame through the SAP to the transport layer.

The general overview on the Node Synchronisation procedure is reported in [2].

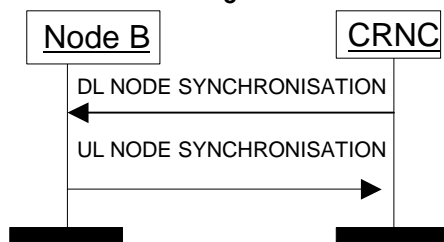


Figure 7: Node Synchronisation procedure

5.3 DL Transport Channels Synchronisation

CRNC sends a DL SYNCHRONISATION control frame to Node B. This message indicates the target CFN.

Upon reception of the DL SYNCHRONISATION control frame Node B shall immediately respond with UL SYNCHRONISATION control frame indicating the ToA for the DL SYNCHRONISATION control frame and the CFN indicated in the received message.

The procedure shall not be applied on transport bearers transporting UL traffic channels RACH or USCH.

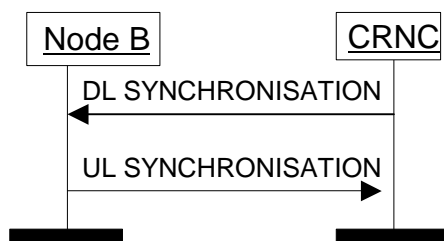


Figure 8: Transport Channels Synchronisation procedure

5.4 DL Timing Adjustment

Timing Adjustment procedure is used to indicate for the CRNC the incorrect arrival time of downlink data to Node B.

Timing Adjustment procedure is initiated by the Node B if a DL frame arrives outside of the defined arrival window.

If the DL frame has arrived before the ToAWS or after the ToAWE Node B includes the ToA and the target CFN as message parameters for TIMING ADJUSTMENT control frame.

The arrival window and the time of arrival are defined as follows:

- **Time of Arrival Window Endpoint (ToAWE):** ToAWE represents the time point by which the DL data shall arrive to the Node B from Iub. The ToAWE is defined as the amount of milliseconds before the last time point from which a timely DL transmission for the identified CFN would still be possible taking into account the Node B internal delays. ToAWE is set via control plane. If data does not arrive before ToAWE a TIMING ADJUSTMENT control frame shall be sent by Node B.
- **Time of Arrival Window Startpoint (ToAWS):** ToAWS represents the time after which the DL data shall arrive to the Node B from Iub. The ToAWS is defined as the amount of milliseconds from the ToAWE. ToAWS is set via control plane. If data arrives before ToAWS a TIMING ADJUSTMENT control frame shall be sent by Node B.
- **Time of Arrival (ToA):** ToA is the time difference between the end point of the DL arrival window (ToAWE) and the actual arrival time of DL frame for a specific CFN. A positive ToA means that the frame is received before the ToAWE, a negative ToA means that the frame is received after the ToAWE.

The general overview on the timing adjustment procedure is reported in [2].

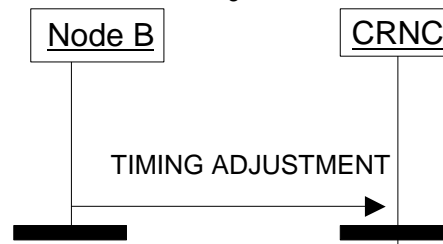


Figure 9: Timing Adjustment procedure

5.5 Dynamic PUSCH Assignment [TDD]

Procedure for dynamic allocation of physical resources to uplink shared channels (USCH) in the Node B. The control frame includes a parameter "PUSCH Set Id" which is a pointer to a pre-configured table of PUSCH Sets in the Node B.

When this control frame is sent via a certain Iub USCH data port, then it applies to that USCH and in addition to any other USCH channel which is multiplexed into the same CCTrCH in the Node B.

The time limitation of the PUSCH allocation is expressed with the parameters "Activation CFN" and "Duration".

Node B behaviour: When the Node B receives the "DYNAMIC PUSCH ASSIGNMENT" from the CRNC in the USCH frame protocol over an Iub USCH data port within a Traffic Termination Point, it shall behave as follows:

- 1) The Node B shall extract the PUSCH Set Id.
- 2) It shall extract the parameters "Activation CFN" and "Duration" which identify the allocation period of that physical channel.
- 3) It shall retrieve the PUSCH Set which is referred to by the PUSCH Set Id.
- 4) It shall identify the CCTrCH to which the USCH is multiplexed, and hence the TFCS which is applicable for the USCH.
- 5) Within the time interval indicated by Activation CFN and Duration, the Node B shall make the specified PUSCH Set available to the CCTrCH.

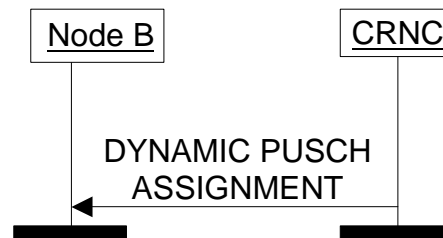


Figure 10: Dynamic PUSCH Assignment procedure

5.6 DSCH TFCI Signalling [FDD]

This procedure is used in order to signal to the Node B the TFCI (field 2). This allows the Node B to build the TFCI word(s) which have to be transmitted on the DPCCH.

The procedure consists in sending the DSCH TFCI signalling control frame from the CRNC to the Node B. The frame contains the TFCI (field 2) and the correspondent Connection Frame Number. The DSCH TFCI SIGNALLING frame is sent once every U_u frame interval (10 ms) for as long as there is DSCH data for that UE to be transmitted in the associated PDSCH U_u frame.

In the event that the Node B does not receive a DSCH TFCI SIGNALLING control frame then the Node B shall infer that no DSCH data is to be transmitted to the UE on the associated PDSCH U_u frame and will build the TFCI word(s) accordingly.

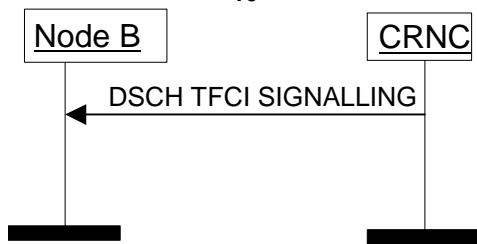


Figure 11: DSCH TFCI Signalling procedure

5.7 Timing Advance [3.84 Mcps TDD]

This procedure is used in order to signal to the Node B the adjustment to be performed by the UE in the uplink timing.

The Node B shall use the CFN and timing adjustment values to adjust its layer 1 to allow for accurate impulse averaging.

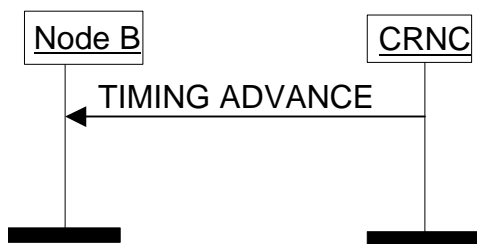


Figure 12: Timing Advance procedure

5.7A Outer Loop PC Information Transfer [1.28 Mcps TDD]

Based, for example, on the CRCI values and on the quality estimate in the USCH data frames, CRNC modifies the SIR target of the associated CCTrCH by including the absolute value of the new SIR target in the OUTER LOOP PC control frame sent to the Node B.

At the reception of the OUTER LOOP PC control frame from the CRNC via a Transport Bearer used for an USCH, the Node B shall immediately update the SIR target used for the inner loop power control for the respective CCTrCH with the specified value.

The OUTER LOOP PC control frame can be sent via any of the transport bearers carrying USCHs which belong to the CCTrCH for which the UL SIR Target shall be adjusted.

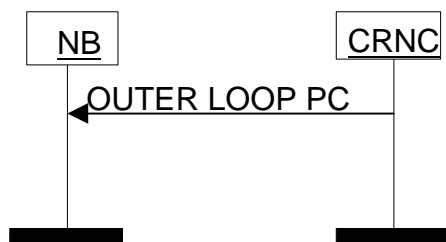


Figure 12A: Outer Loop Power Control Information Transfer procedure

5.8 General

5.8.1 Association between transport bearer and data/control frames

Table 1 shows how the data and control frames are associated to the transport bearers. 'yes' indicates that the control frame is applicable to the transport bearer, 'no' indicates that the control frame is not applicable to the transport bearer.

Transport bearer used for	Associated data frame	Associated control frames									
		Timing Adjustment	DL Transport Channels Synchronisation	Node Synchronisation	Dynamic PUSCH Assignment	Timing Advance	DSCH TFCI Signaling	Outer Loop PC Info Xfer	HS-DSCH Capacity Request	HS-DSCH Capacity Allocation	
RACH	RACH DATA FRAME	no	no	no	no	no	no	no	no	no	no
FACH	FACH DATA FRAME	yes	yes	yes	no	no	no	no	no	no	no
CPCH	CPCH DATA FRAME	no	no	no	no	no	no	no	no	no	no
PCH	PCH DATA FRAME	yes	yes	yes	no	no	no	no	no	no	no
DSCH	DSCH DATA FRAME	yes	yes	yes	no	no	no	no	no	no	no
USCH	USCH DATA FRAME	no	no	no	yes	yes	no	yes	no	no	no
HS-DSCH	HS-DSCH DATA FRAME	no	no	no	no	no	no	no	no	yes	yes
TFCI2	-	yes	yes	yes	no	no	yes	no	no	no	no

5.8.2 DSCH transport bearer replacement

As described in NBAP [6], transport bearer replacement can be achieved for a DSCH by using the Synchronised Radio Link Reconfiguration Preparation procedure in combination with the Synchronised Radio Link Reconfiguration Commit procedure. The following steps can be discerned:

- 1) The new transport bearer is established after which 2 transport bearers exist in parallel.
- 2) The transport channel(s) is/are switched to the new transport bearer.
- 3) The old transport bearer is released.

