

**TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000**

TSGRP#7(00)0108

Title: Agreed CRs to TS 25.433

Source: TSG-RAN WG3

Agenda item: 6.4.3

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num
R3-000753	25.433	034	1	Restriction to allowed procedure parallelism	C	agreed	3.0.0	3.1.0
R3-000755	25.433	038	1	Inclusion of Beta C/D TFCS	F	agreed	3.0.0	3.1.0
R3-000758	25.433	051	1	UL Interference for TDD	F	agreed	3.0.0	3.1.0
R3-000760	25.433	011	2	Update to R3-000441.	C	agreed	3.0.0	3.1.0
R3-000775	25.433	053	1	Update to R3-000575	F	agreed	3.0.0	3.1.0
R3-000939	25.433	031	1	Change of definition of QE	F	agreed	3.0.0	3.1.0
R3-000771	25.433	064	1	Modification to "TGD" unit and range (NBAP)	F	agreed	3.0.0	3.1.0
R3-000951	25.433	057	1	A new IE for "RL information" regarding Transmit Diversity (NBAP)	B	agreed	3.0.0	3.1.0
R3-000803	25.433	071	1	Addition of cause values for NBAP block resource procedure	C	agreed	3.0.0	3.1.0
R3-000902	25.433	052	2	Clarification on the "RLC Mode" parameter	F	agreed	3.0.0	3.1.0

R3-000901	25.433	077	1	Correction for RACH	F	agreed	3.0.0	3.1.0
R3-000823	25.433	061	1	Some Editorial modifications to NBAP	D	agreed	3.0.0	3.1.0
R3-000804	25.433	072	1	Addition of new indication type category in Resource Status Indication message	C	agreed	3.0.0	3.1.0
R3-000858	25.433	058	2	Support of infinite PD in compressed mode (RNSAP)	B	agreed	3.0.0	3.1.0
R3-000854	25.433	055	2	Introduction of "TFCI	C	agreed	3.0.0	3.1.0
R3-000728	25.433	008	3	Addition of measurement threshold information elements.	F	agreed	3.0.0	3.1.0
R3-000750	25.433	033	1	Introduction of RLS in NBAP	C	agreed	3.0.0	3.1.0
R3-000816	25.433	054	1	Clarification on the DL power control procedure and message	F	agreed	3.0.0	3.1.0
R3-000814	25.433	040	1	Editorial fault in tabular format	D	agreed	3.0.0	3.1.0
R3-000966	25.433	012	4	Physical shared channel reconfiguration	C	agreed	3.0.0	3.1.0

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.433 CR 034r1

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN #7**
list expected approval meeting # here

for approval
for information

Strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: RAN-WG3 **Date:** 28th Feb. – 4th March 2000

Subject: Restriction to allowed procedure parallelism

Work item:

Category:	F Correction <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/>
	A Corresponds to a correction in an earlier release <input type="checkbox"/>		Release 96 <input type="checkbox"/>
<small>(only one category shall be marked with an X)</small>	B Addition of feature <input type="checkbox"/>		Release 97 <input type="checkbox"/>
	C Functional modification of feature <input checked="" type="checkbox"/>		Release 98 <input type="checkbox"/>
	D Editorial modification <input type="checkbox"/>		Release 99 <input checked="" type="checkbox"/>
			Release 00 <input type="checkbox"/>

Reason for change:

When introducing the concept of Elementary Procedures (EPs) a conflict with the previous agreement on parallelism of the NBAP Dedicated Procedures was introduced. The problem is that prior to introducing the concept of EPs there was no possibility for the CRNC to send any other message than either RL RECONFIGURATION COMMIT or RL RECONFIGURATION CANCEL once the CRNC had received a response to the RL RECONFIGURATION PREPARE message. However since the previous procedure (RL Reconfiguration – Synchronised) was divided into three EPs the present way of describing the parallelism did not cover this case.

After introducing EPs any CRNC initiated procedure may be initiated between the Synchronised RL Reconfiguration Preparation procedure and either of the procedures Synchronised RL Reconfiguration Commit and Synchronised RL Reconfiguration Cancellation. The procedures that in this way have an increased allowed parallelism are:

- * RL Addition
- * RL Deletion
- * Synchronised RL Reconfiguration Preparation
- * Unsynchronised RL Reconfiguration
- * Dedicated Measurement Initiation
- * Dedicated Measurement Termination
- * Compressed Mode Preparation
- * Compressed Mode Cancellation
- * Compressed Mode Commit

Clauses affected: 3.1, 8.3.1.1, 8.3.2.1, 8.3.2.2, 8.3.3.2, 8.3.4.2, 8.3.5.1, 8.3.6.1, 8.3.8.1, 8.3.10.1, 8.3.14.1, 8.3.15.1, 8.3.16.1

Other specs affected: Other 3G core specifications → List of CRs: 25.423 v3.0.0 CR-022r1
Other GSM core specifications → List of CRs:

MS test specifications
BSS test specifications
O&M specifications

→ List of CRs:
→ List of CRs:
→ List of CRs:

**Other
comments:**

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3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

Elementary Procedure: The NBAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between the CRNC and the Node B.

An EP consists of an initiating message and possibly a response message.

Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success or failure).
- **Class 2:** Elementary Procedures without response.

For **Class 1** EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.
- On time supervision expiry (i.e. absence of expected response). Whether or not any Class 1 procedure will have a timer on NBAP is FFS. To be sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

Prepared Reconfiguration: A Prepared Reconfiguration exists when the Synchronised Radio Link Reconfiguration Preparation procedure has been completed successfully. The Prepared Reconfiguration does not exist any more after either of the procedures Synchronised Radio Link Reconfiguration Commit or Synchronised Radio Link Reconfiguration Cancellation has been completed.

8.3.1 Radio Link Addition

8.3.1.1 General

This procedure is used for establishing the necessary resources in the Node B for one or more additional RLS towards a UE when there is already a Node B communication context for this UE in the Node B.

The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

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 all Radio Links 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 chapter 3.1.

8.3.2.2 Successful Operation

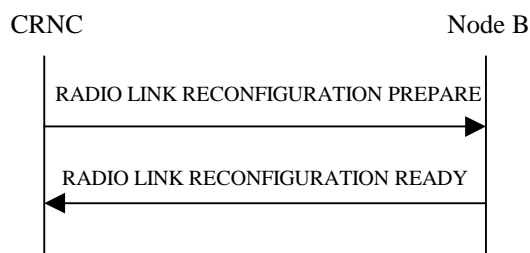


Figure 1: Synchronised Radio Link Reconfiguration procedure, Successful Case

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 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.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION PREPARE message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall.

1. treat all DCHs with the same value of this IE as a set of coordinated DCHs and
2. include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

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 may use the included *RLC Mode* IE to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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 the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Uplink Channelisation Code* IEs, the Node B shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Downlink Channelisation Code* IEs, the Node B shall apply the new Downlink Channelisation Code(s) in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *UL DPCH Information* IE groups, the Node B shall apply the new UL physical channel(s) setting in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *DL DPCH Information* IE groups, the Node B shall apply the new physical channel(s) setting in the new configuration.]

The Node B shall use the *TFCS (UL)* IE when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

The Node B shall use the *TFCS (DL)* IE when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCCH Structure* IE, group the Node B shall set the new Uplink DPCCCH Structure to the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION PREPARE includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

SSDT Activation/Deactivation:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

DSCH Addition/Modification/Deletion:

[FDD] It is FFS how the Node B shall treat any included DSCH Information.

[TDD – The RADIO LINK RECONFIGURATION PREPARE message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

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 chapter 3.1.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub DCH-to-be-added group or DCH-to-be-modified group 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 group shall be included only for one of the combined RLs.

8.3.2.3 Unsuccessful Operation

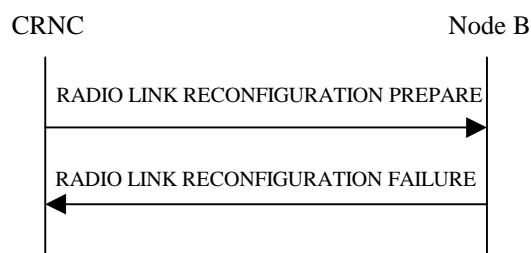


Figure 2: Synchronised Radio Link Reconfiguration procedure, Unsuccessful Case

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of coordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration 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

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention

- Unspecified Failure
- Control processing overload
- HW failure

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated 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 with.

8.3.3 Synchronised Radio Link Reconfiguration Commit

8.3.3.1 General

This procedure is used to order the Node B to switch to the new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure.

The message shall use the Communication Control Port assigned for this Node B Communication Context.

8.3.5.2 Successful Operation

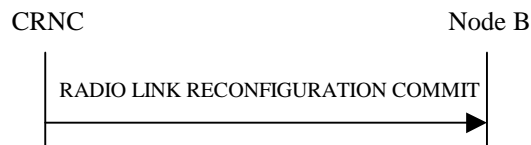


Figure 3: Synchronised Radio Link Reconfiguration Commit procedure, Successful Operation

The Node B shall switch to the new configuration previously prepared by the Synchronised RL Reconfiguration procedure at the CFN requested by the CRNC when receiving the RADIO LINK RECONFIGURATION COMMIT message from the CRNC. When this procedure has been completed the Prepared Reconfiguration does not exist any more, see chapter 3.1.

8.3.5.3 Abnormal Conditions

If the Node B receives the RADIO LINK RECONFIGURATION COMMIT message from the CRNC when there is no new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure, the message shall be ignored.

8.3.4 Synchronised Radio Link Reconfiguration Cancellation

8.3.4.1 General

This procedure is used to order the Node B to release the new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure.

The message shall use the Communication Control Port assigned for this Node B Communication Context.

8.3.4.2 Successful Operation



Figure 4: Synchronised Radio Link Reconfiguration Cancellation Procedure, Successful Case

The NodeB shall release the new configuration previously prepared by the Synchronised RL Reconfiguration Preparation procedure and continue using the old configuration when receiving the RADIO LINK RECONFIGURATION CANCEL message from the CRNC. When this procedure has been completed the Prepared Reconfiguration does not exist any more, see chapter 3.1.

8.3.4.3 Abnormal Conditions

If the NodeB receives the RADIO LINK RECONFIGURATION CANCEL message from the CRNC when there is no new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure, the message shall be ignored.

8.3.5 Unsynchronised Radio Link Reconfiguration

8.3.5.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a Node B.

The Unsynchronised RL Reconfiguration procedure is used when there is no need to synchronise the time of the switching from the old to the new configuration in one Node B used for a UE-UTRAN connection with any other Node B also used for the UE –UTRAN connection.

The Unsynchronised Radio Link Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.6 Radio Link Deletion

8.3.6.1 General

The Radio Link Deletion procedure is used to release the resources in a Node B for one or more established radio links towards a UE.

The Radio Link Deletion procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.8 Dedicated Measurement Initiation

8.3.8.1 General

This procedure is used by a CRNC to request the initiation of dedicated measurements in a Node B.

The Dedicated Measurement Initiation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.10 Dedicated Measurement Termination

8.3.10.1 General

This procedure is used by the CRNC to terminate a measurement previously requested by the Measurement Initiation procedure.

The Dedicated Measurement Termination procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.14 Compressed Mode Preparation (for FDD only)

8.3.14.1 General

The Compressed Mode Preparation procedure is used to prepare the compressed mode in the NodeB for one UE-UTRAN connection.

The Compressed Mode Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.15 Compressed Mode Commit (for FDD only)

8.3.15.1 General

The Compressed Mode Commit procedure is used to activate the compressed mode in the NodeB for one UE-UTRAN connection.

The Compressed Mode Commit procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

8.3.16 Compressed Mode Cancellation (for FDD only)

8.3.16.1 General

The Compressed Mode Cancellation procedure is used to cancel the compressed mode in the NodeB for one UE-UTRAN connection.

The Compressed Mode Cancellation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in chapter 3.1.

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.433 CR 38 R1

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN #7**

list expected approval meeting # here

↑

for approval
for information

Strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: **RAN-WG3** **Date:** **Feb , 2000**

Subject: **Inclusion of Beta C/D in TFCS (update of R3-000500)**

Work item:

Category:	F Correction	<input checked="" type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
(only one category shall be marked with an X)	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
				Release 00	<input type="checkbox"/>

Reason for change:

The Beta C and Beta D are the gain factors used for the DPCCH and DPDCH respectively.

These Beta's may vary per TFC and are provided by the UTRAN to the UE as part of the TFCS. In order to enable a node-B only measuring the DPCCH SIR to estimate the SIR for the DPDCH, which is used as input for certain decoders, it is proposed to extend the TFCS with the inclusion of the Beta's in line with the RRC approach as was agreed based on R2-000082 (CR 134) from Nortel.

One deviation from R2-000082 is the fact that the Beta's are not included mandatory (which seems to be an error), but only conditionally depending on the channel.

Clauses affected: **9.2.1.54, 9.3.4.**

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments: Other CR's also update the TFCS: in the resulting update, the beta's should only be included in non-DSCH cases.

9.2.1.54 TFCS (Transport Format Combination Set)

The Transport Format Combination Set is defined as a set of Transport Format Combinations on a Coded Composite Transport Channel. It is the allowed Transport Format Combinations of the corresponding Transport Channels. The DL Transport Format Combination Set is applicable for DL Transport Channels.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCS		1 to <maxnoofTFCs>		The first instance of the parameter corresponds to TFC zero, the second to 1 and so on.
<u>>CTFC</u>	M		INTEGER(0..MaxCTFC-1)	Integer number calculated according to TS 25.331
<u>> CHOICE Gain Factors</u>	<u>C-PhysChan</u>			
<u>>> Signalled Gain Factors</u>				
<u>>>> Gain Factor β_C</u>	<u>M</u>		<u>Integer (0..15)</u>	<u>For UL DPCCH or control part of PRACH in FDD; mapping in accordance to TS 25.213</u>
<u>>>> Gain Factor β_D</u>	<u>M</u>		<u>Integer (0..15)</u>	<u>For UL DPDCH or data part of PRACH in FDD; mapping in accordance to TS 25.213</u>
<u>>>> Reference TFC nr</u>	<u>O</u>		<u>Integer (0..15)</u>	<u>If this TFC is a reference TFC, this IE indicates the reference number</u>
<u>>> Computed Gain Factors</u>				
<u>>>> Reference TFC nr</u>	<u>M</u>		<u>Integer (0..15)</u>	<u>Indicates the reference TFC to be used to calculate the gain factors for this TFC</u>

<u>Condition</u>	<u>Explanation</u>
<u>PhysChan</u>	<u>The choice shall be present if the TFCS concerns a UL DPCH or PRACH channel in FDD, not when the TFCS is used for other physical channels.</u>

<u>Range bound</u>	<u>Explanation</u>
MaxnoofTFCs	The maximum number of Transport Format Combinations (1024).
MaxCTFC	Maximum number of the CTFC value is calculated according to the following: $\sum_{i=1}^I (L_i - 1)P_i$ with the notation according to TS 25.331

9.3.4. NBAP Information Elements

-- B

BCCH-ModificationTime ::= INTEGER (0 | 2 | 4 | .. | 4095)

BetaCD ::= INTEGER (0..15)

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
high,
normal,
low
}

-- High priority: Block resource immediately.

-- Normal priority: Block resource when idle or upon timer expiry.

-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {
type1,
type2
}

```

-----
-- R
-----

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause ::= Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

RefTFCNumber ::= INTEGER (0..15)

ReportCharacteristicsType ::= CHOICE {
onDemand          NULL,
periodic           ReportPeriodicity,
event-a           EventA,
event-b           EventB,
event-c           EventC,
event-d           EventD,
event-e           EventE,
event-f           EventF
}

-- 10ms to lmin, step 10ms or
-- lmin to lhour, step lmin
ReportPeriodicity ::= CHOICE {
msec              INTEGER (1..1000),
min               INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
enabled,
disabled
}

RLC-Mode ::= ENUMERATED {
acknowledgedMode,
unacknowledgedMode,
transparentMode
}

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)

-- -30..-100 step 0.1

```

```
|  
  
-- rssi1 indicates -30  
RSSI-Value ::= ENUMERATED {  
  rssi1,  
  rssi2,  
  ...  
}
```



```

-----
-- T
-----

T-Cell ::= ENUMERATED {
    chip-0,
    chip-256,
    chip-512,
    chip-768,
    chip-1024,
    chip-1280,
    chip-1536,
    chip-1892,
    chip-2048,
    chip-2304
}

TDD-ChannelisationCode ::= ENUMERATED {
    channelisationCode1-1,
    channelisationCode2-1,
    channelisationCode2-2,
    channelisationCode4-1,
    channelisationCode4-2,
    ...
}

-- the ChipOffset is •9200 to + 19199
TDD-ChipOffset ::= INTEGER (-19200..19199)

TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
    ENUMERATED {tti10, tti20, tti40, tti80}
}

TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
    frameRelated,
    timeSlotRelated
}

TDD-S-CCPCH-Offset ::= INTEGER (0..63)

TFC-Beta ::= CHOICE {
    SEQUENCE {
        betaC          BetaCD,
        betaD          BetaCD,
        refTFCNumber   RefTFCNumber   OPTIONAL
    }
    refTFCNumber      RefTFCNumber
}

TFCI-Presence ::= ENUMERATED {
    present,
    not-present
}

TFCI-SignallingMode ::= ENUMERATED {
    normal,
    split
}

TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
    SEQUENCE {
        cTFC          CTFC,
        tFC-Beta      TFC-Beta   OPTIONAL
    }
}

TFS ::= SEQUENCE {
    dynamicTransportFormatInformation
    DynamicTransportFormatInformation,
    semiStaticTransportFormatInformation
    SemiStaticTransportFormatInformation
}

TGD ::= INTEGER (0..255)

```

```

TGL ::= INTEGER (3,4,7,10,14)

TimeSlot ::= INTEGER (0..14)

TimeSlotDirection ::= ENUMERATED {
    ul,
    dl
}

-- to do
TimeSlotISCP-Value ::= TBD

TimeSlotStatus ::= ENUMERATED {
    active,
    not-active
}

ToAWE ::= INTEGER (0..2559) -- msec. --
ToAWS ::= INTEGER (0..1279) -- msec. --

TPC-DownlinkStepSize ::= ENUMERATED {
    step-size0-5,
    step-size1
}

Transmit Diversity Indicator ::= ENUMERATED {
    active,
    Inactive
}

TransmissionTimeInterval ::= ENUMERATED {
    time-interval10,
    time-interval20,
    time-interval40,
    time-interval80
} -- mec --

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- carrier-power1 indicates *5 dB
TransmittedCarrierPowerValue ::= ENUMERATED {
    carrier-power1,
    carrier-power2,
    ...
}

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- code-power1 indicated *5 dB
TransmittedCodePowerValue ::= ENUMERATED {
    code-power1,
    code-power2,
    ...
}

TransportBlockSize ::= INTEGER (1..5000)
-- bit --

TSTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

TransportLayerAddress ::= OCTET STRING (SIZE (1..20, ...))

TransportLayerCause ::= ENUMERATED {
    transport-link-failure,
    transmission-port-not-available,
    transport-resource-unavailable,
    unspecified
}

TypeOfChannelCoding ::= ENUMERATED {
    no-coding,
    convolutional,
    turbo
}

```

<h2 style="margin: 0;">CHANGE REQUEST</h2>		<i>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</i>
25.433	CR 051R1	Current Version: 3.0.0
GSM (AA.BB) or 3G (AA.BBB) specification number ↑	↑ CR number as allocated by MCC support team	
For submission to: TSG RAN #7 <small>list expected approval meeting # here</small> ↑	for approval <input checked="" type="checkbox"/> for information <input type="checkbox"/>	strategic <input type="checkbox"/> non-strategic <input type="checkbox"/> <small>(for SMG use only)</small>

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: RAN WG3 **Date:** February 2000

Subject: TDD uplink interference clarification

Work item: _____

Category:	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change: UL interference for TDD needs to be specified per timeslot

Clauses affected: _____

Other specs affected:	Other 3G core specifications <input type="checkbox"/> → List of CRs: Other GSM core specifications <input type="checkbox"/> → List of CRs: MS test specifications <input type="checkbox"/> → List of CRs: BSS test specifications <input type="checkbox"/> → List of CRs: O&M specifications <input type="checkbox"/> → List of CRs:	
------------------------------	--	--

Other comments: _____

9.1.36 RADIO LINK SETUP RESPONSE

9.1.36.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Node B Communication Context ID	M			
Communication Control Port ID	M			
RL Information Response		1 to <maxnoofRLs>		
RL ID	M			
UL interference level	M			
Diversity Indication	C-NotFirstRL			
CHOICE <i>diversity Indication</i>				
<i>Combining</i>				
RL ID	M			Reference RL ID for the combining
<i>Non Combining or IE not present</i>				
DCH Information Response		0 to <maxnoofDCHs>		Only one DCH per set of coordinated DCH shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 to <Numof DSCH>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Criticality diagnostics	O			

Condition	Explanation
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCH per UE.
MaxnoofDSCHs	Maximum no. of DSCHs for one UE.

9.1.36.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Node B Communication Context ID	M			
Communication Control Port ID	M			
RL Information Response		1		
RL ID	M			
UL Interference per Time Slot		1.. <maxnoofULts>		<u>Interference Level for each UL time slot within the Radio Link</u>
<u>Time Slot</u>	<u>M</u>			
<u>UL interference level</u>	M			
DCH Information Response		1 to <maxnoofDCH>		Only one DCH per set of coordinated DCH shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH Information Response		0 .. <Maxnoof USCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCH per UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUSCHs	Maximum number of USCHs for one UE
<u>MaxnoofULts</u>	<u>Maximum number of Uplink time slots per Radio Link</u>

9.1.39 RADIO LINK ADDITION RESPONSE

9.1.39.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
RL Information Response		1..<maxnoofRL-1>		
RL ID	M			
UL interference level	M			
Diversity Indication	M			
CHOICE <i>diversity indication</i>				
<i>Combining</i>				
RL ID	M			Reference RL
<i>Non combining</i>				
DCH Information Response		1..<maxnoofDCHs>		
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT support indicator	M			
Criticality diagnostics	O			

Range bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs per UE
<i>MaxnoofRL</i>	Maximum number of RLs for one UE

9.1.39.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
RL Information response		1		
RL ID	M			
UL Interference per Time Slot	M	1..<maxnoofULts>		Interference Level for each UL time slot within the Radio Link
Time Slot	M			
UL interference level	M			
Diversity Indication	M			
CHOICE <i>diversity indication Combining</i>				In TDD it indicates whether the old Transport Bearer shall be reused or not
RL ID	M			Reference RL
<i>Non combining</i>				
DCH Information Response		0..<maxnoofDCHs>		
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 .. <MaxnoofDSCHs>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH Information Response		0 .. <MaxnoofUSCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs per UE
<i>MaxnoofDSCHs</i>	Maximum number of DSCHs for one UE
<i>MaxnoofUDCHs</i>	Maximum number of USCHs for one UE
<i>MaxnoofULts</i>	Maximum number of Uplink time slots per Radio Link

9.2.1.62 UL interference level

The UL interference level indicates the UL interference at a certain cell **[FDD]/time slot[TDD]** under CRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL interference level			ENUMERATED(-128.0dBm..-60.0dBm)	Resolution is 0.1 dBm.

9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    AICH-InformationList,
    AICH-Parameters,
    AICH-Power,
    AICH-TransmissionTiming,
    AddOrDeleteIndicator,
    AvailabilityStatus,
    BindingID,
    BlockingPriorityIndicator,
    BurstType,
    CCTrCH-ID,
    CFN,
    CN-CSDomainIdentifier,
    CN-PSDomainIdentifier,
    CRNC-CommunicationContextID,
    Cause,
    CellParameter,
    Cell-Parameter,
    ChipOffset,
    CommonMeasurementType,
    CommonPhysicalChannelID,
    CommonPhysicalChannelType,
    CommonTransportChannelID,
    CommonTransportChannelType,
    CommunicationControlPortID,
    CommunicationControlPortInformationList,
    CompressesModeMethod,
    ConfigurationGenerationID,
    DCH-CombinationIndication,
    DCH-Delete-RL-ReconfReqTDDItem,
    DCH-ID,
    DCH-InformationResponse-RL-setupResFDD,
    DCH-Modify-RL-ReconfPrepTDDItem,
    DL-CCTrCH-ID,
    DL-CodeInformation,
    DL-DPCH-InformationItem-RL-ReconfReqFDD,
    DL-DPCH-SlotFormat,
    DL-FrameType,
    DL-Power,
    DL-ReferencePower,
    DL-ReferencePowerInformationItem,
    DL-ScramblingCode,
    DPCH-ID,
    DPCH-Offset,
    DSCH-ID,
    DSCH-InformationResponse-RL-setupResFDD,
    DSCH-ModifyList-RL-ReconfResp,
    DSCH-SetupList-RL-ReconfResp,
    DSCH-TransportFormatSet,
    DTX-InsertionPoint,
    DTX-InsertionPosition,
    D-FieldLength,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DeltaTPC,
    DiversityControlField,
    DiversityMode,
    FACH-Power,

```

FDD-DL-ChannelisationCodeNumber,
 FDD-SCCPCH-Offset,
 FrameHandlingPriority,
 FrameOffset,
 GapStartingSlotNumber,
 LocalCellID,
 LocalCellInformationList,
 LocalCell-ID,
 Local-CellID,
 MIB-SG-POS,
 MIB-SG-REP,
 MaxFACH-Power,
 MaxNrOfUL-DPDCHs,
 MaxNumberOfUL-DPDCHs,
 MaximumDLPowerCapability,
 MaximumDL-PowerCapability,
 MaximumTransmissionPower,
 MaximumUL-EbN0,
 Maximum-DL-PowerCapability,
 MeasuredCellInfo,
 MeasurementCharacteristics,
 MeasurementID,
 MeasurementType,
 MessagePartScramblingCode,
 MidambleShift,
 Midambleshift,
 MinUL-ChannelisationCodeLength,
 MinimumSpreadingFactor,
 MinimumUL-EbN0,
 NodeB-CommunicationContextID,
 NumberOfChannelElements,
 Offset,
 PCCPCH-Power,
 PCCPCH-TimeSloti,
 PCH-Power,
 PICH-Information,
 PICH-Power,
 PSCH-Power,
 PSCHandPCCPCH-Allocation,
 PSCHandPCCPCH-TimeSlotK,
 PUSCH,
 PagingIndicatorLength,
 PatternDuration,
 PayloadCRC-PresenceIndicator,
 PilotBitsUsedIndicator,
 PowerControlMode,
 PowerOffset,
 PowerResumeMode,
 PreambleScramblingCode,
 PreambleSignatures,
 PrimaryCPICH-Power,
 PrimarySCH-Power,
 PrimaryScramblingCode,
 Primary-ScramblingCode,
 PropagationDelay,
 PunctureLimit,
 RACH-SlotFormat,
 RACH-SubChannelNumbers,
 RLC-Mode,
 RL-ID,
 RL-Information,
 RL-InformationItem,
 RL-InformationItem-RL-SetupReqTDD,
 RL-InformationList-DMeasureRequest,
 RL-ReconfigurationFailure-RL-ReconfFailItem,
 RadioLinkInformation-RL-ReconfReqTDD,
 RepetitionLength,
 RepetitionPeriod,
 ReportCharacteristics,
 ResourceOperationState,
 ResourceOperationalState,
 SAI,
 SFN,
 SIB-SG-POS,
 SIB-SG-REP,
 SSST-CellIdentity,
 SSST-CellIdentityLength,
 SSST-Cell-IDLength,

SSDT-Indication,
 SSDT-SupportIndicator,
 STTD-Indicator,
 S-CCPCH-Offset,
 S-CCPCH-Power,
 S-FieldLength,
 ScramblingCode,
 ScramblingCodeChange,
 SecondaryCCPCH-SlotFormat,
 SecondaryCPICH-Power,
 SecondarySCH-Power,
 ShutdownTimer,
 SynchronisationMethod,
 TDDChipOffset,
 TDD-ChannelisationCode,
 TFCI-Presence,
 TFCI-SignallingMode,
 TFCS,
 TSTD-Indicator,
 T-Cell,
 TimeSlot,
 TimeSlotDirection,
 TimeSlotStatus,
 ToAWE,
 ToAWS,
 TransmissionGapDistance,
 TransmissionGapPeriod,
 TransmitGapLength,
 TransmitGapPositionMode,
 TransportFormatCombinationSet,
 TransportFormatSet,
 TransportLayerAddress,
 UARFCN,
 C-ID,
 UL-CCTrCHInformation,
 UL-CCTrCH-ID,
 UL-DPCCH-SlotFormat,
 UL-FP-Mode,
 UL-InterferenceLevel,
 UL-PunctureLimit,
 UL-ScramblingCode,
 UplinkEbNo

FROM NBAP-IEs

ProtocolExtensionContainer{},
 PrivateExtensionContainer{},
 ProtocolIE-Container{},
 ProtocolIE-ContainerList{},
 NBAP-PROTOCOL-IES,
 NBAP-PROTOCOL-EXTENSION,
 NBAP-PRIVATE-EXTENSION

FROM NBAP-Containers

id-AICH-Information-ResourceStatIndItem,
 id-AICH-ParametersList,
 id-AICH-ParametersListItem,
 id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
 id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
 id-BlockingPriorityIndicator,
 id-CCTrCH-ParametersList,
 id-CCTrCH-ParametersListItem,
 id-CFN,
 id-CRNC-CommunicationContextID,
 id-CRNCommunicationContextID,
 id-Cause,
 id-Cell-Information-ResourceStatIndItem,
 id-Cell-InformationItem,
 id-Cell-InformationList,
 id-Cell-Parameter,
 id-Cell-ParametersItem,
 id-Cell-ParametersList,
 id-CellParameter,
 id-CommonMeasurementObjectType,
 id-CommonMeasurementType,
 id-CommonPhysicalChannelID,
 id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,
 id-CommonPhysicalChannelType-CTCHsetup-Response,
 id-CommunicationControlPort-InformationItem,

id-CommunicationControlPortID,
 id-CommunicationControlPortInformation-ResourceStatIndItem,
 id-CommunicationControlPortInformationList,
 id-CompressesModeMethod,
 id-ConfigurationGenerationID,
 id-DCH-Add-RL-ReconfPrepFDDItem,
 id-DCH-Add-RL-ReconfPrepTDDItem,
 id-DCH-Add-RL-ReconfReadyItem,
 id-DCH-Add-RL-ReconfReqFDDItem,
 id-DCH-Add-RL-ReconfReqTDDItem,
 id-DCH-AddItem-RL-ReconfResp,
 id-DCH-AddList-RL-ReconfPrepFDD,
 id-DCH-AddList-RL-ReconfPrepTDD,
 id-DCH-AddList-RL-ReconfReqFDD,
 id-DCH-AddList-RL-ReconfReqTDD,
 id-DCH-Delete-RL-ReconfPrepFDDItem,
 id-DCH-Delete-RL-ReconfPrepTDDItem,
 id-DCH-Delete-RL-ReconfReqFDDItem,
 id-DCH-Delete-RL-ReconfReqTDDItem,
 id-DCH-DeleteList-RL-ReconfPrepFDD,
 id-DCH-DeleteList-RL-ReconfPrepTDD,
 id-DCH-DeleteList-RL-ReconfReqFDD,
 id-DCH-DeleteList-RL-ReconfReqTDD,
 id-DCH-Information-RL-SetupReqFDDItem,
 id-DCH-Information-RL-SetupReqTDDItem,
 id-DCH-InformationList-RL-SetupReqFDD,
 id-DCH-InformationList-RL-SetupReqTDD,
 id-DCH-InformationResponse-RL-SetupFailFDDItem,
 id-DCH-InformationResponse-RL-setupResTDDItem,
 id-DCH-InformationResponseItem,
 id-DCH-Modify-RL-ReconfPrepFDDItem,
 id-DCH-Modify-RL-ReconfPrepTDDItem,
 id-DCH-Modify-RL-ReconfReadyItem,
 id-DCH-Modify-RL-ReconfReqFDDItem,
 id-DCH-Modify-RL-ReconfReqTDDItem,
 id-DCH-ModifyItem-RL-ReconfResp,
 id-DCH-ModifyList-RL-ReconfPrepFDD,
 id-DCH-ModifyList-RL-ReconfPrepTDD,
 id-DCH-ModifyList-RL-ReconfReqFDD,
 id-DCH-ModifyList-RL-ReconfReqTDD,
 id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,
 id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,
 id-DL-CCTrCH-Information-RL-SetupReqTDDItem,
 id-DL-CCTrCH-InformationItem,
 id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
 id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,
 id-DL-CCTrCH-InformationList-RL-SetupReqTDD,
 id-DL-CCTrCHInformationItem,
 id-DL-CCTrCHInformationList,
 id-DL-CodeInformation,
 id-DL-CodeInformation-RL-ReconfPrepFDDItem,
 id-DL-CodeInformation-RL-SetupReqFDDItem,
 id-DL-DPCH-Information-RL-ReconfPrepFDD,
 id-DL-DPCH-Information-RL-ReconfPrepTDDItem,
 id-DL-DPCH-Information-RL-SetupReqTDDItem,
 id-DL-DPCH-InformationItem,
 id-DL-DPCH-InformationItem-RL-ReconfReqFDD,
 id-DL-DPCH-InformationItem-RL-SetupReqFDD,
 id-DL-FrameType,
 id-DL-ReferencePowerInformationItem,
 id-DSCH-AddItem-RL-ReconfPrepFDD,
 id-DSCH-AddItem-RL-ReconfReqFDD,
 id-DSCH-DeleteItem-RL-ReconfPrepFDD,
 id-DSCH-DeleteItem-RL-ReconfReqFDD,
 id-DSCH-ID,
 id-DSCH-Information-RL-SetupReqFDDItem,
 id-DSCH-InformationList-RL-SetupReqFDD,
 id-DSCH-InformationResponse-RL-SetupFailFDDItem,
 id-DSCH-InformationResponse-RL-setupResFDDItem,
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,
 id-DSCH-ModifyItem-RL-ReconfReqFDD,
 id-DedicatedMeasurementObjectType,
 id-DedicatedMeasurementType,
 id-FACH-Information-ResourceStatIndItem,
 id-FACH-InformationItem,
 id-FACH-ListItem,
 id-FACH-ParametersList-CTCHreconf-Req-FDD,
 id-FACH-ParametersList-CTCHreconf-Req-TTD,

id-FACH-ParametersListItem-CTCHreconf-Req-FDD,
 id-FACH-ParametersListItem-CTCHreconf-Req-TTD,
 id-FACH-ParametersListItem-CTCHsetup-Req-FDD,
 id-FACH-ParametersListItem-CTCHsetup-Response,
 id-GapStartingSlotNumber,
 id-IndicationType,
 id-Local-Cell-Information-ResourceStatIndItem,
 id-Local-CellInformation-ResourceStatIndItem,
 id-LocalCell-ID,
 id-LocalCell-InformationItem,
 id-LocalCellInformationList,
 id-MIB-SegmentInformationItem,
 id-MIB-SegmentInformationList,
 id-MaximumTransmissionPower,
 id-MeasuredCellInfo,
 id-MeasurementCharacteristics,
 id-MeasurementID,
 id-MeasurementType,
 id-NeighbouringFDD-Cell-InformationItem,
 id-NeighbouringTDD-Cell-InformationItem,
 id-NodeB-CommunicationContextID,
 id-PCCPCH-Information,
 id-PCH-Information-ResourceStatIndItem,
 id-PCH-InformationItem,
 id-PCH-ListItem,
 id-PCH-Parameters-CTCHreconf-Req-FDD,
 id-PCH-ParametersList,
 id-PCH-ParametersListItem,
 id-PICH-Parameters-CTCHreconf-Req-FDD,
 id-PRACH-ParametersList,
 id-PRACH-ParametersListItem,
 id-PSCH-Information,
 id-PSCHandPCCPCH-Information,
 id-PUSCH-ListItem,
 id-PatternDuration,
 id-PowerControlMode,
 id-PowerResumeMode,
 id-PrimaryCCPCH-Information,
 id-PrimaryCPICH-Information,
 id-PrimarySCH-Information,
 id-PrimaryScramblingCode,
 id-ProcedureScopeType,
 id-RACH-Information-ResourceStatIndItem,
 id-RACH-InformationItem,
 id-RL-ID,
 id-RL-Information,
 id-RL-Information-DMeasureReportItem,
 id-RL-Information-DMeasureRequestItem,
 id-RL-Information-DMeasureResponseItem,
 id-RL-Information-RL-ReconfPrepFDDItem,
 id-RL-Information-RL-SetupReqFDDItem,
 id-RL-InformationItem,
 id-RL-InformationItem-RL-SetupReqTDD,
 id-RL-InformationList,
 id-RL-InformationList-RL-ReconfReqFDD,
 id-RL-InformationList-RL-SetupReqFDD,
 id-RL-InformationResponse-RL-setupResFDDItem,
 id-RL-InformationResponseItem-RL-ReconfResp,
 id-RL-InformationResponseList-RL-ReconfReady,
 id-RL-InformationResponseList-RL-ReconfReadyItem,
 id-RL-InformationResponseList-RL-ReconfResp,
 id-RL-InformationResponseList-RL-setupResFDD,
 id-RL-InformationResponseList-RL-setupResTDD,
 id-RL-ReconfigurationFailure-RL-ReconfFailItem,
 id-RL-ReconfigurationFailureList-RL-ReconfFail,
 id-RL-ResponseInformation,
 id-RL-ResponseInformationItem,
 id-RL-ResponseInformationList,
 id-RL-informationItem,
 id-RL-informationList,
 id-RadioLinkInformation-RL-ReconfPrepFDDItem,
 id-RadioLinkInformation-RL-ReconfPrepTDD,
 id-RadioLinkInformation-RL-ReconfReqTDD,
 id-RadioLinkInformationList-RL-ReconfPrepFDD,
 id-ReportCharacteristics,
 id-SFN,
 id-SIB-SegmentInformationItem,
 id-SIB-SegmentInformationList,

id-ScramblingCodeChange,
 id-Secondary-CCPCHListItem,
 id-SecondaryCPICH-Information,
 id-SecondarySCH-Information,
 id-ShutdownTimer,
 id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,
 id-Successful-RL-InformationResponseItem,
 id-Successful-RL-InformationResponseList,
 id-Successful-RL-InformationResponseList-RL-SetupFailFDD,
 id-SynchronisationMethod,
 id-T-Cell,
 id-TDDChipOffset,
 id-TimeSlotConfigurationItem,
 id-TimeSlotConfigurationList,
 id-TransmissionGapDistance,
 id-TransmissionGapPeriod,
 id-TransmitGapLength,
 id-TransmitGapPositionMode,
 id-UARFCN,
 id-C-ID,
 id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,
 id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,
 id-UL-CCTrCH-Information-RL-SetupReqTDDItem,
 id-UL-CCTrCH-InformationItemIE,
 id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
 id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,
 id-UL-CCTrCH-InformationList-RL-SetupReqTDD,
 id-UL-CCTrCHInformation,
 id-UL-CCTrCHInformationList,
 id-UL-DPCH-Information-RL-ReconfPrepFDD,
 id-UL-DPCH-Information-RL-ReconfPrepTDDItem,
 id-UL-DPCH-Information-RL-SetupReqTDDItem,
 id-UL-DPCH-InformationItem-RL-ReconfReqFDD,
 id-UL-DPCH-InformationItem-RL-SetupReqFDD,
 id-UL-DPCH-InformationItemIE,
id-UL-Interference-RL-addResTDDItem
id-UL-Interference-RL-setupResTDDItem
 id-USCH-Information-ResourceStatIndItem,
 id-USCH-InformationItem,
 id-USCH-ListItem-CTCHsetup-Req-TDD,
 id-Unsuccessful-RL-InformationResponse,
 id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,
 id-Unsuccessful-RL-InformationResponseItem,
 id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,
 id-Unsuccessful-RL-InformationResponseList,
 id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,

 maxAICHCell,
 maxCCPInNodeB,
 maxCellInNodeB,
 maxFACHCell,
 maxLocalCellInNodeB,
 maxMIBSEG,
 maxPCHCell,
 maxPCHInNodeB,
 maxRACHCell,
 maxSF,
 maxSIBSEG,
 maxUCIDInNodeB,
 maxUSCHCell,
 maxnoCCTrCHs,
 maxnoofCCTrCHs,
 maxnoofDCHs,
 maxnoofDLCodes,
 maxnoofDPCHs,
 maxnoofDSCHs,
 maxnoofFACHCell,
 maxnoofFACHs,
 maxnoofFDDNeighbours,
 maxnoofPCHs,
 maxnoofPRACHs,
 maxnoofPUSHs,
 maxnoofRL-1,
 maxnoofRL-2,
 maxnoofRLs,
 maxnoofSCCPCHs,
 maxnoofTDDNeighbours,
maxnoofULTSs,