In step 1), communication on the old transport bearer continues as normal. In addition, the Node B shall support DSCH DATA FRAMES, the DL Transport Channel Synchronisation procedure (see sub-clause 5.3) and the DL Timing Adjustment procedure (see sub-clause 5.4) on the new bearer. This enables the CRNC to determine the timing on the new transport bearer. DSCH DATA FRAMES transported on the new transport bearer shall not be transmitted on the Uu Interface before the CFN indicated in the RADIO LINK RECONFIGURATION COMMIT message. Regarding step 2), the moment of switching is determined as follows:

- The DSCH DATA FRAMES shall be transported on the new transport bearer from the CFN indicated in the RADIO LINK RECONFIGURATION COMMIT message.

Starting from this CFN the Node B shall support all applicable Common Transport Channels frame protocol procedures on the new transport bearer and no requirements exist regarding support of Common Transport Channels frame protocol procedures on the old transport bearer.

Finally in step 3), the old transport bearer is released.

5.9 HS-DSCH Capacity Request

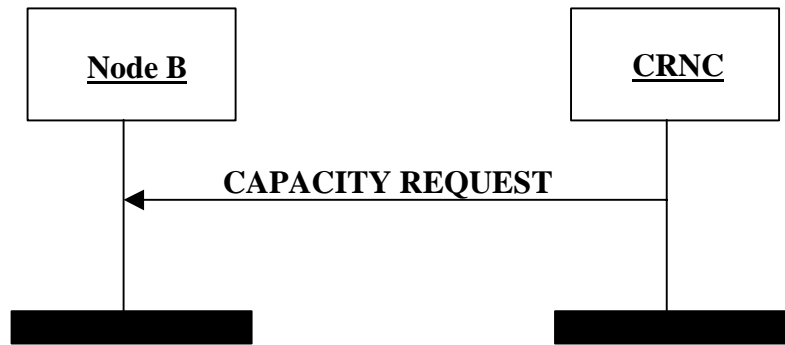


Figure 12B: HS-DSCH Capacity Request procedure

The HS-DSCH Capacity Request procedure provides means for the CRNC to request HS-DSCH capacity by indicating the user buffer size in the CRNC for a given priority level.

The CRNC is allowed to reissue the HS-DSCH Capacity Request if no CAPACITY ALLOCATION has been received within an appropriate time threshold.

5.10 HS-DSCH Capacity Allocation

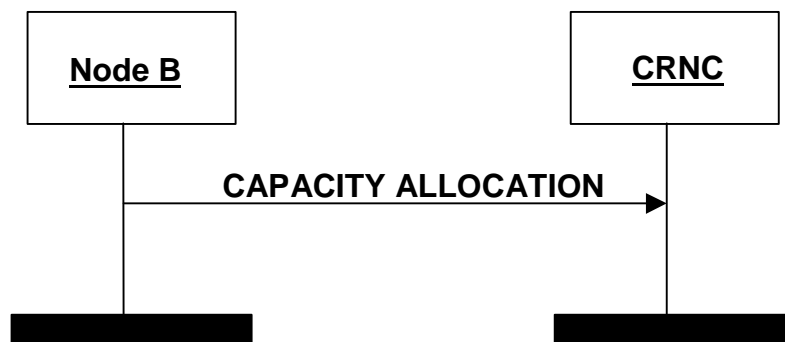


Figure 12C: HS-DSCH Capacity Allocation procedure

HS-DSCH Capacity Allocation procedure is generated within the Node B. It may be generated either in response to a HS-DSCH Capacity Request or at any other time.

The Node B may use this message to modify the capacity at any time, irrespective of the reported user buffer status.

The HS-DSCH CAPACITY ALLOCATION frame is used by the Node B to control the user data flow. *HS-DSCH Credits* IE indicates the number of MAC-d PDUs that the CRNC is allowed to transmit for the MAC-d flow and the associated priority level indicated by the *Common Transport Channel Priority Indicator* IE.

The *Maximum MAC-d PDU length*, *HS-DSCH Credits*, *HS-DSCH Interval* and *HS-DSCH Repetition Period* IEs indicates the total amount of capacity granted. Any capacity previously granted is replaced.

If *HS-DSCH Credits* IE = 0 (e.g. due to congestion in the Node B), the CRNC shall immediately stop transmission of MAC-d PDUs. If *HS-DSCH Credits* IE = 255, the CRNC can transmit MAC-d PDUs with unlimited capacity.

The IEs used in the HS-DSCH CAPACITY ALLOCATION Control Frame are the *Common Transport Channel Priority Indicator*, *HS-DSCH Credits*, *Maximum MAC-d PDU Length*, *HS-DSCH Interval* and the *HS-DSCH Repetition Period*.

If the *HS-DSCH Repetition Period* IE = "unlimited repetition period" it indicates that the CRNC may transmit the specified number of MAC-d PDUs for an unlimited period according to the bounds of *Maximum MAC-d PDU Length*, *HS-DSCH Credits* and *HS-DSCH Interval* IEs.

6 Frame Structure and Coding

6.1 General

The general structure of a Common Transport Channel frame consists of a header and a payload. This structure is depicted in figure 13.

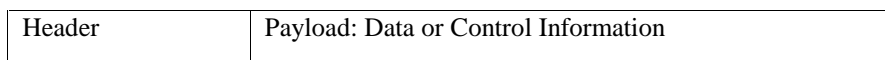


Figure 13: General Frame Structure

The header shall contain the Frame Type field and information related to the frame type.

There are two types of frames (indicated by the Frame Type field).

- Data frame.
- Control frame.

In the present document the structure of frames will be specified by using pictures similar to figure 14.

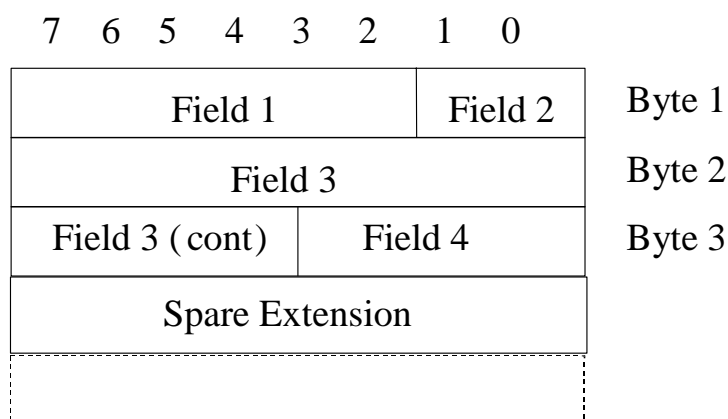


Figure 14: Example frame structure

Unless otherwise indicated, fields which consist of multiple bits within a byte will have the more significant bit located at the higher bit position (indicated above frame in figure 14). In addition, if a field spans several bytes, more significant bits will be located in lower numbered bytes (right of frame in figure 14).

On the Iub interface, the frame will be transmitted starting from the lowest numbered byte. Within each byte, the bits are sent according decreasing bit position (bit position 7 first).

The parameters are specified giving the value range and the step (if not 1). The coding is done as follows (unless otherwise specified):

- Unsigned values are binary coded.
- Signed values are 2's complement binary coded.

The Spare Extension indicates the location where new IEs can in the future be added in a backward compatible way. The Spare Extension shall not be used by the transmitter and shall be ignored by the receiver.

Bits labelled "Spare" shall be set to zero by the transmitter and shall be ignored by the receiver.

6.2 Data frame structure

6.2.1 RACH Channels

The RACH DATA FRAME includes the CFN corresponding to the SFN of the frame in which the payload was received. If the payload was received in several frames, the CFN corresponding to the first Uu frame in which the information was received shall be indicated.

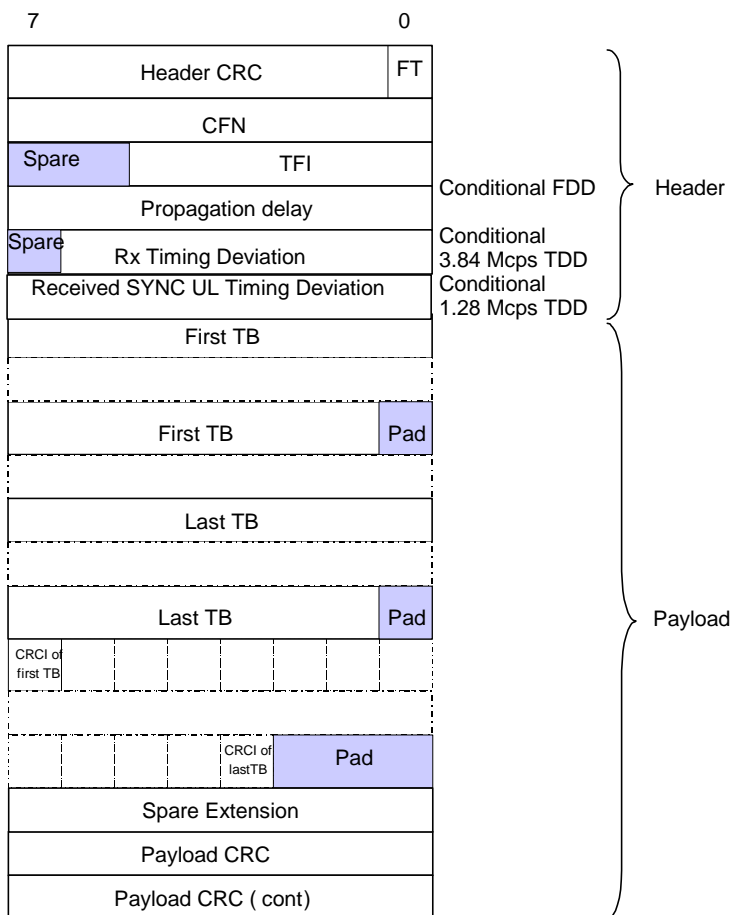


Figure 15: RACH DATA FRAME structure

Propagation Delay is a conditional Information Element which is only present when the Cell supporting the RACH Transport Channel is a FDD Cell.

Rx Timing Deviation is a conditional Information Element which is only present when the Cell supporting the RACH Transport Channel is a 3.84 Mcps TDD Cell.

Received SYNC UL Timing Deviation is a conditional Information Element which is only present when the Cell supporting the RACH Transport Channel is a 1.28 Mcps TDD Cell.

6.2.2 CPCH Channels [FDD]

The CPCH DATA FRAME includes the CFN corresponding to the 8 least significant bits of the SFN of the frame in which the payload was received. If the payload was received in several frames, the CFN corresponding to the first Uu frame in which the information was received shall be indicated.

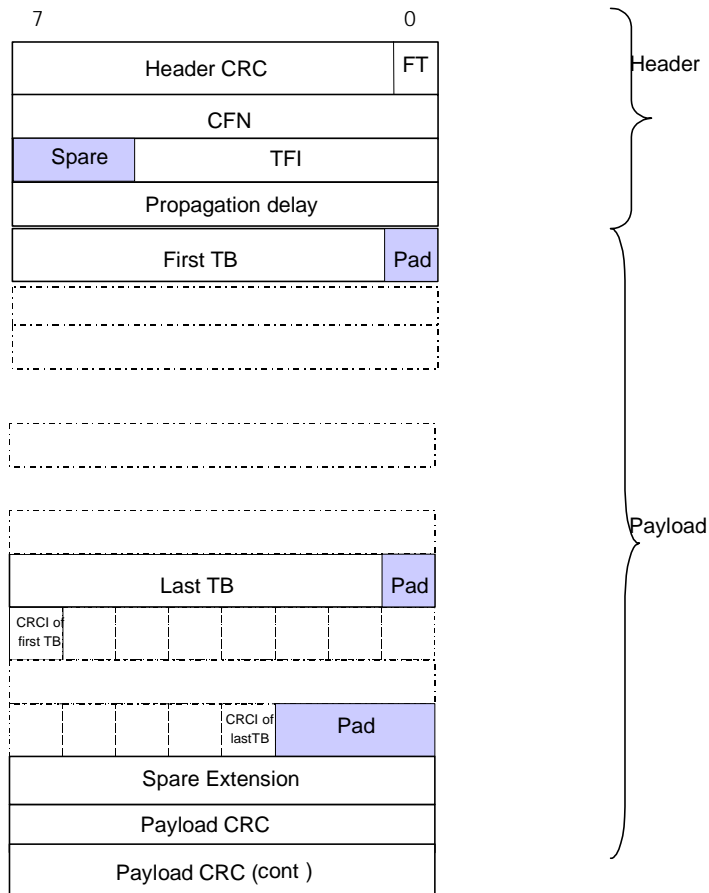


Figure 16: CPCH DATA FRAME structure

6.2.3 FACH Channels

FACH DATA FRAME includes the CFN corresponding to the Uu frame at which this data in which the payload (FACH TBS) has to be transmitted. If the payload is to be sent in several frames, the CFN corresponding to the first frame shall be indicated.

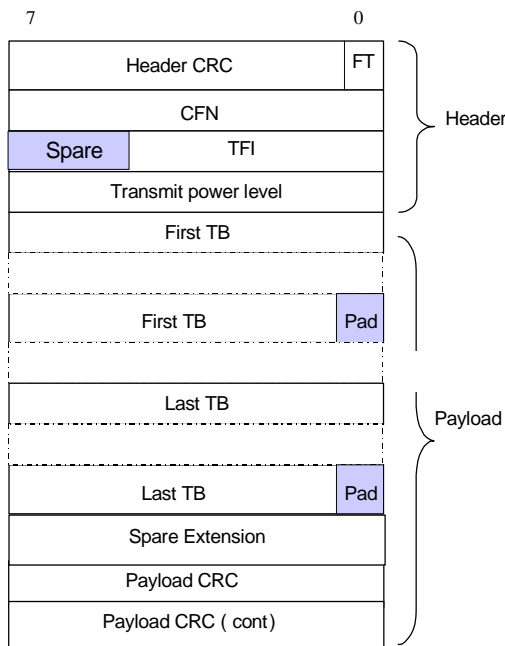


Figure 17: FACH DATA FRAME structure

6.2.4 PCH Channels

The PCH DATA FRAME includes the paging indication information and paging messages [FDD - To page one User Equipment, two consecutive PCH DATA FRAMEs with consecutive CFN numbers are transmitted, the first frame contains the Paging Indication Information and the second contains the Paging Message.] [TDD - To page one User Equipment, one or more PCH DATA FRAMEs are transmitted.]

[TDD - If two or more consecutive frames are used, the first frame contains the Paging Indication Information and the rest contain the Paging Messages. If PI-bitmap and PCH TBS are both transmitted within the PCH DATA FRAME, the CFN is related to the PCH TBS only. The PI bitmap is mapped to the PICH frames, transmitted at the beginning of the paging block.]

The paging messages are transmitted in S-CCPCH frames. The CFN in the PCH DATA FRAME header corresponds to the Cell SFN of the frame in which the start of the S-CCPCH frame is located. [TDD - If the paging messages are to be sent in several frames, the CFN corresponding to the first frame shall be indicated.]

[FDD - The timing of the PICH frame (containing the paging indication information) is τ_{PICH} prior to the S-CCPCH frame timing [5]].

In contrast to all other Common Transport Channel data frames, which use a CFN of length 8, the PCH DATA FRAME includes a CFN of length 12.

The Node B has no responsibility to ensure the consistency between the paging indication information and the corresponding paging messages. E.g. if the paging indication information is lost over the Iub, the paging messages might be sent over the Uu while no UE is actually listening.

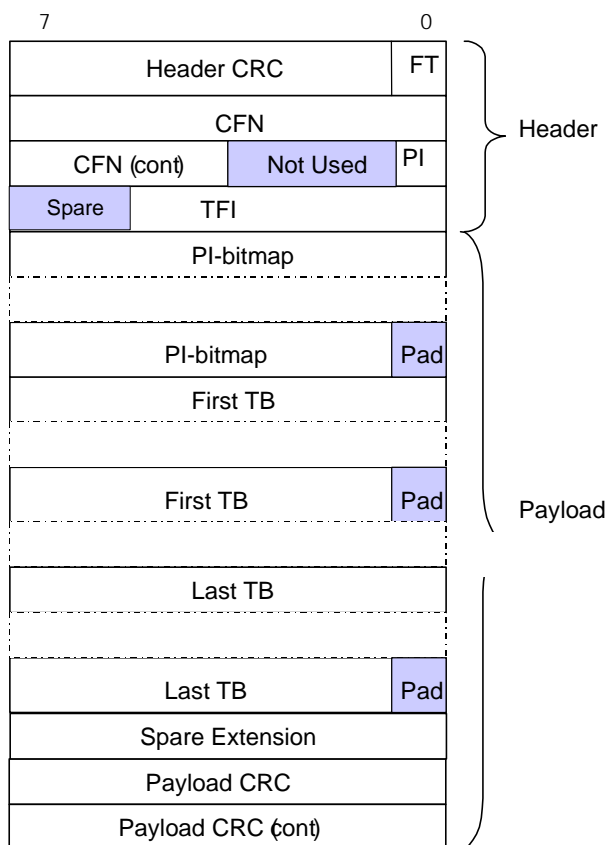


Figure 18: PCH DATA FRAME structure

"Not Used" bits shall be set to 0 by the RNC and ignored by the Node B.

6.2.5 Downlink Shared Channels

DSCH DATA FRAME includes a CFN indicating the SFN of the PDSCH in which the payload shall be sent. If the payload is to be sent over several frames, the CFN corresponding to the first frame shall be indicated.