```
maxnoofUSCHs  
FROM NBAP-Constants;
```

```

-- *****
--
-- 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-Information-RL-setupResTDD   CRITICALITY ignore    TYPE RL-Information-RL-
setupResTDD    PRESENCE mandatory }|
    { ID id-DSCH-InformationResponseList-RL-setupResTDD CRITICALITY ignore    TYPE    DSCH-
InformationResponseList-RL-setupResTDD PRESENCE    optional
    }|
    { ID id-USCH-InformationResponseList-RL-setupResTDD CRITICALITY ignore    TYPE    USCH-
InformationResponseList-RL-setupResTDD PRESENCE    optional
    }|
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkSetupResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-setupResTDD ::= SEQUENCE {
    rL-ID                RL-ID,
    ul-InterferenceLevel UL-InterferenceLevel,
    ul-InterferenceList-RL-setupResTDD UL-InterferenceList-RL-
setupResTDD
    dCH-InformationResponseList-RL-setupResTDD                DCH-
InformationResponseList-RL-setupResTDD
}

UL-InterferenceList-RL-setupResTDD ::= SEQUENCE (SIZE (1..maxnoofULTSs)) OF UL-Interference-RL-
setupResTDDItem

UL-Interference-RL-setupResTDDItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    ul-InterferenceLevel    UL-InterferenceLevel
}

DCH-InformationResponseList-RL-setupResTDD ::= SEQUENCE (SIZE (1..maxnumofDCHs)) OF ProtocolIE-
Container{{DCH-InformationResponse-RL-setupResTDDItemIE }}

DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { I D id-DCH-InformationResponse-RL-setupResTDDItem CRITICALITY    ignore    TYPE    DCH-
InformationResponse-RL-setupResTDDItem PRESENCE    mandatory
    },
    ...
}

DCH-InformationResponse-RL-setupResTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    bindingID             BindingID,
    transportLayerAddress TransportLayerAddress
}

DSCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF ProtocolIE-
Container{{DSCH-InformationResponse-RL-SetupResTDDItemIE}}

DSCH-Informationresponse-RL-SetupResTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-InformationResponse-RL-SetupResTDDItem CRITICALITY ignore    TYPE    DSCH-
Informationresponse-RL-SetupReqTDDItem PRESENCE    mandatory
}

```



```

}
...
}

DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    binding-ID       Binding-ID,
    transport-Layer-Address Transport-Layer-Address
}

USCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF ProtocolIE-
Container{{USCH-InformationResponse-RL-SetupResTDDItemIE}}

USCH-Informationresponse-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-USCH-InformationResponse-RL-SetupReqTDDItem CRITICALITY ignore TYPE USCH-
InformationResponse-RL-SetupReqTDDItem PRESENCE mandatory
}
...
}

USCH-InformationResponse-RL-SetupReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    binding-ID       Binding-ID,
    transport-Layer-Address Transport-Layer-Address
}

```

```

-- *****
--
-- RADIO LINK ADDITION RESPONSE TDD
--
-- *****

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

RadioLinkAdditionResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    {ID id-CRNC-Communication-Context-ID    CRITICALITY ignore    TYPE    CRNC-Communication-
Context-ID PRESENCE mandatory    }|
    { ID id-RL-Information-RL-Add-RespTDD  CRITICALITY    ignore    TYPE    RL-Information-RL-
Add-RespTDD PRESENCE    mandatory    }|
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic
PRESENCE optional
    },
    ...
}

RadioLinkAdditionResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-Add-Resp ::= SEQUENCE {
    rL-ID                RL-ID,
    ul-InterferenceList-RL-addResTDD          UL-InterferenceList-RL-addResTDD,
    ul-InterferenceLevel          UL-InterferenceLevel,
    diversityIndication  DiversityIndication-RL-Add-RespTDD,
}

UL-InterferenceList-RL-addResTDD ::= SEQUENCE (SIZE (1..maxnoofULTSs)) OF UL-Interference-RL-
addResTDDItem

UL-Interference-RL-addResTDDItem ::= SEQUENCE {
    timeSlot          TimeSlot,
    ul-InterferenceLevel          UL-InterferenceLevel
}


DiversityIndication-RL-Add-RespTDD ::= ENUMERATED {
    combining            Combining-RL-Add-RespTDD,
    non-Combining        Non-Combining-RL-Add-RespTDD
}

Combining-RL-Add-RespTDD ::= SEQUENCE {
    rL-ID                RL-ID
}

Non-Combining-RL-Add-RespTDD ::= SEQUENCE {
    dCH-InformationResponseList  DCH-InformationResponseList-RL-Add-RespTDD    OPTIONAL,
    dSCH-InformationResponseList  DSCH-InformationResponseList-RL-Add-RespTD    OPTIONAL,
    uSCH-InformationResponseList  USCH-InformationResponseList-RL-Add-RespTDD    OPTIONAL
}

DCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-InformationResponseList-RL-Add-RespTDDItemIE}}

DCH-InformationResponseList-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-InformationResponseList-RL-Add-RespTDDItem  CRITICALITY ignore    TYPE    DCH-
InformationResponseList-RL-Add-RespTDDItem PRESENCE    mandatory
    },
    ...
}

DCH-InformationResponseList-RL-Add-RespTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    binding-ID            Binding-ID,
    transport-Layer-Address  Transport-Layer-Address
}

DSCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-InformationResponseList-RL-Add-RespTDDItemIE}}

```

```

DSCH-InformationResponse-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
  {ID id-DSCH-InformationResponse-RL-Add-RespTDDItem CRITICALITY ignore      TYPE      DSCH-
InformationResponse-RL-Add-RespTDDItem PRESENCE      mandatory
},
  ...
}

DSCH-InformationResponse-RL-Add-RespTDDItem ::= SEQUENCE {
  dSCH-ID          DSCH-ID,
  binding-ID       Binding-ID,
  transport-Layer-Address      Transport-Laer-Address
}

USCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF      ProtocolIE-
Container {{USCH-InformationResponseList-RL-Add-RespTDD ItemIE}}

USCH-InformationResponseList-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
  {ID id-USCH-InformationResponseList-RL-Add-RespTDDItem CRITICALITY ignore
TYPE      USCH-InformationResponseList-RL-Add-RespTDDItem PRESENCE      mandatory
},
  ...
}

USCH-InformationResponseList-RL-Add-RespTDDItem ::= SEQUENCE {
  uSCH-ID          USCH-ID,
  binding-ID       Binding-ID,
  transport-Layer-Address      Transport-Laer-Address
}

```

9.3.7 Constant Definitions for NBAP

```

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

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

id-audit                INTEGER ::= 0
id-auditRequired        INTEGER ::= 1
id-blockResource        INTEGER ::= 2
id-cellDeletion         INTEGER ::= 3
id-cellReconfiguration  INTEGER ::= 4
id-cellSetup            INTEGER ::= 5
id-commonMeasurementFailure  INTEGER ::= 6
id-commonMeasurementInitiation  INTEGER ::= 7
id-commonMeasurementReport   INTEGER ::= 8
id-commonMeasurementTermination  INTEGER ::= 9
id-commonTransportChannelDeletion  INTEGER ::= 10
id-commonTransportChannelReconfiguration  INTEGER ::= 11
id-commonTransportChannelSetup  INTEGER ::= 12
id-compressedModeControlCancellation  INTEGER ::= 13
id-compressedModeControlCommit  INTEGER ::= 14
id-compressedModeControlPreparation  INTEGER ::= 15
id-dedicatedMeasurementFailure  INTEGER ::= 16
id-dedicatedMeasurementInitiation  INTEGER ::= 17
id-dedicatedMeasurementReport   INTEGER ::= 18
id-dedicatedMeasurementTermination  INTEGER ::= 19
id-dlPowerControl           INTEGER ::= 20
id-neighbourCellMeasurement  INTEGER ::= 21
id-radioLinkAddition        INTEGER ::= 22
id-radioLinkDeletion        INTEGER ::= 23
id-radioLinkFailure        INTEGER ::= 24
id-radioLinkReconfigurationCommit  INTEGER ::= 25
id-radioLinkReconfigurationCancel  INTEGER ::= 26
id-radioLinkRestoration     INTEGER ::= 27
id-radioLinkSetup          INTEGER ::= 28
id-resourceStatusIndication  INTEGER ::= 29
id-synchronisationAdjustment  INTEGER ::= 30
id-synchronisationFailure    INTEGER ::= 31
id-synchronisationRestart    INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation  INTEGER ::= 33
id-systemInformationUpdate   INTEGER ::= 34
id-unblockResource          INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration  INTEGER ::= 36

-- *****
--
-- Extension constants
--
-- *****

maxPrivateExtensions     INTEGER ::= 65535
maxProtocolExtensions    INTEGER ::= 65535
maxProtocolIEs           INTEGER ::= 65535

-- *****
--
-- Lists
--
-- *****

maxSF                    INTEGER ::= 10
maxnoofDLCodes           INTEGER ::= 10
maxnoofRLs               INTEGER ::= 10
maxnoofDPCHs             INTEGER ::= 10

```

```

maxnoofSCCPCHs          INTEGER ::= 10
maxnoofPRACHs           INTEGER ::= 10
maxnoofDCHs             INTEGER ::= 10
maxnoofDSCHs           INTEGER ::= 10
maxnoofFACHs           INTEGER ::= 10
maxnoofCCTrCHs         INTEGER ::= 10
maxnoofPCHs            INTEGER ::= 10
maxnoofPUCSHs          INTEGER ::= 10
maxnoofTFCs            INTEGER ::= 10
maxnoofULTSs           INTEGER ::= 15
maxnoofUSCHs           INTEGER ::= 10
maxUCIDinNodeB         INTEGER ::= 10
maxCellinNodeB         INTEGER ::= 10
maxCCPinNodeB          INTEGER ::= 10
maxCTF-1               INTEGER ::= 10
maxLocalCellinNodeB    INTEGER ::= 10
maxPCHinNodeB          INTEGER ::= 10
maxRACHCell            INTEGER ::= 10
maxnoofFACHCell        INTEGER ::= 10
maxPCHCell             INTEGER ::= 10
maxUSCHCell            INTEGER ::= 10
maxAICHCell            INTEGER ::= 10
maxMIBSEG              INTEGER ::= 10
maxSIBSEG              INTEGER ::= 10
maxnoofFDDNeighbours   INTEGER ::= 10
maxnoofTDDNeighbours   INTEGER ::= 10
maxTFcount             INTEGER ::= 10
maxnoofTFCs            INTEGER ::= 10
maxFACHCell            INTEGER ::= 10
maxnoCCTrCH           INTEGER ::= 10
maxnoCCTrCHs          INTEGER ::= 10
maxnoofCCTrCH         INTEGER ::= 10
maxnoofDPCH            INTEGER ::= 10
maxnoofPUSHs           INTEGER ::= 10
maxnoofRL-1            INTEGER ::= 10
maxnoofRL-2            INTEGER ::= 10
maxRM                  INTEGER ::= 10

-- *****
--
-- IEs
--
-- *****

id-AICH-Information-ResourceStatIndItem          INTEGER ::= 0
id-AICH-ParametersList                          INTEGER ::= 1
id-AICH-ParametersListItem                      INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD  INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD  INTEGER ::= 4
id-BlockingPriorityIndicator                    INTEGER ::= 5
id-CCTrCH-ParametersList                       INTEGER ::= 6
id-CCTrCH-ParametersListItem                   INTEGER ::= 7
id-CFN                                          INTEGER ::= 8
id-CRNC-CommunicationContextID                  INTEGER ::= 9
id-CRNCCommunicationContextID                   INTEGER ::= 10
id-Cause                                        INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem         INTEGER ::= 12
id-Cell-InformationItem                         INTEGER ::= 13
id-Cell-InformationList                        INTEGER ::= 14
id-Cell-Parameter                              INTEGER ::= 15
id-Cell-ParametersItem                         INTEGER ::= 16
id-Cell-ParametersList                        INTEGER ::= 17
id-CellParameter                              INTEGER ::= 18
id-CommonMeasurementObjectType                  INTEGER ::= 19
id-CommonMeasurementType                       INTEGER ::= 20
id-CommonPhysicalChannelID                     INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD  INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response  INTEGER ::= 23
id-CommunicationControlPort-InformationItem     INTEGER ::= 24
id-CommunicationControlPortID                   INTEGER ::= 25
id-CommunicationControlPortInformation-ResourceStatIndItem  INTEGER ::= 26
id-CommunicationControlPortInformationList      INTEGER ::= 27
id-CompressesModeMethod                       INTEGER ::= 28
id-ConfigurationGenerationID                   INTEGER ::= 29
id-DCH-Add-RL-ReconfPrepFDDItem                INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem                INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem                  INTEGER ::= 32

```

id-DCH-Add-RL-ReconfReqFDDItem	INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem	INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp	INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD	INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD	INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD	INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD	INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem	INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem	INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem	INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem	INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD	INTEGER ::= 44
id-DCH-DeleteList-RL-ReconfPrepTDD	INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD	INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD	INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem	INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem	INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD	INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD	INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem	INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem	INTEGER ::= 53
id-DCH-InformationResponseItem	INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem	INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem	INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem	INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem	INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem	INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp	INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD	INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD	INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD	INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD	INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem	INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem	INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem	INTEGER ::= 67
id-DL-CCTrCH-InformationItem	INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD	INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD	INTEGER ::= 70
id-DL-CCTrCH-InformationList-RL-SetupReqTDD	INTEGER ::= 71
id-DL-CCTrCHInformationItem	INTEGER ::= 72
id-DL-CCTrCHInformationList	INTEGER ::= 73
id-DL-CodeInformation	INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem	INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem	INTEGER ::= 76
id-DL-DPCH-Information-RL-ReconfPrepFDD	INTEGER ::= 77
id-DL-DPCH-Information-RL-ReconfPrepTDDItem	INTEGER ::= 78
id-DL-DPCH-Information-RL-SetupReqTDDItem	INTEGER ::= 79
id-DL-DPCH-InformationItem	INTEGER ::= 80
id-DL-DPCH-InformationItem-RL-ReconfReqFDD	INTEGER ::= 81
id-DL-DPCH-InformationItem-RL-SetupReqFDD	INTEGER ::= 82
id-DL-FrameType	INTEGER ::= 83
id-DL-ReferencePowerInformationItem	INTEGER ::= 84
id-DSCH-AddItem-RL-ReconfPrepFDD	INTEGER ::= 85
id-DSCH-AddItem-RL-ReconfReqFDD	INTEGER ::= 86
id-DSCH-DeleteItem-RL-ReconfPrepFDD	INTEGER ::= 87
id-DSCH-DeleteItem-RL-ReconfReqFDD	INTEGER ::= 88
id-DSCH-ID	INTEGER ::= 89
id-DSCH-Information-RL-SetupReqFDDItem	INTEGER ::= 90
id-DSCH-InformationList-RL-SetupReqFDD	INTEGER ::= 91
id-DSCH-InformationResponse-RL-SetupFailFDDItem	INTEGER ::= 92
id-DSCH-InformationResponse-RL-setupResFDDItem	INTEGER ::= 93
id-DSCH-ModifyItem-RL-ReconfPrepFDD	INTEGER ::= 94
id-DSCH-ModifyItem-RL-ReconfReqFDD	INTEGER ::= 95
id-DedicatedMeasurementObjectType	INTEGER ::= 96
id-DedicatedMeasurementType	INTEGER ::= 97
id-FACH-Information-ResourceStatIndItem	INTEGER ::= 98
id-FACH-InformationItem	INTEGER ::= 99
id-FACH-ListItem	INTEGER ::= 100
id-FACH-ParametersList-CTChreconf-Req-FDD	INTEGER ::= 101
id-FACH-ParametersList-CTChreconf-Req-TTD	INTEGER ::= 102
id-FACH-ParametersListItem-CTChreconf-Req-FDD	INTEGER ::= 103
id-FACH-ParametersListItem-CTChreconf-Req-TTD	INTEGER ::= 104
id-FACH-ParametersListItem-CTChsetup-Req-FDD	INTEGER ::= 105
id-FACH-ParametersListItem-CTChsetup-Response	INTEGER ::= 106
id-GapStartingSlotNumber	INTEGER ::= 107
id-IndicationType	INTEGER ::= 108
id-Local-Cell-Information-ResourceStatIndItem	INTEGER ::= 109
id-Local-CellInformation-ResourceStatIndItem	INTEGER ::= 110

id-LocalCell-ID	INTEGER ::= 111
id-LocalCell-InformationItem	INTEGER ::= 112
id-LocalCellInformationList	INTEGER ::= 113
id-MIB-SegmentInformationItem	INTEGER ::= 114
id-MIB-SegmentInformationList	INTEGER ::= 115
id-MaximumTransmissionPower	INTEGER ::= 116
id-MeasuredCellInfo	INTEGER ::= 117
id-MeasurementCharacteristics	INTEGER ::= 118
id-MeasurementID	INTEGER ::= 119
id-MeasurementType	INTEGER ::= 120
id-NeighbouringFDD-Cell-InformationItem	INTEGER ::= 121
id-NeighbouringTDD-Cell-InformationItem	INTEGER ::= 122
id-NodeB-CommunicationContextID	INTEGER ::= 123
id-PCCPCH-Information	INTEGER ::= 124
id-PCH-Information-ResourceStatIndItem	INTEGER ::= 125
id-PCH-InformationItem	INTEGER ::= 126
id-PCH-ListItem	INTEGER ::= 127
id-PCH-Parameters-CTCHreconf-Req-FDD	INTEGER ::= 128
id-PCH-ParametersList	INTEGER ::= 129
id-PCH-ParametersListItem	INTEGER ::= 130
id-PICH-Parameters-CTCHreconf-Req-FDD	INTEGER ::= 131
id-PRACH-ParametersList	INTEGER ::= 132
id-PRACH-ParametersListItem	INTEGER ::= 133
id-PSCH-Information	INTEGER ::= 134
id-PSCHandPCCPCH-Information	INTEGER ::= 135
id-PUSCH-ListItem	INTEGER ::= 136
id-PatternDuration	INTEGER ::= 137
id-PowerControlMode	INTEGER ::= 138
id-PowerResumeMode	INTEGER ::= 139
id-PrimaryCCPCH-Information	INTEGER ::= 140
id-PrimaryCPICH-Information	INTEGER ::= 141
id-PrimarySCH-Information	INTEGER ::= 142
id-PrimaryScramblingCode	INTEGER ::= 143
id-ProcedureScopeType	INTEGER ::= 144
id-RACH-Information-ResourceStatIndItem	INTEGER ::= 145
id-RACH-InformationItem	INTEGER ::= 146
id-RL-ID	INTEGER ::= 147
id-RL-Information	INTEGER ::= 148
id-RL-Information-DMeasureReportItem	INTEGER ::= 149
id-RL-Information-DMeasureRequestItem	INTEGER ::= 150
id-RL-Information-DMeasureResponseItem	INTEGER ::= 151
id-RL-Information-RL-ReconfPrepFDDItem	INTEGER ::= 152
id-RL-Information-RL-SetupReqFDDItem	INTEGER ::= 153
id-RL-InformationItem	INTEGER ::= 154
id-RL-InformationItem-RL-SetupReqTDD	INTEGER ::= 155
id-RL-InformationList	INTEGER ::= 156
id-RL-InformationList-RL-ReconfReqFDD	INTEGER ::= 157
id-RL-InformationList-RL-SetupReqFDD	INTEGER ::= 158
id-RL-InformationResponse-RL-setupResFDDItem	INTEGER ::= 159
id-RL-InformationResponseItem-RL-ReconfResp	INTEGER ::= 160
id-RL-InformationResponseList-RL-ReconfReady	INTEGER ::= 161
id-RL-InformationResponseList-RL-ReconfReadyItem	INTEGER ::= 162
id-RL-InformationResponseList-RL-ReconfResp	INTEGER ::= 163
id-RL-InformationResponseList-RL-setupResFDD	INTEGER ::= 164
id-RL-InformationResponseList-RL-setupResTDD	INTEGER ::= 165
id-RL-ReconfigurationFailure-RL-ReconfFailItem	INTEGER ::= 166
id-RL-ReconfigurationFailureList-RL-ReconfFail	INTEGER ::= 167
id-RL-ResponseInformation	INTEGER ::= 168
id-RL-ResponseInformationItem	INTEGER ::= 169
id-RL-ResponseInformationList	INTEGER ::= 170
id-RL-informationItem	INTEGER ::= 171
id-RL-informationList	INTEGER ::= 172
id-RadioLinkInformation-RL-ReconfPrepFDDItem	INTEGER ::= 173
id-RadioLinkInformation-RL-ReconfPrepTDD	INTEGER ::= 174
id-RadioLinkInformation-RL-ReconfReqTDD	INTEGER ::= 175
id-RadioLinkInformationList-RL-ReconfPrepFDD	INTEGER ::= 176
id-ReportCharacteristics	INTEGER ::= 177
id-SFN	INTEGER ::= 178
id-SIB-SegmentInformationItem	INTEGER ::= 179
id-SIB-SegmentInformationList	INTEGER ::= 180
id-ScramblingCodeChange	INTEGER ::= 181
id-Secondary-CCPCHListItem	INTEGER ::= 182
id-SecondaryCPICH-Information	INTEGER ::= 183
id-SecondarySCH-Information	INTEGER ::= 184
id-ShutdownTimer	INTEGER ::= 185
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem	INTEGER ::= 186
id-Successful-RL-InformationResponseItem	INTEGER ::= 187
id-Successful-RL-InformationResponseList	INTEGER ::= 188