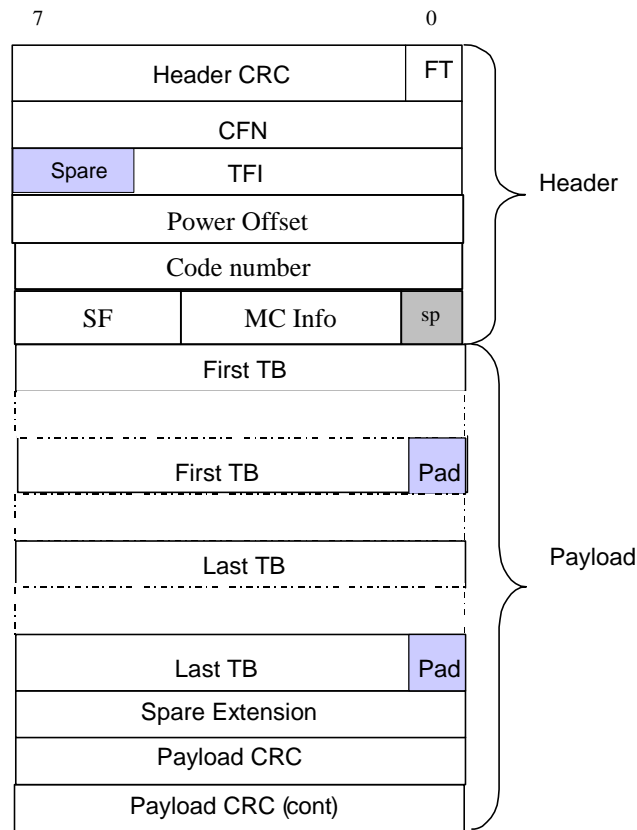


Figure 19: FDD DSCH DATA FRAME structure

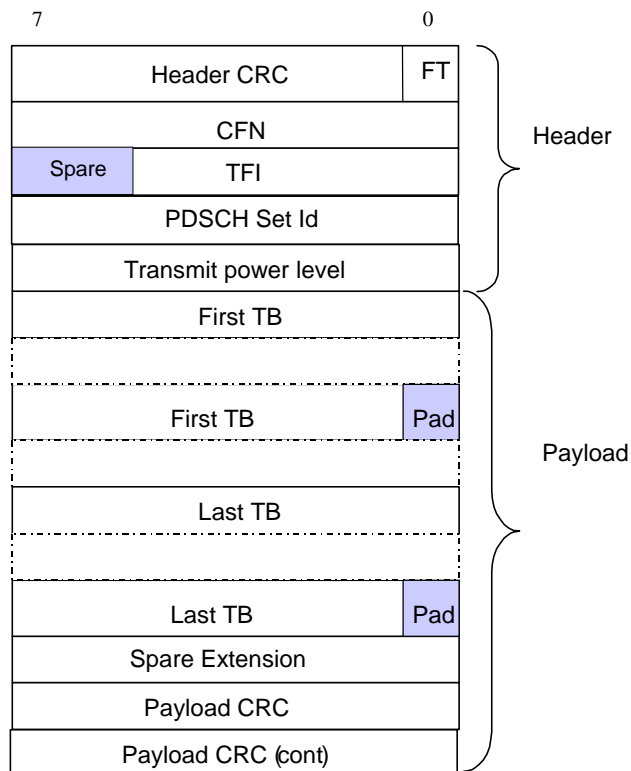


Figure 20: TDD DSCH DATA FRAME structure

Transmit Power Level is a conditional Information Element which is only present when the Cell supporting the DSCH Transport Channel is a TDD Cell.

6.2.6 Uplink Shared Channels [TDD]

USCH DATA FRAME includes the CFN in which the payload was received. If the payload was received in several frames, the CFN corresponding to the first frame will be indicated.

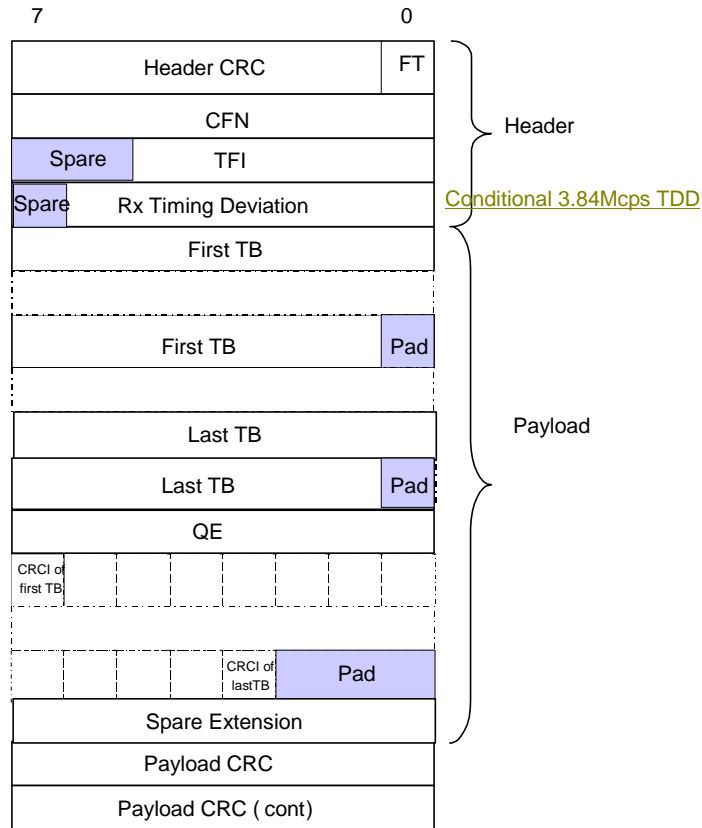


Figure 21: USCH DATA FRAME structure

[6.2.6A HS-DSCH Channels](#)

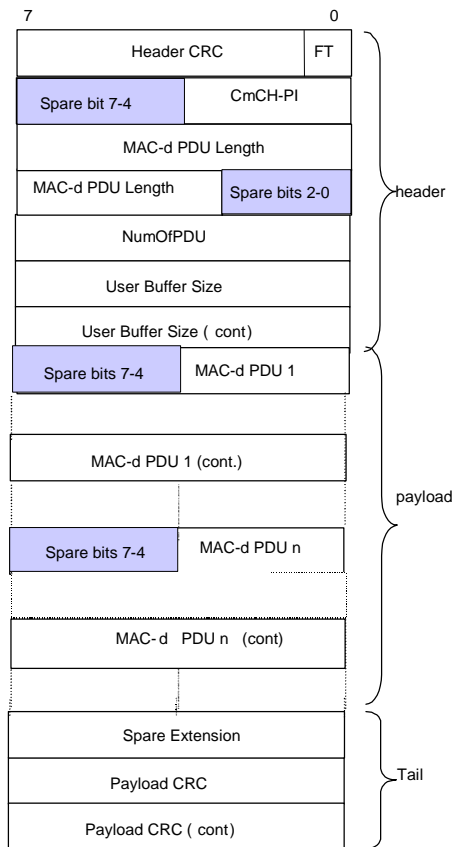


Figure 21A: HS-DSCH DATA FRAME structure

6.2.7 Coding of information elements in data frames

6.2.7.1 Header CRC

Description: Cyclic Redundancy Checksum calculated on the header of a data frame with polynomial: $X^7+X^6+X^2+1$.

The CRC calculation shall cover all bits in the header, starting from bit 0 in the first byte (FT field) up to the end of the header. See subclause 7.1.

Value range: {0..127}.

Field length: 7 bits.

6.2.7.2 Frame Type

Description: Describes if it is a control frame or a data frame.

Value range: {0=data, 1=control}.

Field Length: 1 bit.

6.2.7.3 Connection Frame Number (CFN)

Description: Indicator as to which radio frame the first data was received on uplink or shall be transmitted on downlink. The value range and field length depend on the transport channel for which the CFN is used.

Value range (PCH): {0..4095}.

Value range (other): {0..255}.

Field length (PCH): 12 bits.

Field length (other): 8 bits.

6.2.7.4 Transport Format Indicator

Description: TFI is the local number of the transport format used for the transmission time interval. For information about what the transport format includes see [3].

Value range: {0..31}.

Field length: 5 bits.

6.2.7.5 Propagation Delay [FDD]

Description: One-way radio interface delay as measured during RACH access.

Value range: {0..765 chips}.

Granularity: 3 chips.

Field length: 8 bits.

6.2.7.6 Rx Timing Deviation [3.84Mcps TDD]

Description: Measured Rx Timing Deviation as a basis for timing advance. This value should consider measurements made in all frames and all timeslots that contain the transport blocks in the payload. In case the *Timing Advance Applied* IE indicates "No" (see [6]) in a cell, the Rx Timing Deviation field shall be set to N = 0.

Value range: {-256 .. +256 chips}.

$\{N*4 - 256\}$ chips \leq RxTiming Deviation $< \{(N+1)*4 - 256\}$ chips.

With N = 0, 1, ..., 127.

Granularity: 4 chips.

Field length: 7 bits.

6.2.7.6A Received SYNC UL Timing Deviation [1.28Mcps TDD]

Description: Measured Received SYNC UL Timing Deviation as a basis for propagation delay.

Value range: {0, ..., +256} chips

Granularity: 1 chip.

Field length: 8 bits.

6.2.7.7 Transport Block

Description: A block of data to be transmitted or have been received over the radio interface. The transport format indicated by the TFI describes the transport block length and transport block set size. See [3].

6.2.7.8 CRC Indicator

Description: Shows if the transport block has a correct CRC. The UL Outer Loop Power Control may use the CRC indication.

Value range: {0=Correct, 1=Not Correct}.

Field length: 1 bit.

6.2.7.9 Payload CRC

Description: Cyclic Redundancy Checksum calculated on the payload of a data frame with polynomial $X^{16}+X^{15}+X^2+1$.

The CRC calculation shall cover all bits in the data frame payload, starting from bit 7 in the first byte up to bit 0 in the byte before the payload CRC. See subclause 7.1.

Field length: 16 bits.

6.2.7.10 Transmit Power Level

Description: Preferred transmission power level during this TTI for the corresponding transport channel. The indicated value is the negative offset relative to the maximum power configured for the physical channel(s) used for the respective transport channel.

Value range: {0 .. 25.5 dB}.

Granularity: 0,1 dB.

Field length: 8 bits.

6.2.7.11 Paging Indication (PI)

Description: Describes if the PI Bitmap is present in the payload.

Value range: {0=no PI-bitmap in payload, 1=PI-bitmap in payload}.

Field length: 1 bit.

6.2.7.12 Paging Indication bitmap (PI-bitmap)

Description: Bitmap of Paging Indications $PI_0..PI_{N-1}$. Bit 7 of the first byte contains PI_0 , Bit 6 of the first byte contains PI_1 , ..., Bit 7 of the second byte contains PI_8 and so on.

Value range: [FDD - {18, 36, 72 or 144 Paging Indications}.]
[TDD - {30, 34, 60, 68, 120 and 136} Paging Indications for 2 PICH frames,
{60, 68, 120, 136, 240 and 272} Paging Indications for 4 PICH frames].

Field length: [FDD - 3, 5, 9 or 18 bytes (the PI-bitmap field is padded at the end up to an octet boundary)].
[TDD - 4, 5, 8, 9, 15, 17, 30 or 34 bytes (the PI-bitmap field is padded at the end up to an octet boundary)].

6.2.7.13 Rx Timing Deviation on RACH [3.84Mcps TDD]

Void.

6.2.7.14 PDSCH Set Id [TDD]

Description: A pointer to the PDSCH Set which shall be used to transmit the DSCH DATA FRAME over the radio interface.

Value range: {0..255}.

Field length: 8 bits.

6.2.7.15 Code Number [FDD]

Description: The code number of the PDSCH (the same mapping is used as for the 'code number' IE in [8]).

Value Range: {0..255}.

Field length: 8 bits.

6.2.7.16 Spreading Factor (SF) [FDD]

Description: The spreading factor of the PDSCH.

Spreading factor = 0 Spreading factor to be used = 4.

Spreading factor = 1 Spreading factor to be used = 8.

Spreading factor = 6 Spreading factor to be used = 256.

Value Range: {4,8,16,32,64,128, 256}.

Field length: 3 bits.

6.2.7.17 Power Offset [FDD]

Description: Used to indicate the preferred FDD PDSCH transmission power level. The indicated value is the offset relative to the power of the TFCI bits of the downlink DPCCH directed to the same UE as the DSCH.

Power offset = 0 Power offset to be applied = -32 dB.

Power offset = 1 Power offset to be applied = -31.75 dB.

Power offset = 255 Power offset to be applied = +31.75 dB.

Value range: {-32 .. +31.75 dB}.

Granularity: 0.25 dB.

Field length: 8 bits.

6.2.7.18 MC Info [FDD]

Description: Used to indicate the number of parallel PDSCH codes on which the DSCH data will be carried. Where multi-code transmission is used the SF of all codes is the same and code numbers are contiguous within the code tree with increasing code number values starting from the code number indicated in the 'code number' field.

Value range: {1..16}.

Field length: 4 bits.

6.2.7.19 Spare Extension

Description: Indicates the location where new IEs can in the future be added in a backward compatible way.

Field length: 0-2 octets.

6.2.7.20 Quality Estimate (QE) [TDD]

Description: The quality estimate is derived from the Transport channel BER.

If the USCH FP frame includes TB's for the USCH then the QE is the Transport channel BER for the selected USCH. If no Transport channel BER is available the QE shall be set to 0.

The quality estimate shall be set to the Transport channel BER and be measured in the units TrCH_BER_LOG respectively (see [6]). The UL Outer Loop Power Control may use the quality estimate.

Value range: {0..255}.

Granularity: 1.

Field length: 8 bits.

6.2.7.21 Common Transport Channel Priority Indicator (CmCH-PI)

Description: CmCH-PI is the relative priority of the data frame and the SDUs included.

Value range: {0-15, where 0=lowest priority, 15=highest priority}.

Field length: 4 bits.

6.2.7.22 User Buffer Size

Description: Indicates the users' buffer size (i.e. the amount of data in the buffer) in octets for a given Common Transport Channel Priority Indicator level.

Value range: {0-65535}.

Field length: 16 bits.

6.2.7.23 MAC-d PDU Length

Description: The value of that field indicates the length of every MAC-d PDU in the payload of the HS-DSCH DATA FRAME in number of bits.

Value range: {0-5000}.

Field Length: 13 bits.

6.2.7.24 NumOfPDU

Description: Indicates the number of MAC-d PDUs in the payload.

Value range: {1-255}.

Field Length: 8 bits.

6.2.7.25 MAC-d PDU

Description: A MAC-d PDU contains the *C/T* IE field [7] of the MAC header followed by one RLC PDU. Field length: See the value of the *MAC-d PDU Length* IE.

6.3 Control frame structure

6.3.1 Introduction

The Common Control Channel control frames are used to transport control information between the CRNC and the Node B. Figure 22 defines the Control Frame structure for common transport channels.

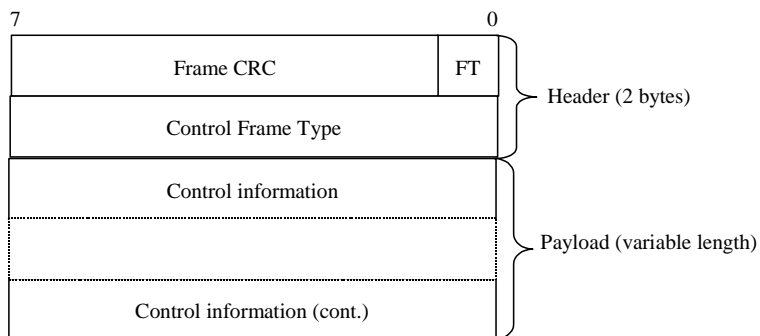


Figure 22: lub Common Transport Channel Control Frame Format

The structure of the header and the payload of the control frames is defined in the following subclauses.

6.3.2 Coding of information elements of the Control frame header

6.3.2.1 Frame CRC

Description: Cyclic Redundancy Checksum calculated on a control frame with polynom: $X^7+X^6+X^2+1$.

The CRC calculation shall cover all bits in the control frame, starting from bit 0 in the first byte (FT field) up to the end of the control frame. See subclause 7.1.

Value range: {0..127}.

Field length: 7 bits.

6.3.2.2 Frame Type (FT)

Refer to subclause 6.2.7.2.

6.3.2.3 Control Frame Type

Description: Indicates the type of the control information (information elements and length) contained in the payload.

Value: Values of the Control Frame Type parameter are defined in table 2.

Table 2

Type of control frame	Value
OUTER LOOP POWER CONTROL	0000 0001
TIMING ADJUSTMENT	0000 0010
DL SYNCHRONISATION	0000 0011
UL SYNCHRONISATION	0000 0100
DSCH TFCI SIGNALLING	0000 0101
DL NODE SYNCHRONISATION	0000 0110
UL NODE SYNCHRONISATION	0000 0111
DYNAMIC PUSCH ASSIGNMENT	0000 1000
TIMING ADVANCE	0000 1001
HS-DSCH Capacity Request	0000 1010
HS-DSCH Capacity Allocation	0000 1011

Field Length: 8 bits.

6.3.3 Payload structure and information elements

6.3.3.1 TIMING ADJUSTMENT

6.3.3.1.1 Payload Structure

Figures 23 and 24 shows the structure of the payload when control frame is used for the timing adjustment.