```

id-Successful-RL-InformationResponseList-RL-SetupFailFDD      INTEGER ::= 189
id-SynchronisationMethod                                     INTEGER ::= 190
id-T-Cell                                                    INTEGER ::= 191
id-TDDChipOffset                                            INTEGER ::= 192
id-TimeSlotConfigurationItem                                 INTEGER ::= 193
id-TimeSlotConfigurationList                                INTEGER ::= 194
id-TransmissionGapDistance                                  INTEGER ::= 195
id-TransmissionGapPeriod                                    INTEGER ::= 196
id-TransmitGapLength                                        INTEGER ::= 197
id-TransmitGapPositionMode                                  INTEGER ::= 198
id-UARFCN                                                    INTEGER ::= 199
id-UC-ID                                                     INTEGER ::= 200
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem              INTEGER ::= 201
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem              INTEGER ::= 202
id-UL-CCTrCH-Information-RL-SetupReqTDDItem               INTEGER ::= 203
id-UL-CCTrCH-InformationItemIE                             INTEGER ::= 204
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD             INTEGER ::= 205
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD             INTEGER ::= 206
id-UL-CCTrCH-InformationList-RL-SetupReqTDD              INTEGER ::= 207
id-UL-CCTrCHInformation                                    INTEGER ::= 208
id-UL-CCTrCHInformationList                                INTEGER ::= 209
id-UL-DPCH-Information-RL-ReconfPrepFDD                   INTEGER ::= 210
id-UL-DPCH-Information-RL-ReconfPrepTDDItem              INTEGER ::= 211
id-UL-DPCH-Information-RL-SetupReqTDDItem                INTEGER ::= 212
id-UL-DPCH-InformationItem-RL-ReconfReqFDD               INTEGER ::= 213
id-UL-DPCH-InformationItem-RL-SetupReqFDD                INTEGER ::= 214
id-UL-DPCH-InformationItemIE                               INTEGER ::= 215
id-UL-Interference-RL-addResTDDItem                       INTEGER ::= 216
id-UL-Interference-RL-setupResTDDItem                     INTEGER ::= 217
id-USCH-Information-ResourceStatIndItem                    INTEGER ::= 2186
id-USCH-InformationItem                                    INTEGER ::= 217219
id-USCH-ListItem-CTCHsetup-Req-TDD                        INTEGER ::= 218220
id-Unsuccessful-RL-InformationResponse                     INTEGER ::= 219221
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 220222
id-Unsuccessful-RL-InformationResponseItem                 INTEGER ::= 221223
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD INTEGER ::= 222224
id-Unsuccessful-RL-InformationResponseList                 INTEGER ::= 223225
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 224226

```

END

3GPP TSG-RAN Meeting #7

Document **R3-000760**

e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.433 CR 011 r2 Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG-RAN#7**
list expected approval meeting # here ↑

for approval **X**
for information

strategic (for SMG use only)
non-strategic

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: RAN WG3 **Date:** 28 Feb 2000

Subject: Enhancement to NBAP signalling to support the FDD mode DSCH

Work item:

Category: <small>(only one category shall be marked with an X)</small>	F Correction	<input type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input checked="" type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
			Release 00	<input type="checkbox"/>	

Reason for change: •The current specification does not describe how the Node B builds the mapping table of TFCI to PDSCH channelisation code and TFC. In addition updates to the 'Radio link setup', 'Synchronised radio link reconfiguration', 'Unsynchronised radio link reconfiguration' procedures and messages are required.

Clauses affected: 8.2.17.2, 8.3.2.2, 8.3.5.2, 9.1.35.1, 9.1.41.1, , 9.1.46.1, 9.2.1.54, 9.2.2.40, 9.2.2, 9.3.2

Other specs affected:	Other 3G core specifications	<input type="checkbox"/>	→ List of CRs:	
	Other GSM core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications	<input type="checkbox"/>	→ List of CRs:	
		<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



<----- double-click here for help and instructions on how to create a CR.

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. .

8.2.17.2 Successful operation

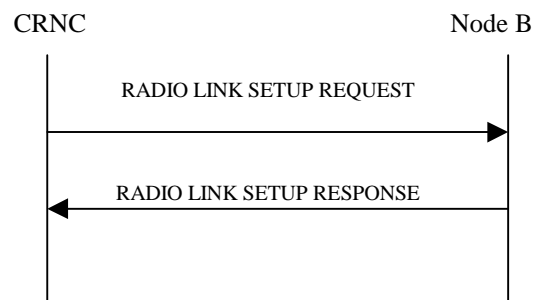


Figure 1 RL Setup procedure: Successful case

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.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[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 indicates, “may be combined with already existing RLs”, then Node B shall decide for either of the alternatives. 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 NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and

- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new 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 configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

The included *RLC Mode* IE may be used by the NodeB to optimise the power control.

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.

The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the DSCH Information Group is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[TDD -If the USCH Information Group is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

[FDD] 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 NodeB 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.]

The NodeB 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 - The NodeB 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.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specify for only one of the coordinated DCHs.

8.2.17.3 Unsuccessful Operation

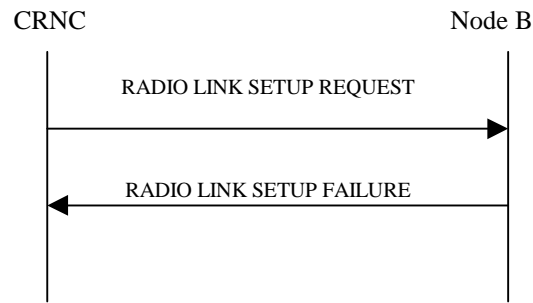


Figure 2 RL Setup procedure: Unsuccessful case

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*.

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

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.2.17.4 Abnormal Conditions

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 all Radio Links related to one UE-UTRAN connection within a Node B.

8.3.2.2 Successful Operation

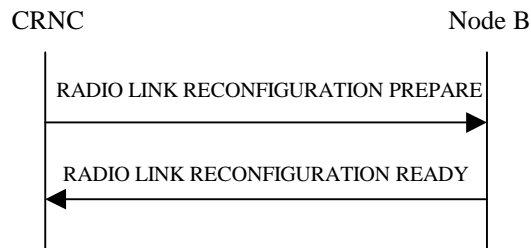


Figure 3 Synchronised Radio Link Reconfiguration procedure, Successful Case

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 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.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION PREPARE message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- treat all DCHs with the same value of this IE as a set of coordinated DCHs and
- include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

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 may use the included *RLC Mode* IE to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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 the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Uplink Channelisation Code* IEs, the Node B shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Downlink Channelisation Code* IEs, the Node B shall apply the new Downlink Channelisation Code(s) in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *UL DPCH Information* IE groups, the Node B shall apply the new UL physical channel(s) setting in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *DL DPCH Information* IE groups, the Node B shall apply the new physical channel(s) setting in the new configuration.]

The Node B shall use the *TFCS (UL)* IE when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

The Node B shall use the *TFCS (DL)* IE when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCCH Structure* IE, group the Node B shall set the new Uplink DPCCCH Structure to the

new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION PREPARE includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

SSDT Activation/Deactivation:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

DSCH Addition/Modification/Deletion:

~~[FDD] It is FFS how the Node B shall treat any included DSCH Information.~~

~~[TDD — If tThe RADIO LINK RECONFIGURATION PREPARE message shall includes DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. — T then the NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. The Node B—It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]~~

~~[FDD - If the RADIO LINK RECONFIGURATION PREPARE message 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 RADIO LINK RECONFIGURATION PREPARE message 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.]~~

~~[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 NodeB 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. - It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the USCHs being added or modified.]~~

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.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub DCH-to-be-added group or DCH-to-be-modified group 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 group shall be included only for one of the combined RLs.

8.3.2.3 Unsuccessful Operation

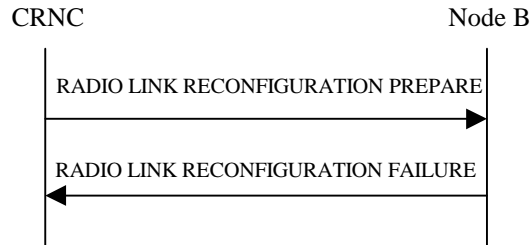


Figure 4 Synchronised Radio Link Reconfiguration procedure, Unsuccessful Case

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of coordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration 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

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated 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 with.

8.3.5 Unsynchronised Radio Link Reconfiguration

8.3.5.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a Node B

The Unsynchronised RL Reconfiguration procedure is used when there is no need to synchronise the time of the switching from the old to the new configuration in one Node B used for a UE-UTRAN connection with any other Node B also used for the UE –UTRAN connection.

8.3.5.2 Successful Operation

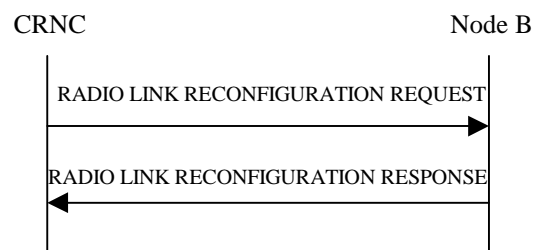


Figure 5 Unsynchronised Radio Link Reconfiguration Procedure, Successful Case

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION REQUEST to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the DRNS shall modify the 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.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the DRNS shall

- Treat all DCHs with the same value of this IE as a set of coordinated DCHs and
- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

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 DRNS once the new configuration has been activated.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *RLC Mode* IE, the Node B may use this information to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (UL)* IE, the Node B shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (DL)* IE, the Node B shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

DSCH Addition/Modification/Deletion:

~~[FDD] It is FFS how the Node B shall treat any included DSCH Information.~~

~~[TDD – The RADIO LINK RECONFIGURATION REQUEST message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK~~

~~RECONFIGURATION RESPONSE message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]~~

If the RADIO LINK RECONFIGURATION REQUEST message includes DSCH information for the DSCHs to be added/modified/deleted then the NodeB 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 RESPONSE message the Transport Layer Address and the Binding ID of the DSCHs being added or modified.

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message 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 RADIO LINK RECONFIGURATION REQUEST message 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.]

[TDD - USCH Addition/Modification/Deletion:]

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes USCH information for the USCHs to be added/modified/deleted then the NodeB 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. – It shall include in the RADIO LINK RECONFIGURATION RESPONSE message the Transport Layer Address and the Binding ID of the USCHs being added or modified.]

If the requested modifications are allowed by the Node B, the Node B has successfully allocated the required resources, and changed to the new configuration it shall respond to the CRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the DCH-to-be-added group or DCH-to-be-modified group shall be included 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, RL Information Response IE group shall be included only for one of the combined Radio Links.

8.3.5.3 Unsuccessful Operation

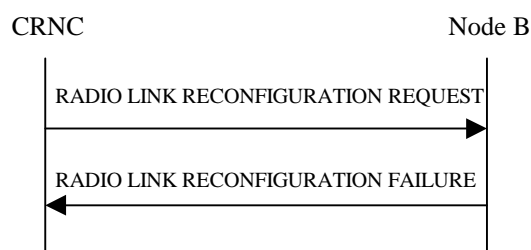


Figure 6 Unsynchronised Radio Link Reconfiguration procedure, Successful Case

If the DRNS cannot allocate the necessary resources for all the new DCHs of one set of coordinated, DCHs requested to be set-up it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s) 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

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.5.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated DCHs is requested to be deleted, the Node B shall regard the Synchronised Radio Link Reconfiguration procedure as having failed and shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC.

9.1.35 RADIO LINK SETUP REQUEST

9.1.35.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		1		
UL Scrambling Code	M			
Min UL Channelisation Code length	M			
Max Number of UL DPDCHs	C – CodeLen			
puncture limit	M			For UL
Transport Format Combination Set	M			for UL
UL DPCH Slot Format	M			
UL Eb/No Target	M		Uplink Eb/No	
Diversity mode	M			
D Field Length	C – FB			
SSDT cell ID Length	O			
S Field Length	O			
DL DPCH Information				
Transport Format Combination Set	M			For DL
DL DPCH Slot Format	M			
TFCI signalling mode	M			
TFCI presence	C- SlotFormat			
Multiplexing Position	M			
PDSCH RL ID	C-DSCH		RL ID	
PDSCH code mapping	C-DSCH			
Power Offset Information		1		
PO1	M		Power Offset	Power offset for the TFCI bits
PO2	M		Power Offset	Power offset for the TPC bits
PO3	M		Power Offset	Power offset for the pilot bits
Delta TPC	M			
DCH Information		1 to <maxnoofDCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC mode	M			
Transport Format Set	M			For UL
Transport Format Set	M			For DL
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			

ToAWS	M			
ToAWE	M			
RL ID	O			RL Supporting the DSCH
DSCH TFCS	O			
DSCH Information		0 to <maxnoofDSCHs >		
DSCH ID	M			
Transport Format Set	M			For DSCH
Frame handling Priority	M			
ToAWS	M			
ToAWE	M			
RL Information		1 to <maxnoofRLs>		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
DL Code Information		1 to <maxnoof- DLCodes		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Initial DL transmission Power	M		DL Power	
Maximum DL power	M		DL Power	
Minimum DL power	M		DL Power	
SSTD Cell Identity	O			

Condition	Explanation
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4
FB	This IE is present only if Feed Back mode diversity is activated.
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.
DSCH	This IE is present only if the DSCH Information group is present
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

Range bound	Explanation
MaxnoofDSCHs	Maximum no. of DSCHs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDLCodes	Maximum no. of DL code information.

9.1.41 RADIO LINK RECONFIGURATION PREPARE

9.1.41.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		<i>0..1</i>		
UL Scrambling code	O			
Min UL Channelisation Code Length	O			
Max Number of UL DPDCHs	C – CodeLen			
Puncture Limit	O			For UL
TFCS	O			
UL DPCCH Slot Format	O			
SSDT Cell Identity Length	O			
S-Field Length	O			
DL DPCH Information		<i>0..1</i>		
TFCS	O			
DL DPCH Slot Format	O			
TFCI Signalling Mode	O			
TFCI presence	C-Slot Format			
DTX Insertion Point	O			
<u>PDSCH code mapping</u>	<u>O</u>			
<u>PDSCH RL ID</u>	<u>O</u>		<u>RL ID</u>	
DCHs to Modify		<i>0..<maxnoof DCHs></i>		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		<i>0..<maxnoof DCHs></i>		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		<i>0..<maxnoof DCHs></i>		
DCH ID	M			

DSCH to modify		<i>0..4<maxno ofDSCHs></i>		
<u>DSCH ID</u>	<u>M</u>			
Transport Format Set	O			For the DL.
<u>RL ID</u>	<u>O</u>			
Frame Handling Priority	O			
ToAWS	O			
ToAWE	O			
DSCH to add		<i>0..4<maxno ofDSCHs></i>		
<u>DSCH ID</u>	<u>M</u>			
Transport Format Set	M			For the DL.
<u>RL ID</u>	<u>M</u>			
Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		<i>0..4<maxno ofDSCHs></i>		
<u>DSCH ID</u>	<u>M</u>			
<u>RL ID</u>	<u>M</u>			
RL Information		<i>0..<maxnoof RLS></i>		
RL ID	M			
DL Code Information		<i>0..<maxnoof DL Codes<</i>		
DL Scrambling Code	O			
FDD DL Channelisation Code Number	O			
Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	
SSDT Indication	O			
SSDT Cell Identity	C - SSDTIndON			

Condition	Explanation
SSDTIndON	The IE may be present if the SSDT Indication is set to 'SSDT Active in the UE'.
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4.
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

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>MaxnoofDL Codes</i>	Maximum number of Downlink Channelisation Codes.

9.1.46 RADIO LINK RECONFIGURATION REQUEST

9.1.46.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		0..1		
TFCS	O			For the UL.
DL DPCH Information		0..1		
TFCS	O			For the DL.
TFCI Signalling Mode	O			
<u>PDSCH code mapping</u>	<u>O</u>			
<u>PDSCH RL ID</u>	<u>O</u>		<u>RL ID</u>	
DCHs to Modify		0..<maxnoof DCHs>		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		0..<maxnoof DCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		0..<maxnoof DCHs>		
DCH ID	M			
DSCH to Modify		0..4<maxno of DSCHs>		
<u>DSCH ID</u>	<u>M</u>			
Transport Format Set	O			For the DL.
<u>RL ID</u>	<u>O</u>			
Frame Handling Priority	O			
ToAWS	O			
ToAWE	O			
DSCH to Add		0..4<maxno of DSCHs>		
<u>DSCH ID</u>	<u>M</u>			
Transport Format Set	M			For the DL.
<u>RL ID</u>	<u>M</u>			

Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		<i>0..4<maxno ofDSCHs></i>		
DSCH ID	M			
Radio Link Information		<i>0..<maxnoof RLs></i>		
RL ID	M			
Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	

Range Bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs for a UE.
<i>MaxnoofDCHs</i>	<i>Maximum number of DSCHs for a UE.</i>
<i>MaxnoofRLs</i>	Maximum number of RLs for a UE.

9.2.1.54 TFCS (Transport Format Combination Set)

The Transport Format Combination Set is defined as a set of Transport Format Combinations on a Coded Composite Transport Channel. It is the allowed Transport Format Combinations of the corresponding Transport Channels. The DL Transport Format Combination Set is applicable for DL Transport Channels.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:

Method #1 - TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC_DSCH). The CTFC_DSCH value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC_DSCH value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.

Method #2 - Explicit

The mapping between TFCI(field 2) value and CTFC_DSCH is spelt out explicitly for each value of TFCI (field2)

1

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
<u>CHOICE DSCH</u> <u>No split in TFCI</u>				This choice is made if : a) The TFCS refers to the <u>uplink</u> OR b) The mode is FDD and none of the Node B communication contexts are assigned any <u>DSCH transport channels</u> OR c) <u>The mode is TDD</u>
<u>TFCS</u>		1 to <maxnoofTFCs>		The first instance of the parameter corresponds to TFC zero, the second to 1 and so on.
<u>CTFC</u>	M		INTEGER(0..MaxCTFC-1)	Integer number calculated according to TS 25.331
<u>There is a split in the TFCI</u>				This choice is made if : a) The TFCS refers to the <u>downlink</u> AND b) The mode is FDD and one of the Node B communication contexts is assigned one or more <u>DSCH transport channels</u>
<u>Transport format combination DCH</u>		1 to <MaxTFCI 1 Combs ≥		The first instance of the parameter <u>Transport format combination DCH</u> corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
<u>CTFC DCH</u>	M		Integer(0..MaxCTFC_DCH-1)	Integer number calculated according to TS 25.331. The calculation of CTFC ignores any <u>DSCH transport channels</u> which may be assigned
<u>Choice Signalling method</u> <u>TFCI range</u>				
<u>TFC mapping on DSCH</u>		1 to <MaxNoTFCIGroups>		
<u>Max TFCI(field2) value</u>	M		Integer(1..1023)	This is the Maximum value in the range of <u>TFCI(field2)</u> values for which the specified <u>CTFC DSCH</u> applies
<u>CTFC DSCH</u>	M		Integer(0..MaxCTFC_DSCH-1)	Integer number calculated according to TS 25.331. The calculation of CTFC ignores any <u>DCH transport channels</u> which may be assigned
<u>Explicit</u>				
<u>Transport format combination DSCH</u>		1 to <MaxTFCI 2 Combs ≥		The first instance of the parameter <u>Transport format combination DSCH</u> corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
<u>CTFC DSCH</u>	M		Integer(0..MaxCTFC_DSCH-1)	Integer number calculated according to TS 25.331. The calculation of CTFC ignores any <u>DCH transport channels</u> which may be assigned

Range Bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations (1024).
<u>MaxTFCI_1_Combs</u>	<u>Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1))</u>
<u>MaxTFCI_2_Combs</u>	<u>Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2))</u>
<u>MaxNoTFCIGroups</u>	<u>Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC DSCH applies</u>
MaxCTFC	Maximum value of CTFC is calculated according to the following: $\sum_{i=1}^I (L_i - 1)P_i$ with the notation according to TS25.331.
<u>MaxCTFC_DCH</u>	<u>Maximum value of CTFC DCH is calculated according to the following:</u> $\frac{\sum_{i=1}^I (L_i - 1)P_i}{\text{...}}$ <u>with the notation according to TS25.331 where only the DCH transport channels are taken into account in the calculation.</u>
<u>MaxCTFC_DSCH</u>	<u>Maximum value of CTFC DSCH is calculated according to the following:</u> $\frac{\sum_{i=1}^I (L_i - 1)P_i}{\text{...}}$ <u>with the notation according to TS 25.331 where only the DSCH transport channels are taken into account in the calculation..</u>

9.2.2.X PDSCH code mapping

This IE indicates the association between each possible value of TFCI(field 2) and the corresponding PDSCH channelisation code. There are three ways which the UTRAN must choose between in order to signal the mapping information, these are described below. The signalling capacity consumed by the different methods will typically vary depending on the way in which the UTRAN configures usage of the DSCH.

Method #1 - Using code range

The mapping is described in terms of a number of groups, each group associated with a given spreading factor. The UE maps TFCI(field2) values to PDSCH codes in the following way. The PDSCH code used for TFCI(field 2) = 0, is given by the SF and code number = 'PDSCH code start' of Group = 1. The PDSCH code used for TFCI (field 2) = 1, is given by the SF and code number = 'PDSCH code start' + 1. This continues, with unit increments in the value of TFC mapping to unit increments in code number up until the point that code number = 'PDSCH code stop'. The process continues in the same way for the next group with the TFCI(field 2) value used by the UE when constructing its mapping table starting at the largest value reached in the previous group plus one. In the event that 'PDSCH code start' = 'PDSCH code stop' (as may occur when mapping the PDSCH root code to a TFCI (field 2) value) then this is to be interpreted as defining the mapping between the channelisation code and a single TFCI (ie. TFCI(field 2) should not be incremented twice).

Note that each value of TFCI (field 2) maps to a given code number and when the 'multi-code info' parameter is greater than 1, then each value of TFCI (field 2) actually maps to a set of PDSCH codes. In this case contiguous codes are assigned, starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value given in the parameter 'multi-code info'.

Method #2 - Using TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given PDSCH channelisation code. The PDSCH code specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2)'. The PDSCH code specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2)' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value starting at the largest value reached in the previous group plus one.

Method #3 - Explicit

The mapping between TFCI(field 2) value and PDSCH channelisation code is spelt out explicitly for each value of TFCI (field2)

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>DL Scrambling Code</u>	<u>M</u>		<u>INTEGER (0..15)</u>	<u>Scrambling code on which PDSCH is transmitted. 0= Primary scrambling code of the cell 1...15 = Secondary scrambling code</u>

<u>Choice signalling method</u>				
<u>code range</u>				
<u>PDSCH code mapping</u>		1 to <MaxNoCodeGroups>		
<u>Spreading factor</u>	<u>M</u>		Enumerated(4, 8, 16, 32, 64, 128, 256)	
<u>multi-code info</u>	<u>M</u>		Integer(1..16)	This parameter indicates the number of PDSCH transmitted to the UE. The PDSCH codes all have the same SF as denoted by the Spreading factor parameter. Contiguous codes are assigned, starting at the channelisation code denoted by the spreading factor and code number parameter and including all codes, with code numbers up to and including 'code number' - 1 + 'multi-code info'. Note that 'code number'-1+'multi-code info' will not be allowed to exceed 'maxCodeNumComp'-1
<u>Code number</u>	<u>M</u>		Integer(0..maxCodeNumComp-1)	PDSCH code start, Numbering as described in TS 25.331
<u>Code number</u>	<u>M</u>		Integer(0..maxCodeNumComp-1)	PDSCH code stop, Numbering as described in TS 25.331
<u>TFCI range</u>				
<u>DSCH mapping</u>		1 to <MaxNoTFCIGroups>		
<u>Max TFCI(field2) value</u>	<u>M</u>		Integer(1..1023)	This is the maximum value in the range of TFCI(field 2) values for which the specified PDSCH code applies
<u>Spreading factor</u>	<u>M</u>		Enumerated(4, 8, 16, 32, 64, 128, 256)	SF of PDSCH code
<u>multi-code info</u>	<u>M</u>		Integer(1..16)	Semantics as described for this parameter above
<u>Code number</u>	<u>M</u>		Integer(0..maxCodeNumComp-1)	Code number of PDSCH code. Numbering as described in TS 25.331
<u>Explicit</u>				
<u>PDSCH code</u>		1 to MaxTFCI 2 Combs		The first instance of the parameter PDSCH code corresponds to TFCI (field2) = 0, the second to TFCI(field 2) = 1 and so on.
<u>Spreading factor</u>	<u>M</u>		Enumerated(4, 8, 16, 32, 64, 128, 256)	SF of PDSCH code
<u>multi-code info</u>	<u>M</u>		Integer(1..16)	Semantics as described for this parameter above
<u>Code number</u>	<u>M</u>		Integer(0..maxCodeNumComp-1)	Code number of PDSCH code. Numbering as described in TS 25.331

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxCodeNumComp</u>	<u>Maximum number of codes at the defined spreading factor, within the complete code tree.</u>
<u>MaxTFCI_2_Combs</u>	<u>Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI field 2)</u>
<u>MaxNoTFCIGroups</u>	<u>Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single PDSCH code applies.</u>
<u>MaxNoCodeGroups</u>	<u>Maximum number of groups, each group described in terms of a range of PDSCH channelisation code values for which a single spreading factor applies.</u>

9.2.2.40 TFCI signalling mode

This parameter indicates if the normal or split mode is used for the TFCI. In the event that the split mode is to be used then the IE indicates whether the split is 'Hard' or 'Logical', and in the event that the split is 'Logical' the IE indicates the number of bits in TFCI (field 2).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI signalling optionmode	<u>M</u>		ENUMERATED (Normal, Split)	'Normal' : meaning no split in the TFCI field (either 'Logical' or 'Hard') 'Split' : meaning there is a split in the TFCI field (either 'Logical' or 'Hard')
<u>Split type</u>	<u>C-IfSplit</u>		Enumerated (Hard, Logical)	'Hard' : meaning that TFCI (field 1) and TFCI (field 2) are each 5 bits long and each field is block coded separately. 'Logical' : meaning that on the physical layer TFCI (field 1) and TFCI (field 2) are concatenated, field 1 taking the most significant bits and field 2 taking the least significant bits). The whole is then encoded with a single block code.
<u>Length of TFCI2</u>	<u>C-SplitType</u>		Integer (1..10)	This IE indicates the length measured in number of bits of TFCI (field2).

<u>Condition</u>	<u>Explanation</u>
<u>IfSplit</u>	<u>This IE is only present if 'TFCI signalling option' = 'split'</u>
<u>SplitType</u>	<u>This IE is only present if 'Split type' = 'Logical'</u>

9.3.2 PDU Description for NBAP

```

-- *****
--
-- Elementary Procedure definitions
--
-- *****

NBAP-ELEMENTARY-PROCEDUREdefinitions -- { object identifier to be allocated }--
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,
    AuditRequiredIndication,
    AuditRequest,
    AuditResponse,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementInitiationFailure,
    CommonMeasurementTerminationRequest,
    CommonMeasurementFailureIndication,
    CommonMeasurementReport,
    CellSetupRequestFDD,
    CellSetupRequestTDD,
    CellSetupResponse,
    CellSetupFailure,
    CellReconfigurationRequestFDD,
    CellReconfigurationRequestTDD,
    CellReconfigurationResponse,
    CellReconfigurationFailure,
    CellDeletionRequest,
    CellDeletionResponse,
    ResourceStatusIndication,
    SystemInformationUpdateRequest,
    SystemInformationUpdateResponse,
    SystemInformationUpdateFailure,
    RadioLinkSetupRequestFDD,
    RadioLinkSetupResponseFDD,
    RadioLinkSetupFailureFDD,
    RadioLinkSetupRequestTDD,
    RadioLinkSetupResponseTDD,
    RadioLinkSetupFailureTDD,
    NeighbourCellMeasurementRequestTDD,
    NeighbourCellMeasurementResponseTDD,
    NeighbourCellMeasurementFailureTDD,
    SynchronisationAdjustmentRequestTDD,
    SynchronisationAdjustmentResponseTDD,
    SynchronisationAdjustmentFailureTDD,
    NodeBOutOfSyncIndicationTDD,

```

```

SynchronisationRestartRequestTDD,
RadioLinkAdditionRequestFDD,
RadioLinkAdditionResponseFDD,
RadioLinkAdditionFailureFDD,
RadioLinkAdditionRequestTDD,
RadioLinkAdditionResponseTDD,
RadioLinkAdditionFailureTDD,
RadioLinkReconfigurationPrepareFDD,
RadioLinkReconfigurationPrepareTDD,
RadioLinkReconfigurationReady,
RadioLinkReconfigurationCommit,
RadioLinkReconfigurationFailure,
RadioLinkReconfigurationCancel,
RadioLinkReconfigurationRequestFDD,
RadioLinkReconfigurationRequestTDD,
RadioLinkReconfigurationResponse,
RadioLinkDeletionRequest,
RadioLinkDeletionResponse,
DLPowerControlRequestFDD,
DedicatedMeasurementInitiationRequest,
DedicatedMeasurementInitiationResponse,
DedicatedMeasurementInitiationFailure,
DedicatedMeasurementTerminationRequest,
DedicatedMeasurementFailureIndication,
DedicatedMeasurementReport,
RadioLinkFailureIndication,
RadioLinkRestoreIndication,
CompressedModePrepareFDD,
CompressedModeReadyFDD,
CompressedModeCommitFDD,
CompressedModeFailureFDD,
CompressedModeCancelFDD,
ErrorIndication
FROM NBAP-PDU-Contents

id-audit,
id-auditRequired,
id-blockResource,
id-cellDeletion,
id-cellReconfiguration,
id-cellSetup,
id-commonMeasurementFailure,
id-commonMeasurementInitiation,
id-commonMeasurementReport,
id-commonMeasurementTermination,
id-commonTransportChannelDeletion,
id-commonTransportChannelReconfiguration,
id-commonTransportChannelSetup,
id-compressedModeControlCancellation,
id-compressedModeControlCommit,
id-compressedModeControlPreparation,
id-dedicatedMeasurementFailure,
id-dedicatedMeasurementInitiation,
id-dedicatedMeasurementReport,
id-dedicatedMeasurementTermination,
id-dlPowerControl,
id-neighbourCellMeasurement,
id-radioLinkAddition,
id-radioLinkDeletion,
id-radioLinkFailure,
id-radioLinkReconfigurationCommit,
id-radioLinkReconfigurationCancel,
id-radioLinkRestoration,
id-radioLinkSetup,
id-resourceStatusIndication,
id-synchronisationAdjustment,
id-synchronisationFailure,
id-synchronisationRestart,
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,
    succesfulOutcome           SuccessfulOutcome,
    unsuccessfullOutcome       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 ::= {
    commonTransportChannelSetupFDD           |
    commonTransportChannelSetupTDD          |
    commonTransportChannelReconfigurationFDD |
    commonTransportChannelReconfigurationTDD |
    commonTransportChannelDeletion          |
    blockResource                           |
    audit                                    |
    commonMeasurementInitiation              |
    cellSetupFDD                             |
    cellSetupTDD                             |
    cellReconfigurationFDD                  |
    cellReconfigurationTDD                  |
    cellDeletion                            |
    systemInformationUpdate                  |
    radioLinkSetupFDD                       |
    radioLinkSetupTDD                       |
    neighbourCellMeasurementTDD             |
    synchronisationAdjustmentTDD            |
    radioLinkAdditionFDD                    |
    radioLinkAdditionTDD                    |
    radioLinkReconfigurationCommit          |
    radioLinkReconfigurationCancellation    |
    radioLinkDeletion                       |
    dedicatedMeasurementInitiation          |
    compressedModeControlPreparationFDD     |
    ...
}

```

```

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
    unblockResource                         |
    auditRequired                           |
    commonMeasurementTermination            |
    commonMeasurementFailure                |
    commonMeasurementReport                 |
    resourceStatusIndication                |
    synchronisationFailureTDD               |
    synchronisationRestartTDD              |
    synchronisedRadioLinkReconfigurationPreparationFDD |
    synchronisedRadioLinkReconfigurationPreparationTDD |
    unsynchronisedRadioLinkReconfigurationFDD |
    unsynchronisedRadioLinkReconfigurationTDD |
    dlPowerControlFDD                       |
    dedicatedMeasurementTermination         |
    dedicatedMeasurementFailure             |
    dedicatedMeasurementReport              |
    radioLinkFailure                        |
    radioLinkRestoration                    |
    compressedModeControlCommitFDD         |
    compressedModeControlCancellationFDD   |
    errorIndication                         |
    ...
}

```

```

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

```

```

-- Class 1

-- *** 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 ignore
}

-- *** 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 ignore
}

-- *** CommonTransportChannelReconfiguration (FDD) ***
commonTransportChannelReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CommonTransportChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME CommonTransportChannelReconfigurationResponse
    UNSUCCESSFUL OUTCOME CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-commonTransportChannelReconfiguration, ddMode fdd }
    CRITICALITY ignore
}

-- *** CommonTransportChannelReconfiguration (TDD) ***
commonTransportChannelReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CommonTransportChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME CommonTransportChannelReconfigurationResponse
    UNSUCCESSFUL OUTCOME CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-commonTransportChannelReconfiguration, ddMode tdd }
    CRITICALITY ignore
}

-- *** CommonTransportChannelDeletionRequest ***
commonTransportChannelDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CommonTransportChannelDeletionRequest
    SUCCESSFUL OUTCOME CommonTransportChannelDeletionResponse
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-commonTransportChannelDeletion, ddMode common }
    CRITICALITY ignore
}

-- *****
-- *** 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 ignore
}

-- *** UnblockResourceIndication ***
unblockResource NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE UnblockResourceIndication
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-unblockResource, ddMode common }
    CRITICALITY ignore
}

-- *****
-- *** AuditRequired ***
auditRequired NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE AuditRequiredIndication
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-auditRequired, ddMode common }
    CRITICALITY ignore
}

```

```

}

-- *** Audit ***
audit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE AuditRequest
    SUCCESSFUL OUTCOME AuditResponse
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-audit, ddMode common }
    CRITICALITY ignore
}

-- *****
-- *** 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 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
}

-- *** CommonMeasurementReport ***
commonMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CommonMeasurementReport
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID { procedureCode id-commonMeasurementReport, ddMode common }
    CRITICALITY ignore
}

-- *****
-- *** 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 ignore
}

-- *** 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 ignore
}

-- *** 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 ignore
}

```

```

-- *** 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 ignore
}

-- *** CellDeletion ***
cellDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CellDeletionRequest
  SUCCESSFUL OUTCOME CellDeletionResponse
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-cellDeletion, ddMode common }
  CRITICALITY ignore
}

-- *****
-- *** ResourceStatusIndication ***
resourceStatusIndication NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE ResourceStatusIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-resourceStatusIndication, ddMode common }
  CRITICALITY ignore
}

-- *****
-- *** 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 ignore
}

-- *****
-- *** 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 ignore
}

-- *** 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 ignore
}

-- *****
-- *** NeighbourCellMeasurement (TDD only) ***
neighbourCellMeasurementTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE NeighbourCellMeasurementRequestTDD
  SUCCESSFUL OUTCOME NeighbourCellMeasurementResponseTDD
  UNSUCCESSFUL OUTCOME NeighbourCellMeasurementFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-neighbourCellMeasurement, ddMode tdd }
  CRITICALITY ignore
}

-- *****
-- *** SynchronisationAdjustment (TDD only) ***
synchronisationAdjustmentTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE SynchronisationAdjustmentRequestTDD
  SUCCESSFUL OUTCOME SynchronisationAdjustmentResponseTDD
  UNSUCCESSFUL OUTCOME SynchronisationAdjustmentFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-synchronisationAdjustment, ddMode tdd }
}

```



```

    CRITICALITY          ignore
}

-- *** NodeBOutOfSyncIndication (TDD only) ***
synchronisationFailureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   NodeBOutOfSyncIndicationTDD
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID         { procedureCode id-synchronisationFailure, ddMode tdd }
    CRITICALITY          ignore
}

-- *** SynchronisationRestart (TDD only) ***
synchronisationRestartTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   SynchronisationRestartRequestTDD
    MESSAGE DISCRIMINATOR common
    PROCEDURE ID         { procedureCode id-synchronisationRestart, ddMode tdd }
    CRITICALITY          ignore
}

-- *****
-- *** 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          ignore
}

-- *** 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          ignore
}

-- *** RadioReconfigurationPrepare (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          ignore
}

-- *** RadioReconfigurationPrepare (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          ignore
}

-- *** (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          ignore
}

-- *** (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            ignore
}

-- *** RadioLinkReconfirurationCommit ***
radioLinkReconfigurationCommit NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    RadioLinkReconfigurationCommit
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-radioLinkReconfigurationCommit, ddMode common }
  CRITICALITY           ignore
}

-- *** RadioReconfigurationCancellation ***
radioLinkReconfigurationCancellation NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    RadioLinkReconfigurationCancel
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-radioLinkReconfirurationCancel, ddMode common }
  CRITICALITY           ignore
}

-- *** RadioLinkDeletion ***
radioLinkDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    RadioLinkDeletionRequest
  SUCCESSFUL OUTCOME    RadioLinkDeletionResponse
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-radioLinkDeletion, ddMode common }
  CRITICALITY           ignore
}

-- *****
-- *** DLPowerControl (FDD only) ***
dlPowerControlFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    DLPowerControlRequestFDD
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-dlPowerControl, ddMode fdd }
  CRITICALITY           ignore
}

-- *****
-- *** 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           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
}

-- *** DedicatedMeasurementReport ***
dedicatedMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    DedicatedMeasurementReport
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-dedicatedMeasurementReport, ddMode common }
  CRITICALITY           ignore
}

```

```

-- *****
-- *** RadioLinkFailureIndication ***
radioLinkFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE RadioLinkFailureIndication
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-radioLinkFailure, ddMode common }
    CRITICALITY ignore
}

-- *** RadioLinkRestoreIndication ***
radioLinkRestoration NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE RadioLinkRestoreIndication
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY ignore
}

-- *****
-- *** CompressedModePrepare (FDD only) ***
compressedModeControlPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CompressedModePrepareFDD
    SUCCESSFUL OUTCOME CompressedModeReadyFDD
    UNSUCCESSFUL OUTCOME CompressedModeFailureFDD
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-compressedModeControlPreparation, ddMode fdd }
    CRITICALITY ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCommitFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CompressedModeCommitFDD
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-compressedModeControlCommit, ddMode fdd }
    CRITICALITY ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCancellationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE CompressedModeCancelFDD
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-compressedModeControlCancellation, ddMode fdd }
    CRITICALITY ignore
}

-- *** ErrorIndication ***
errorIndication NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE errorIndication
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID { procedureCode id-errorIndication Cancellation,
ddMode common }
    CRITICALITY ignore
}

END

```

9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    AICH-InformationList,

```

AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCTrCH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,
 ConfigurationGenerationID,
 DCH-CombinationIndication,
 DCH-Delete-RL-ReconfReqTDDItem,
 DCH-ID,
 DCH-InformationResponse-RL-setupResFDD,
 DCH-Modify-RL-ReconfPrepTDDItem,
 DL-CCTrCH-ID,
 DL-CodeInformation,
 DL-DPCH-InformationItem-RL-ReconfReqFDD,
 DL-DPCH-SlotFormat,
 DL-FrameType,
 DL-Power,
 DL-ReferencePower,
 DL-ReferencePowerInformationItem,
 DL-ScramblingCode,
 DPCH-ID,
 DPCH-Offset,
 DSCH-ID,
 DSCH-InformationResponse-RL-setupResFDD,
 DSCH-ModifyList-RL-ReconfResp,
 DSCH-SetupList-RL-ReconfResp,
 DSCH-TransportFormatSet,
 DTX-InsertionPoint,
 DTX-InsertionPosition,
 D-FieldLength,
 DedicatedMeasurementType,
 DedicatedMeasurementValue,
 DeltaTPC,
 DiversityControlField,
 DiversityMode,
 FACH-Power,
 FDD-DL-ChannelisationCodeNumber,
 FDD-SCCPCH-Offset,
 FrameHandlingPriority,
 FrameOffset,
 GapStartingSlotNumber,
 LocalCellID,
 LocalCellInformationList,
 LocalCell-ID,
 Local-CellID,
 MIB-SG-POS,
 MIB-SG-REP,
 MaxFACH-Power,
 MaxNrOfUL-DPDCHs,
 MaxNumberOfUL-DPDCHs,
 MaximumDLPowerCapability,
 MaximumDL-PowerCapability,
 MaximumTransmissionPower,
 MaximumUL-EbNO,
 Maximum-DL-PowerCapability,
 MeasuredCellInfo,
 MeasurementCharacteristics,

MeasurementID,
 MeasurementType,
 MessagePartScramblingCode,
 MidambleShift,
 Midambleshift,
 MinUL-ChannelisationCodeLength,
 MinimumSpreadingFactor,
 MinimumUL-EbN0,
 NodeB-CommunicationContextID,
 NumberOfChannelElements,
 Offset,
 PCCPCH-Power,
 PCCPCH-TimeSlotI,
 PCH-Power,
 PICH-Information,
 PICH-Power,
 PSCH-Power,
 PSCHandPCCPCH-Allocation,
 PSCHandPCCPCH-TimeSlotK,
 PUSCH,
 PagingIndicatorLength,
 PatternDuration,
 PayloadCRC-PresenceIndicator,
 PilotBitsUsedIndicator,
 PowerControlMode,
 PowerOffset,
 PowerResumeMode,
 PreambleScramblingCode,
 PreambleSignatures,
 PrimaryCPICH-Power,
 PrimarySCH-Power,
 PrimaryScramblingCode,
 Primary-ScramblingCode,
 PropagationDelay,
PDSCH-CodeMapping,
 PunctureLimit,
 RACH-SlotFormat,
 RACH-SubChannelNumbers,
 RLC-Mode,
 RL-ID,
 RL-Information,
 RL-InformationItem,
 RL-InformationItem-RL-SetupReqTDD,
 RL-InformationList-DMeasureRequest,
 RL-ReconfigurationFailure-RL-ReconfFailItem,
 RadioLinkInformation-RL-ReconfReqTDD,
 RepetitionLength,
 RepetitionPeriod,
 ReportCharacteristics,
 ResourceOperationState,
 ResourceOperationalState,
 SAI,
 SFN,
 SIB-SG-POS,
 SIB-SG-REP,
 SSDT-CellIdentity,
 SSDT-CellIdentityLength,
 SSDT-Cell-IDLength,
 SSDT-Indication,
 SSDT-SupportIndicator,
 STTD-Indicator,
 S-CCPCH-Offset,
 S-CCPCH-Power,
 S-FieldLength,
 ScramblingCode,
 ScramblingCodeChange,
 SecondaryCCPCH-SlotFormat,
 SecondaryCPICH-Power,
 SecondarySCH-Power,
 ShutdownTimer,
 SynchronisationMethod,
 TDDChipOffset,
 TDD-ChannelisationCode,
 TFCI-Presence,
 TFCI-SignallingMode,
 TFCS,
 TSTD-Indicator,

```

T-Cell,
TimeSlot,
TimeSlotDirection,
TimeSlotStatus,
ToAWE,
ToAWS,
TransmissionGapDistance,
TransmissionGapPeriod,
TransmitGapLength,
TransmitGapPositionMode,
TransportFormatCombinationSet,
TransportFormatSet,
TransportLayerAddress,
UARFCN,
C-ID,
UL-CCTrCHInformation,
UL-CCTrCH-ID,
UL-DPCCH-SlotFormat,
UL-FP-Mode,
UL-InterferenceLevel,
UL-PunctureLimit,
UL-ScramblingCode,
UplinkEbNo
FROM NBAP-IEs

ProtocolExtensionContainer{},
PrivateExtensionContainer{},
ProtocolIE-Container{},
ProtocolIE-ContainerList{},
NBAP-PROTOCOL-IES,
NBAP-PROTOCOL-EXTENSION,
NBAP-PRIVATE-EXTENSION
FROM NBAP-Containers

id-AICH-Information-ResourceStatIndItem,
id-AICH-ParametersList,
id-AICH-ParametersListItem,
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
id-BlockingPriorityIndicator,
id-CCTrCH-ParametersList,
id-CCTrCH-ParametersListItem,
id-CFN,
id-CRNC-CommunicationContextID,
id-CRNCCommunicationContextID,
id-Cause,
id-Cell-Information-ResourceStatIndItem,
id-Cell-InformationItem,
id-Cell-InformationList,
id-Cell-Parameter,
id-Cell-ParametersItem,
id-Cell-ParametersList,
id-CellParameter,
id-CommonMeasurementObjectType,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,
id-CommonPhysicalChannelType-CTCHsetup-Response,
id-CommunicationControlPort-InformationItem,
id-CommunicationControlPortID,
id-CommunicationControlPortInformation-ResourceStatIndItem,
id-CommunicationControlPortInformationList,
id-CompressesModeMethod,
id-ConfigurationGenerationID,
id-DCH-Add-RL-ReconfPrepFDDItem,
id-DCH-Add-RL-ReconfPrepTDDItem,
id-DCH-Add-RL-ReconfReadyItem,
id-DCH-Add-RL-ReconfReqFDDItem,
id-DCH-Add-RL-ReconfReqTDDItem,
id-DCH-AddItem-RL-ReconfResp,
id-DCH-AddList-RL-ReconfPrepFDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-AddList-RL-ReconfReqFDD,
id-DCH-AddList-RL-ReconfReqTDD,
id-DCH-Delete-RL-ReconfPrepFDDItem,
id-DCH-Delete-RL-ReconfPrepTDDItem,
id-DCH-Delete-RL-ReconfReqFDDItem,

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id-DCH-Delete-RL-ReconfReqTDDItem,
 id-DCH-DeleteList-RL-ReconfPrepFDD,
 id-DCH-DeleteList-RL-ReconfPrepTDD,
 id-DCH-DeleteList-RL-ReconfReqFDD,
 id-DCH-DeleteList-RL-ReconfReqTDD,
 id-DCH-Information-RL-SetupReqFDDItem,
 id-DCH-Information-RL-SetupReqTDDItem,
 id-DCH-InformationList-RL-SetupReqFDD,
 id-DCH-InformationList-RL-SetupReqTDD,
 id-DCH-InformationResponse-RL-SetupFailFDDItem,
 id-DCH-InformationResponse-RL-setupResTDDItem,
 id-DCH-InformationResponseItem,
 id-DCH-Modify-RL-ReconfPrepFDDItem,
 id-DCH-Modify-RL-ReconfPrepTDDItem,
 id-DCH-Modify-RL-ReconfReadyItem,
 id-DCH-Modify-RL-ReconfReqFDDItem,
 id-DCH-Modify-RL-ReconfReqTDDItem,
 id-DCH-ModifyItem-RL-ReconfResp,
 id-DCH-ModifyList-RL-ReconfPrepFDD,
 id-DCH-ModifyList-RL-ReconfPrepTDD,
 id-DCH-ModifyList-RL-ReconfReqFDD,
 id-DCH-ModifyList-RL-ReconfReqTDD,
 id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,
 id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,
 id-DL-CCTrCH-Information-RL-SetupReqTDDItem,
 id-DL-CCTrCH-InformationItem,
 id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
 id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,
 id-DL-CCTrCH-InformationList-RL-SetupReqTDD,
 id-DL-CCTrCHInformationItem,
 id-DL-CCTrCHInformationList,
 id-DL-CodeInformation,
 id-DL-CodeInformation-RL-ReconfPrepFDDItem,
 id-DL-CodeInformation-RL-SetupReqFDDItem,
 id-DL-DPCH-Information-RL-ReconfPrepFDD,
 id-DL-DPCH-Information-RL-ReconfPrepTDDItem,
 id-DL-DPCH-Information-RL-SetupReqTDDItem,
 id-DL-DPCH-InformationItem,
 id-DL-DPCH-InformationItem-RL-ReconfReqFDD,
 id-DL-DPCH-InformationItem-RL-SetupReqFDD,
 id-DL-FrameType,
 id-DL-ReferencePowerInformationItem,
id-DSCH-Add-RL-ReconfPrepFDDItem,
id-DSCH-Add-RL-ReconfReqFDDItem,
 id-DSCH-AddListItem-RL-ReconfPrepFDD,
 id-DSCH-AddListItem-RL-ReconfReqFDD,
id-DSCH-Delete-RL-ReconfPrepFDDItem,
id-DSCH-Delete-RL-ReconfReqFDDItem,
 id-DSCH-DeleteListItem-RL-ReconfPrepFDD,
 id-DSCH-DeleteListItem-RL-ReconfReqFDD,
 id-DSCH-ID,
 id-DSCH-Information-RL-SetupReqFDDItem,
 id-DSCH-InformationList-RL-SetupReqFDD,
 id-DSCH-InformationResponse-RL-SetupFailFDDItem,
 id-DSCH-InformationResponse-RL-setupResFDDItem,
id-DSCH-Modify-RL-ReconfPrepFDDItem,
id-DSCH-Modify-RL-ReconfReqFDDItem,
 id-DSCH-ModifyListItem-RL-ReconfPrepFDD,
 id-DSCH-ModifyListItem-RL-ReconfReqFDD,
 id-DedicatedMeasurementObjectType,
 id-DedicatedMeasurementType,
 id-FACH-Information-ResourceStatIndItem,
 id-FACH-InformationItem,
 id-FACH-ListItem,
 id-FACH-ParametersList-CTCHreconf-Req-FDD,
 id-FACH-ParametersList-CTCHreconf-Req-TTD,
 id-FACH-ParametersListItem-CTCHreconf-Req-FDD,
 id-FACH-ParametersListItem-CTCHreconf-Req-TTD,
 id-FACH-ParametersListItem-CTCHsetup-Req-FDD,
 id-FACH-ParametersListItem-CTCHsetup-Response,
 id-GapStartingSlotNumber,
 id-IndicationType,
 id-Local-Cell-Information-ResourceStatIndItem,
 id-Local-CellInformation-ResourceStatIndItem,
 id-LocalCell-ID,
 id-LocalCell-InformationItem,
 id-LocalCellInformationList,

id-MIB-SegmentInformationItem,
 id-MIB-SegmentInformationList,
 id-MaximumTransmissionPower,
 id-MeasuredCellInfo,
 id-MeasurementCharacteristics,
 id-MeasurementID,
 id-MeasurementType,
 id-NeighbouringFDD-Cell-InformationItem,
 id-NeighbouringTDD-Cell-InformationItem,
 id-NodeB-CommunicationContextID,
 id-PCCPCH-Information,
 id-PCH-Information-ResourceStatIndItem,
 id-PCH-InformationItem,
 id-PCH-ListItem,
 id-PCH-Parameters-CTCHreconf-Req-FDD,
 id-PCH-ParametersList,
 id-PCH-ParametersListItem,
 id-PICH-Parameters-CTCHreconf-Req-FDD,
 id-PRACH-ParametersList,
 id-PRACH-ParametersListItem,
 id-PSCH-Information,
 id-PSCHandPCCPCH-Information,
 id-PUSCH-ListItem,
 id-PatternDuration,
 id-PowerControlMode,
 id-PowerResumeMode,
 id-PrimaryCCPCH-Information,
 id-PrimaryCPICH-Information,
 id-PrimarySCH-Information,
 id-PrimaryScramblingCode,
 id-ProcedureScopeType,
 id-RACH-Information-ResourceStatIndItem,
 id-RACH-InformationItem,
 id-RL-ID,
 id-RL-Information,
 id-RL-Information-DMeasureReportItem,
 id-RL-Information-DMeasureRequestItem,
 id-RL-Information-DMeasureResponseItem,
 id-RL-Information-RL-ReconfPrepFDDItem,
 id-RL-Information-RL-SetupReqFDDItem,
 id-RL-InformationItem,
 id-RL-InformationItem-RL-SetupReqTDD,
 id-RL-InformationList,
 id-RL-InformationList-RL-ReconfReqFDD,
 id-RL-InformationList-RL-SetupReqFDD,
 id-RL-InformationResponse-RL-setupResFDDItem,
 id-RL-InformationResponseItem-RL-ReconfResp,
 id-RL-InformationResponseList-RL-ReconfReady,
 id-RL-InformationResponseList-RL-ReconfReadyItem,
 id-RL-InformationResponseList-RL-ReconfResp,
 id-RL-InformationResponseList-RL-setupResFDD,
 id-RL-InformationResponseList-RL-setupResTDD,
 id-RL-ReconfigurationFailure-RL-ReconfFailItem,
 id-RL-ReconfigurationFailureList-RL-ReconfFail,
 id-RL-ResponseInformation,
 id-RL-ResponseInformationItem,
 id-RL-ResponseInformationList,
 id-RL-informationItem,
 id-RL-informationList,
 id-RadioLinkInformation-RL-ReconfPrepFDDItem,
 id-RadioLinkInformation-RL-ReconfPrepTDD,
 id-RadioLinkInformation-RL-ReconfReqTDD,
 id-RadioLinkInformationList-RL-ReconfPrepFDD,
 id-ReportCharacteristics,
 id-SFN,
 id-SIB-SegmentInformationItem,
 id-SIB-SegmentInformationList,
 id-ScramblingCodeChange,
 id-Secondary-CCPCHListItem,
 id-SecondaryCPICH-Information,
 id-SecondarySCH-Information,
 id-ShutdownTimer,
 id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,
 id-Successful-RL-InformationResponseItem,
 id-Successful-RL-InformationResponseList,
 id-Successful-RL-InformationResponseList-RL-SetupFailFDD,
 id-SynchronisationMethod,


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id-T-Cell,
id-TDDChipOffset,
id-TimeSlotConfigurationItem,
id-TimeSlotConfigurationList,
id-TransmissionGapDistance,
id-TransmissionGapPeriod,
id-TransmitGapLength,
id-TransmitGapPositionMode,
id-UARFCN,
id-C-ID,
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,
id-UL-CCTrCH-Information-RL-SetupReqTDDItem,
id-UL-CCTrCH-InformationItemIE,
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,
id-UL-CCTrCH-InformationList-RL-SetupReqTDD,
id-UL-CCTrCHInformation,
id-UL-CCTrCHInformationList,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfPrepTDDItem,
id-UL-DPCH-Information-RL-SetupReqTDDItem,
id-UL-DPCH-InformationItem-RL-ReconfReqFDD,
id-UL-DPCH-InformationItem-RL-SetupReqFDD,
id-UL-DPCH-InformationItemIE,
id-USCH-Information-ResourceStatIndItem,
id-USCH-InformationItem,
id-USCH-ListItem-CTCHsetup-Req-TDD,
id-Unsuccessful-RL-InformationResponse,
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,
id-Unsuccessful-RL-InformationResponseItem,
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,
id-Unsuccessful-RL-InformationResponseList,
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,

maxAICHCell,
maxCCPinNodeB,
maxCellinNodeB,
maxFACHCell,
maxLocalCellinNodeB,
maxMIBSEG,
maxPCHCell,
maxPCHinNodeB,
maxRACHCell,
maxSF,
maxSIBSEG,
maxUCIDinNodeB,
maxUSCHCell,
maxnCCTrCHs,
maxnoofCCTrCHs,
maxnoofDCHs,
maxnoofDLCodes,
maxnoofDPCHs,
maxnoofDSCHs,
maxnoofFACHCell,
maxnoofFACHs,
maxnoofFDDNeighbours,
maxnoofPCHs,
maxnoofPRACHs,
maxnoofPUSHs,
maxnoofRL-1,
maxnoofRL-2,
maxnoofRLs,
maxnoofSCCPCHs,
maxnoofTDDNeighbours,
maxnoofUSCHs
FROM NBAP-Constants;

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST FDD
--
-- *****

CommonTransportChannelSetupRequestFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container
    {{CommonTransportChannelSetupRequestFDD-IEs}},

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    protocolExtensions          ProtocolExtensionContainer
  {{CommonTransportChannelSetupRequestFDD-Extensions}}          OPTIONAL,
  ...
}

CommonTransportChannelSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID                CRITICALITY ignore TYPE C-ID          PRESENCE
mandatory }|
  { ID id-ConfigurationGenerationID CRITICALITY ignore TYPE ConfigurationGenerationID
  { ID id-CommonPhysicalChannelType-CTCHsetup-Req-FDD CRITICALITY ignore TYPE
CommonPhysicalChannelType-CTCHsetup-Req-FDD PRESENCE mandatory
},
  ...
}

CommonTransportChannelSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CommonPhysicalChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
  secondary-CCPCH-parameters-CTCHsetup-Req-FDD          Secondary-
CCPCH-parameters-CTCHsetup-Req-FDD,
pRACH-parameters-CTCHsetup-Req-FDD          PRACH-parameters-CTCHsetup-
Req-FDD
}

Secondary-CCPCH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
  commonPhysicalChannelID          CommonPhysicalChannelID,
  fdd-SCCPCH-Offset                FDD-SCCPCH-Offset,
  dl-ScramblingCode                DL-ScramblingCode,
  fdd-DL-ChannelisationCodeNumber  FDD-DL-ChannelisationCodeNumber,
  tFCS                              TFCS,
  secondaryCCPCH-SlotFormat        SecondaryCCPCH-SlotFormat,
  pilotBitsUsedIndicator            PilotBitsUsedIndicator,
  multiplexingPosition              MultiplexngPosition,
  sTTD-Indicator                    STTD-Indicator,
  commonTransportChannelType        CommonTransportChannelType-
CTCHsetup-Req-FDD
}

CommonTransportChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
  fACH-ParametersList              FACH-ParametersList-CTCHsetup-Req-FDD,
  pCH-Parameters                    PCH-Parameters-CTCHsetup-Req-FDD,
  bothCH-Parameters                BothCH-Parameters-CTCHsetup-Req-FDD
}

BothCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
  fACH-ParametersList              FACH-ParametersList-CTCHsetup-Req-FDD,
  pCH-Parameters                    PCH-Parameters-CTCHsetup-Req-FDD
}

FACH-ParametersList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
  ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHsetup-Req-FDD }}

FACH-ParametersListItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-ParametersListItem-CTCHsetup-Req-FDD CRITICALITY ignore TYPE FACH-
ParametersListItem-CTCHsetup-Req-FDD PRESENCE mandatory },
  ...
}

FACH-ParametersListItem-CTCHsetup-Req-FDD ::= SEQUENCE {
  commonTransportChannelID          CommonTransportChannelID,
  transportFormatSet                TransportFormatSet,
  toAWS                              ToAWS,
  toAWE                              ToAWE,
  maxFACH-Power                      DL-Power
}

PCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
  commonTransportChannelID          CommonTransportChannelID,
  transportFormatSet                TransportFormatSet,
  toAWS                              ToAWS,
  toAWE                              ToAWE,
  pCH-Power                          DL-Power,
  pICH-Parameters                    PICH-Parameters-CTCHsetup-Req-FDD
}

```

```

}

PICH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    dl-ScramblingCode            DL-ScramblingCode,
    fdd-dl-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
    pICH-Power                   DL-Power,
    pICH-Mode                    PICH-Mode,
    STTD-Indicator               STTD-Indicator
}

PRACH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    tfcs                         TFCS,
    preambleSignatures          PreambleSignatures,
    scramblingCodeWord          ScramblingCodeWord
allowedSlotFormatInformationList
    AllowedSlotFormatInformationList-CTCHsetup-Req-FDD,
    rach-SubChannelNumbers      RACH-SubChannelNumbers,
    ul-punctureLimit            PunctureLimit,
    rach-Parameters              RACH-Parameters-CTCHsetup-
Req-FDD,
    aICH-Parameters              AICH-Parameters-CTCHsetup-
Req-FDD
}

AllowedSlotFormatInformationList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF
    ProtocolIE-Container {{AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD}}

AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD
      CRITICALITY ignore          TYPE AllowedSlotFormatInformationItem-
CTCHsetup-Req-FDD
      PRESENCE mandatory },
    ...
}

AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD ::= SEQUENCE {
    rachSlotFormat              RACH-SlotFormat
}

RACH-Parameters ::= SEQUENCE {
    commonTransportChannelID     CommonTransportChannelID,
    transportFormatSet           TransportFormatSet
}

AICH-Parameters ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    dl-ScramblingCode            DL-ScramblingCode,
    aICH-TransmissionTiming      AICH-TransmissionTiming,
    fdd-dl-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
    aICH-Power                   DL-Power,
    STTD-Indicator               STTD-Indicator
}

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST TDD
--
-- *****

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

CommonTransportChannelSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                  CRITICALITY ignore          TYPE C-ID          PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID CRITICALITY ignore          TYPE
ConfigurationGenerationID PRESENCE mandatory }|
    { ID id-CommonPhysicalChannelType-CTCHsetupReqTDD CRITICALITY ignore          TYPE
CommonPhysicalChannelType-CTCHsetupReqTDD PRESENCE mandatory }|
}

```

```

{ ID id-CommontransportChannelType-CTCHsetupReqTDD CRITICALITY ignore TYPE
  CommontransportChannelType-CTCHsetupReqTDD PRESENCE mandatory
},
...
}

CommonTransportChannelSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CommonPhysicalChannelType-CTCHsetupReqTDD ::= ENUMERATED {
  secondary-CCPCH-parameters-CTCHsetupReqTDD Secondary-CCPCH-
parameters-CTCHsetupReqTDD,
pRACH-parameters-CTCHsetupReqTDD PRACH-parameters-
CTCHsetupReqTDD
}

Secondary-CCPCH-parameters-CTCHsetupReqTDD ::= SEQUENCE {
  cCtrCH-ID CctrCH-ID,
  tFCS TFCS,
  secondaryCCPCH SecondaryCCPCHList-CTCHsetupReqTDD,
}

SecondaryCCPCHList-CTCHsetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofSCCPCHs)) OF
  ProtocolIE-Container {{ SecondaryCCPCHList-CTCHsetupReqTDDItemIE }}

SecondaryCCPCHList-CTCHsetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-SecondaryCCPCHList-CTCHsetupReqTDDItem CRITICALITY ignore TYPE
  SecondaryCCPCHList-CTCHsetupReqTDDItem PRESENCE mandatory
  },
  ...
}

SecondaryCCPCHList-CTCHsetupReqTDDItem ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  tdd-ChannelisationCode TDD-ChannelisationCode,
  timeslot TimeSlot,
  burstType BurstType,
  midambleShift MidambleShift,
  tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
  repetitionPeriod RepetitionPeriod,
  repetitionLength RepetitionLength,
  s-CCPCH-Power DL-Power,
  tSTD-Indicator TSTD-Indicator
}

PRACH-parameters-CTCHsetupReqTDD ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  timeslot TimeSlot,
  tdd-ChannelisationCode TDD-ChannelisationCode,
  burstType BurstType,
  maxPRACH-MidambleShift MaxPRACH-MidambleShift OPTIONAL,
  pRACH-Midamble PRACH-Midamble,
  commonTransportChannelType
  CommonTransportChannelType-CTCHsetupReqTDD,
  rACH RACH-CTCHsetupReqTDD
}

CommonTransportChannelType-CTCHsetupReqTDD ::= ENUMERATED {
  fACH-ParametersList FACH-ParametersList-CTCHsetupReqTDD,
  pCH-Parameters PCH-Parameters-CTCHsetupReqTDD,
  bothCH-Parameters BothCH-Parameters-CTCHsetupReqTDD
}

BothCH-Parameters-CTCHsetupReqTDD ::= SEQUENCE {
  fACH-ParametersList FACH-ParametersList-CTCHsetupReqFDD,
  pCH-Parameters PCH-Parameters-CTCHsetupReqFDD
}

FACH-ParametersList-CTCHsetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
  ProtocolIE-Container {{FACH-ParametersLit-CTCHsetupReqFDD ItemIE }}

FACH-ParametersList-CTCHsetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-ParametersList-CTCHsetupReqFDDItem CRITICALITY ignore TYPE FACH-
ParametersList-CTCHsetupReqFDDItem PRESENCE mandatory },
  ...
}

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```

FACH-ParametersList-CTCHsetupReqFDDItem ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    dl-TransportFormatSet      DL-TransportFormatSet,
    toAWS                       ToAWS,
    toAWE                       ToAWE
}

PCH-ParametersList-CTCHsetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofPCHs)) OF
    ProtocolIE-Container {{PCH-ParametersList-CTCHsetupReqFDD ItemIE }}

PCH-ParametersList-CTCHsetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-ParametersList-CTCHsetupReqFDDItem CRITICALITY ignore TYPE PCH-
ParametersList-CTCHsetupReqFDDItem PRESENCE mandatory },
    ...
}

PCH-ParametersList-CTCHsetupReqFDDItem ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    dl-TransportFormatSet      DL-TransportFormatSet,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    pICH-Parameters            PICH-Parameters-CTCHsetupReqTDD
}

PICH-Parameters-CTCHsetup-Req-TDD ::= SEQUENCE {
    CommonPhysicalChannelID    CommonPhysicalChannelID,
    tdd-ChannelisationCode     TDD-ChannelisationCode,
    timeSlot                   TimeSlot,
    pICH-Power                 PICH-Power,
    burstType                   BurstType OPTIONAL,
    midambleshift              Midambleshift,
    tdd-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
    repetitionPeriod           RepetitionPeriod,
    repetitionLength           RepetitionLength,
    pagingIndicatorLength      PagingIndicatorLength,
    pICH-Power                 DL-Power
    ...
}

RACH-CTCHsetupReqTDD ::= SEQUENCE {
    commontransportChannelID    CommontransportChannelID
}

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP RESPONSE
--
-- *****

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

CommonTransportChannelSetupResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CommonPhysicalChannelType-CTCHsetup-Resp CRITICALITY ignore TYPE CommonPhys
}|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
-- At least either or Cause IE or Criticality Diagnostic IE shall be present--
    ...
}

CommonTransportChannelSetupResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonTransportChannelType-CTCHsetup-Resp ::= ENUMERATED {
    fACH-ParametersList        FACH-ParametersList-CTCHsetup-Resp,
    pCH-Parameters             PCH-Parameters-CTCHsetup-Resp,
    bothCH-Parameters          BothCH-Parameters-CTCHsetup-Resp
}

```

```

BothCH-Parameters-CTCHsetup-resp ::= SEQUENCE {
    FACH-ParametersList      FACH-ParametersList-CTCHsetup-Resp,
    PCH-Parameters          PCH-Parameters-CTCHsetupResp
}

FACH-ParametersList-CTCHsetup-Resp ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
    ProtocolIE-Container {{FACH-ParametersList-CTCHsetup-RespItemIE}}

FACH-ParametersList-CTCHsetup-RespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-ParametersList-CTCHsetup-RespItem CRITICALITY ignore TYPE FACH-
ParametersList-CTCHsetup-RespItem PRESENCE mandatory },
    ...
}

FACH-ParametersList-CTCHsetup-RespItem ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    transportLayerAddress         TransportLayerAddress,
bindingID                        BindingID
}

PCH-Parameters-CTCHsetup-Resp ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    transportLayerAddress         TransportLayerAddress,
bindingID                        BindingID
}

PRACH-Parameters-CTCHsetup-Resp ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    transportLayerAddress         TransportLayerAddress,
bindingID                        BindingID
}

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP FAILURE
--
-- *****

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

CommonTransportChannelSetupFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause                CRITICALITY ignore TYPE Cause                PRESENCE
mandatory }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
    }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
    },
    ...
}

CommonTransportChannelSetupFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST FDD
--
-- *****

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

CommonTransportChannelReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {

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```

    { ID id-ConfigurationGenerationID          CRITICALITY ignore TYPE ConfigurationGenerationID
    { ID id-FACH-ParametersList-CTCHreconf-Req-FDD CRITICALITY ignore TYPE FACH-
ParametersList-CTCHreconf-Req-FDD PRESENCE optional }|
    { ID id-PCH-Parameters-CTCHreconf-Req-FDD CRITICALITY ignore TYPE PCH-Parameters-
CTCHreconf-Req-FDD PRESENCE optional }|
    { ID id-PICH-Parameters-CTCHreconf-Req-FDD CRITICALITY ignore TYPE PICH-Parameters-
CTCHreconf-Req-FDD PRESENCE optional }|
    { ID id-PRACH-ParametersList-CTCHreconf-Req-FDD          CRITICALITY ignore TYPE
PRACH-ParametersList-CTCHreconf-Req-FDD PRESENCE optional
    }|
    { ID id-AllowedSlotFormatInformationList-CTCHreconf-Req-FDD
CRITICALITY ignor          TYPE AllowedSlotFormatInformationList-
CTCHreconf-Req-FDD PRESENCE optional
    }|
    { ID id-AICH-ParametersList-CTCHreconf-Req-FDD CRITICALITY ignore TYPE AICH-
ParametersList-CTCHreconf-Req-FDD PRESENCE optional },
    ...
}

CommonTransportChannelReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
    ProtocolIE-Container {{FACH-ParametersListItemIE-CTCHreconf-Req-FDD}}

FACH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-ParametersListItem-CTCHreconf-Req-FDD          CRITICALITY ignore
    ...
}

FACH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID CommonTransportChannelID,
    maxFACH-Power            DL-Power            OPTIONAL,
    toAWS                    ToAWS                OPTIONAL,
    toAWE                    ToAWE                OPTIONAL
}

PCH-Parameters-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID CommonTransportChannelID,
    pCH-Power                DL-Power            OPTIONAL,
    toAWS                    ToAWS                OPTIONAL,
    toAWE                    ToAWE                OPTIONAL
}

PICH-Parameters-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID CommonTransportChannelID,
    pICH-Power                DL-Power
}

PRACH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofPRACHs)) OF
    ProtocolIE-Container {{PRACH-ParametersListItemIE-CTCHreconf-Req-FDD}}

PRACH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-ParametersListItem-CTCHreconf-Req-FDD          CRITICALITY ignore
    ...
}

PRACH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID CommonTransportChannelID,
    preambleSignatures      PreambleSignatures,
}

AllowedSlotFormatInformationList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF
    ProtocolIE-Container {{ AllowedSlotFormatInformationListItemIE-CTCHreconf-Req-FDD }}

AllowedSlotFormatInformationListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD
CRITICALITY ignore          TYPE
AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD PRESENCE mandatory },
    ...
}

AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    slotFormat                SlotFormat
    rach-SubChannelNumbers    RACH-SubChannelNumbers OPTIONAL
}

```

```

}

AICH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofPRACHs)) OF
  ProtocolIE-Container {{ AICH-ParametersListItemIE-CTCHreconf-Req-FDD }}

AICH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
  { ID id-AICH-ParametersListItem-CTCHreconf-Req-FDD          CRITICALITY ignore
  ...
}

AICH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
  commonTransportChannelID      CommonTransportChannelID,
  aICH-Power                    DL-Power
}

-- *****
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST TDD
--
-- *****

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

CommonTransportChannelReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID                  CRITICALITY ignore TYPE C-ID          PRESENCE
  mandatory }|
  { ID id-ConfigurationGenerationID      CRITICALITY ignore TYPE ConfigurationGenerationID
  { ID id-CommonPhysicalChannelType-CTCHreconfReqTDD CRITICALITY ignore TYPE
  CommonPhysicalChannelType-CTCHreconfReqTDD          PRESENCE mandatory
  }|
  { ID id-FACH-ParametersList-CTCHreconfReqTTD CRITICALITY ignore TYPE FACH-
  ParametersList-CTCHreconfReqTTD PRESENCE optional }|
  { ID id-PCH-ParametersList-CTCHreconfReqTTD CRITICALITY ignore TYPE PCH-
  ParametersList-CTCHreconfReqTTD PRESENCE optional },
  ...
}

CommonTransportChannelReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CommonPhysicalChannelType-CTCHreconfReqTDD ::= ENUMERATED {
  secondaryCCPCH          SecondaryCCPCH-CTCHreconfReqTDD
}

SecondaryCCPCH-CTCHreconfReqTDD ::= SEQUENCE {
  cCTrCH-ID              CCTrCH-ID,
  secondaryCCPCHList     SecondaryCCPCHList-CTCHreconfReqTDD
}

SecondaryCCPCHList-CTCHreconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofSCCPCHs)) OF
  ProtocolIE-Container {{ SecondaryCCPCHList-CTCHreconfReqTDDItemIE}}

SecondaryCCPCHList-CTCHreconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-SecondaryCCPCHList-CTCHreconfReqTDDItem CRITICALITY ignore TYPE
  SecondaryCCPCHList-CTCHreconfReqTDDItem PRESENCE mandatory },
  ...
}

SecondaryCCPCHList-CTCHreconfReqTDDItem ::= SEQUENCE {
  commonPhysicalChannelID      CommonPhysicalChannelID,
  pICH-Power                   PICH-Power
}

FACH-ParametersList-CTCHreconfReqTTD ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
  ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHreconfReqTTD }}

FACH-ParametersListItemIE-CTCHreconfReqTTD NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-ParametersListItem-CTCHreconfReqTTD CRITICALITY ignore TYPE FACH-
  ParametersListItem-CTCHreconfReqTTD PRESENCE mandatory },

```



```

}
...
}

FACH-ParametersListItem-CTCHreconf-Req-TTD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    toAWS                       ToAWS                OPTIONAL,
    toAWE                       ToAWE                OPTIONAL
}

PCH-ParametersList-CTCHreconfReqTTD ::= SEQUENCE (SIZE (1..maxnoofPCHs)) OF
    ProtocolIE-Container {{ PCH-ParametersListItemIE-CTCHreconfReqTTD }}

PCH-ParametersListItemIE-CTCHreconfReqTTD NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-ParametersListItem-CTCHreconfReqTTD CRITICALITY ignore TYPE PCH-
ParametersListItem-CTCHreconfReqTTD PRESENCE optional },
    ...
}

PCH-ParametersListItem-CTCHreconfReqTTD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    toAWS                       ToAWS                OPTIONAL,
    toAWE                       ToAWE                OPTIONAL
}

-- *****
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE
--
-- *****

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

CommonTransportChannelReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
},
    ...
}

CommonTransportChannelReconfigurationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE
--
-- *****

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

CommonTransportChannelReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE
mandatory }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
}|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
},
    ...
}

CommonTransportChannelReconfigurationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

-- *****
--
-- COMMON TRANSPORT CHANNEL DELETION REQUEST
--
-- *****

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

CommonTransportChannelDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
    mandatory {
        { ID id-C-ID                CRITICALITY ignore TYPE C-ID                PRESENCE
        { ID id-CommonPhysicalChannelID          CRITICALITY ignore TYPE CommonPhysicalChannelID
        { ID id-ConfigurationGenerationID        CRITICALITY ignore TYPE ConfigurationGenerationID
        ...
    }

CommonTransportChannelDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMMON TRANSPORT CHANNEL DELETION RESPONSE
--
-- *****

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

CommonTransportChannelDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostic          CRITICALITY ignore TYPE CriticalityDiagnostic          PRI
    },
    ...
}

CommonTransportChannelDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- BLOCK RESOURCE REQUEST
--
-- *****

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

BlockResourceRequest-IEs NBAP-PROTOCOL-IES ::= {
    mandatory {
        { ID id-C-ID                CRITICALITY ignore TYPE C-ID                PRESENCE
        { ID id-BlockingPriorityIndicator          CRITICALITY ignore TYPE BlockingPriorityIndicator
        { ID id-ShutdownTimer                    CRITICALITY ignore TYPE ShutdownTimer
        PRESENCE conditional
    },
    -- The information element is present when the Blocking Priority Indicator IE indicates
    'Normal Priority'--
    ...
}

BlockResourceRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```

```

}
...
}

-- *****
--
-- BLOCK RESOURCE RESPONSE
--
-- *****

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

BlockResourceResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostic          CRITICALITY ignore          TYPE CriticalityDiagnostic          PRI
    },
    ...
}

BlockResourceResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- BLOCK RESOURCE FAILURE
--
-- *****

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

BlockResourceFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause          CRITICALITY ignore          TYPE Cause          PRESENCE
    mandatory }|
    { ID id-CriticalityDiagnostic          CRITICALITY ignore          TYPE CriticalityDiagnostic          PRI
    },
    ...
}

BlockResourceFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- UNBLOCK RESOURCE INDICATION
--
-- *****

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

UnblockResourceIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID          CRITICALITY ignore          TYPE C-ID          PRESENCE
    mandatory },
    ...
}

UnblockResourceIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

-- *****
--
-- AUDIT REQUIRED INDICATION
--
-- *****

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

AuditRequiredIndication-IEs NBAP-PROTOCOL-IES ::= {
    ...
}

AuditRequiredIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- AUDIT REQUEST
--
-- *****

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

AuditRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-ParametersList-Audit-Req  CRITICALITY ignore    TYPE Cell-
    ParametersList-Audit-Req  PRESENCE optional },
    ...
}

AuditRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Cell-ParametersList-Audit-Req ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF
    ProtocolIE-Container {{Cell-ParametersItemIE-Audit-Req}}

Cell-ParametersItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-ParametersItem-Audit-Req  CRITICALITY ignore    TYPE Cell-ParametersItem-
    Audit-Req  PRESENCE mandatory },
    ...
}

Cell-ParametersItem-Audit-Req ::= SEQUENCE {
    c-ID          C-ID,
    configurationGenerationID  ConfigurationGenerationID
}

-- *****
--
-- AUDIT RESPONSE
--
-- *****

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

```

```

AuditResponse-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-Cell-InformationList-Audit-Res          CRITICALITY ignore  TYPE Cell-InformationList-
Audit-Res          PRESENCE optional  }|
  { ID id-CommunicationControlPort-InformationList-Audit-Res          CRITICALITY ignore
}|
  { ID id-Cell-InformationList-Audit-Res CRITICALITY ignore  TYPE Cell-InformationList-
Audit-Res          PRESENCE optional  }|
  { ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
},
  ...
}

AuditResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

Cell-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxUCIDinNodeB)) OF
  ProtocolIE-Container {{Cell-InformationItemIE-Audit-Res }}

Cell-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
  { ID id-Cell-InformationItem-Audit-Res          CRITICALITY ignore  TYPE Cell-InformationItem-
Audit-Res          PRESENCE optional  },
  ...
}

Cell-InformationItem-Audit-Res ::= SEQUENCE {
  c-ID          C-ID,
  resourceOperationState      ResourceOperationState,
  availabilityStatus          AvailabilityStatus,
  maximumDLPowerCapability    MaximumDLPowerCapability,
  -- to do
  minimumSpreadingFactor      MinimumSpreadingFactor,
  -- to do
  primary-SCH-Information      P-SCH-Information-Audit-Res OPTIONAL,
  secondary-SCH-Information    S-SCH-Information-Audit-Res OPTIONAL,
  primary-CPICH-Information    P-CPICH-Information-Audit-Res OPTIONAL,
  secondary-CPICH-Information S-CPICH-Information-Audit-Res OPTIONAL,
  primary-CCPCH-Information    P-CCPCH-Information-Audit-Res OPTIONAL,
  bCH-Information              BCH-Information-Audit-Res OPTIONAL,
  secondary-CCPCH-Information  S-CCPCH-Information-Audit-Res OPTIONAL,
  pCH-InformationList          PCH-InformationList-Audit-Res OPTIONAL,
  pICH-Information              PICH-Information-Audit-Res OPTIONAL,
  fACH-InformationList         FACH-InformationList-Audit-Res OPTIONAL,
  pRACH-InformationList        PRACH-InformationList-Audit-Res OPTIONAL,
  rACH-InformationList         RACH-InformationList-Audit-Res OPTIONAL,
  aICH-InformationList         AICH-InformationList-Audit-Res OPTIONAL,
  sCH-InformationList          SCH-InformationList-Audit-Res OPTIONAL,
  pSCH-InformationList         PSCH-InformationList-Audit-Res OPTIONAL,
  communicationControlPortInformation CommunicationControlPortInformation-Audit-Res
OPTIONAL,
  local-CellInformation        Local-CellInformation-Audit-Res OPTIONAL
}

P-SCH-Information-Audit-Res ::= SEQUENCE {
  commonTransportChannelID      CommonTransportChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus            AvailabilityStatus
}

S-SCH-Information-Audit-Res ::= SEQUENCE {
  commonPhysicalChannelID       CommonPhysicalChannelID,
  resourceOperationState         ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

P-CPICH-Information-Audit-Res ::= SEQUENCE {
  commonPhysicalChannelID       CommonPhysicalChannelID,
  resourceOperationState         ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

S-CPICH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF
  ProtocolIE-Container {{S-CPICH-InformationItemIE-Audit-Res }}

```

```

S-CPICH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
  { ID id-S-CPICH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE S-CPICH-
InformationItem-Audit-Res      PRESENCE      mandatory
},
  ...
}

S-CPICH-InformationItem-Audit-Res ::= SEQUENCE {
  commonTransportChannelID      CommonTransportChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

P-CCPCH-Information-Audit-Res ::= SEQUENCE {
  commonPhysicalChannelID      CommonPhysicalChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

BCH-Information-Audit-Res ::= SEQUENCE {
  commonTransportChannelID      CommonTransportChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

S-CCPCH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF
  ProtocolIE-Container {{S-CCPCH-InformationItemIE-Audit-Res }}

S-CCPCH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
  { ID id-S-CCPCH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE S-CCPCH-
InformationItem-Audit-Res      PRESENCE      mandatory
},
  ...
}

S-CCPCH-InformationItem-Audit-Res ::= SEQUENCE {
  commonPhysicalChannelID      CommonPhysicalChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

PCH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxPCHCell)) OF
  ProtocolIE-Container {{PCH-InformationItemIE-Audit-Res }}

PCH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
  { ID id-PCH-InformationItem-Audit-Res          CRITICALITY ignore  TYPE PCH-InformationItem-
Audit-Res      PRESENCE      mandatory
},
  ...
}