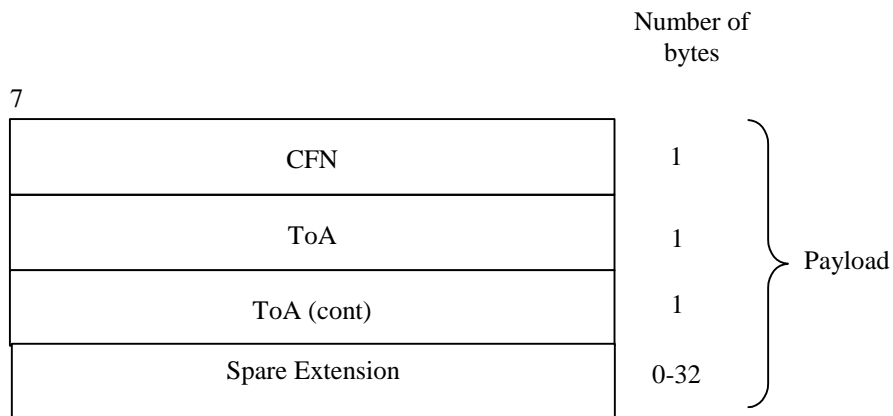


Figure 23: TIMING ADJUSTMENT payload structure (non-PCH transport bearers)

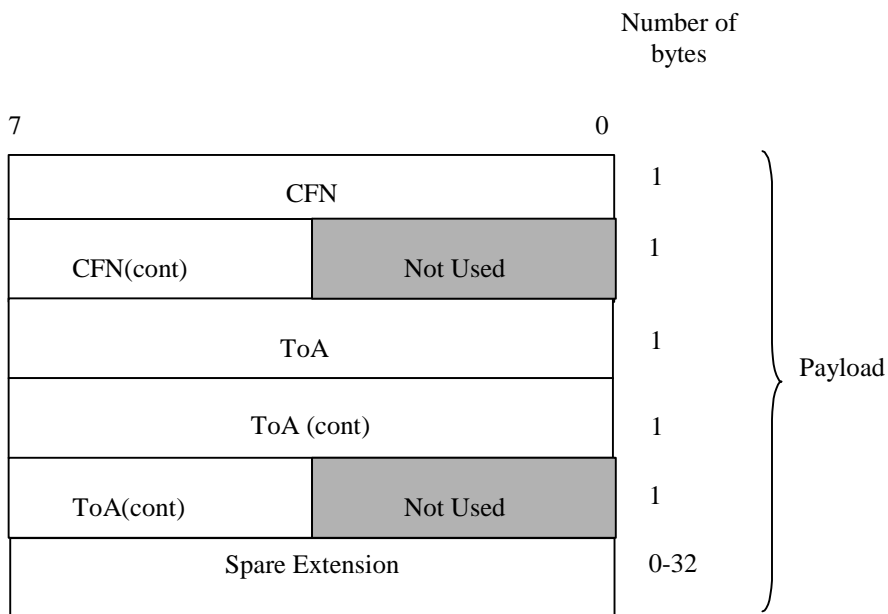


Figure 24: TIMING ADJUSTMENT payload structure (PCH transport bearer)

6.3.3.1.2 CFN

Refer to subclause 6.2.7.3.

6.3.3.1.3 Time of arrival (ToA)

Description: Time difference between the arrival of the DL frame with respect to TOAWE (based on the CFN in the frame). The value range and field length depend on the transport channel for which the CFN is used.

Value range (PCH): {-20480ms, +20479.875ms}.

Value range (other): {-1280ms, +1279.875ms}.

Granularity: 125µs.

Field length (PCH): 20 bits.

Field length (other): 16 bits.

6.3.3.1.4 Spare Extension

Description: Indicates the location where new IEs can in the future be added in a backward compatible way.

Field length: 0-32 octets.

6.3.3.2 DL SYNCHRONISATION

6.3.3.2.1 Payload Structure

Figures 25 and 26 shows the structure of the payload when control frame is used for the user plane synchronisation.

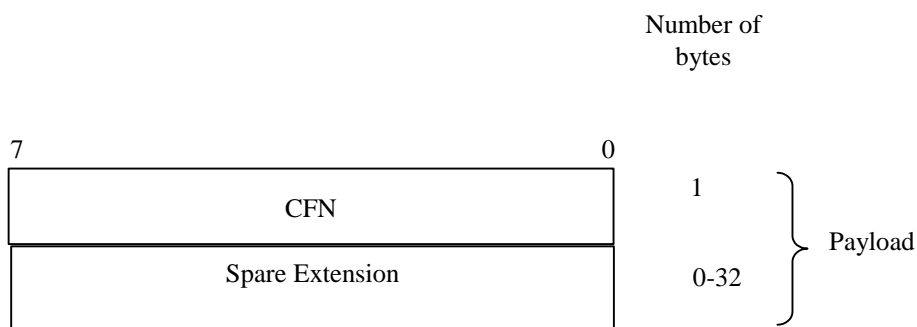


Figure 25: DL SYNCHRONISATION payload structure (non-PCH transport bearers)

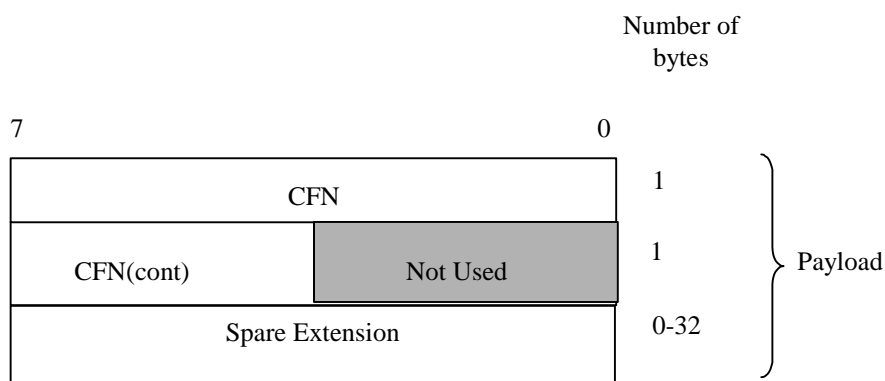


Figure 26: DL SYNCHRONISATION payload structure (PCH transport bearers)

6.3.3.2.2 CFN

Refer to subclause 6.2.7.3.

6.3.3.2.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.3 UL SYNCHRONISATION

6.3.3.3.1 Payload Structure

Figures 27 and 28 shows the structure of the payload when the control frame is used for the user plane synchronisation (UL).

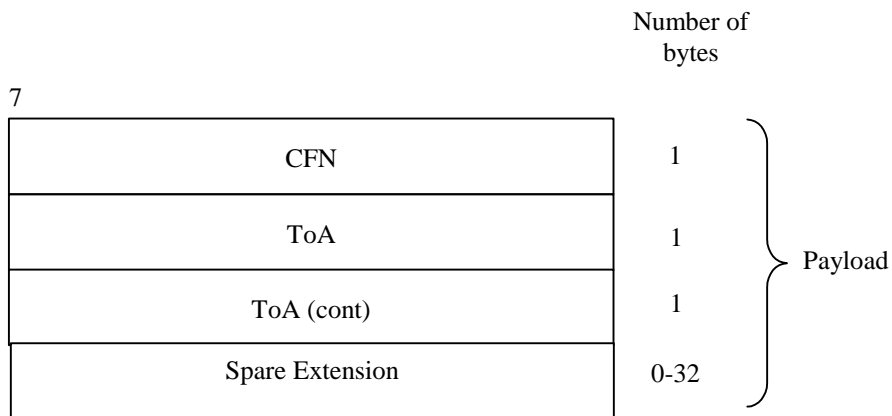


Figure 27: UL SYNCHRONISATION payload structure (non-PCH transport bearers)

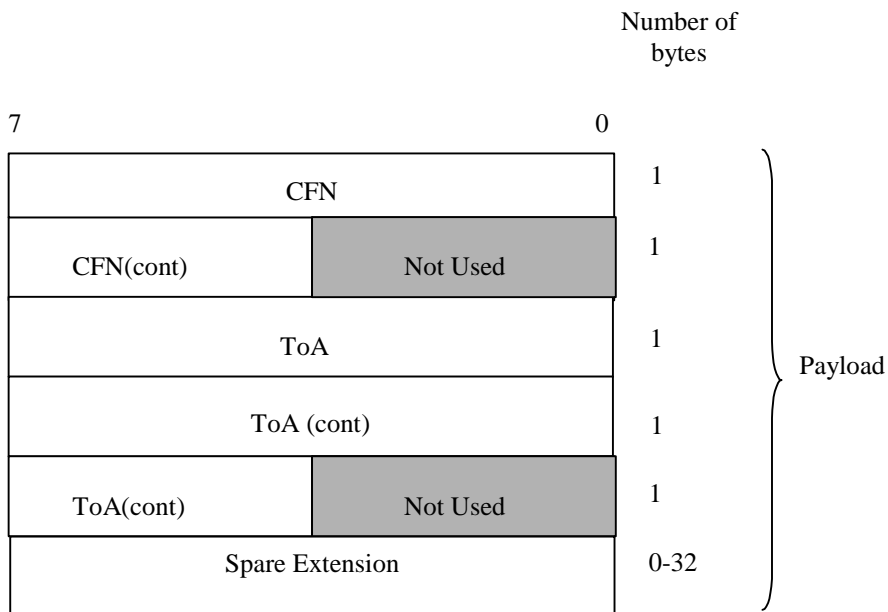


Figure 28: UL SYNCHRONISATION payload structure (PCH transport bearers)

6.3.3.3.2 CFN

Refer to subclause 6.2.7.3.

6.3.3.3.3 Time of Arrival (TOA)

Refer to subclause 6.3.3.1.3.

6.3.3.3.4 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.4 DL NODE SYNCHRONISATION

6.3.3.4.1 Payload Structure

The payload of the DL Node synchronisation control frames is shown in figure 29.