PCH-InformationItem-Audit-Res ::= SEQUENCE {
  commonTransportChannelID      CommonTransportChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

FACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
  ProtocolIE-Container {{FACH-InformationItemIE-Audit-Res}}

FACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-InformationItem-Audit-Res          CRITICALITY ignore  TYPE FACH-InformationItem-
Audit-Res      PRESENCE      mandatory      },
  ...
}

FACH-InformationItem-Audit-Res ::= SEQUENCE {
  commonPhysicalChannelID      CommonPhysicalChannelID,
  resourceOperationState        ResourceOperationState,
  availabilityStatus             AvailabilityStatus
}

PRACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF
  ProtocolIE-Container {{PRACH-InformationItemIE-Audit-Res}}

PRACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {

```

```

    { ID id-PRACH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE PRACH-
InformationItem-Audit-Res  PRESENCE  mandatory      },
    ...
}

PRACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

RACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-InformationItemIE-Audit-Res}}

RACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE RACH-InformationItem-
Audit-Res  PRESENCE  mandatory      },
    ...
}

RACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

AICH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-InformationItemIE-Audit-Res}}

AICH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE RACH-InformationItem-
Audit-Res  PRESENCE  mandatory      },
    ...
}

AICH-InformationItem-Audit-Res ::= SEQUENCE {
    CommonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

SCH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

RACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

CommunicationControlPort-InformationList-Audit-Res ::=SEQUENCE (SIZE (1..maxCCPinNodeB)) OF
    ProtocolIE-Container {{CommunicationControlPort-InformationItemIE }}

CommunicationControlPort-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    {ID id-CommunicationControlPort-InformationItem-Audit-Res  CRITICALITY ignore
    },
}

CommunicationControlPort-InformationItem-Audit-Res ::= SEQUENCE {
    communicationControlPortID  CommunicationControlPortID,
    resourceOperationalState    ResourceOperationalState,
    availabilityStatus          AvailabilityStatus
}

LocalCell-InformationList-Audit-Res ::=SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF
    ProtocolIE-Container {{LocalCell-InformationItemIE-Audit-Res}}

LocalCell-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-InformationItem-Audit-Res CRITICALITY ignore  TYPE LocalCell-
InformationItem-Audit-Res  PRESENCE mandatory },
    ...
}

LocalCell-InformationItem-Audit-Res ::= SEQUENCE {

```

```

    localCellID          LocalCellID,
    numberOfChannelElements  NumberOfChannelElements  OPTIONAL,
    maximumDLPowerCapability MaximumDLPowerCapability  OPTIONAL
}

-- *****
--
-- COMMON MEASUREMENT INITIATION REQUEST
--
-- *****

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

CommonMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID          CRITICALITY ignore  TYPE MeasurementID
    PRESENCE mandatory }|
    { ID id-CommonMeasurementObjectType-CMeasureInitReq CRITICALITY ignore  TYPE
    CommonMeasurementObjectType-CMeasureInitReq PRESENCE mandatory
}
    { ID id-CommonMeasurementType          CRITICALITY ignore  TYPE CommonMeasurementType
    { ID id-MeasurementCharacteristics     CRITICALITY ignore  TYPE
MeasurementCharacteristics PRESENCE mandatory }|
    { ID id-ReportCharacteristics         CRITICALITY ignore  TYPE ReportCharacteristics
    ...
}

CommonMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CMeasureInitReq ::= ENUMERATED {
    cell          Cell-CMeasureInitReq,
    RACH          RACH-CMeasureInitReq
}

Cell-CMeasureInitReq ::= SEQUENCE {
    c-ID          C-ID,
    timeSlot      TimeSlot
}

RACH-CMeasureInitReq ::= SEQUENCE {
    c-ID          C-ID,
    commonTransportChannelID CommonTransportChannelID
}

-- *****
--
-- COMMON MEASUREMENT INITIATION RESPONSE
--
-- *****

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

CommonMeasurementInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID          CRITICALITY ignore  TYPE MeasurementID
    PRESENCE mandatory }|
    { ID id-CommonMeasurementObjectType-Res CRITICALITY ignore  TYPE
CommonMeasurementObjectType-Res PRESENCE mandatory }|
    { ID id-SFN                    CRITICALITY ignore  TYPE SFN PRESENCE
optional }|
    { ID id-CriticalityDiagnostic     CRITICALITY ignore  TYPE CriticalityDiagnostic
    },
    ...
}

```



```

}

CommonMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-Res ::= CHOICE {
    cell                Cell-CommonMeasurement-Res,
    RACH                RACH-CommonMeasurement-Res
}

Cells-CommonMeasurement-Req ::= SEQUENCE {
    commonMeasurementValue CommonMeasurementValue
}

RACH-CommonMeasurement-Req ::= SEQUENCE {
    commonMeasurementValue CommonMeasurementValue
}

-- *****
--
-- COMMON MEASUREMENT INITIATION FAILURE
--
-- *****

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

CommonMeasurementInitiationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID          CRITICALITY ignore  TYPE MeasurementID
      PRESENCE mandatory }|
    { ID id-Cause                  CRITICALITY ignore  TYPE Cause
      PRESENCE mandatory }|
    { ID id-CriticalityDiagnostic   CRITICALITY ignore  TYPE CriticalityDiagnostic
      },
    ...
}

CommonMeasurementInitiationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMMON MEASUREMENT REPORT
--
-- *****

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

CommonMeasurementReport-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID          CRITICALITY ignore  TYPE MeasurementID
      PRESENCE mandatory }|
    { ID id-CommonMeasurementObjectType-Rep  CRITICALITY ignore  TYPE
    CommonMeasurementObjectType-Rep  PRESENCE mandatory }|
    { ID id-SFN                    CRITICALITY ignore  TYPE SFN
      PRESENCE optional }|
    ...
}

CommonMeasurementReport-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

CommonMeasurementObjectType-Rep ::= ENUMERATED {
    cell                Cell-CommonMeasurement-Rep,
    rACH                RACH-CommonMeasurement-Rep
}

Cell-CommonMeasurement-Rep ::= SEQUENCE {
    commonMeasurementValue CommonMeasurementValue
}

RACH-CommonMeasurement-Rep ::= SEQUENCE {
    commonMeasurementValue CommonMeasurementValue
}

-- *****
--
-- COMMON MEASUREMENT TERMINATION REQUEST
--
-- *****

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

CommonMeasurementTerminationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID      CRITICALITY ignore TYPE MeasurementID
      PRESENCE mandatory },
    ...
}

CommonMeasurementTerminationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMMON MEASUREMENT FAILURE INDICATION
--
-- *****

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

CommonMeasurementFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID      CRITICALITY ignore TYPE MeasurementID
      PRESENCE mandatory }|
    { ID id-Cause              CRITICALITY ignore TYPE Cause          PRESENCE
      mandatory }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic
      },
    ...
}

CommonMeasurementFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- CELL SETUP REQUEST FDD
--
-- *****

CellSetupRequestFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container          {{CellSetupRequestFDD-IEs}},

```

```

    protocolExtensions          ProtocolExtensionContainer {{CellSetupRequestFDD-
Extensions}}                  OPTIONAL,
    ...
}

CellSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-LocalCell-ID          CRITICALITY ignore TYPE LocalCell-ID
  PRESENCE mandatory }|
  { ID id-C-ID                  CRITICALITY ignore TYPE C-ID           PRESENCE
mandatory }|
  { ID id-ConfigurationGenerationID CRITICALITY ignore TYPE ConfigurationGenerationID
  { ID id-T-Cell                CRITICALITY ignore TYPE T-Cell       PRESENCE
mandatory }|
  { ID id-UARFCN                CRITICALITY ignore TYPE UARFCN       PRESENCE
mandatory }|
  { ID id-MaximumTransmissionPower CRITICALITY ignore TYPE MaximumTransmissionPower
  { ID id-PrimaryScramblingCode   CRITICALITY ignore TYPE PrimaryScramblingCode
  { ID id-PrimarySCH-Information-Cellsetup-Req CRITICALITY ignore TYPE PrimarySCH-
Information-Cellsetup-Req PRESENCE mandatory }|
  { ID id-SecondarySCH-Information-Cellsetup-Req CRITICALITY ignore TYPE SecondarySCH-
Information-Cellsetup-Req PRESENCE mandatory }|
  { ID id-PrimaryCPICH-Information-Cellsetup-Req CRITICALITY ignore TYPE PrimaryCPICH-
Information-Cellsetup-Req PRESENCE mandatory }|
  { ID id-SecondaryCPICH-Information-Cellsetup-Req CRITICALITY ignore
}|
  { ID id-PrimaryCCPCH-Information-Cellsetup-Req CRITICALITY ignore TYPE PrimaryCCPCH-
Information-Cellsetup-Req PRESENCE mandatory },
  ...
}

CellSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

PrimarySCH-Information-Cellsetup-Req ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  primarySCH-Power         DL-Power,
  tSTD-Indicator           TSTD-Indicator
}

SecondarySCH-Information-Cellsetup-Req ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  secondarySCH-Power      DL-Power,
  transmitDiversityIndication TransmitDiversityIndication
}

PrimaryCPICH-Information-Cellsetup-Req ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  primaryCPICH-Power      DL-Power,
  sTTD-Indicator          STTD-Indicator
}

SecondaryCPICH-Information-Cellsetup-Req ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  dl-ScramblingCode       DL-ScramblingCode,
  secondaryCPICH-Power    DL-Power,
  transmitDiversityIndication TransmitDiversityIndication
}

PrimaryCCPCH-Information-Cellsetup-Req ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  bch-information-Cellsetup-Req BCH-Information-PrimCCPCH-Cellsetup-Req,
  sTTD-Indicator          STTD-Indicator
}

BCH-Information-PrimCCPCH-Cellsetup-Req ::= SEQUENCE {
  commonTransportChannelID CommonTransportChannelID,
  bch-Power                DL-Power
}

-- *****
--
-- CELL SETUP REQUEST TDD
--
-- *****

```

```

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

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-ID          CRITICALITY ignore TYPE LocalCell-ID
    PRESENCE mandatory }|
    { ID id-C-ID                  CRITICALITY ignore TYPE C-ID
    PRESENCE mandatory }|
    { ID id-ConfigurationGenerationID CRITICALITY ignore TYPE ConfigurationGenerationID
    PRESENCE mandatory }|
    { ID id-UARFCN                CRITICALITY ignore TYPE UARFCN
    PRESENCE mandatory }|
    { ID id-Cell-Parameter-ID      CRITICALITY ignore TYPE Cell-Parameter-ID
    PRESENCE mandatory }|
    { ID id-MaximumTransmissionPower CRITICALITY ignore TYPE MaximumTransmissionPower
    PRESENCE mandatory }|
    { ID id-TransmissionDiversityApplied CRITICALITY ignore TYPE
    TransmissionDiversityApplied PRESENCE mandatory }|
    { ID id-SyncCase              CRITICALITY ignore TYPE TransmissionDiversityApplied
    PRESENCE mandatory }|
    { ID id-PSCH-Information-CellsetupReqTDD CRITICALITY ignore TYPE PSCH-Information-
    CellsetupReqTDD PRESENCE mandatory }|
    { ID id-PCCPCH-Information-CellsetupReqTDD CRITICALITY ignore TYPE PCCPCH-Information-
    CellsetupReqTDD PRESENCE mandatory }|
    { ID id-TimeSlotConfigurationList-CellsetupReqTDD CRITICALITY ignore TYPE
    TimeSlotConfigurationList-CellsetupReqTDD
    PRESENCE mandatory }
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PSCH-Information-CellsetupReqTDD ::= SEQUENCE {
    commonPhysicalChannelID CommonPhysicalChannelID,
    syncCaseIndicator       SyncCaseIndicator-CellsetupReqTDD,
    pSCH-Power             DL-Power,
    tSTD-Indicator         TSTD-Indicator
}

SyncCaseIndicator-CellsetupReqTDD ::= ENUMERATED {
    case1          Case1-CellsetupReqTDD,
    case2andCase3 Case2andCase3-CellsetupReqTDD
}

Case1-CellsetupReqTDD ::= SEQUENCE {
    timeSlot      TimeSlot
}

Case2andCase3-CellsetupReqTDD ::= SEQUENCE {
    PSCH-TimeSlot      PSCH-TimeSlot
}

PCCPCH-Information-CellsetupReqTDD ::= SEQUENCE {
    syncCaseIndicator       SyncCaseIndicator-CellsetupReqTDD2,
    repetitionPeriod       RepetitionPeriod,
    repetitionLength       RepetitionLength,
    pCCPCH-Power          DL-Power,
    tSTD-Indicator         TSTD-Indicator
}

SyncCaseIndicator-CellsetupReqTDD2 ::= ENUMERATED {
    case3          Case3-CellsetupReqTDD
}

Case3-CellsetupReqTDD ::= SEQUENCE {
    timeSlot      TimeSlot
}

TimeSlotConfigurationList-CellsetupReqTDD ::= SEQUENCE (SIZE (1..15)) OF
    ProtocolIE-Container{{TimeSlotConfigurationList-CellsetupReqTDD ItemIE }}

TimeSlotConfigurationList-CellsetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-TimeSlotConfigurationList-CellsetupReqTDDItem
    CRITICALITY ignore

```

```

},
...
}

TimeSlotConfigurationList-CellsetupReqTDDItem ::= SEQUENCE {
    timeSlot          TimeSlot,
    timeSlotStatus    TimeSlotStatus,
    timeSlotDirection TimeSlotDirection
}

-- *****
--
-- CELL SETUP RESPONSE
--
-- *****

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

CellSetupResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic    CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
},
...
}

CellSetupResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- CELL SETUP FAILURE
--
-- *****

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

CellSetupFailure-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-Cause                CRITICALITY ignore    TYPE Cause                PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic    CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
},
...
}

CellSetupFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- CELL RECONFIGURATION REQUEST FDD
--
-- *****

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

CellReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-C-ID                CRITICALITY ignore    TYPE C-ID                PRESENCE
mandatory }|

```

```

    { ID id-ConfigurationGenerationID          CRITICALITY ignore TYPE ConfigurationGenerationID
    { ID id-MaximumTransmissionPower           CRITICALITY ignore TYPE MaximumTransmissionPower
    { ID id-PrimarySCH-Information-Cellreconf-Req CRITICALITY ignore TYPE PrimarySCH-
Information-Cellreconf-Req PRESENCE optional }|
    { ID id-SecondarySCH-Information-Cellreconf-Req CRITICALITY ignore TYPE SecondarySCH-
Information-Cellreconf-Req PRESENCE optional }|
    { ID id-PrimaryCPICH-Information-Cellreconf-Req CRITICALITY ignore TYPE PrimaryCPICH-
Information-Cellreconf-Req PRESENCE optional }|
    { ID id-SecondaryCPICH-Information-Cellreconf-Req          CRITICALITY ignore
}}
    { ID id-PrimaryCCPCH-Information-Cellreconf-Req CRITICALITY ignore TYPE PrimaryCCPCH-
Information-Cellreconf-Req PRESENCE optional },
    ...
}

CellReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PrimarySCH-Information-Cellreconf-Req ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    primarySCH-Power                  DL-Power
}

SecondarySCH-Information-Cellreconf-Req ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    secondarySCH-Power              DL-Power
}

PrimaryCPICH-Information-Cellreconf-Req ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    primaryCPICH-Power              DL-Power
}

SecondaryCPICH-Information-Cellreconf-Req ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,    secondaryCPICH-Power          DL-Power
}

PrimaryCCPCH-Information-Cellreconf-Req ::= SEQUENCE {
    bCH-information                  BCH-information-Cellreconf-Req
}

BCH-Information-Cellreconf-Req ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    bCH-Power                       DL-Power
}

-- *****
--
-- CELL RECONFIGURATION REQUEST TDD
--
-- *****

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

CellReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-ID              CRITICALITY ignore TYPE LocalCell-ID
    PRESENCE mandatory }|
    { ID id-C-ID                      CRITICALITY ignore TYPE C-ID          PRESENCE
mandatory }|
    { ID id-ConfigurationGeneration-ID CRITICALITY ignore TYPE ConfigurationGeneration-
ID          PRESENCE optional }|
    { ID id-MaximumTransmissionPower CRITICALITY ignore TYPE MaximumTransmissionPower
    { ID id-PSCH-Information-CellReconfReq CRITICALITY ignore TYPE PSCH-Information-
CellReconfReq PRESENCE optional }|
    { ID id-PCCPCH-Information-CellReconfReq CRITICALITY ignore TYPE PCCPCH-Information-
CellReconfReq PRESENCE optional }|
    { ID id-TimeSlotConfigurationList-CellReconfReq CRITICALITY ignore TYPE
TimeSlotConfigurationList-CellReconfReq PRESENCE mandatory },
    ...
}

```

```

}

CellReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PSCH-Information-CellReconfReq ::= SEQUENCE {
    commonPhysicalChannelID    CommonPhysicalChannelID,
    pSCH-Power                 PSCH-Power
}

PCCPCH-Information-CellReconfReq ::= SEQUENCE {
    commonPhysicalChannelID    CommonPhysicalChannelID,
    pCCPCH-Power              PCCPCH-Power
}

TimeSlotConfigurationList-CellReconfReq ::= SEQUENCE (SIZE (1..15)) OF
    ProtocolIE-Container {{TimeSlotConfiguration-CellReconfReqItemIE }}

TimeSlotConfiguration-CellReconfReqItemIE NBAP-PROTOCOL-IES ::= {
    { I D id-TimeSlotConfiguration-CellReconfReqItem    CRITICALITY ignore    TYPE
    TimeSlotConfiguration-CellReconfReqItem            PRESENCE    mandatory
    },
    ...
}

TimeSlotConfiguration-CellReconfReqItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    timeSlotStatus          TimeSlotStatus,
    timeSlotDirection       TimeSlotDirection
}

-- *****
--
-- CELL RECONFIGURATION RESPONSE
--
-- *****

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

CellReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostic    CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
    },
    ...
}

CellReconfigurationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- CELL RECONFIGURATION FAILURE
--
-- *****

CellReconfigurationFailure ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{CellReconfigurationFailure-
    IEs}},
    protocolExtensions          ProtocolExtensionContainer {{CellReconfigurationFailure-
    Extensions}}
    OPTIONAL,
    privateExtensions           PrivateExtensionContainer {{CellReconfigurationFailure-
    PrivateExtensions}}
    OPTIONAL,
    ...
}

CellReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause                CRITICALITY ignore    TYPE Cause                PRESENCE
    mandatory    }|

```

```

{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic          PRI
  },
  ...
}

CellReconfigurationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- CELL DELETION REQUEST
--
-- *****

CellDeletionRequest ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container      {{CellDeletionRequest-IEs}},
  protocolExtensions  ProtocolExtensionContainer {{CellDeletionRequest-
Extensions}}          OPTIONAL,
  privateExtensions   PrivateExtensionContainer  {{CellDeletionRequest-
PrivateExtensions}}  OPTIONAL,
  ...
}

CellDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID          CRITICALITY ignore      TYPE C-ID          PRESENCE
mandatory  },
  ...
}

CellDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- CELL DELETION RESPONSE
--
-- *****

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

CellDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic          PRI
  },
  ...
}

CellDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- RESOURCE STATUS INDICATION
--
-- *****

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

ResourceStatusIndication-IEs NBAP-PROTOCOL-IES ::= {

```



```

    { ID id-IndicationType          CRITICALITY ignore  TYPE IndicationType
      PRESENCE mandatory }|
    { ID id-Cause                    CRITICALITY ignore  TYPE Cause          PRESENCE
mandatory  },
    ...
}

ResourceStatusIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IndicationType ::= ENUMERATED {
    no-Failure          No-Failure,
    serviceImpacting   ServiceImpacting
}

No-Failure ::= SEQUENCE {
    local-CellInformationList-ResourceStatInd          Local-
CellInformationList-ResourceStatInd
}

Local-CellInformationList-ResourceStatInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Container {{Local-CellInformation-ResourceStatIndItemIE}}

Local-CellInformation-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Local-CellInformation-ResourceStatIndItem CRITICALITY ignore  TYPE Local-
CellInformation-ResourceStatIndItem PRESENCE mandatory },
    ...
}

Local-CellInformation-ResourceStatIndItem ::= SEQUENCE {
    local-CellID          Local-CellID,
    addOrDeleteIndicator  AddOrDeleteIndicator,
    numberOfChannelElements  NumberOfChannelElements,
    maximum-DL-PowerCapability  Maximum-DL-PowerCapability
}

ServiceImpacting ::= SEQUENCE {
    local-Cell-InformationList-ResourceStatInd          Local-Cell-
InformationList-ResourceStatInd OPTIONAL,
    communicationControlPortInformationList-ResourceStatInd
    communicationControlPortInformationList-ResourceStatInd OPTIONAL,
    cell-InformationList-ResourceStatInd          Cell-InformationList-
ResourceStatInd OPTIONAL,
    primary-SCH-Information          P-SCH-Information-Audit-Res OPTIONAL,
    secondary-SCH-Information        S-SCH-Information-Audit-Res OPTIONAL,
    primary-CPICH-Information        P-CPICH-Information-Audit-Res OPTIONAL,
    secondary-CPICH-Information      S-CPICH-Information-Audit-Res OPTIONAL,
    primary-CCPCH-Information        P-CCPCH-Information-Audit-Res OPTIONAL,
    bCH-InformationItem-ResourceStatInd          BCH-InformationItem-
ResourceStatInd          OPTIONAL,
    secondary-CCPCH-Information      S-CCPCH-Information-Audit-Res OPTIONAL,
    pCH-InformationList-ResourceStatInd          PCH-InformationList-
ResourceStatInd          OPTIONAL,
    pICH-InformationItem-ResourceStatInd          PICH-InformationItem-
ResourceStatInd          OPTIONAL,
    fACH-InformationList-ResourceStatInd          FACH-InformationList-
ResourceStatInd          OPTIONAL,
    pRACH-InformationList          PRACH-InformationList-Audit-Res OPTIONAL,
    rACH-InformationList-ResourceStatInd          RACH-InformationList-
ResourceStatInd          OPTIONAL,
    aICH-InformationList-ResourceStatInd          AICH-InformationList-
ResourceStatInd          OPTIONAL,
    sCH-InformationList-ResourceStatInd          SCH-InformationList-
ResourceStatInd          OPTIONAL,
    pSCH-InformationList          PSCH-InformationList-Audit-Res          OPTIONAL,
}

Local-Cell-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Container {{Local-Cell-Information-ResourceStatIndItemIE }}

Local-Cell-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Information-ResourceStatIndItem CRITICALITY ignore  TYPE Local-Cell-
Information-ResourceStatIndItem PRESENCE mandatory },
    ...
}

```

```

Local-Cell-Information-ResourceStatIndItem ::= SEQUENCE {
    local-CellID                Local-CellID,
    numberOfChannelElements     NumberOfChannelElements    OPTIONAL,
    maximum-DL-PowerCapability  Maximum-DL-PowerCapability    OPTIONAL
}

CommunicationControlPortInformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxCCPinNodeB))
OF
    ProtocolIE-Container {{CommunicationControlPortInformation-ResourceStatIndItemIE }}

CommunicationControlPortInformation-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-CommunicationControlPortInformation-ResourceStatIndItem
      CRITICALITY ignore      TYPE
      CommunicationControlPortInformation-ResourceStatIndItem
      PRESENCE mandatory },
    ...
}

CommunicationControlPortInformation-ResourceStatIndItem ::= SEQUENCE {
    communicationControlPortID    CommunicationControlPortID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus             AvailabilityStatus
}

Cell-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF
    ProtocolIE-Container {{Cell-Information-ResourceStatIndItemIE }}

Cell-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-Information-ResourceStatIndItem    CRITICALITY ignore    TYPE Cell-Information-
      ResourceStatIndItem PRESENCE mandatory },
    ...
}

Cell-Information-ResourceStatIndItem ::= SEQUENCE {
    c-ID                C-ID,
    resourceOperationalState    ResourceOperationalState,
    availabilityStatus         AvailabilityStatus,
    maximumDL-PowerCapability    MaximumDL-PowerCapability,
    minimumSpreadingFactor      MinimumSpreadingFactor
}

P-SCH-Information-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-SCH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CPICH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-CPICH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF
    ProtocolIE-Container {{S-CPICH-InformationItemIE-ResourceStatInd }}

S-CPICH-InformationItemIE-ResourceStatInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-InformationItem-ResourceStatInd    CRITICALITY ignore    TYPE S-CPICH-
      InformationItem-ResourceStatInd PRESENCE    mandatory
    },
    ...
}

S-CPICH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID     CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CCPCH-Information-ResourceStatInd ::= SEQUENCE {

```

```

    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

BCH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PCH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxPCHinNodeB)) OF
    ProtocolIE-Container {{PCH-Information-ResourceStatIndItemIE }}

PCH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-Information-ResourceStatIndItem CRITICALITY ignore TYPE PCH-Information-
ResourceStatIndItem PRESENCE mandatory},
    ...
}

PCH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PICH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

FACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
    ProtocolIE-Container {{FACH-Information-ResourceStatIndItemIE }}

FACH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-Information-ResourceStatIndItem CRITICALITY ignore TYPE FACH-Information-
ResourceStatIndItem PRESENCE mandatory},
    ...
}

FACH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PRACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF
    ProtocolIE-Container {{PRACH-InformationItemIE-ResourceStatInd}}

PRACH-InformationItemIE-ResourceStatInd NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-InformationItem-ResourceStatInd CRITICALITY ignore TYPE PRACH-
InformationItem-ResourceStatInd PRESENCE mandatory },
    ...
}

PRACH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

RACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-Information-ResourceStatIndItemIE }}

RACH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-Information-ResourceStatIndItem CRITICALITY ignore TYPE RACH-Information-
ResourceStatIndItem PRESENCE mandatory},
    ...
}

RACH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    resourceOperationalState      ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

```

```

AICH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxAICHCell)) OF
  ProtocolIE-Container {{AICH-Information-ResourceStatIndItemIE }}

AICH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-AICH-Information-ResourceStatIndItem   CRITICALITY ignore   TYPE AICH-Information-
ResourceStatIndItem   PRESENCE mandatory},
  ...
}

AICH-Information-ResourceStatIndItem ::= SEQUENCE {
  commonPhysicalChannelID      CommonPhysicalChannelID,
  resourceOperationalState     ResourceOperationalState,
  availabilityStatus           AvailabilityStatus
}

SCH-Information-ResourceStatInd ::= SEQUENCE {
  commonTransportChannelID     CommonTransportChannelID,
  resourceOperationalState     ResourceOperationalState,
  availabilityStatus           AvailabilityStatus
}

PSCH-Information-ResourceStatInd ::= SEQUENCE {
  commonPhysicalChannelID     CommonPhysicalChannelID,
  resourceOperationalState     ResourceOperationalState,
  availabilityStatus           AvailabilityStatus
}

-- *****
--
-- SYSTEM INFORMATION UPDATE REQUEST
--
-- *****

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

SystemInformationUpdateRequest-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID                  CRITICALITY ignore   TYPE C-ID
  PRESENCE mandatory }|
  { ID id-BCCH-ModificationTime CRITICALITY ignore   TYPE BCCH-ModificationTime
  { ID id-MIB-SIB-InformationList-SystemInfoUpdate CRITICALITY ignore   TYPE MIB-SIB-
InformationList-SystemInfoUpdate
  PRESENCE optional
  },
  ...
}

SystemInformationUpdateRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

MIB-SIB-InformationList-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIB)) OF
  ProtocolIE-Container{{ MIB-SIB-InformationList-SystemInfoUpdateItemIE }}

MIB-SIB-InformationList-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-MIB-SIB-InformationList-SystemInfoUpdateItem   CRITICALITY ignore   TYPE MIB-SIB-In
  },
  ...
}

MIB-SIB-InformationList-SystemInfoUpdateItem ::= SEQUENCE {
  iB-Type          IB-Type,
  sIB-DeletionIndicator SIB-DeletionIndicator-SystemInfoUpdate
}

SIB-DeletionIndicator-SystemInfoUpdate ::= ENUMERATED {
  no-Delition      No-Delitionist-SystemInfoUpdate
}

No-DelitionList-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIBSEG)) OF

```

```

    ProtocolIE-Container{{ No-DelitionList-SystemInfoUpdateItemIE }}

No-DelitionList-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
    { ID id- No-DelitionList-SystemInfoUpdate    CRITICALITY ignore    TYPE No-DelitionList-
SystemInfoUpdate          PRESENCE optional    },
    ...
}

No-DelitionList-SystemInfoUpdate ::= SEQUENCE {
sIB-Originator          sIB-Originator    OPTIONAL,
segmentInformation      SegmentInformation-SystemInfoUpdate
}

SegmentInformation-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIBSEG)) OF
    ProtocolIE-Container{{ SegmentInformation-SystemInfoUpdateItemIE }}

SegmentInformation-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
    { ID id- SegmentInformation-SystemInfoUpdateItem    CRITICALITY ignore    TYPE
SegmentInformation-SystemInfoUpdateItem    PRESENCE    optional
},
    ...
}

SegmentInformation-SystemInfoUpdateItem ::= SEQUENCE {
    segmentType          SegmentType,
    iB-SG-REP            IB-SG-REP,
    iB-SG-POS            IB-SG-POS,
    iB-SG                IB-SG            OPTIONAL
}

-- *****
--
-- SYSTEM INFORMATION UPDATE RESPONSE
--
-- *****

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

SystemInformationUpdateResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
},
    ...
}

SystemInformationUpdateResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- SYSTEM INFORMATION UPDATE FAILURE
--
-- *****

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

SystemInformationUpdateFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause          CRITICALITY ignore    TYPE Cause    PRESENCE
mandatory    }|
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
},
    ...
}

```

```

SystemInformationUpdateFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- 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 ignore TYPE CRNC-
    CommunicationContextID PRESENCE mandatory }|
    { ID id-UL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE UL-DPCH-
    InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
    { ID id-DL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE DL-DPCH-
    InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
    { ID id-DCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DCH-InformationList-
    RL-SetupReq-FDD PRESENCE mandatory }|
    { ID id-RL-ID CRITICALITY ignore TYPE RL-ID PRESENCE
    optional }|
    { ID id-DSCH-ID CRITICALITY ignore TYPE DSCH-ID
    PRESENCE optional }|
    { ID id-DSCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DSCH-
    InformationList-RL-SetupReq-FDD PRESENCE optional }|
    { ID id-RL-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE RL-InformationList-
    RL-SetupReq-FDD PRESENCE mandatory },
    ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    ul-ScramblingCode          UL-ScramblingCode,
    minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength,
    maxNumberOfUL-DPDCHs      MaxNumberOfUL-DPDCHs OPTIONAL
    -- This IE is present only if "Min UL Channelisation Code length" equals to 4 -- ,
    ul-PunctureLimit          UL-PunctureLimit,
    transportFormatCombinationSet TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat       UL-DPCCH-SlotFormat,
    ul-EbNo-Target            UplinkEbNo,
    diversityMode              DiversityMode,
    d-FieldLength              D-FieldLength          OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-Cell-IDLength         SSDT-Cell-IDLength     OPTIONAL,
    s-FieldLength              S-FieldLength          OPTIONAL
}

DL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    transportFormatCombinationSet TransportFormatCombinationSet,
    dl-DPCH-SlotFormat          DL-DPCH-SlotFormat,
    tFCI-SignallingMode          TFCI-SignallingMode,
    multiplexingPosition,        MultiplexingPosition,
    pDSCH-RL-ID,                 RL-ID              OPTIONAL
    -- This IE is present only if the DSCH Information group is present -- ,
    pDSCH-CodeMapping,           PDSCH-CodeMapping OPTIONAL
    -- This IE is present only if the DSCH Information group is present -- ,
    tFCI-Presence                TFCI-Presence,
    powerOffsetInformationItem-RL-SetupReq-FDD
    PowerOffsetInformationitem-RL-SetupReq-FDD,
    deltaTPC                      DeltaTPC
}

PowerOffsetInformationItem-RL-SetupReq-FDD ::= SEQUENCE {

```

```

    p01          PowerOffset,
    p02          PowerOffset,
    p03          PowerOffset
}

DCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container{{DCH-Information-RL-SetupReq-FDDItemIE }}

DCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DCH-Information-RL-
    SetupReq-FDDItem PRESENCE mandatory },
    ...
}

DCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
    rLC-Mode        RLC-Mode,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode      UL-FP-Mode,
    toAWS           ToAWS,
    toAWE           ToAWE
}

DSCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-Information-RL-SetupReq-FDDItemIE }}

DSCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DSCH-Information-
    RL-SetupReq-FDDItem PRESENCE mandatory },
    ...
}

DSCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    dSCH-TransportFormatSet DSCH-TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    toAWS            ToAWS,
    toAWE            ToAWE
}

RL-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{RL-Information-RL-SetupReq-FDDItemIE }}

RL-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE RL-Information-RL-
    SetupReq-FDDItem PRESENCE optional },
    ...
}

RL-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    rL-ID          RL-ID,
    c-ID           C-ID,
    frameOffset    FrameOffset,
    chipOffset     ChipOffset,
    propagationDelay PropagationDelay,
    diversityControlField DiversityControlField OPTIONAL,
    -- This IE is present only if the RL is not the first one in the RL Information
    dl-CodeInformationList-RL-SetupReqFDD DL-
    CodeInformationList-RL-SetupReqFDD,
    initialDL-transmissionPower DL-Power,
    maximumDL-power DL-Power,
    minimumDL-power DL-Power,
    sSDT-CellIdentity SSdT-CellIdentity OPTIONAL
}

DL-CodeInformationList-RL-SetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{DL-CodeInformation-RL-SetupReqFDDItemIE }}

DL-CodeInformation-RL-SetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformation-RL-SetupReqFDDItem CRITICALITY ignore TYPE DL-
    CodeInformation-RL-SetupReqFDDItem PRESENCE optional },
    ...
}

```

```

DL-CodeInformation-RL-SetupReqFDDItem ::= SEQUENCE {
    dl-ScramblingCode          DL-ScramblingCode,
    fdd-DL-ChannelisationCodeNumber  FDD-DL-ChannelisationCodeNumber
}

-- *****
--
-- 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 ignore  TYPE CRNC-
    CommunicationContextID  PRESENCE mandatory  }|
    { ID id-UL-CCTrCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE UL-CCTrCH-
    InformationList-RL-SetupReqTDD  PRESENCE optional  }|
    { ID id-DL-CCTrCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE DL-CCTrCH-
    InformationList-RL-SetupReqTDD  PRESENCE optional  }|
    { ID id-DCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE DCH-InformationList-
    RL-SetupReqTDD  PRESENCE optional  }|
    { ID id-DSCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE  DSCH-InformationList-
    RL-SetupReqTDD  PRESENCE optional  }|
    { ID id-USCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE  USCH-InformationList-
    RL-SetupReqTDD  PRESENCE optional  }|
    { ID id-RL-InformationItem-RL-SetupReqTDD  CRITICALITY ignore  TYPE RL-InformationItem-
    RL-SetupReqTDD  PRESENCE mandatory  },
    ...
}

RadioLinkSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE(1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container{{UL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

UL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-SetupReqTDDItem  CRITICALITY ignore  TYPE UL-CCTrCH-
    Information-RL-SetupReqTDDItem  PRESENCE mandatory  },
    ...
}

UL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    cCCTrCH-ID                CCTrCH-ID,
    transportFormatCombinationSet  TransportFormatCombinationSet,
    tFCI-Coding                TFCI-Coding,
    puncturing-Limit            Puncturing-Limit,
    ul-DPCH-InformationList-RL-SetupReqTDD                UL-DPCH-InformationList-
    RL-SetupReqTDD  OPTIONAL
}

UL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{UL-DPCH-Information-RL-SetupReqTDDItemIE }}

UL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-Information-RL-SetupReqTDDItem  CRITICALITY ignore  TYPE UL-DPCH-
    Information-RL-SetupReqTDDItem  PRESENCE mandatory  },
    ...
}

UL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dPCH-ID                    DPCH-ID,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
    burstType                    BurstType,
    midambleShift                MidambleShift,
}

```