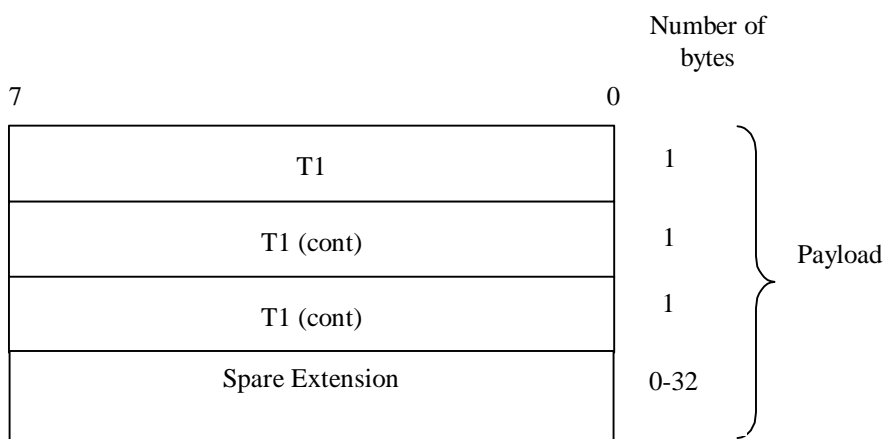


Figure 29: DL NODE SYNCHRONISATION payload structure

6.3.3.4.2 T1

Description: RNC specific frame number (RFN) that indicates the time when RNC sends the frame through the SAP to the transport layer.

Value range: {0 .. 40959.875 ms}.

Granularity: 0.125ms.

Field length: 24 bits.

6.3.3.4.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.5 UL NODE SYNCHRONISATION

6.3.3.5.1 Payload Structure

The payload of the UL Node synchronisation control frames is shown in figure 30.

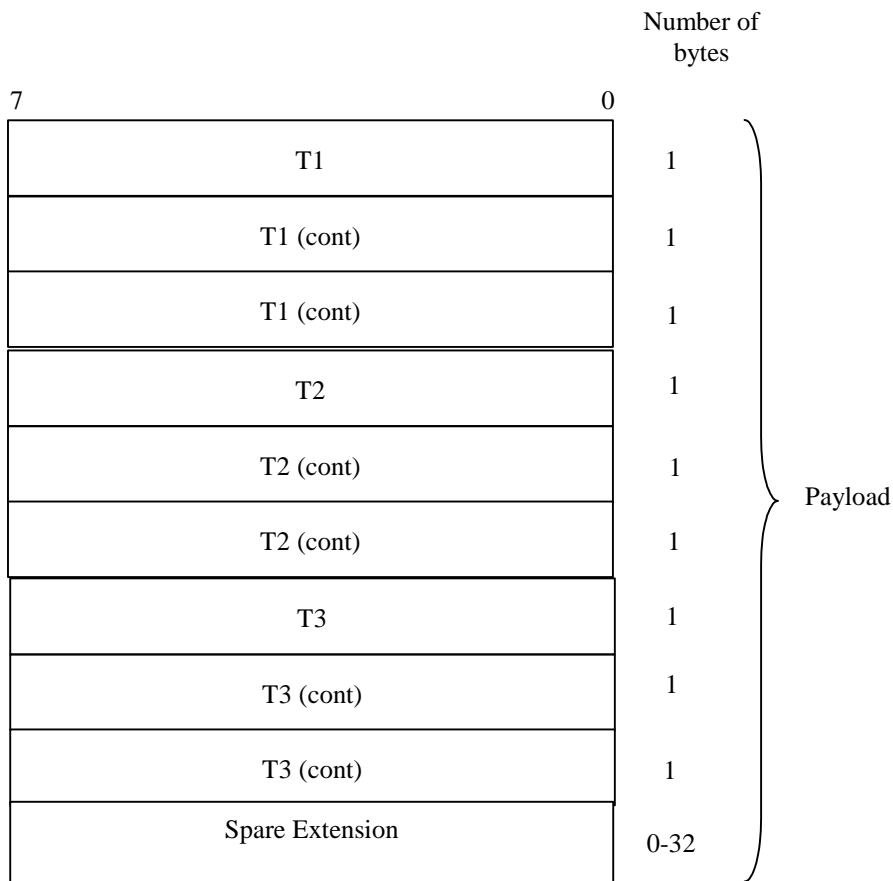


Figure 30: UL NODE SYNCHRONISATION payload structure

6.3.3.5.2 T1

Description: T1 timer is extracted from the correspondent DL Node synchronisation control frame.

Value range: {0 .. 40959.875 ms.}

Granularity: 0.125ms.

Field length: 24 bits.

6.3.3.5.3 T2

Description: Node B specific frame number (BFN) that indicates the time when Node B received the correspondent DL synchronisation frame through the SAP from the transport layer.

Value range: {0 .. 40959.875 ms}.

Granularity: 0.125ms.

Field length: 24 bits.

6.3.3.5.4 T3

Description: Node B specific frame number (BFN) that indicates the time when Node B sends the frame through the SAP to the transport layer.

Value range: {0 .. 40959.875 ms}.

Granularity: 0.125ms.

Field length: 24 bits.

6.3.3.5.5 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.6 DYNAMIC PUSCH ASSIGNMENT [TDD]

6.3.3.6.1 Payload structure

The payload of the Dynamic PUSCH Assignment control frames is shown in figure 31.

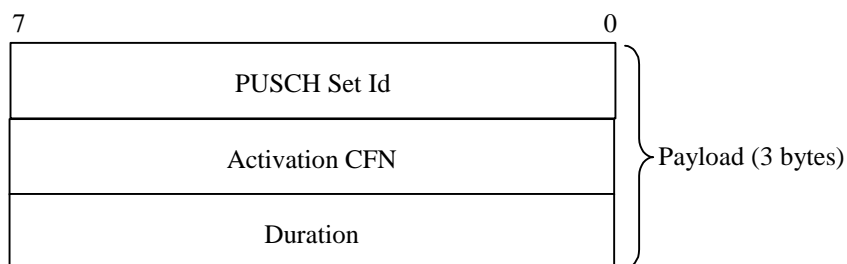


Figure 31: DYNAMIC PUSCH ASSIGNMENT payload structure

6.3.3.6.2 PUSCH Set Id

Description: Identifies a PUSCH Set from the collection of PUSCH Sets which have been pre-configured in the Node B, for the respective cell in which the USCH exists. The PUSCH Set Id is unique within a cell.

Value range: {0..255}.

Field length: 8 bits.

6.3.3.6.3 Activation CFN

Description: Activation CFN, specifies the Connection Frame Number where the allocation period of that PUSCH Set starts.

Value range: Integer {0..255}.

Field length: 8 bits.

6.3.3.6.4 Duration

Description: Indicates the duration of the activation period of the PUSCH Set, in radio frames.

Value range: 0..255 means: 0 to 255 radio frames, i.e. 0 to 2550 msec.

Field length: 8 bits.

6.3.3.7 DSCH TFCI SIGNALLING [FDD]

6.3.3.7.1 Payload structure

Figure 32 shows the structure of the payload when the control frame is used for signalling TFCI (field 2) bits. The TFCI (field 2) bits are used by the Node B to create the TFCI word(s) for transmission on the DPCCCH.

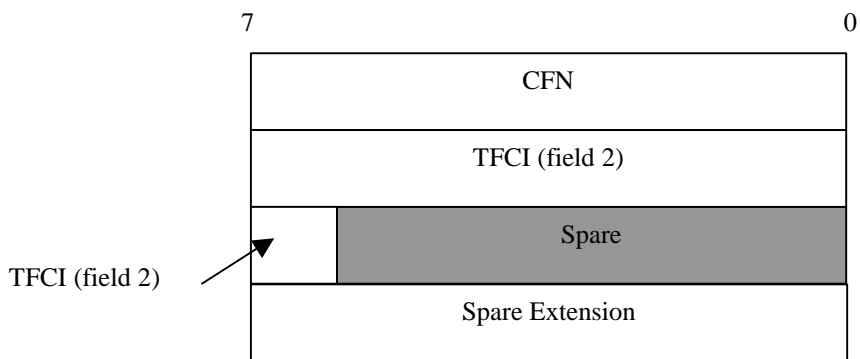


Figure 32: DSCH TFCI SIGNALLING payload structure

6.3.3.7.2 TFCI (field 2)

Description: TFCI (field 2) is as described in [6], it takes the same values as the TFCI (field 2) which is transmitted over the Uu interface.

Value range: {0..1023}

Field length: 10 bits

6.3.3.7.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.8 TIMING ADVANCE [3.84Mcps TDD]

6.3.3.8.1 Payload structure

Figure 33 shows the structure of the payload when the control frame is used for timing advance.

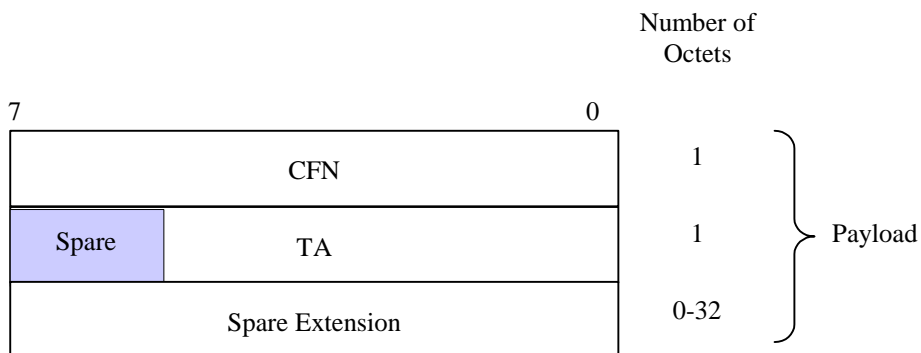


Figure 33: TIMING ADVANCE payload structure

6.3.3.8.2 CFN

Refer to subclause 6.2.7.3.

6.3.3.8.3 TA

Description: UE applied UL timing advance adjustment.