```

    timeSlot                TimeSlot,
    tdd-PhysicalChannelOffset  TDD-PhysicalChannelOffset,
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tFCI-Presence             TFCI-Presence
}

DL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoCCTrCHs)) OF
    ProtocolIE-Container{{DL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

DL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DL-CCTrCH-
    Information-RL-SetupReqTDDItem PRESENCE mandatory },
    ...
}

DL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    transportFormatCombinationSet  TransportFormatCombinationSet,
    tFCI-Coding              TFCI-Coding,
    puncturing-Limit         Puncturing-Limit,
    dl-DPCH-InformationList-RL-SetupReqTDD  DL-DPCH-InformationList-
    RL-SetupReqTDD          OPTIONAL
}

DL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{DL-DPCH-Information-RL-SetupReqTDDItemIE }}

DL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DL-DPCH-
    Information-RL-SetupReqTDDItem PRESENCE mandatory },
    ...
}

DL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dpch-ID                  DPCH-ID,
    tdd-ChannelisationCode   TDD-ChannelisationCode,
    burstType                 BurstType,
    midambleShift            MidambleShift,
    timeSlot                  TimeSlot,
    tdd-PhysicalChannelOffset  TDD-PhysicalChannelOffset,
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tFCI-Presence             TFCI-Presence
}

DCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{DCH-Information-RL-SetupReqTDDItemIE }}

DCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DCH-Information-RL-
    SetupReqTDDItem PRESENCE mandatory },
    ...
}

DCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    ul-CCTrCH-ID             UL-CCTrCH-ID,
    dl-CCTrCH-ID             DL-CCTrCH-ID,
    dch-CombinationIndication  DCH-CombinationIndication  OPTIONAL,
    ul-TransportFormatSet     TransportFormatSet,
    dl-TransportFormatSet     TransportFormatSet,
    frameHandlingPriority      FrameHandlingPriority,
    payloadCRC-PresenceIndicator  PayloadCRC-PresenceIndicator,
    ul-FP-Mode                UL-FP-Mode,
    toAWE                      ToAWE,
    toAWS                      ToAWS
}

DSCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-Information-RL-SetupReqTDDItemIE }}

DSCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DSCH-Information-
    RL-SetupReqTDDItem PRESENCE mandatory}
    ...
}

```

```

DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    cCtRCH-ID       cCtRCH-ID,
    transportFormatSet      TransportFormatSet,
    frameHandlingPriority    FrameHandlingPriority,
    toAWE            ToAWE,
    toAWS            ToAWS
}

USCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container{{USCH-Information-RL-SetupReqTDDItemIE}}

USCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-USCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE USCH-Information-
    RL-SetupReqTDDItem PRESENCE mandatory}
    ...
}

USCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    cCtRCH-ID       cCtRCH-ID,
    transportFormatSet      TransportFormatSet
}

RL-Information-RL-SetupReqTDD ::= SEQUENCE {
    rL-ID           RL-ID,
    c-ID            C-ID,
    tdd-PhysicalChannelOffset      TDD-PhysicalChannelOffset,
    initialDL-transmissionPower      DL-Power,
    maximumDL-power                  DL-Power,
    minimumDL-power                  DL-Power
}

-- *****
--
-- 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-setupResFDD CRITICALITY ignore TYPE RL-
    InformationResponseList-RL-setupResFDD PRESENCE mandatory }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic
    },
    ...
}

RadioLinkSetupResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{RL-InformationResponse-RL-setupResFDDItemIE }}

RL-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE RL-
    InformationResponse-RL-setupResFDDItem PRESENCE mandatory },
    ...
}

RL-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    rL-ID           RL-ID,

```

```

    ul-InterferenceLevel          UL-InterferenceLevel,
    diversityIndication           DiversityIndication OPTIONAL,
-- This IE is present only if the RL is not the first one in the RL Information
    dSCH-InformationResponse-RL-setupResFDD          DSCH-InformationResponse-
RL-setupResFDD          OPTIONAL,
    sSDT-SupportIndicator          SSdT-SupportIndicator
}

DiversityIndication ::= ENUMERATED {
    combining          CombiningItem,
    non-Combining     Non-CombiningItem
}

CombiningItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}

Non-CombiningItem ::= SEQUENCE {
    dCH-InformationResponse-RL-setupResFDD          DCH-InformationResponse-RL-
setupResFDD          OPTIONAL
}

DCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container{{DCH-InformationResponse-RL-setupResFDDItemIE }}

DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE DCH-
InformationResponse-RL-setupResFDDItem PRESENCE mandatory
    },
    ...
}

DCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress          TransportLayerAddress
}

DSCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF
    ProtocolIE-Container{{DSCH-InformationResponse-RL-setupResFDDItemIE }}

-- ** TODO **
numofDSCH INTEGER ::= 10

DSCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE DSCH-
InformationResponse-RL-setupResFDDItem
    PRESENCE mandatory
    },
    ...
}

DSCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    bindingID       BindingID,
    transportLayerAddress          TransportLayerAddress
}

-- *****
--
-- 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-Information-RL-setupResTDD          CRITICALITY ignore TYPE RL-Information-RL-
setupResTDD          PRESENCE mandatory }|
    {ID id-DSCH-InformationResponseList-RL-setupResTDD CRITICALITY ignore          TYPE          DSCH-
InformationResponseList-RL-setupResTDD PRESENCE          optional
    }|
    {ID id-USCH-InformationResponseList-RL-setupResTDD CRITICALITY ignore          TYPE          USCH-
InformationResponseList-RL-setupResTDD PRESENCE          optional
    }|
    { ID id-CriticalityDiagnostic          CRITICALITY ignore          TYPE CriticalityDiagnostic          PRI
    },
    ...
}

RadioLinkSetupResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-setupResTDD ::= SEQUENCE {
    rL-ID          RL-ID,
    ul-InterferenceLevel          UL-InterferenceLevel,
    dCH-InformationResponseList-RL-setupResTDD          DCH-
InformationResponseList-RL-setupResTDD
}

DCH-InformationResponseList-RL-setupResTDD ::= SEQUENCE (SIZE (1..maxnumofDCHs)) OF
    ProtocolIE-Container{{DCH-InformationResponse-RL-setupResTDDItemIE }}

    DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { I D id-DCH-InformationResponse-RL-setupResTDDItem CRITICALITY          ignore          TYPE
    DCH-InformationResponse-RL-setupResTDDItem PRESENCE          mandatory
    },
    ...
}

DCH-InformationResponse-RL-setupResTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID          BindingID,
    transportLayerAddress          TransportLayerAddress
}

DSCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-InformationResponse-RL-SetupResTDDItemIE}}

DSCH-Informationresponse-RL-SetupResTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-InformationResponse-RL-SetupResTDDItem CRITICALITY ignore          TYPE          DSCH-
Informationresponse-RL-SetupReqTDDItem PRESENCE          mandatory
    }
    ...
}

DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    binding-ID          Binding-ID,
    transport-Layer-Address          Transport-Layer-Address
}

USCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container{{USCH-InformationResponse-RL-SetupResTDDItemIE}}

USCH-Informationresponse-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-USCH-InformationResponse-RL-SetupReqTDDItem CRITICALITY ignore          TYPE          USCH-
InformationResponse-RL-SetupReqTDDItem PRESENCE          mandatory
    }
    ...
}

USCH-InformationResponse-RL-SetupReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    binding-ID          Binding-ID,
    transport-Layer-Address          Transport-Layer-Address
}

-- *****
--

```

```

-- 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 mandatory   }}|
    { I D id-CommunicationControlPortID     CRITICALITY ignore
    TYPE CommunicationControlPortID      PRESENCE mandatory   }}|
    { ID id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD
    CRITICALITY ignore                                     TYPE Unsuccessful-RL-
    InformationResponseList-RL-SetupFailFDD
    PRESENCE mandatory                                   }}|
    { ID id-Successful-RL-InformationResponseList-RL-SetupFailFDD
    CRITICALITY ignore                                     TYPE Successful-RL-
    InformationResponseList-RL-SetupFailFDD
    PRESENCE optional                                   }}|
    { ID id-CriticalityDiagnostic            CRITICALITY ignore   TYPE CriticalityDiagnostic
    },
    ...
}

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

Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE
(1..maxnoofRLs)) OF
ProtocolIE-Container {{Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE }}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem
    CRITICALITY ignore                                     TYPE Unsuccessful-RL-InformationResponse-
    RL-SetupFailFDDItem
    PRESENCE optional                                   }},
    ...
}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
    rL-ID          RL-ID,
    cause          Cause
}

Successful-RL-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1.. maxnoofRLs-
1)) OF
ProtocolIE-Container {{Successful-RL-InformationResponse-RL-SetupFailFDDItemIE }}

Successful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Successful-RL-InformationResponse-RL-SetupFailFDDItem
    CRITICALITY ignore                                     TYPE Successful-RL-InformationResponse-RL-
    SetupFailFDDItem
    PRESENCE optional                                   }},
    ...
}

Successful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
    rL-ID          RL-ID,
    ul-InterferenceLevel      UL-InterferenceLevel,
    diversityIndication      DiversityIndication,
    dSCH-InformationResponseList-RL-SetupFailFDD      DSCH-
    InformationResponseList-RL-SetupFailFDD OPTIONAL,
    sSDT-SupportIndicator      SSdT-SupportIndicator
}

DiversityIndicationRL-SetupFailFDD ::= ENUMERATED {

```

```

    combining          Combining-RL-SetupFailFDD,
    non-combining      Non-CombiningRL-SetupFailFDD
  }

Combining-RL-SetupFailFDD ::= SEQUENCE {
  rL-ID              RL-ID
}

Non-Combining-RL-SetupFailFDD ::= SEQUENCE {
  dCH-InformationResponseList-RL-SetupFailFDD          DCH-
  InformationResponseList-RL-SetupFailFDD OPTIONAL
}

DCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1.. maxnoofDCHs)) OF
  ProtocolIE-Container{{DCH-InformationResponse-RL-SetupFailFDDItemIE }}

DCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DCH-InformationResponse-RL-SetupFailFDDItem CRITICALITY      ignore TYPE      DCH-
  InformationResponse-RL-SetupFailFDDItem      PRESENCE      mandatory      },
  ...
}

DCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
  dCH-ID              DCH-ID,
  bindingID           BindingID,
  transportLayerAddress      TransportLayerAddress
}

DSCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF
  ProtocolIE-Container{{DSCH-InformationResponse-RL-SetupFailFDDItemIE }}

DSCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-InformationResponse-RL-SetupFailFDDItem      CRITICALITY      ignore      TYPE      DSCH-Infor
  ...
}

DSCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
  dSCH-ID              DSCH-ID,
  bindingID           BindingID,
  transportLayerAddress      TransportLayerAddress
}

-- *****
--
-- RADIO LINK SETUP FAILURE TDD
--
-- *****

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

RadioLinkSetupFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-CRNC-CommunicationContextID      CRITICALITY ignore      TYPE CRNC-
  CommunicationContextID PRESENCE mandatory }|
  { ID id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD CRITICALITY ignore
  TYPE      Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD
  PRESENCE      mandatory
  }|
  { ID id-CriticalityDiagnostic      CRITICALITY ignore      TYPE CriticalityDiagnostic      PRI
  },
  ...
}

RadioLinkSetupFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD ::= SEQUENCE {
  rL-ID              RL-ID,
  cause              Cause
}

```

```

-- *****
--
-- RADIO LINK ADDITION REQUEST FDD
--
-- *****

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

RadioLinkAdditionRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID      CRITICALITY ignore      TYPE NodeB-
    CommunicationContextID      PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-Add-ReqFDD  CRITICALITY ignore      TYPE RL-
    InformationList-RL-Add-ReqFDD      PRESENCE optional },
    ...
}

RadioLinkAdditionRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
    ...
}

RL-InformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
    ProtocolIE-Container {{RL-informationList-RL-Add-ReqFDDItemIE }}

RL-InformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-Add-ReqFDDItem      CRITICALITY ignore      TYPE RL-
    InformationList-RL-Add-ReqFDDItem      PRESENCE mandatory },
    ...
}

RL-InformationList-RL-Add-ReqFDDItem ::= SEQUENCE {
    rL-ID                RL-ID,
    c-ID                 C-ID,
    frameOffset          FrameOffset,
    chipOffset           ChipOffset,
    diversityControlField DiversityControlField,
    dl-CodeInformationList-RL-Add-ReqFDD              DL-
    CodeInformationList-RL-Add-ReqFDD
    initialDL-TransmissionPower DL-Power,
    maximumDL-Power         DL-Power      OPTIONAL,
    minimumDL-Power         DL-Power      OPTIONAL,
    sSDT-CellIdentity       SSDT-CellIdentity OPTIONAL
}

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
    ProtocolIE-Container {{ DL-CodeInformationList-RL-Add-ReqFDDItemIE }}

DL-CodeInformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformationList-RL-Add-ReqFDD      CRITICALITY ignore      TYPE DL-
    CodeInformationList-RL-Add-ReqFDD      PRESENCE mandatory },
    ...
}

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE {
    scramblingCode        ScramblingCode,
    fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber
}

-- *****
--
-- RADIO LINK ADDITION REQUEST TDD
--
-- *****

RadioLinkAdditionRequestTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container        {{RadioLinkAdditionRequestTDD-
    IEs}},

```

```

    protocolExtensions          ProtocolExtensionContainer {{RadioLinkAdditionRequestTDD-
Extensions}}                  OPTIONAL,
    ...
}

RadioLinkAdditionRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore          TYPE NodeB-
CommunicationContextID          PRESENCE mandatory }|
    { ID id-UL-CCTrCHInformationList-RL-Add-ReqTDD CRITICALITY ignore          TYPE UL-
CCTrCHInformationList-RL-Add-ReqTDD PRESENCE optional }|
    { ID id-DL-CCTrCHInformationList-RL-Add-ReqTDD CRITICALITY ignore          TYPE DL-
CCTrCHInformationList-RL-Add-ReqTDD PRESENCE optional }|
    { ID id-RL-Information-RL-Add-ReqTDD          CRITICALITY ignore          TYPE RL-Information-
RL-Add-ReqTDD          PRESENCE mandatory },
    ...
}

RadioLinkAdditionRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCHInformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCH)) OF
    ProtocolIE-Container {{UL-CCTrCHInformation-RL-Add-ReqTDDItemIE }}

UL-CCTrCHInformation-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCHInformation-RL-Add-ReqTDDItem CRITICALITY ignore          TYPE UL-
CCTrCHInformation-RL-Add-ReqTDDItem PRESENCE mandatory },
    ...
}

UL-CCTrCHInformation-RL-Add-ReqTDDItem ::= SEQUENCE {
    cCCTrCH          CCTrCH,
    ul-DPCH-InformationList          UL-DPCH-InformationList-RL-Add-ReqTDD          OPTIONAL
}

UL-DPCH-InformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container {{UL-DPCH-InformationList-RL-Add-ReqTDDItemIE}}

UL-DPCH-InformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id- UL-DPCH-InformationList-RL-Add-ReqTDDItem          CRITICALITY ignore
},
    ...
}

UL-DPCH-InformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
    dPCH-ID          DPCH-ID,
    tdd-ChannelisationCode          TDD-ChannelisationCode,
    burstType          BurstType,
    midambleShift          MidambleShift,
    timeSlot          TimeSlot,
    tdd-PhysicalChannelOffset          TDD-PhysicalChannelOffset,
    repetitionPeriod          RepetitionPeriod,
    repetitionLength          RepetitionLength,
    tFCI-Presence          TFCI-Presence
}

DL-CCTrCHInformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container {{ DL-CCTrCHInformationList-RL-Add-ReqTDDItemIE }}

DL-CCTrCHInformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCHInformationList-RL-Add-ReqTDDItem CRITICALITY          ignore          TYPE
DL-CCTrCHInformationList-RL-Add-ReqTDDItem          PRESENCE          mandatory
},
    ...
}

DL-CCTrCHInformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
    cCCTrCH-ID          CCTrCH-ID,
    dl-DPCH-InformationList-RL-Add-ReqTDD          DL-DPCH-InformationList-
RL-Add-ReqTDD          OPTIONAL
}

DL-DPCH-InformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container {{ DL-DPCH-InformationList-RL-Add-ReqTDDItemIE }}

DL-DPCH-InformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {

```



```

    { ID id-DL-DPCH-InformationList-RL-Add-ReqTDDItem CRITICALITY ignore TYPE
      DL-DPCH-InformationList-RL-Add-ReqTDDItem PRESENCE mandatory
    },
    ...
}

DL-DPCH-InformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
  dpch-ID DPCH-ID,
  tdd-ChannelisationCode TDD-ChannelisationCode,
  burstType BurstType,
  midambleShift MidambleShift,
  timeSlot TimeSlot,
  tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
  repetitionPeriod RepetitionPeriod,
  repetitionLength RepetitionLength,
  tFCI-Presence TFCI-Presence
}

RL-informationItem-RL-Add-ReqTDD ::= SEQUENCE {
  rL-ID RL-ID,
  c-ID C-ID,
  cFN CFN OPTIONAL,
  frameOffset FrameOffset,
  diversityControlField DiversityControlField,
  initial-DL-Transmission-Power DL-Power OPTIONAL,
  maximumDL-Power DL-Power OPTIONAL,
  minimumDL-Power DL-Power OPTIONAL
}

-- *****
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- *****

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

RadioLinkAdditionResponseFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-
  CommunicationContextID PRESENCE mandatory }|
  { ID id-RL-ResponseInformationList-RL-Add-ResFDD CRITICALITY ignore
  { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic
  }},
  ...
}

RadioLinkAdditionResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

RL-ResponseInformationList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
  ProtocolIE-Container {{RL-ResponseInformationList-RL-Add-ResFDDItemIE }

RL-ResponseInformation-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-RL-ResponseInformation-RL-Add-ResFDDItem CRITICALITY ignore
  },
  ...
}

RL-ResponseInformation-RL-Add-ResFDDItem ::= SEQUENCE {
  rL-ID RL-ID,
  ul-InterferenceLevel UL-InterferenceLevel,
  diversityIndication DiversityIndication-RL-Add-ResFDD,
  sSDT-SupportIndicator SSdT-SupportIndicator
}

DiversityIndication-RL-Add-ResFDD ::= ENUMERATED {
  combining Combining-RL-Add-ResFDD,
  non-combining Non-Combining-RL-Add-ResFDD
}

```

```

Combining-RL-Add-ResFDD ::= SEQUENCE {
    rL-ID          RL-ID
}

Non-Combining-RL-Add-ResFDD ::= SEQUENCE {
    dCH-InformationResponseList-RL-Add-ResFDD
    DCH-InformationResponseList-RL-Add-ResFDD
}

DCH-InformationResponseList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
    ProtocolIE-Container{{DCH-InformationResponseList-RL-Add-ResFDD ItemIE }}

DCH-InformationResponseList-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponseList-RL-Add-ResFDDItem          CRITICALITY ignore
    },
    ...
}

DCH-InformationResponseList-RL-Add-ResFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress      TransportLayerAddress
}

-- *****
--
-- RADIO LINK ADDITION RESPONSE TDD
--
-- *****

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

RadioLinkAdditionResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    {ID id-CRNC-Communication-Context-ID      CRITICALITY ignore      TYPE      CRNC-
    Communication-Context-ID      PRESENCE mandatory      }|
    { ID id-RL-Information-RL-Add-RespTDD      CRITICALITY      ignore      TYPE      RL-
    Information-RL-Add-RespTDD      PRESENCE      mandatory      }|
    { ID id-CriticalityDiagnostic      CRITICALITY ignore      TYPE CriticalityDiagnostic      PRI
    },
    ...
}

RadioLinkAdditionResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-Add-Resp ::= SEQUENCE {
    rL-ID          RL-ID,
    ul-InterferenceLevel      UL-InterferenceLevel,
    diversityIndication      DiversityIndication-RL-Add-RespTDD,
}

DiversityIndication-RL-Add-RespTDD ::= ENUMERATED {
    combining          Combining-RL-Add-RespTDD,
    non-Combining      Non-Combining-RL-Add-RespTDD
}

Combining-RL-Add-RespTDD ::= SEQUENCE {
    rL-ID          RL-ID
}

Non-Combining-RL-Add-RespTDD ::= SEQUENCE {
    dCH-InfomationResponseList      DCH-InformationResponseList-RL-Add-RespTDD      OPTIONAL,
    dSCH-InfomationResponseList      DSCH-InformationResponseList-RL-Add-RespTDD      OPTIONAL,
    uSCH-InfomationResponseList      USCH-InformationResponseList-RL-Add-RespTDD      OPTIONAL
}

DCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-InformationRespopnse-RL-Add-RespTDDItemIE}}

```

```

DCH-InformationResponse-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-InformationResponse-RL-Add-RespTDDItem   CRITICALITY ignore      TYPE      DCH-
InformationResponse-RL-Add-RespTDDItem PRESENCE      mandatory
    },
    ...
}

DCH-InformationResponse-RL-Add-RespTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    binding-ID      Binding-ID,
    transport-Layer-Address Transport-Laer-Address
}

DSCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-InformationRespopnse-RL-Add-RespTDDItemIE}}

DSCH-InformationResponse-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DSCH-InformationResponse-RL-Add-RespTDDItem CRITICALITY ignore      TYPE      DSCH-
InformationResponse-RL-Add-RespTDDItem PRESENCE      mandatory
    },
    ...
}

DSCH-InformationResponse-RL-Add-RespTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    binding-ID      Binding-ID,
    transport-Layer-Address Transport-Laer-Address
}

USCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-InformationResponseList-RL-Add-RespTDD ItemIE}}

USCH-InformationResponseList-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-USCH-InformationResponseList-RL-Add-RespTDDItem CRITICALITY ignore
    },
    ...
}

USCH-InformationResponseList-RL-Add-RespTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    binding-ID      Binding-ID,
    transport-Layer-Address Transport-Laer-Address
}

-- *****
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- *****

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

RadioLinkAdditionFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-
CommunicationContextID PRESENCE mandatory }|
    { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD CRITICALITY ignore
    }|
    { ID id-Successful-RL-InformationResponseList-RL-Add-FailFDD CRITICALITY ignore
    }|
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
    },
    ...
}

RadioLinkAdditionFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofRL-
1)) OF
  ProtocolIE-Container    {{Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE }}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem    CRITICALITY ignore
  ...
  }
}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem ::= SEQUENCE {
  rL-ID                RL-ID,
  cause                Cause
}

Successful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofRL-2)) OF
  ProtocolIE-Container {{Successful-RL-InformationResponse-RL-Add-FailFDD ItemIE }}

Successful-RL-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-Successful-RL-InformationResponse-RL-Add-FailFDDItem    CRITICALITY ignore
  ...
  }
}

Successful-RL-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
  rL-ID                RL-ID,
  ul-InterferenceLevel    UL-InterferenceLevel,
  diversityIndication    DiversityIndication-RL-Add-FailFDD,
  sSDT-SupportIndicator    SSdT-SupportIndicator
}

DiversityIndication-RL-Add-FailFDD ::= ENUMERATED {
  combining                Combining-RL-Add-FailFDD,
  non-combining            Non-Combining-RL-Add-FailFDD
}

Combining-RL-Add-FailFDD ::= SEQUENCE {
  rL-ID                RL-ID
}

Non-Combining-RL-Add-FailFDD ::= SQUENCE {
  dCH-InformationResponseList    DCH-
InformationResponseList-RL-Add-FailFDD
}

DCH-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofDCH)) OF
  ProtocolIE-Container {{DCH-InformationResponse-RL-Add-FailFDDItemIE }}

DCH-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
  { I D id-DCH-InformationResponse-RL-Add-FailFDDItem    CRITICALITY ignore    TYPE DCH-
InformationResponse-RL-Add-FailFDDItem    PRESENCE mandatory    },
  ...
  }
}

DCH-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
  dCH-ID                DCH-ID,
  bindingID            BindingID,
  transportLayerAddress    TransportLayerAddress
}

-- *****
--
-- RADIO LINK ADDITION FAILURE TDD
--
-- *****

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

RadioLinkAdditionFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-Unsuccessful-RL-InformationResponse CRITICALITY ignore    TYPE Unsuccessful-RL-
InformationResponse PRESENCE mandatory    }}|
  { ID id-CriticalityDiagnostic    CRITICALITY ignore    TYPE CriticalityDiagnostic
  },
}

```

```

    ...
}

RadioLinkAdditionFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationResponse ::= SEQUENCE {
    rL-ID          RL-ID,
    cause          Cause
}

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

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

RadioLinkReconfigurationPrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore      TYPE NodeB-
    CommunicationContextID          PRESENCE mandatory } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore      TYPE UL-DPCH-
    Information-RL-ReconfPrepFDD    PRESENCE optional } |
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore      TYPE DL-DPCH-
    Information-RL-ReconfPrepFDD    PRESENCE optional } |
    { ID id-DCH-ModifyList-RL-ReconfPrepFDD       CRITICALITY ignore      TYPE DCH-ModifyList-
    RL-ReconfPrepFDD                PRESENCE optional } |
    { ID id-DCH-AddList-RL-ReconfPrepFDD          CRITICALITY ignore      TYPE DCH-AddList-RL-
    ReconfPrepFDD                    PRESENCE optional } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD       CRITICALITY ignore      TYPE DCH-DeleteList-
    RL-ReconfPrepFDD                  PRESENCE optional } |
    { ID id-DSCH-ModifyListItem-RL-ReconfPrepFDD  CRITICALITY ignore      TYPE DSCH-
    ModifyListItem-RL-ReconfPrepFDD    PRESENCE optional } |
    { ID id-DSCH-AddListItem-RL-ReconfPrepFDD     CRITICALITY ignore      TYPE DSCH-
    AddListItem-RL-ReconfPrepFDD        PRESENCE optional } |
    { ID id-DSCH-DeleteListItem-RL-ReconfPrepFDD   CRITICALITY ignore      TYPE DSCH-
    DeleteListItem-RL-ReconfPrepFDD      PRESENCE optional } |
    { ID id-RadioLinkInformationList-RL-ReconfPrepFDD  CRITICALITY ignore      TYPE
    RadioLinkInformationList-RL-ReconfPrepFDD          PRESENCE optional
    },
    ...
}

RadioLinkReconfigurationPrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode          UL-ScramblingCode          OPTIONAL,
    minUL-ChannelisationCodeLength  MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs            MaxNrOfUL-DPDCHs          OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4
    ul-PunctureLimit           UL-PunctureLimit           OPTIONAL,
    tFCS                        TFCS                      OPTIONAL,
    ul-DPCCH-SlotFormat         UL-DPCCH-SlotFormat       OPTIONAL,
    sSDT-CellIdentityLength     SSdT-CellIdentityLength   OPTIONAL,
    s-FieldLength               S-FieldLength             OPTIONAL,
    -- The following information element is needed if there is a need to add Ies with specific
    criticality.
}

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,

```

```

    dTX-InsertionPoint      DTX-InsertionPoint  OPTIONAL,
    pDSCH-CodeMapping       PDSCH-CodeMapping   OPTIONAL,
    pDSCH-RL-ID             RL-ID                 OPTIONAL,
    ...
}

DCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepFDDItemIE }}

DCH-Modify-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DCH-Modify-RL-
    ReconfPrepFDDItem PRESENCE optional },
    ...
}

DCH-Modify-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    ul-TransportFormatSet TransportFormatSet OPTIONAL,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    ul-FP-Mode            UL-FP-Mode      OPTIONAL,
    toAWS                  ToAWS          OPTIONAL,
    toAWE                  ToAWE          OPTIONAL
}

DCH-AddList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfPrepFDDItemIE }}

DCH-Add-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DCH-Add-RL-
    ReconfPrepFDDItem PRESENCE optional },
    ...
}

DCH-Add-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
    rLC-Mode              RLC-Mode,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode            UL-FP-Mode,
    toAWS                  ToAWS,
    toAWE                  ToAWE
}

DCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepFDDItemIE }}

DCH-Delete-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfPrepFDDItem CRITICALITY ignore    TYPE DCH-Delete-RL-
    ReconfPrepFDDItem PRESENCE optional },
    ...
}

DCH-Delete-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID
}

D SCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
ProtocolIE-Container {{DSCH-Modify-RL-ReconfPrepFDDItemIE }}}

D SCH-Modify-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DSCH-Modify-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DSCH-Modify-RL-ReconfPrepFDDItem
PRESENCE optional },
...}

}

DSCH-Modify-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dSCH-ID                DSCH-ID,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    rLC-ID              RL-ID                 OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    toAWS                  ToAWS          OPTIONAL,
    toAWE                  ToAWE          OPTIONAL
}

```

```

DSCH-AddList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
  ProtocolIE-Container {{DSCH-Add-RL-ReconfPrepFDDItemIE }}

DSCH-Add-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-Add-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DSCH-Add-RL-ReconfPrepFDDItem
  PRESENCE optional },
  ...
}

DSCH-Add-RL-ReconfPrepFDDItem ::= SEQUENCE {
  dsch-ID DSCH-ID,
  dl-TransportFormatSet TransportFormatSet,
  rl-ID RL-ID,
  frameHandlingPriority FrameHandlingPriority,
  toAWS ToAWS,
  toAWE ToAWE
}

DSCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
  ProtocolIE-Container {{DSCH-Delete-RL-ReconfPrepFDDItemIE }}

DSCH-Delete-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-Delete-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DSCH-Delete-RL-ReconfPrepFDDI
  PRESENCE optional },
  ...
}

DSCH-Delete-RL-ReconfPrepFDDItem ::= SEQUENCE {
  rl-ID RL-ID
  dsch-ID DSCH-ID
}

RadioLinkInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
  ProtocolIE-Container {{RadioLinkInformation-RL-ReconfPrepFDDItemIE}}

RadioLinkInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-RadioLinkInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE
  RadioLinkInformation-RL-ReconfPrepFDDItem PRESENCE mandatory},
  ...
}

RadioLinkInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
  rl-ID RL-ID,
  dl-CodeInformationList-RL-ReconfPrepFDD DL-CodeInformationList-RL-
  ReconfPrepFDD OPTIONAL,
  maxDL-Power DL-Power OPTIONAL,
  minDL-Power DL-Power OPTIONAL,
  ssdt-Indication SSDT-Indication OPTIONAL,
  ssdt-CellIdentity SSDT-CellIdentity OPTIONAL
  -- The IE may be present if the SSDT Indication is set to SSDT Active in the UE
}

DL-CodeInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
  ProtocolIE-Container {{DL-CodeInformation-RL-ReconfPrepFDDItemIE }}

DL-CodeInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DL-CodeInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DL-
  CodeInformation-RL-ReconfPrepFDDItem PRESENCE optional },
  ...
}

DL-CodeInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
  scramblingCode ScramblingCode OPTIONAL,
  fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber OPTIONAL
}

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

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
  protocolIEs ProtocolIE-Container
  {{RadioLinkReconfigurationPrepareTDD-IEs}},

```

```

    protocolExtensions          ProtocolExtensionContainer
  {{RadioLinkReconfigurationPrepareTDD-Extensions}}          OPTIONAL,
  ...
}

RadioLinkReconfigurationPrepareTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID          CRITICALITY          ignore          TYPE          NodeB-
CommunicationContextID PRESENCE          mandatory          } |
  { ID id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
UL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
DL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-DCH-ModifyList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          DCH-ModifyList-RL-
ReconfPrepTDD PRESENCE          optional          } |
  { ID id-DCH-AddList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          DCH-AddList-RL-
ReconfPrepTDD PRESENCE          optional          } |
  { ID id-DCH-DeleteList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          DCH-DeleteList-
RL-ReconfPrepTDD PRESENCE          optional          } |
  { ID id-DSCH-Information-ModifyList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
DSCH-Information-ModifyList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-DSCH-information-AddList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
DSCH-Information-AddList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-DSCH-Information-DeleteList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          DSCH-Infor
} |
  { ID id-USCH-Information-ModifyList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
USCH-Information-ModifyList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-USCH-information-AddList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          USCH-
Information-AddList-RL-ReconfPrepTDD PRESENCE          optional
} |
  { ID id-USCH-Information-DeleteList-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE          USCH-Infor
} |
  { ID id-RadioLinkInformation-RL-ReconfPrepTDD          CRITICALITY          ignore          TYPE
RadioLinkInformation-RL-ReconfPrepTDD PRESENCE          optional
},
  ...
}

RadioLinkReconfigurationPrepareTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem          CRITICALITY          ignore          TYPE          UL-
CCTrCH-Information-RL-ReconfPrepTDDItem PRESENCE          optional},
  ...
}

UL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  tFCS          TFCS          OPTIONAL,
  tFCI-Coding          TFCI-Coding          OPTIONAL,          punturing-Limit          Punturing-
Limit          OPTIONAL
  ul-DPCH-InformationList-RL-ReconfPrepTDD          UL-DPCH-InformationList-
RL-ReconfPrepTDD          OPTIONAL
}

UL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
ProtocolIE-Container {{UL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

UL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-UL-DPCH-Information-RL-ReconfPrepTDDItem          CRITICALITY          ignore          TYPE
UL-DPCH-Information-RL-ReconfPrepTDDItem PRESENCE          mandatory
},
  ...
}

UL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {

```



```

dPCH-ID          DPCH-ID,
  tDD-ChannelisationCode  TDD-ChannelisationCode  OPTIONAL,
  burstType              BurstType              OPTIONAL,
  midambleShift          MidambleShift          OPTIONAL,
  timeSlot               TimeSlot               OPTIONAL,
  tdd-PhysicalChannelOffset  TDD-PhysicalChannelOffset  OPTIONAL,
  repetitionPeriod       RepetitionPeriod       OPTIONAL,
  repetitionLength       RepetitionLength       OPTIONAL,
  tFCI-Presence          TFCI-Presence          OPTIONAL
}

DL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
  ProtocolIE-Container {{DL-CCTrCH-Information-RL-ReconfPrepTDDItemIE }}

DL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE
DL-CCTrCH-Information-RL-ReconfPrepTDDItem  PRESENCE  mandatory
},
  ...
}

DL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
  cCTrCH-ID          CCTrCH-ID,
  tFCS              TFCS          OPTIONAL,
  tFCI-Coding       TFCI-Coding  OPTIONAL,          puncturing-Limit      Punturing-
Limit  OPTIONAL
  dl-DPCH-InformationList-RL-ReconfPrepTDD          DL-DPCH-InformationList-
RL-ReconfPrepTDD  OPTIONAL
}

DL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
  ProtocolIE-Container {{DL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

DL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DL-DPCH-Information-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE
DL-DPCH-Information-RL-ReconfPrepTDDItem          PRESENCE  mandatory
},
  ...
}

DL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
dPCH-ID          DPCH-ID,
  tDD-ChannelisationCode  TDD-ChannelisationCode  OPTIONAL,
  burstType              BurstType              OPTIONAL,
  midambleShift          MidambleShift          OPTIONAL,
  timeSlot               TimeSlot               OPTIONAL,
  tdd-PhysicalChannelOffset  TDD-PhysicalChannelOffset  OPTIONA
repetitionPeriod       RepetitionPeriod       OPTIONAL,
  rpetitionLength       RepetitionLength       OPTIONAL,
  tFCI-Presence          TFCI-Presence          OPTIONAL
}

DCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
  ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepTDDItemIE }}

DCH-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DCH-Modify-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE DCH-Modify-RL-
ReconfPrepTDDItem  PRESENCE  optional  },
  ...
}

DCH-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
  dCH-ID          DCH-ID,
  ul-TransportFormatSet  TransportFormatSet  OPTIONAL,
  dl-TransportFormatSet  TransportFormatSet  OPTIONAL,
  frameHandlingPriority  FrameHandlingPriority  OPTIONAL,
  ul-FP-Mode            UL-FP-Mode            OPTIONAL,
  toAWS                 ToAWS                 OPTIONAL,
  toAWE                 ToAWE                 OPTIONAL,
}

DCH-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
  ProtocolIE-Container {{DCH-Add-RL-ReconfPrepTDDItemIE }}