Value range: {0 .. 252 chips}.

Granularity: 4 chips.

Field length: 6 bits.

6.3.3.8.4 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.9 OUTER LOOP POWER CONTROL [1.28 Mcps TDD]

6.3.3.9.1 Payload structure

Figure 34 shows the structure of the payload when control frame is used for the UL outer loop power control.

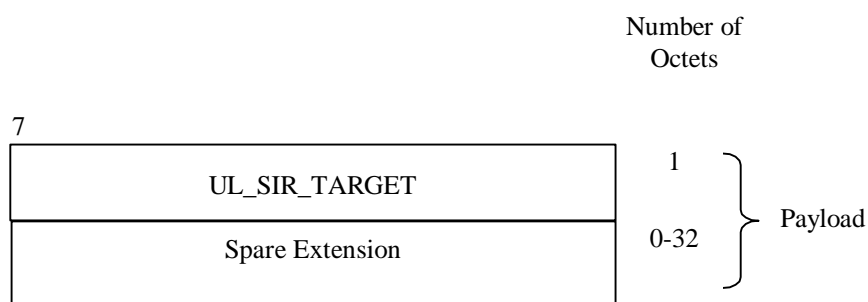


Figure 34: Structure of the payload for OUTER LOOP PC control frame

6.3.3.9.2 SIR Target

Description: Value (in dB) of the SIR target to be used by the UL inner loop power control.

SIR Target is given in the unit UL_SIR_TARGET where:

UL_SIR_TARGET = 000	SIR Target = -8.2 dB
UL_SIR_TARGET = 001	SIR Target = -8.1 dB
UL_SIR_TARGET = 002	SIR Target = -8.0 dB
...	
UL_SIR_TARGET = 254	SIR Target = 17.2 dB
UL_SIR_TARGET = 255	SIR Target = 17.3 dB

Value range: {-8.2 .. 17.3 dB}.

Granularity: 0.1 dB.

Field length: 8 bits.

6.3.3.9.3 Spare Extension

Refer to subclause 6.3.3.1.4.

6.3.3.10 HS-DSCH CAPACITY REQUEST

Spare bits 7-4	CmCH-PI
User Buffer Size	
User Buffer Size (cont)	
Spare Extension	

Figure 35: CAPACITY REQUEST payload structure

HS-DSCH Capacity Request is sent for each priority group to indicate the user buffer size. The control frame is sent by the HS-DSCH CAPACITY REQUEST is sent for each priority group to indicate the user buffer size. The control frame is sent by the SRNC when the SRNC considers the user buffer status needs an increased buffer reporting frequency. This may be sent to signal an event, such as, data arrival or user-buffer discard. This control frame is used to improve user-buffer reporting above the level produced by the user-buffer reporting associated with the HS-DSCH DATA FRAMES.

6.3.3.10.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.7.21.

6.3.3.10.2 User Buffer Size

Refer to subclause 6.2.7.22.

6.3.3.10.3 Spare Extension

Refer to subclause 6.2.7.19.

6.3.3.11 HS-DSCH CAPACITY ALLOCATION

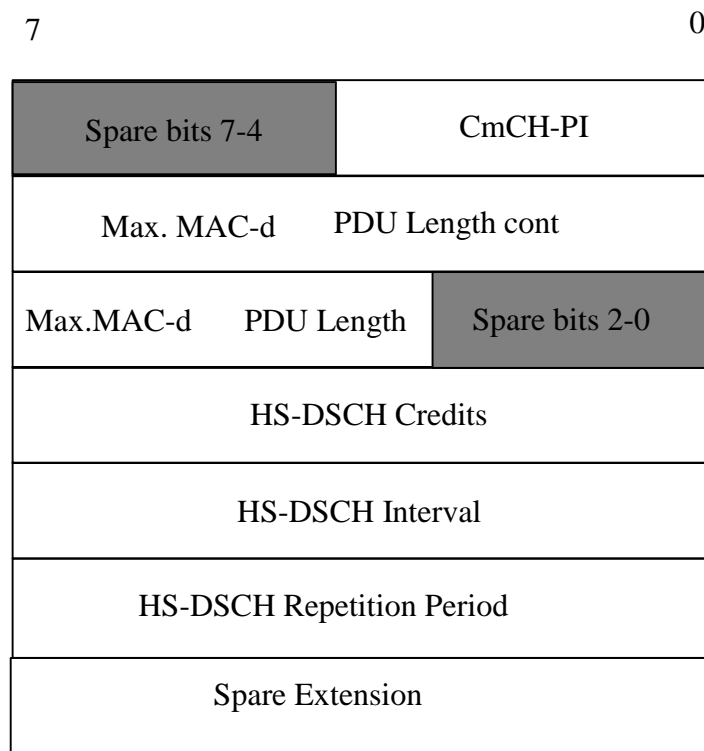


Figure 36: CAPACITY ALLOCATION payload structure

The CAPACITY ALLOCATION Control Frame describes an allocation that the SRNC may use. When the *HS-DSCH Credits* IE has a value of 0 it signifies that there is no resources allocated for transmission and to thus stop transmission. When the *HS-DSCH Credits* IE has a value of 255, it signifies unlimited capacity for transmission of PDUs. When the *HS-DSCH Repetition Period* IE has a value of 0, it signifies that the allocation (*Maximum MAC-d PDU Length*, *HS-DSCH Credits* and *HS-DSCH Interval* IEs) can be repeated without limit.

6.3.3.11.1 Common Transport Channel Priority Indicator (CmCH-PI)

Refer to subclause 6.2.7.21.

6.3.3.11.2 Maximum MAC-d PDU Length

Description: The values indicated the maximum allowable PDU size. MAC-d PDU contains the C/T field of the MAC header followed by one RLC PDU.

Field length: See the value of the *MAC-d PDU Length* IE.

6.3.3.11.3 HS-DSCH Credits

Description: The *HS-DSCH Credits* IE indicates the number of MAC-d PDUs that a user may transmit.

Value range: {0-255, where 0=stop transmission, 255=unlimited}.

Field length: 8 bits.

6.3.3.11.4 HS-DSCH Interval

Description: The value of this field indicates the time interval during which the *HS-DSCH Credits* IE granted in the HS-DSCH CAPACITY ALLOCATION Control Frame may be transmitted. This value is only applied to the HS-DSCH transport channel.

Value range: {0-2550 ms}.

Granularity: 10ms.

Field Length: 8 bits.

6.3.3.11.5 HS-DSCH Repetition Period

Description: The value of this field indicates the number of subsequent intervals that the *HS-DSCH Credits IE* granted in the HS-DSCH CAPACITY ALLOCATION Control Frame may be transmitted. These values represent an integer number of Intervals (see subclause 6.3.3.3.4). This field is only applied to the HS-DSCH transport channel.

Value range: {0-255, where 0= unlimited repetition period}.

Field Length: 8 bits.

6.3.3.11.6 Spare Extension

Refer to subclause 6.2.7.19.

7 Frame protocol error handling

A received frame protocol frame with unknown Information element or with illegal Information element value shall be ignored. Frame protocol frames sent with a CFN in which the radio resources assigned to the associated Iub data port are not available, shall be ignored.

7.1 Error detection

Error detection is provided on frames through a Cyclic Redundancy Check. The CRC for the payload is 16 and for the header and control frames is 7 bits.

7.1.1 CRC Calculation

The parity bits are generated by one of the following cyclic generator polynomials:

$$g_{\text{CRC16}}(D) = D^{16} + D^{15} + D^2 + 1.$$

$$g_{\text{CRC7}}(D) = D^7 + D^6 + D^2 + 1.$$

Denote the bits in a frame by $a_1, a_2, a_3, \dots, a_{A_i}$, and the parity bits by $p_1, p_2, p_3, \dots, p_{L_i}$. A_i is the length of a protected data and L_i is 16 or 7 depending on the CRC length.

The encoding is performed in a systematic form, which means that in GF (2), the polynomial for the payload.

$$a_1 D^{A_i+15} + a_2 D^{A_i+14} + \dots + a_{A_i} D^{16} + p_1 D^{15} + p_2 D^{14} + \dots + p_{15} D^1 + p_{16}$$

yields a remainder equal to 0 when divided by $g_{\text{CRC16}}(D)$, the polynomial for the header and control frames.

$$a_1 D^{A_i+6} + a_2 D^{A_i+5} + \dots + a_{A_i} D^7 + p_1 D^6 + p_2 D^5 + \dots + p_6 D^1 + p_7$$

yields a remainder equal to 0 when divided by $g_{\text{CRC7}}(D)$.

7.1.1.1 Relation between input and output of the Cyclic Redundancy Check

The bits after CRC attachment are denoted by $b_1, b_2, b_3, \dots, b_{B_i}$, where $B_i = A_i + L_i$.

The parity bits for the payload are attached at the end of the frame:

$$b_k = a_k \quad k = 1, 2, 3, \dots, A_i$$

$$b_k = p_{(k-A_i)} \quad k = A_i + 1, A_i + 2, A_i + 3, \dots, A_i + L_i$$

The parity bits for the frame header and the control frames are attached at the beginning of the frame:

$$b_k = p_k \quad k = 1, 2, 3, \dots, L_i$$

$$b_k = a_{(k-L_i)} \quad k = L_i + 1, L_i + 2, L_i + 3, \dots, L_i + A_i$$