DCH-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DCH-Add-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE DCH-Add-RL-
ReconfPrepTDDItem  PRESENCE  optional  },

```

```

    ...
}

DCH-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    dCH-CombinationIndication  DCH-CombinationIndication  OPTIONAL,
    rLC-Mode              RLC-Mode,
    ul-CCTrCH-ID         CCTrCH-ID,
    dl-CCTrCH-ID         CCTrCH-ID,
    ul-TransportFormatSet  TransportFormatSet,
    dl-TransportFormatSet  TransportFormatSet,
    frameHandlingPriority  FrameHandlingPriority,
    payloadCRC-PresenceIndicator  PayloadCRC-PresenceIndicator,
    ul-FP-Mode           UL-FP-Mode,
    toAWS                ToAWS,
    toAWE                ToAWE
}

DCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DCH-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE DCH-Delete-RL-
ReconfPrepTDDItem  PRESENCE  optional  },
    ...
}

DCH-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID
}

DSCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Information-Modify-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Modify-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE
DSCH-Information-Modify-RL-ReconfPrepTDDItem  PRESENCE  optional
    },
    ...
}

DSCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID                DSCH-ID,
    transportFormatSet      TransportFormatSet  OPTIONAL,
    cCTrCH-ID              CCTrCH-ID  OPTIONAL,
    frameHandlingPriority    FrameHandlingPriority  OPTIONAL,
    toAWE                  ToAWE  OPTIONAL,
    toAWS                  ToAWS  OPTIONAL
}

DSCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Information-Add-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Add-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE
DCH-Add-RL-ReconfPrepTDDItem  PRESENCE  mandatory
    },
    ...
}

DSCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID                DSCH-ID,
    cCTrCH-ID              CCTrCH-ID,
    transportFormatSet      TransportFormatSet,
    frameHandlingPriority    FrameHandlingPriority  OPTIONAL,
    toAWE                  ToAWE,
    toAWS                  ToAWS
}

DSCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Delete-RL-ReconfPrepTDDItem  CRITICALITY  ignore      TYPE  DSCH-Infor
    },
    ...
}

```

```

DSCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID
}

USCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Information-Modify-RL-ReconfPrepTDDItemIE }}

USCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Modify-RL-ReconfPrepTDDItem  CRITICALITY  ignore  TYPE
USCH-Information-Modify-RL-ReconfPrepTDDItem  PRESENCE optional  },
    ...
}

USCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    transportFormatSet  TransportFormatSet  OPTIONAL,
    cCTrCH-ID        CCTrCH-ID  OPTIONAL
}

USCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Information-Add-RL-ReconfPrepTDDItemIE }}

USCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Add-RL-ReconfPrepTDDItem  CRITICALITY  ignore  TYPE
USCH-Add-RL-ReconfPrepTDDItem  PRESENCE  optional
    },
    ...
}

USCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    cCTrCH-ID        CCTrCH-ID,
    transportFormatSet  TransportFormatSet
}

USCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Delete-RL-ReconfPrepTDDItemIE }}

USCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Delete-RL-ReconfPrepTDDItem  CRITICALITY  ignore  TYPE  USCH-Infor
    },
    ...
}

USCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID
}

RadioLinkInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    maxDL-Power      DL-Power  OPTIONAL,
    minDL-Power      DL-Power  OPTIONAL
}

-- *****
--
-- 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
    },
    ...
}

```

```

RadioLinkReconfigurationReady-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-InformationResponse-RL-ReconfReadyItemIE }}

RL-InformationResponse-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyItem      CRITICALITY ignore
    },
    ...
}

RL-InformationResponseList-RL-ReconfReadyItem ::= SEQUENCE {
    rL-ID          RL-ID,
    dCHsToBeAdded  DCH-AddList-RL-ReconfReady  OPTIONAL,
    dCHsToBeModified DCH-ModifyList-RL-ReconfReady  OPTIONAL,
    dSCH-SetupItem  DSCH-SetupItem-RL-ReconfReady  OPTIONAL,
    dSCH-ModifyItem DSCH-ModifyItem-RL-ReconfReady  OPTIONAL,
    uCH-SetupItem   USCH-SetupItem-RL-ReconfReady  OPTIONAL,
    uSCH-ModifyItem USCH-ModifyItem-RL-ReconfReady  OPTIONAL
}

DCH-AddList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReadyItemIE }}

DCH-Add-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReadyItem      CRITICALITY ignore      TYPE DCH-Add-RL-
    ReconfReadyItem      PRESENCE mandatory },
    ...
}

DCH-Add-RL-ReconfReadyItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress      TransportLayerAddress
}

DCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReadyItemIE }}

DCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReadyItem      CRITICALITY ignore      TYPE DCH-Modify-RL-
    ReconfReadyItem      PRESENCE mandatory },
    ...
}

DCH-Modify-RL-ReconfReadyItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress      TransportLayerAddress
}

DSCH-SetupList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Setup-RL-ReconfReadyItemIE }}

DSCH-Setup-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Setup-RL-ReconfReadyItem      CRITICALITY ignore      TYPE DSCH-Setup-RL-
    ReconfReadyItem      PRESENCE mandatory },
    ...
}

DSCH-Setup-RL-ReconfReadyitem ::= SEQUENCE {
    dSCH-ID          DSCH-ID
    bindingID       BindingID,
    transportLayerAddress      TransportLayerAddress
}

DSCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Modify-RL-ReconfReadyItemIE }}

DSCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Modify-RL-ReconfReadyItem      CRITICALITY ignore      TYPE DSCH-Modify-RL-
    ReconfReadyItem      PRESENCE mandatory },
    ...
}

```

```

}

DSCH-ModifyItem-RL-ReconfReadyItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID
    bindingID        BindingID,
    transportLayerAddress TransportLayerAddress
}

USCH-SetupList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Setup-RL-ReconfReadyItemIE }}

USCH-Setup-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Setup-RL-ReconfReadyItem          CRITICALITY ignore  TYPE USCH-Setup-RL-
ReconfReadyItem          PRESENCE mandatory },
    ...
}

USCH-Setup-RL-ReconfReadyitem ::= SEQUENCE {
    uSCH-ID          USCH-ID
    bindingID        BindingID,
    transportLayerAddress TransportLayerAddress
}

USCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Modify-RL-ReconfReadyItemIE }}

USCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Modify-RL-ReconfReadyItem          CRITICALITY ignore  TYPE USCH-Modify-RL-
ReconfReadyItem          PRESENCE mandatory },
    ...
}

USCH-ModifyItem-RL-ReconfReadyItem ::= SEQUENCE {
    uSCH-ID          USCH-ID
    bindingID        BindingID,
    transportLayerAddress TransportLayerAddress
}

-- *****
--
-- RADIO LINK RECONFIGURATION FAILURE
--
-- *****

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

RadioLinkReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID          CRITICALITY ignore          TYPE CRNC-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-Cause          CRITICALITY ignore          TYPE Cause
    PRESENCE mandatory } |
    { ID id-RL-ReconfigurationFailureList-RL-ReconfFail CRITICALITY ignore          TYPE RL-
ReconfigurationFailureList-RL-ReconfFail          PRESENCE optional } |
    { ID id-CriticalityDiagnostic          CRITICALITY ignore          TYPE CriticalityDiagnostic
    },
    ...
}

RadioLinkReconfigurationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-ReconfigurationFailureList-RL-ReconfFail ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-ReconfigurationFailure-RL-ReconfFailItemIE}}

RL-ReconfigurationFailure-RL-ReconfFailItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-ReconfigurationFailure-RL-ReconfFailItem CRITICALITY ignore          TYPE RL-
ReconfigurationFailure-RL-ReconfFailItem          PRESENCE optional
    },
    ...
}

```

```

}

RL-ReconfigurationFailure-RL-ReconfFailItem ::= SEQUENCE {
    rL-ID          RL-ID,
    cause          Cause
}

-- *****
--
-- RADIO LINK RECONFIGURATION COMMIT
--
-- *****

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

RadioLinkReconfigurationCommit-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY          ignore          TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-CFN          CRITICALITY          ignore          TYPE CFN
PRESENCE mandatory },
    ...
}

RadioLinkReconfigurationCommit-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- RADIO LINK RECONFIGURATION CANCEL
--
-- *****

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

RadioLinkReconfigurationCancel-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY          ignore          TYPE NodeB-
CommunicationContextID          PRESENCE mandatory },
    ...
}

RadioLinkReconfigurationCancel-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- *****

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

RadioLinkReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY          ignore          TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |

```

```

    { ID id-UL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE UL-DPCH-
InformationItem-RL-ReconfReqFDD PRESENCE optional } |
    { ID id-DL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DL-DPCH-
InformationItem-RL-ReconfReqFDD PRESENCE optional } |
    { ID id-DCH-ModifyList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-ModifyList-RL-
ReconfReqFDD PRESENCE optional } |
    { ID id-DCH-AddList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-AddList-RL-
ReconfReqFDD PRESENCE optional } |
    { ID id-DCH-DeleteList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-DeleteList-RL-
ReconfReqFDD PRESENCE optional } |
    { ID id-DSCH-ModifyList-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-
ModifyList-RL-ReconfReqFDD PRESENCE optional } |
    { ID id-DSCH-AddList-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-AddList-RL-
ReconfReqFDD PRESENCE optional } |
    { ID id-DSCH-DeleteList-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-
DeleteList-RL-ReconfReqFDD PRESENCE optional } |
    { ID id-RL-InformationList-RL-ReconfReqFDD CRITICALITY ignore TYPE RL-InformationList-
RL-ReconfReqFDD PRESENCE optional },
    ...
}

```

```

RadioLinkReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

UL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
    tFCS TFCS OPTIONAL
}

```

```

DL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
    tFCS TFCS OPTIONAL
    tFCI-SignallingMode TFCI-SignallingMode OPTIONAL
    pDSCH-CodeMapping PDSCH-CodeMapping OPTIONAL
    pDSCH-RL-ID RL-ID OPTIONAL
}

```

```

DCH-ModifyList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReqFDDItemIE }}

```

```

DCH-Modify-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReqFDDItem CRITICALITY ignore TYPE DCH-Modify-RL-
ReconfReqFDDItem PRESENCE optional },
    ...
}

```

```

DCH-Modify-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID DCH-ID,
    ul-TransportFormatSet TransportFormatSet OPTIONAL,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    ul-FP-Mode UL-FP-Mode OPTIONAL,
    toAWS ToAWS OPTIONAL,
    toAWE ToAWE OPTIONAL
}

```

```

DCH-AddList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReqFDDItemIE }}

```

```

DCH-Add-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReqFDDItem CRITICALITY ignore TYPE DCH-Add-RL-
ReconfReqFDDItem PRESENCE optional },
    ...
}

```

```

DCH-Add-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID DCH-ID,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode UL-FP-Mode,
    toAWS ToAWS,
    toAWE ToAWE
}

```

```

DCH-DeleteList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF

```

```

    ProtocolIE-Container {{DCH-Delete-RL-ReconfReqFDDItemIE }}

DCH-Delete-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfReqFDDItem CRITICALITY ignore      TYPE DCH-Delete-RL-
ReconfReqFDDItem PRESENCE optional },
    ...
}

DCH-Delete-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}

DSCH-ModifyList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
ProtocolIE-Container {{DSCH-Modify-RL-ReconfReqFDDItemIE }}

DSCH-Modify-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DSCH-Modify-RL-ReconfReqFDDItem CRITICALITY ignore      TYPE DSCH-Modify-RL-ReconfReqFDDItem
PRESENCE optional },
...
}

DSCH-Modify-RL-ReconfReqFDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    rL-ID          RL-ID          OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    toAWS          ToAWS          OPTIONAL,
    toAWE          ToAWE          OPTIONAL
}

DSCH-AddList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
ProtocolIE-Container {{DSCH-Add-RL-ReconfReqFDDItemIE }}

DSCH-Add-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DSCH-Add-RL-ReconfReqFDDItem CRITICALITY ignore      TYPE DSCH-Add-RL-ReconfReqFDDItem
PRESENCE optional },
...
}

DSCH-Add-RL-ReconfReqFDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    dl-TransportFormatSet TransportFormatSet,
    rL-ID          RL-ID,
    frameHandlingPriority FrameHandlingPriority,
    toAWS          ToAWS,
    toAWE          ToAWE
}

DSCH-DeleteList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
ProtocolIE-Container {{DSCH-Delete-RL-ReconfReqFDDItemIE }}

DSCH-Delete-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DCSH-Delete-RL-ReconfReqFDDItem CRITICALITY ignore      TYPE DSCH-Delete-RL-ReconfReqFDDItem
PRESENCE optional },
...
}

DSCH-Delete-RL-ReconfReqFDDItem ::= SEQUENCE {
    rL-ID          RL-ID
    dSCH-ID          DSCH-ID
}

RL-InformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-RL-ReconfPrepFDDItemIE }}

RL-Information-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE RL-Information-RL-
ReconfPrepFDDItem PRESENCE optional },
    ...
}

RL-Information-RL-ReconfPrepFDDItem ::= SEQUENCE {
    rL-ID          RL-ID,
    maxDL-Power   DL-Power OPTIONAL,
    minDL-Power   DL-Power OPTIONAL
}

```



```

-- *****
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- *****

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

RadioLinkReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore          TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-UL-CCTrCH-InformationList-RL-ReconfReqTDD  CRITICALITY ignore          TYPE      UL-CCTrCH-
InformationList-RL-ReconfReqTDD  PRESENCE optional
} |
    { ID id-DL-CCTrCH-InformationList-RL-ReconfReqTDD  CRITICALITY ignore          TYPE      DL-
CCTrCH-InformationList-RL-ReconfReqTDD  PRESENCE optional
} |
    { ID id-DCH-ModifyList-RL-ReconfReqTDD            CRITICALITY ignore          TYPE DCH-ModifyList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-DCH-AddList-RL-ReconfReqTDD              CRITICALITY ignore          TYPE DCH-AddList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-DCH-DeleteList-RL-ReconfReqTDD           CRITICALITY ignore          TYPE DCH-DeleteList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-DSCH-ModifyList-RL-ReconfReqTDD          CRITICALITY ignore          TYPE DSCH-ModifyList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-DSCH-AddList-RL-ReconfReqTDD             CRITICALITY ignore          TYPE DSCH-AddList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-DSCH-DeleteList-RL-ReconfReqTDD         CRITICALITY ignore          TYPE DSCH-DeleteList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-USCH-ModifyList-RL-ReconfReqTDD          CRITICALITY ignore          TYPE USCH-ModifyList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-USCH-AddList-RL-ReconfReqTDD             CRITICALITY ignore          TYPE USCH-AddList-RL-
ReconfReqTDD          PRESENCE optional } |
    { ID id-USCH-DeleteList-RL-ReconfReqTDD         CRITICALITY ignore          TYPE USCH-DeleteList-RL-
ReconfReqTDD          PRESENCE optional },
    ...
}

RadioLinkReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-ReconfReqTDDItem  CRITICALITY ignore          TYPE      UL-CCTrCH-
Information-RL-ReconfReqTDDItem  PRESENCE mandatory
},
    ...
}

UL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
    cCCTrCH-ID          CCTrCH-ID,
    tFCS                TFCS,
    puncturingLimit     PuncturingLimit
}

DL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container {{DL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}

DL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-ReconfReqTDDItem  CRITICALITY ignore          TYPE      DL-CCTrCH-
Information-RL-ReconfReqTDDItem  PRESENCE mandatory
},

```

```

    ...
}

DL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
    cCCTrCH-ID          CCTrCH-ID,
    tFCS                TFCS,
    puncturingLimit    PuncturingLimit
}

DCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReqTDDItemIE }}

DCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE DCH-Modify-RL-
    ReconfReqTDDItem PRESENCE optional },
    ...
}

DCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    ul-CCTrCH-ID   CCTrCH-ID,
    dl-CCTrCH-ID   CCTrCH-ID,
    ul-TransportFormatSet TransportFormatSet OPTIONAL,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    ul-FP-Mode      UL-FP-Mode OPTIONAL,
    toAWS           ToAWS OPTIONAL,
    toAWE           ToAWE OPTIONAL
}

DCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReqTDDItemIE }}

DCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE DCH-Add-RL-
    ReconfReqTDDItem PRESENCE optional },
    ...
}

DCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    rLC-Mode        RLC-Mode,
    ul-CCTrCH-ID   CCTrCH-ID,
    dl-CCTrCH-ID   CCTrCH-ID,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode      UL-FP-Mode,
    toAWS           ToAWS,
    toAWE           ToAWE
}

DCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfReqTDDItemIE }}

DCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore  TYPE DCH-Delete-RL-
    ReconfReqTDDItem PRESENCE optional },
    ...
}

DCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}

DSCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Modify-RL-ReconfReqTDDItemIE }}

DSCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore  TYPE DSCH-Modify-RL-
    ReconfReqTDDItem PRESENCE optional },
    ...
}

DSCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,

```

```

    cCTrCH-ID          CCTrCH-ID,
    transportFormatSet TransportFormatSet OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    toAWE              ToAWE          OPTIONAL,
    toAWS              ToAWS          OPTIONAL
}

DSCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Add-RL-ReconfReqTDDItemIE }}

DSCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE DSCH-Add-RL-
ReconfReqTDDItem PRESENCE optional },
    ...
}

DSCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    cCTrCH-ID       CCTrCH-ID,
    transportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    toAWE           ToAWE,
    toAWS           ToAWS
}

DSCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Delete-RL-ReconfReqTDDItemIE }}

DSCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE DSCH-Delete-RL-
ReconfReqTDDItem PRESENCE optional },
    ...
}

DSCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID
}

USCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Modify-RL-ReconfReqTDDItemIE }}

USCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE USCH-Modify-RL-
ReconfReqTDDItem PRESENCE optional },
    ...
}

USCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    cCTrCH-ID       CCTrCH-ID OPTIONAL,
    transportFormatSet TransportFormatSet OPTIONAL,
}

USCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Add-RL-ReconfReqTDDItemIE }}

USCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE USCH-Add-RL-
ReconfReqTDDItem PRESENCE optional },
    ...
}

USCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID,
    cCTrCH-ID       CCTrCH-ID,
    transportFormatSet TransportFormatSet,
}

USCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Delete-RL-ReconfReqTDDItemIE }}

USCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE USCH-Delete-RL-
ReconfReqTDDItem PRESENCE mandatory },
    ...
}

```

```

USCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
    uSCH-ID          USCH-ID
}

-- *****
--
-- RADIO LINK RECONFIGURATION RESPONSE
--
-- *****

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

RadioLinkReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID          CRITICALITY ignore   TYPE CRNC-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-RL-InformationResponseList-RL-ReconfResp          CRITICALITY ignore   TYPE RL-
InformationResponseList-RL-ReconfResp          PRESENCE optional
} |
    { ID id-CriticalityDiagnostic          CRITICALITY ignore          TYPE CriticalityDiagnostic          PRI
    },
    ...
}

RL-InformationResponseList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
ProtocolIE-Container { {RL-InformationResponseItem-RL-ReconfRespIE} }

RL-InformationResponseItem-RL-ReconfRespIE NBAP-PROTOCOL-IE ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfResp          CRITICALITY ignore   TYPE RL-
InformationResponseItem-RL-ReconfResp          PRESENCE mandatory
    },
    ...
}

RL-InformationResponseItem-RL-ReconfResp ::= SEQUENCE {
    rL-ID          RL-ID,
    dCHsToBeAdded   DCH-AddList-RL-ReconfResp          OPTIONAL,
    dCHsToBeModified   DCH-ModifyList-RL-ReconfResp          OPTIONAL,
    dSCHsToBeSetup    DSCH-SetupList-RL-ReconfResp          OPTIONAL,
    dSCHsToBeModifie  DSCH-ModifyList-RL-ReconfResp          OPTIONAL,
    uSCHsToBeSetup    USCH-SetupList-RL-ReconfResp          OPTIONAL,
    uSCHsToBeModifie  USCH-ModifyList-RL-ReconfResp          OPTIONAL
    ...
}

DCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
ProtocolIE-Container { {DCH-Modify-RL-ReconfRespItemIE} }

DCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfRespItem          CRITICALITY ignore          TYPE DCH-Modify-RL-
ReconfRespItem          PRESENCE optional },
    ...
}

DCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress          TransportLayerAddress
}

DCH-AddList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
ProtocolIE-Container { {DCH-Add-RL-ReconfRespItemIE} }

DCH-Add-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfRespItem          CRITICALITY ignore          TYPE DCH-Add-RL-ReconfRespItem          PRESENCE c
    },
    ...
}

DCH-Add-RL-ReconfRespItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress          TransportLayerAddress
}

```

```

}

DSCH-SetupList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
  ProtocolIE-Container {{DSCH-Setup-RL-ReconfRespItemIE }}

DSCH-Setup-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-Setup-RL-ReconfRespItem      CRITICALITY ignore      TYPE DSCH-Setup-RL-
ReconfRespItem      PRESENCE optional      },
  ...
}

DSCH-Setup-RL-ReconfRespItem ::= SEQUENCE {
  dSCH-ID          DSCH-ID,
  bindingID        BindingID,
  transportLayerAddress  TransportLayerAddress
}

DSCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
  ProtocolIE-Container {{DSCH-Modify-RL-ReconfRespItemIE }}

DSCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DSCH-Modify-RL-ReconfRespItem      CRITICALITY ignore      TYPE DSCH-Modify-RL-
ReconfRespItem      PRESENCE optional      },
  ...
}

DSCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
  dSCH-ID          DSCH-ID,
  bindingID        BindingID,
  transportLayerAddress  TransportLayerAddress
}

USCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
  ProtocolIE-Container {{USCH-Modify-RL-ReconfRespItemIE }}

USCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-USCH-Modify-RL-ReconfRespItem      CRITICALITY ignore      TYPE USCH-Modify-RL-
ReconfRespItem      PRESENCE optional      },
  ...
}

USCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
  uSCH-ID          USCH-ID,
  cCTrCH-ID        CCTrCH-ID,
  transportFormatSet  TransportFormatSet,
}

USCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
  ProtocolIE-Container {{USCH-Modify-RL-ReconfRespItemIE }}

USCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-USCH-Modify-RL-ReconfRespItem      CRITICALITY ignore      TYPE USCH-Modify-RL-
ReconfRespItem      PRESENCE optional      },
  ...
}

USCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
  uSCH-ID          USCH-ID,
  cCTrCH-ID        CCTrCH-ID      OPTIONAL,
  transportFormatSet  TransportFormatSet  OPTIONAL,
}

RadioLinkReconfigurationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- RADIO LINK DELETION REQUEST
--
-- *****

RadioLinkDeletionRequest ::= SEQUENCE {
  protocolIEs      ProtocolIE-Container      {{RadioLinkDeletionRequest-
IEs}},

```

```

    protocolExtensions          ProtocolExtensionContainer {{RadioLinkDeletionRequest-
Extensions}}
    ...
}

RadioLinkDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore      TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-RL-informationList-RL-Del-Req          CRITICALITY ignore      TYPE RL-
informationList-RL-Del-Req          PRESENCE mandatory } ,
    ...
}

RadioLinkDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-informationList-RL-Del-Req ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-informationList-RL-Del-ReqItemIE }}

RL-informationList-RL-Del-ReqItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-informationList-RL-Del-ReqItem      CRITICALITY ignore      TYPE RL-
informationList-RL-Del-ReqItem      PRESENCE mandatory } ,
    ...
}

RL-informationList-RL-Del-ReqItem ::= SEQUENCE {
    rL-ID          RL-ID
}

-- *****
--
-- RADIO LINK DELETION RESPONSE
--
-- *****

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

RadioLinkDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID          CRITICALITY ignore      TYPE CRNC-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic          PRI
    } ,
    ...
}

RadioLinkDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- DL POWER CONTROL REQUEST FDD
--
-- *****

DLPowerControlRequestFDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          {{DLPowerControlRequestFDD-
IEs}},
    protocolExtensions          ProtocolExtensionContainer {{DLPowerControlRequestFDD-
Extensions}}
    privateExtensions          PrivateExtensionContainer {{DLPowerControlRequestFDD-
PrivateExtensions}}
    ...
}

DLPowerControlRequestFDD-IEs NBAP-PROTOCOL-IES ::= {

```

```

    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore      TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-ProcedureScopeType                    CRITICALITY ignore      TYPE ProcedureScopeType
    ...
}

DLPowerControlRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DLPowerControlRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
    ...
}

ProcedureScopeType ::= CHOICE {
    all-RL          All-RL,
    individualRL    IndividualRL
}

All-RL ::= SEQUENCE {
    dl-ReferencePower    DL-Power
}

IndividualRL ::= SEQUENCE {
    dl-ReferencePowerInformationList-PC          DL-
ReferencePowerInformationList-PC
}

DL-ReferencePowerInformationList-PC ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{DL-ReferencePowerInformationList-PCItemIE }}

DL-ReferencePowerInformationList-PCItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-ReferencePowerInformationList-PCItem    CRITICALITY ignore      TYPE
DL-ReferencePowerInformationList-PCItem    PRESENCE mandatory
    },
    ...
}

DL-ReferencePowerInformationList-PCItem ::= SEQUENCE {
    rL-ID          RL-ID,
    dl-ReferencePower    DL-Power
}

-- *****
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- *****

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

DedicatedMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID          CRITICALITY ignore      TYPE NodeB-
CommunicationContextID          PRESENCE mandatory } |
    { ID id-MeasurementID                        CRITICALITY ignore      TYPE MeasurementID          PRESENCE n
    { ID id-DedicatedMeasurementObjectType-Req    CRITICALITY ignore      TYPE
DedicatedMeasurementObjectType-Req    PRESENCE mandatory } |
    { ID id-DedicatedMeasurementType              CRITICALITY ignore      TYPE
DedicatedMeasurementType              PRESENCE mandatory } |
    { ID id-MeasurementCharacteristics            CRITICALITY ignore      TYPE
MeasurementCharacteristics            PRESENCE mandatory } |
    { ID id-ReportCharacteristics                CRITICALITY ignore      TYPE ReportCharacteristics
    ...
}

DedicatedMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementObjectType-Req ::= ENUMERATED {

```

```

    rL                RL-DMeasureReq,
    all-RL            All-DMeasureReq
}

RL-DMeasureReq ::= SEQUENCE {
    rL-InformationList  RL-InformationList-DMeasureReq
}

RL-InformationList-DMeasureReq ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{ RL-InformationList-DMeasureReqItemIE }}

RL-InformationList-DMeasureReqItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-DMeasureReqItem  CRITICALITY ignore
    TYPE    RL-InformationList-DMeasureReqItem  PRESENCE mandatory
    },
    ...
}

RL-InformationList-DMeasureReqItem ::= SEQUENCE {
    rL-ID                RL-ID,
    dPCH-ID              DPCH-ID
}

All-RL-Req ::= SEQUENCE {
    dedicatedMeasurementValue    DedicatedMeasurementValue
}

-- *****
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- *****

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

DedicatedMeasurementInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID  CRITICALITY ignore    TYPE CRNC-
    CommunicationContextID  PRESENCE mandatory } |
    { ID id-MeasurementID                CRITICALITY ignore    TYPE MeasurementID    PRESENCE n
    { ID id-DedicatedMeasurementObjectType-Resp CRITICALITY ignore    TYPE
    DedicatedMeasurementObjectType-Resp PRESENCE mandatory } |
    { ID id-CFN                            CRITICALITY ignore    TYPE CFN                PRESENCE
    mandatory } |
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
    },
    ...
}

DedicatedMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementObjectType-Resp ::= ENUMERATED {
    rL                RL-Resp,
    all-RL            All-RL-resp
}

RL-Resp ::= SEQUENCE {
    rL-InformationList-DMeasureResponse          RL-
    InformationList-DmeasureResponse
}

RL-InformationList-DmeasureResponse ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-DMeasureResponseItemIE }}

RL-Information-DMeasureResponseItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-DMeasureResponseItem  CRITICALITY ignore    TYPE    RL-
    Information-DMeasureResponseItem  PRESENCE mandatory
    },
    ...
}

```



```

}

RL-Information-DMeasureResponseItem ::= SEQUENCE {
    rL-ID          RL-ID,
    dedicatedMeasurementValue    DedicatedMeasurementValue
}

All-RL-Resp ::= SEQUENCE {
    dedicatedMeasurementValue    DedicatedMeasurementValue
}

-- *****
--
-- DEDICATED MEASUREMENT INITIATION FAILURE
--
-- *****

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

DedicatedMeasurementInitiationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore    TYPE CRNC-
CommunicationContextID    PRESENCE mandatory } |
    { ID id-MeasurementID                  CRITICALITY ignore    TYPE MeasurementID    PRESENCE n
    { ID id-Cause                          CRITICALITY ignore    TYPE Cause
    PRESENCE mandatory } |
    { ID id-CriticalityDiagnostic          CRITICALITY ignore    TYPE CriticalityDiagnostic    PRI
    },
    ...
}

DedicatedMeasurementInitiationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- DEDICATED MEASUREMENT REPORT
--
-- *****

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

DedicatedMeasurementReport-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore    TYPE CRNC-
CommunicationContextID    PRESENCE mandatory } |
    { ID id-MeasurementID                  CRITICALITY ignore    TYPE MeasurementID    PRESENCE n
    { ID id-DedicatedMeasurementObjectType-Rep    CRITICALITY ignore    TYPE
DedicatedMeasurementObjectType-Rep    PRESENCE mandatory } |
    { ID id-CFN                            CRITICALITY ignore    TYPE CFN    PRESENCE
mandatory },
    ...
}

DedicatedMeasurementReport-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementObjectType-Rep ::= ENUMERATED {
    rL          RL-Rep,
    all-RL     All-RL-Rep
}

RL-Rep ::= SEQUENCE {

```

```

    rL-InformationList-DMeasureReport
InformationList-DMeasureReport
}

RL-InformationList-DmeasureReport ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-DMeasureReportItemIE }}

RL-Information-DMeasureReportItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-DMeasureReportItem CRITICALITY ignore TYPE RL-Information-
DMeasureReportItem PRESENCE mandatory },
    ...
}

RL-Information-DMeasureReportItem ::= SEQUENCE {
    rL-ID RL-ID,
    dedicatedMeasurementValue DedicatedMeasurementValue
}

All-RL-Rep ::= SEQUENCE {
    dedicatedMeasurementValue DedicatedMeasurementValue
}

-- *****
--
-- DEDICATED MEASUREMENT TERMINATION REQUEST
--
-- *****

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

DedicatedMeasurementTerminationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-
CommunicationContextID PRESENCE mandatory } |
    { ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE n
    ...
}

DedicatedMeasurementTerminationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- DEDICATED MEASUREMENT FAILURE INDICATION
--
-- *****

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

DedicatedMeasurementFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-
CommunicationContextID PRESENCE mandatory } |
    { ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE n
    { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory } |
    { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRI
    },
    ...
}

DedicatedMeasurementFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```

```

}
...
}

-- *****
--
-- RADIO LINK FAILURE INDICATION
--
-- *****

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

RadioLinkFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID      CRITICALITY ignore          TYPE CRNC-
    CommunicationContextID      PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-FailInd    CRITICALITY ignore          TYPE RL-
    InformationList-RL-FailInd    PRESENCE mandatory } |
    { ID id-CriticalityDiagnostic           CRITICALITY ignore          TYPE CriticalityDiagnostic
    },
    ...
}

RadioLinkFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-FailInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{ RL-InformationList-RL-FailIndItemIE }}

RL-InformationList-RL-FailInd ItemIE NBAP-PROTOCOL-IES ::= {
    { I D id- RL-InformationList-RL-FailIndItem CRITICALITY ignore          TYPE RL-
    InformationList-RL-FailIndItem      PRESENCE mandatory },
    ...
}

RL-InformationList-RL-FailIndItem ::= SEQUENCE {
    rL-ID          RL-ID,
    cause          Cause
}

-- *****
--
-- RADIO LINK RESTORE INDICATION
--
-- *****

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

RadioLinkRestoreIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID      CRITICALITY ignore          TYPE CRNC-
    CommunicationContextID      PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-RestoreInd  CRITICALITY ignore          TYPE RL-
    InformationList-RL-RestoreInd  PRESENCE mandatory },
    ...
}

RadioLinkRestoreIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-InformationList-RL-RestoreIndItemIE }}

```

```

RL-InformationList-RL-RestoreIndItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-RL-InformationList-RL-RestoreIndItem CRITICALITY ignore TYPE RL-
InformationList-RL-RestoreIndItem PRESENCE mandatory },
  ...
}

RL-InformationList-RL-RestoreIndItem ::= SEQUENCE {
  rL-ID RL-ID
}

-- *****
--
-- COMPRESSED MODE PREPARE FDD
--
-- *****

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

CompressedModePrepareFDD-IES NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-
CommunicationContextID PRESENCE mandatory } |
  { ID id-TGP1 CRITICALITY ignore TYPE TGP1 PRESENCE
mandatory } |
  { ID id-TGP2 CRITICALITY ignore TYPE TGP2 PRESENCE
optional } |
  { ID id-TGL CRITICALITY ignore TYPE TGL PRESENCE mandatory } |
  { ID id-TGD CRITICALITY ignore TYPE TGD PRESENCE mandatory } |
  { ID id-UL-DL-CompressedModeSeletion CRITICALITY ignore TYPE UL-DL-
CompressedModeSeletion PRESENCE mandatory } |
  { ID id-CompressesModeMethod CRITICALITY ignore TYPE CompressesModeMethod PRESENCE n
  PRESENCE mandatory } |
  { ID id-GapPositionMode CRITICALITY ignore TYPE GapPositionMode
PRESENCE mandatory } |
  { ID id-SN CRITICALITY ignore TYPE SN PRESENCE optional } |
  -- This IE is present if Gap position mode = 'flexible position'--
  { ID id-DL-FrameType CRITICALITY ignore TYPE DL-FrameType
PRESENCE mandatory } |
  { ID id-ScramblingCodeChange CRITICALITY ignore TYPE ScramblingCodeChange PRESENCE c
  -- This IE is present if Compressed mode method = 'SF/2' --
  { ID id-PowerControlMode CRITICALITY ignore TYPE PowerControlMode
PRESENCE mandatory } |
  { ID id-PowerResumeMode CRITICALITY ignore TYPE PowerResumeMode
PRESENCE mandatory } |
  { ID id-UL-DeltaEb-No CRITICALITY ignore TYPE UL-DeltaEb-No
PRESENCE mandatory } |
  { ID id-UL-DeltaEb-NoAfter CRITICALITY ignore TYPE UL-DeltaEb-NoAfter
PRESENCE mandatory },
  ...
}

CompressedModePrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- COMPRESSED MODE READY FDD
--
-- *****

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

CompressedModeReadyFDD-IES NBAP-PROTOCOL-IES ::= {
  { ID id-CRNCommunicationContextID CRITICALITY ignore TYPE CRNC-
CommunicationContextID PRESENCE mandatory },

```

```

    ...
}

CompressedModeReadyFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMPRESSED MODE COMMIT FDD
--
-- *****

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

CompressedModeCommitFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID    CRITICALITY ignore        TYPE NodeB-
    CommunicationContextID PRESENCE mandatory } |
    { ID id-CFN                            CRITICALITY ignore        TYPE CFN
    PRESENCE mandatory },
    ...
}

CompressedModeCommitFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMPRESSED MODE FAILURE FDD
--
-- *****

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

CompressedModeFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore        TYPE CRNC-
    CommunicationContextID PRESENCE mandatory } |
    { ID id-Cause                          CRITICALITY ignore        TYPE Cause
    PRESENCE
    mandatory },
    { ID id-CriticalityDiagnostic          CRITICALITY ignore        TYPE CriticalityDiagnostic
    },
    ...
}

CompressedModeFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- COMPRESSED MODE CANCEL FDD
--
-- *****

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

```

```

CompressedModeCancelFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID      CRITICALITY ignore      TYPE NodeB-
CommunicationContextID PRESENCE mandatory },
  ...
}

CompressedModeCancelFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- ERROR INDICATION
--
-- *****

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

ErrorIndication-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-Cause          CRITICALITY ignore      TYPE Cause
  PRESENCE mandatory } |
  { ID id-CRNC-CommunicationContextID      CRITICALITY ignore      TYPE CRNC-
CommunicationContextID      PRESENCE optional } |
  -- This IE is only present when message is transmitted by RNC --
  { ID id-NodeB-CommunicationContextID      CRITICALITY ignore      TYPE NodeB-
CommunicationContextID      PRESENCE optional } |
  -- This IE is only present when message is transmitted by NodeB --
  { ID id-CriticalityDiagnostic      CRITICALITY ignore      TYPE L3-
CriticalityDiagnostic      PRESENCE optional },
  -- At least either or Cause IE or Criticality Diagnostic IE shall be present--
  ...
}

ErrorIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

END

```

9.3.4 NBAP Information Elements

```

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

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxTFcount,
    maxnoofTFCs,
    maxCTF-1,
    maxRM,
    maxCodeNrComp-1,
    maxNrOfCodeGroups,
    maxNrOfTFCIGroups,
    maxNrOfTFCI1Combs,
    maxNrOfTFCI2Combs,
    maxCTFC-DCH-1,
    maxCTFC-DSCH-1

```

```

FROM NBAP-Constants;

DTX-InsertionPoint ::= INTEGER
DedicatedMeasurementValue ::= INTEGER
DeltaTPC ::= INTEGER

-----
-- A
-----

-- to do
AcknowledgedRA-TriesValue ::= TBD

AddOrDeleteIndicator ::= ENUMERATED {
add,
delete
}

AICH-TransmissionTiming ::= ENUMERATED {
timing0,
timing1
}

AvailabilityStatus ::= ENUMERATED {
empty,
in-test,
failed,
power-off,
off-line,
off-duty,
dependency,
degraded,
not-installed,
log-full,
...
}

--to do
AveragingDuration ::= TBD

-----
-- B
-----

BCCH-ModificationTime ::= INTEGER (0| 2| 4| .. | 4095)

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
high,
normal,
low
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {
type1,
type2
}

-----
-- C
-----

Cause ::= ENUMERATED {
radioNetworkLayer      RadioNetworkLayerCause,
transportLayer         TransportLayerCause,
protocol                ProtocolCause,
misc                    MiscellaneousCause
...
}

CCTrCH-ID ::= INTEGER (1..15)

CellID-Length ::= ENUMERATED {

```

```

    short,
    medium,
    long
}

CFN ::= INTEGER (0..255)

ChipOffset ::= INTEGER (0..38399)

C-ID ::= INTEGER (0..65535)

CodingRate ::= ENUMERATED {
    rate1-2,
    rate1-3
}

CommonMeasurementObjectType ::= ENUMERATED {
    cell,
    rach,
    ...
}

CommonMeasurementType ::= SEQUENCE {
    rssi                RSSI-Value,
    transmitted-carrier-power    TransmittedCarrierPowerValue,
    acknowledged-ra-tries      AcknowledgedRA-TriesValue,
    time-slot-iscp           TimeSlotISCP-Value,
    ...
}

CommonPhysicalChannelID ::= INTEGER (0..255)

CommonTransportChannelID ::= INTEGER (0..255)

CommunicationControlPortID ::= INTEGER (0..65535)

CompressedModeMethod ::= ENUMERATED {
    puncturing,
    sF-2,
    gating,
    none
}

ConfigurationGenerationID ::= INTEGER (0..255)

CRC-Size ::= ENUMERATED {
    size0,
    size12,
    size16,
    size24
}

CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CTFC ::= INTEGER (0..maxCTF-1)

-----
-- D
-----

DCH-CombinationInd ::= INTEGER (0..255)

DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
    cell,
    rach,
    ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
    sir-value          SIR-Value          OPTIONAL,
    sir-error-value    SIR-ErrorValue     OPTIONAL,
    transmitted-code-power    TransmittedCodePowerValue OPTIONAL,
    time-slot-iscp     TimeSlotISCP-Value OPTIONAL,
    ...
}

```



```

}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
    rl,
    all-rl,
    ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    timeslot-iscp,
    ...
}

D-FieldLength ::= ENUMERATED {
    d-length1,
    d-length2
}

DiversityControlField ::= ENUMERATED {
    may,
    must,
    must-not
}

DiversityIndication ::= ENUMERATED {
    combined,
    not-combined
}

DiversityMode ::= ENUMERATED {
    none,
    sTTD,
    closed-loop-mode1,
    closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB
}

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates -35dB, Power1 indicates -34.9dB, ..., Power500 indicates 15dB
DL-Power ::= ENUMERATED {
    power0,
    power1,
    ...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
    fixed,
    flexible
}

```

```

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
SEQUENCE {
  numberOfTransportBlocks      NumberOfTransportBlocks,
  transportBlockSize          TransportBlockSize OPTIONAL
  -- This IE is only present if Number of Transport Blocks is greater than 0 --,
  mode-dynamicTFS             Mode-DynamicTFS
  ...
}

-----
-- E
-----

EventA ::= SEQUENCE {
  measurementThreshold          MeasurementThreshold,
  measurementHysteresisTime    MeasurementHysteresisTime OPTIONAL
}

EventB ::= SEQUENCE {
  measurementThreshold          MeasurementThreshold,
  measurementHysteresisTime    MeasurementHysteresisTime OPTIONAL
}

EventC ::= SEQUENCE {
  measurementIncreaseThreshold MeasurementIncreaseThreshold,
  measurementChangeTime       MeasurementChangeTime
}

EventD ::= SEQUENCE {
  measurementDecreaseThreshold MeasurementDecreaseThreshold,
  measurementChangeTime       MeasurementChangeTime
}

EventE ::= SEQUENCE {
  measurementThreshold1        MeasurementThreshold1,
  measurementThreshold2        MeasurementThreshold2 OPTIONAL,
  measurementHysteresisTime    MeasurementHysteresisTime OPTIONAL,
  reportPeriodicity            ReportPeriodicity OPTIONAL
}

EventF ::= SEQUENCE {
  measurementThreshold1        MeasurementThreshold1,
  measurementThreshold2        MeasurementThreshold2 OPTIONAL,
  measurementHysteresisTime    MeasurementHysteresisTime OPTIONAL,
  reportPeriodicity            ReportPeriodicity OPTIONAL
}

-----
-- F
-----

-- The maximum value is equal to the DL spreading factor • --
FDD-DL-ChannalisationCodeNumber ::= INTEGER(0.. 255)

-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [TS 25.211] --
FDD-S-CPCH-Offset ::= INTEGER (0.. 149)

-- 0=lower priority, 15=higher priority --
FrameHandlingPriority ::= INTEGER (0..15)

-----
-- G
-----

GapPeriod ::= INTEGER(0..255)

Gap Position Mode ::= ENUMERATED {
fixed,
flexible
}

-----
-- H

```

```

-----
-----
-- I
-----

-- to do
IB-SG ::= BIT STRING

IB-SG-POS ::= INTEGER (0..4095)

IB-SG-REP ::= INTEGER {rep(16), rep(32), rep(64), rep(128), rep(256), rep(512), rep(1024),
rep(2048)}

IB-Type :: Enumerated {
MIB,
SIB1,
SIB2,
SIB12
}

IndicationType ::= ENUMERATED {
noFailure,
serviceImpacting,
cellControl,
...
}

-----
-- J
-----

-----
-- L
-----

| LengthOfTFCI2 ::= INTEGER (1..10)

LocalCell-ID ::= INTEGER (0..268435455)

-----
-- M
-----

-- dBm, granularity 1 dBm
-- dl-power0 indicates 0 dBm
MaximumDL-PowerCapability ::= ENUMERATED {
dl-power0,
dl-power1,
dl-power2,
...
}

-- Unit dBm, 0 to 50, Granularity 1 dB
MaximumTransmissionPower ::= ENUMERATED {
power0,
power1,
power2,
...
}

MaxNumberOfUL-DPDCHs ::= INTEGER (1..6)

MaxPRACH-MidambleShifts ::= ENUMERATED {
shift4,
shift8
}

-- 10ms to 1min, Step10ms
MeasurementChangeTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}

MeasurementCharacteristics ::= SEQUENCE {

```

```

        measurementFrequency      MeasurementFrequency,
        averagingDuration          AveragingDuration
    }

    -- to do
    MeasurementDecreaseThreshold ::= TBD

    -- to do
    MeasurementFrequency ::= TBD

    -- to do
    MeasurementIncreaseThreshold ::= TBD

    -- to do
    -- 10ms to 1min, Step10ms --
    MeasurementHysteresisTime ::= ENUMERATED {
    time10ms,
    time20ms,
    time30ms,
    ...
    }

    MeasurementID ::= INTEGER (0..1048575)

    -- to do
    MeasurementThreshold ::= TBD

    -- to do
    MeasurementThreshold1 ::= TBD

    -- to do
    MeasurementThreshold2 ::= TBD

    MeasurementType ::= ENUMERATED {
    sCH,
    syncRACH-access
    }

    MessageDiscriminator ::= ENUMERATED {
    common,
    dedicated
    }

    MidambleShift ::= INTEGER (0..15)

    MinimumSpreadingFactor ::= ENUMERATED {
    sF4,
    sF16,
    sF32,
    sF64,
    sF128,
    sF256,
    sF512
    }

    MinUL-ChannelisationCodeLength ::= ENUMERATED {
    code-length4,
    code-length8,
    code-length16,
    code-length32,
    code-length64,
    code-length128,
    code-length256
    }

    MiscellaneousCause ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    oam-intervention,
    not-enough-user-plane-processing-resources,
    unspecified
    }

    Mode-DynamicTFS ::= CHOICE {
        tdd-mode-dynamic      TransmissionTimeInterval-Dynamic,
        ...
    }

```

```

Mode-SemiStaticTFS ::= CHOICE {
    tdd-mode-semi-static TransmissionTimeInterval-SemiStatic,
    ...
}

-----
-- N
-----

-- to do
NumberOfChannelElements ::= TBD

NodeB-CommunicationContextID ::= INTEGER (0..1048576)

NumberOfTransportBlocks ::= INTEGER (0..4095)

-----
-- O
-----

-----
-- P
-----

PagingIndicatorLength ::= ENUMERATED {
    ind-length2,
    ind-length4,
    ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    cRC-Included,
    cRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PDSCH-CodeMapping ::= SEQUENCE {
    dl-ScramblingCode          DL-ScramblingCode,
    signallingMethod          CHOICE {
        code-Range            PDSCH-CodeMapping-PDSCH-CodeMappingInformationList,
        tFCI-Range            PDSCH-CodeMapping-DSCH-MappingInformationList,
        explicit               PDSCH-CodeMapping-PDSCH-CodeInformationList
    },
    iE-Extensions              ProtocolExtensionContainer { { PDSCH-CodeMapping-
ExtIes} } OPTIONAL,
    ...
}

PDSCH-CodeMapping-ExtIes NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCH-CodeMapping-CodeNumberComp ::= INTEGER (0..maxCodeNrComp-1)

PDSCH-CodeMapping-SpreadingFactor ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256,
    ...
}

PDSCH-CodeMapping-PDSCH-CodeMappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfCodeGroups))
OF
    SEQUENCE {
        spreadingFactor          PDSCH-CodeMapping-SpreadingFactor,
        multi-code-info          PDSCH-Multi-code-info,
        start-CodeNumber         PDSCH-CodeMapping-CodeNumberComp,
        stop-CodeNumber          PDSCH-CodeMapping-CodeNumberComp,
        iE-Extensions            ProtocolExtensionContainer { { PDSCH-CodeMapping-
PDSCH-CodeMappingInformationList-ExtIes} } OPTIONAL,
        ...
    }

```

```

}

PDSCH-CodeMapping-PDSCH-CodeMappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCH-CodeMapping-DSCH-MappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
SEQUENCE {
    maxTFCI-field2-Value          PDSCH-CodeMapping-MaxTFCI-Field2-Value,
    spreadingFactor              PDSCH-CodeMapping-SpreadingFactor,
    multi-code-info              PDSCH-Multi-code-info,
    codeNumber                   PDSCH-CodeMapping-CodeNumberComp,
    iE-Extensions                ProtocolExtensionContainer { { PDSCH-CodeMapping-
DSCH-MappingInformationList-ExtIEs } } OPTIONAL,
    ...
}

PDSCH-CodeMapping-DSCH-MappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCH-CodeMapping-MaxTFCI-Field2-Value ::= INTEGER (1..1023)

PDSCH-CodeMapping-PDSCH-CodeInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
SEQUENCE {
    spreadingFactor              PDSCH-CodeMapping-SpreadingFactor,
    multi-code-info              PDSCH-Multi-code-info,
    codeNumber                   PDSCH-CodeMapping-CodeNumberComp,
    iE-Extensions                ProtocolExtensionContainer { { PDSCH-CodeMapping-
PDSCH-CodeInformationList-ExtIEs } } OPTIONAL,
    ...
}

PDSCH-CodeMapping-PDSCH-CodeInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCH-Multi-code-info ::= INTEGER (1..16)

PICH-Mode ::= ENUMERATED {
    noofPI18,
    noofPI36,
    noofPI72,
    noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
    pilot-bits-used,
    pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
    pcm0,
    pcm1,
    ...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    prm0,
    prm1,
    ...
}

PRACH-Midamble ::= ENUMERATED {
    inverted,
    direct
}

PreambleScramblingCode ::= INTEGER (0..4095)

-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [25.213] --

```

```

PreambleSignatures ::= BIT STRING (SIZE (16))

-- Unit dBm, -15 to 40, Granularity 0.1 dB
-- cpich-power1 indicates * 5 dB
PrimaryCPICH-Power ::= ENUMERATED {
cpich-power1,
cpich-power2,
...
}

PrimaryScramblingCode ::= INTEGER (0..511)

PropagationDelay ::= INTEGER (0..255)

ProtocolCause ::= ENUMERATED
transaction-not-allowed,
transfer-syntax-error,
abstract-syntax-error -reject,
abstract-syntax-error-ignore-and-notify,
message-not-compatible-with-receiver-state,
semantic-error,
unspecified
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)

PSCH-TimeSlot ::= INTEGER (0..6)

PSCH-Power ::= INTEGER (0..511)

PUSCH-Offset ::= INTEGER (0..255)

-----
-- R
-----

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, .., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause :: Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

ReportCharacteristicsType ::= CHOICE {

```

```

    onDemand          NULL,
    periodic          ReportPeriodicity,
    event-a           EventA,
    event-b           EventB,
    event-c           EventC,
    event-d           EventD,
    event-e           EventE,
    event-f           EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min
ReportPeriodicity ::= CHOICE {
    msec          INTEGER (1..1000),
    min           INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
    enabled,
    disabled
}

RLC-Mode ::= ENUMERATED {
    acknowledgedMode,
    unacknowledgedMode,
    transparentMode
}

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)

-- -30..-100 step 0.1
-- rssi1 indicates -30
RSSI-Value ::= ENUMERATED {
    rssi1,
    rssi2,
    ...
}
-----
-- S
-----

ScramblingCodeChange ::= ENUMERATED {
    change,
    no-change
}

Scrambling Code Word Number ::= INTEGER (0..255)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..8)

SegmentType ::= ENUMERATED {
    first,
    subsequent,
    last,
    complete
}

SemiStaticTransportFormatInformation ::= SEQUENCE {
    transmissionTimeInterval      TransmissionTimeInterval,
    typeOfChannelCoding           TypeOfChannelCoding,
    codingRate                    CodingRate OPTIONAL
    -- This IE is only present if IE Type of channel coding is Convolutional or Turbo --,
    rateMatchingAttribute         RateMatchingAttribute,
    CRC-Size                      CRC-Size,
    mode-semistatic               Mode-SemiStatic
}

S-FieldLength ::= ENUMERATED {
    s-length1,
    s-length2
}

SIB-DeletionIndicator ::= ENUMERATED {
    noDeletion,
    deletion
}

```



```

}

SIB-Originator ::= ENUMERATED {
nodeB,
cRNC
}

--** TODO. -10..10 is transformed to 0..10. 0.1 steps gives 0..200 **
-- sir-error-value1 indicates • 0 dB
SIR-ErrorValue ::= ENUMERATED {
sir-error-value1,
sir-error-value2,
...
}

--** TODO. -10..20 is transformed to 0..30. 0.1 steps gives 0..300 **
-- sir-value1 indicates • 0 dB
SIR-Value ::= ENUMERATED {
sir-value1,
sir-value2,
...
}

SplitType ::= ENUMERATED {
    hard,
    logical
}

SSDT-CellIdentity ::= ENUMERATED {a, b, c, d, e, f, g, h}

SSDT-Indication ::= ENUMERATED {
    ssdtActiveInTheUE,
    ssdtNotActiveInTheUE
}

STD-Indicator ::= ENUMERATED {
    active,
    inactive
}

SSDT-SupportIndicator ::= ENUMERATED {
sSDT-not-supported,
sSDT-Supported
}

ShutdownTimer ::= INTEGER (1..3600)

SynchronisationMethod ::= ENUMERATED {
external-reference,
locked-toMaster-cell,
one-time-synchronisation
}

-----
-- T
-----

T-Cell ::= ENUMERATED {
    chip-0,
    chip-256,
    chip-512,
    chip-768,
    chip-1024,
    chip-1280,
    chip-1536,
    chip-1892,
    chip-2048,
    chip-2304
}

TDD-ChannelisationCode ::= ENUMERATED {
channelisationCode1-1,
channelisationCode2-1,
channelisationCode2-2,
channelisationCode4-1,
channelisationCode4-2,

```

```

...
}

-- the ChipOffset is • 9200 to + 19199
TDD-ChipOffset ::= INTEGER (-19200..19199)

TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
    ENUMERATED {tti10, tti20, tti40, tti80}
}

TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
    frameRelated,
    timeSlotRelated
}

TDD-S-CCPCH-Offset ::= INTEGER (0..63)

TFCI-Presence ::= ENUMERATED {
    present,
    not-present
}

TFCI-SignallingMode ::= SEQUENCE {
    tFCI-SignallingOption TFCI-SignallingOption,
    splitType SplitType OPTIONAL
    -- This IE is only present if TFCI signalling option is split --,
    lengthOfTFCI2 LengthOfTFCI2 OPTIONAL
    -- This IE is only present if split type is logical --
}

TFCI-SignallingOptionMode ::= ENUMERATED {
    normal,
    split,
}

TFCs ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
SEQUENCE {
    cTFC CTFC
}

TFCs ::= SEQUENCE {
    dsch CHOICE {
        no-split-in-TFCI TransportFormatCombinationSet-TFCsList,
        split-in-TFCI SEQUENCE {
            transportFormatCombination-DCH TransportFormatCombination-DCHList,
            signallingMethod CHOICE {
                tFCI-Range TransportFormatCombination-TFC-
                MappingOnDSCHList,
                explicit TransportFormatCombination-TFC-DSCHList
            }
        }
    },
    iE-Extensions ProtocolExtensionContainer { { TransportFormatCombinationSet-ExtIEs} }
    OPTIONAL,
    ...
}

TransportFormatCombinationSet-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatCombinationSet-TFCsList ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC TransportFormatCombinationSet-CTFC,
        iE-Extensions ProtocolExtensionContainer { { TransportFormatCombinationSet-
        TFCsList-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatCombinationSet-TFCsList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatCombinationSet-CTFC ::= INTEGER (1..maxCTFC-1)

TransportFormatCombination-DCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCI1Combs)) OF
    SEQUENCE {

```

```

    cTFC          TransportFormatCombination-CTFC-DCH,
    iE-Extensions ProtocolExtensionContainer { { TransportFormatCombination-
DCHList-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatCombination-DCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatCombination-CTFC-DCH ::= INTEGER (0..maxCTFC-DCH-1)

TransportFormatCombination-TFC-MappingOnDSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
SEQUENCE {
    maxTFCI-field2-Value      TransportFormatCombination-MaxTFCI-field2-Value,
    cTFC-DSCH                TransportFormatCombination-CTFC-DSCH,
    iE-Extensions            ProtocolExtensionContainer { {
TransportFormatCombination-TFC-MappingOnDSCHList-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatCombination-TFC-MappingOnDSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatCombination-MaxTFCI-field2-Value ::= INTEGER (1..1023)

TransportFormatCombination-CTFC-DSCH ::= INTEGER (0..maxCTFC-DSCH-1)

TransportFormatCombination-TFC-DSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
SEQUENCE {
    cTFC-DSCH                TransportFormatCombination-CTFC-DSCH,
    iE-Extensions            ProtocolExtensionContainer { {
TransportFormatCombination-TFC-DSCHList-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatCombination-TFC-DSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFS ::= SEQUENCE {
    dynamicTransportFormatInformation
    DynamicTransportFormatInformation,
    semiStaticTransportFormatInformation
    SemiStaticTransportFormatInformation
}

TGD ::= INTEGER (0..255)

TGL ::= INTEGER (3,4,7,10,14)

TimeSlot ::= INTEGER (0..14)

TimeSlotDirection ::= ENUMERATED {
    ul,
    dl
}

-- to do
TimeSlotISCP-Value ::= TBD

TimeSlotStatus ::= ENUMERATED {
    active,
    not-active
}

ToAWE ::= INTEGER (0..2559) -- msec. --
ToAWS ::= INTEGER (0..1279) -- msec. --

TPC-DownlinkStepSize ::= ENUMERATED {
    step-size0-5,
    step-size1
}

```

```

Transmit Diversity Indicator ::= ENUMERATED {
  active,
  Inactive
}

TransmissionTimeInterval ::= ENUMERATED {
  time-interval10,
  time-interval20,
  time-interval40,
  time-interval80
}          -- mec --

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- carrier-power1 indicates • 5 dB
TransmittedCarrierPowerValue ::= ENUMERATED {
  carrier-power1,
  carrier-power2,
  ...
}

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- code-power1 indicated • 5 dB
TransmittedCodePowerValue ::= ENUMERATED {
  code-power1,
  code-power2,
  ...
}

TransportBlockSize ::= INTEGER (1..5000)
-- bit --

TSTD-Indicator ::= ENUMERATED {
  active,
  inactive
}

TransportLayerAddress ::= OCTET STRING (SIZE (1..20, ...))

TransportLayerCause ::= ENUMERATED {
  transport-link-failure,
  transmission-port-not-available,
  transport-resource-unavailable,
  unspecified
}

TypeOfChannelCoding ::= ENUMERATED {
  no-coding,
  convolutional,
  turbo
}

-----
-- U
-----

UARFCN ::= INTEGER (174 .. 474)

UL-DL-CompressedModeSelection ::= ENUMERATED {
  ul-only,
  dl-only,
  both-UlandDL
}

UL-DPCH-SlotFormat ::= INTEGER (0..5)

UL-EbNo ::= INTEGER (0..255)
-- Resolution is 0.1 dB, range 0-25.5 dB --

UL-FP-Mode ::= ENUMERATED {
  normal,
  silent
}

-- unit dBm, step 0.1dBm
UL-InterferenceLevel ::= INTEGER (-128..60)

```

```

UL-PunctureLimit ::= INTEGER (0..100)

UL-ScramblingCode ::= SEQUENCE {
    uL-ScramblingCodeNumber    UL-ScramblingCodeNumber,
    uL-ScramblingCodeLength    UL-ScramblingCodeLength
}

-- 2^24
UL-ScramblingCodeLength ::= INTEGER (0..16777215)

UL-ScramblingCodeNumber ::= ENUMERATED {
short,
long
}

UplinkDeltaEb-No ::= ENUMERATED {
deltaEb-No-6dB,
...
}

UplinkDeltaEb-No-after ::= ENUMERATED {
deltaEb-No-after-6dB,
...
}

END

```

9.3.5 NBAP Common Data Type Definitions

```

-- *****
--
-- Common definitions
--
-- *****

NBAP-CommonDataTypes -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

Criticality      ::= ENUMERATED { reject, ignore, notify }

MessageDiscriminator ::= ENUMERATED { common, dedicated }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateExtensionID ::= CHOICE {
    local          INTEGER (0..65535),
    global         OBJECT IDENTIFIER
}

ProcedureID      ::= SEQUENCE {
    procedureCode    INTEGER (0..255),
    ddMode          ENUMERATED { tdd, fdd, common }
}

ProtocolExtensionID ::= INTEGER (0..65535)

ProtocolIE-ID    ::= INTEGER (0..65535)

TransactionID    ::= INTEGER (0..255)

END

```

9.3.6 NBAP Extension Definitions

```

-- *****
--
-- Container definitions
--
-- *****

NBAP-Containers -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

```

```

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

IMPORTS
    Criticality,
    Presence,
    PrivateExtensionID,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes

    maxProtocolExtensions,
    maxPrivateExtensions,
    maxProtocolIEs
FROM NBAP-Constants;

-- *****
--
-- Class Definition for Protocol IEs
--
-- *****

NBAP-PROTOCOL-IES ::= CLASS {
    &id      ProtocolIE-ID          UNIQUE,
    &criticality  Criticality,
    &Value,
    &presence  Presence
}
WITH SYNTAX {
    ID      &id
    CRITICALITY &criticality
    TYPE      &Value
    PRESENCE  &presence
}

-- *****
--
-- Class Definition for Protocol IEs
--
-- *****

NBAP-PROTOCOL-IES-PAIR ::= CLASS {
    &id      ProtocolIE-ID          UNIQUE,
    &firstCriticality  Criticality,
    &FirstValue,
    &secondCriticality  Criticality,
    &SecondValue,
    &presence          Presence
}
WITH SYNTAX {
    ID      &id
    FIRST CRITICALITY &firstCriticality
    FIRST TYPE      &FirstValue
    SECOND CRITICALITY &secondCriticality
    SECOND TYPE      &SecondValue
    PRESENCE        &presence
}

-- *****
--
-- Class Definition for Protocol Extensions
--
-- *****

NBAP-PROTOCOL-EXTENSION ::= CLASS {
    &id      ProtocolExtensionID    UNIQUE,
    &criticality  Criticality,
    &Extension
}
WITH SYNTAX {
    ID      &id
    CRITICALITY &criticality

```

```

    EXTENSION    &Extension
}
-- *****
--
-- Class Definition for Private Extensions
--
-- *****

NBAP-PRIVATE-EXTENSION ::= CLASS {
    &id        PrivateExtensionID,
    &criticality    Criticality,
    &Extension
}
WITH SYNTAX {
    ID        &id
    CRITICALITY &criticality
    EXTENSION    &Extension
}
-- *****
--
-- Container for Protocol IEs
--
-- *****

ProtocolIE-Container {NBAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {NBAP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id        NBAP-PROTOCOL-IES.&id        ({IEsSetParam}),
    criticality    NBAP-PROTOCOL-IES.&criticality    ({IEsSetParam}{@id}),
    value        NBAP-PROTOCOL-IES.&Value    ({IEsSetParam}{@id})
}
-- *****
--
-- Container for Protocol IE Pairs
--
-- *****

ProtocolIE-ContainerPair {NBAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {NBAP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {
    id        NBAP-PROTOCOL-IES-PAIR.&id        ({IEsSetParam}),
    firstCriticality    NBAP-PROTOCOL-IES-PAIR.&firstCriticality    ({IEsSetParam}{@id}),
    firstValue        NBAP-PROTOCOL-IES-PAIR.&FirstValue    ({IEsSetParam}{@id}),
    secondCriticality    NBAP-PROTOCOL-IES-PAIR.&secondCriticality    ({IEsSetParam}{@id}),
    secondValue        NBAP-PROTOCOL-IES-PAIR.&SecondValue    ({IEsSetParam}{@id})
}
-- *****
--
-- Container Lists for Protocol IE Containers
--
-- *****

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, NBAP-PROTOCOL-IES :
IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-Container {{IEsSetParam}}

ProtocolIE-ContainerPairList {INTEGER : lowerBound, INTEGER : upperBound, NBAP-PROTOCOL-IES-
PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-ContainerPair {{IEsSetParam}}
-- *****
--
-- Container for Protocol Extensions
--
-- *****

ProtocolExtensionContainer {NBAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=

```

```

SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {NBAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
id          NBAP-PROTOCOL-EXTENSION.&id  ({ExtensionSetParam}),
criticality NBAP-PROTOCOL-EXTENSION.&criticality  ({ExtensionSetParam}@id),
extensionValue NBAP-PROTOCOL-EXTENSION.&Extension  ({ExtensionSetParam}@id)}
}

-- *****
--
-- Container for Private Extensions
--
-- *****

PrivateExtensionContainer {NBAP-PRIVATE-EXTENSION : ExtensionSetParam} ::=
SEQUENCE (SIZE (1..maxPrivateExtensions)) OF
PrivateExtensionField {{ExtensionSetParam}}

PrivateExtensionField {NBAP-PRIVATE-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
id          NBAP-PRIVATE-EXTENSION.&id
({ExtensionSetParam}),
criticality NBAP-PRIVATE-EXTENSION.&criticality
({ExtensionSetParam}@id),
extensionValue NBAP-PRIVATE-EXTENSION.&Extension
({ExtensionSetParam}@id)}
}

END

```

9.3.7 Constant Definitions for NBAP

```

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

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

id-audit                INTEGER ::= 0
id-auditRequired        INTEGER ::= 1
id-blockResource        INTEGER ::= 2
id-cellDeletion         INTEGER ::= 3
id-cellReconfiguration  INTEGER ::= 4
id-cellSetup            INTEGER ::= 5
id-commonMeasurementFailure  INTEGER ::= 6
id-commonMeasurementInitiation  INTEGER ::= 7
id-commonMeasurementReport    INTEGER ::= 8
id-commonMeasurementTermination  INTEGER ::= 9
id-commonTransportChannelDeletion  INTEGER ::= 10
id-commonTransportChannelReconfiguration  INTEGER ::= 11
id-commonTransportChannelSetup  INTEGER ::= 12
id-compressedModeControlCancellation  INTEGER ::= 13
id-compressedModeControlCommit  INTEGER ::= 14
id-compressedModeControlPreparation  INTEGER ::= 15
id-dedicatedMeasurementFailure  INTEGER ::= 16
id-dedicatedMeasurementInitiation  INTEGER ::= 17
id-dedicatedMeasurementReport    INTEGER ::= 18
id-dedicatedMeasurementTermination  INTEGER ::= 19
id-dlPowerControl        INTEGER ::= 20
id-neighbourCellMeasurement  INTEGER ::= 21
id-radioLinkAddition      INTEGER ::= 22
id-radioLinkDeletion      INTEGER ::= 23
id-radioLinkFailure       INTEGER ::= 24
id-radioLinkReconfigurationCommit  INTEGER ::= 25
id-radioLinkReconfigurationCancel  INTEGER ::= 26
id-radioLinkRestoration   INTEGER ::= 27

```



```

id-radioLinkSetup                INTEGER ::= 28
id-resourceStatusIndication       INTEGER ::= 29
id-synchronisationAdjustment      INTEGER ::= 30
id-synchronisationFailure         INTEGER ::= 31
id-synchronisationRestart         INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation  INTEGER ::= 33
id-systemInformationUpdate        INTEGER ::= 34
id-unblockResource                INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration          INTEGER ::= 36

-- *****
--
-- Extension constants
--
-- *****

maxPrivateExtensions              INTEGER ::= 65535
maxProtocolExtensions             INTEGER ::= 65535
maxProtocolIEs                   INTEGER ::= 65535

-- *****
--
-- Lists
--
-- *****

maxSF                              INTEGER ::= 10
maxnoofDLCodes                    INTEGER ::= 10
maxnoofRLs                        INTEGER ::= 10
maxnoofDPCHs                      INTEGER ::= 10
maxnoofSCCPCHs                   INTEGER ::= 10
maxnoofPRACHs                    INTEGER ::= 10
maxnoofDCHs                      INTEGER ::= 10
maxnoofDSCHs                     INTEGER ::= 10
maxnoofFACHs                     INTEGER ::= 10
maxnoofCCTrCHs                   INTEGER ::= 10
maxnoofPCHs                      INTEGER ::= 10
maxnoofPUCSHs                    INTEGER ::= 10
maxnoofTFCs                      INTEGER ::= 10
maxnoofUSCHs                     INTEGER ::= 10
maxUCIDinNodeB                   INTEGER ::= 10
maxCellinNodeB                   INTEGER ::= 10
maxCCPInNodeB                    INTEGER ::= 10
maxCTF-1                          INTEGER ::= 10
maxLocalCellinNodeB              INTEGER ::= 10
maxPCHinNodeB                    INTEGER ::= 10
maxRACHCell                      INTEGER ::= 10
maxnoofFACHCell                  INTEGER ::= 10
maxPCHCell                       INTEGER ::= 10
maxUSCHCell                      INTEGER ::= 10
maxAICHCell                      INTEGER ::= 10
maxMIBSEG                        INTEGER ::= 10
maxSIBSEG                        INTEGER ::= 10
maxnoofFDDNeighbours             INTEGER ::= 10
maxnoofTDDNeighbours             INTEGER ::= 10
maxTFcount                       INTEGER ::= 10
maxnoofTFCs                      INTEGER ::= 10
maxFACHCell                      INTEGER ::= 10
maxnoCCTrCH                      INTEGER ::= 10
maxnoCCTrCHs                    INTEGER ::= 10
maxnoofCCTrCH                   INTEGER ::= 10
maxnoofDPCH                      INTEGER ::= 10
maxnoofPUSHs                    INTEGER ::= 10
maxnoofRL-1                      INTEGER ::= 10
maxnoofRL-2                      INTEGER ::= 10
maxRM                            INTEGER ::= 10

maxCodeNrComp-1                  INTEGER ::= 10
maxNrOfCodeGroups                INTEGER ::= 10
maxNrOfTFCIGroups                INTEGER ::= 10
maxNrOfTFCI1Combs                INTEGER ::= 10
maxNrOfTFCI2Combs                INTEGER ::= 10
maxCTFC-DCH-1                   INTEGER ::= 10
maxCTFC-DSCH-1                  INTEGER ::= 10

```

```

-- *****
--
-- IEs
--
-- *****

id-AICH-Information-ResourceStatIndItem          INTEGER ::= 0
id-AICH-ParametersList                          INTEGER ::= 1
id-AICH-ParametersListItem                      INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD  INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD  INTEGER ::= 4
id-BlockingPriorityIndicator                    INTEGER ::= 5
id-CCTrCH-ParametersList                       INTEGER ::= 6
id-CCTrCH-ParametersListItem                   INTEGER ::= 7
id-CFN                                          INTEGER ::= 8
id-CRNC-CommunicationContextID                  INTEGER ::= 9
id-CRNCCommunicationContextID                  INTEGER ::= 10
id-Cause                                        INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem         INTEGER ::= 12
id-Cell-InformationItem                        INTEGER ::= 13
id-Cell-InformationList                        INTEGER ::= 14
id-Cell-Parameter                             INTEGER ::= 15
id-Cell-ParametersItem                        INTEGER ::= 16
id-Cell-ParametersList                        INTEGER ::= 17
id-CellParameter                              INTEGER ::= 18
id-CommonMeasurementObjectType                 INTEGER ::= 19
id-CommonMeasurementType                      INTEGER ::= 20
id-CommonPhysicalChannelID                    INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD  INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response  INTEGER ::= 23
id-CommunicationControlPort-InformationItem     INTEGER ::= 24
id-CommunicationControlPortID                  INTEGER ::= 25
id-CommunicationControlPortInformation-ResourceStatIndItem  INTEGER ::= 26
id-CommunicationControlPortInformationList      INTEGER ::= 27
id-CompressesModeMethod                       INTEGER ::= 28
id-ConfigurationGenerationID                  INTEGER ::= 29
id-DCH-Add-RL-ReconfPrepFDDItem                INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem                INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem                 INTEGER ::= 32
id-DCH-Add-RL-ReconfReqFDDItem                INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem                INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp                  INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD               INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD               INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD                INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD                INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem             INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem             INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem             INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem             INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD            INTEGER ::= 44
id-DCH-DeleteList-RL-ReconfPrepTDD            INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD             INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD             INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem          INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem          INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD         INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD         INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem  INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem  INTEGER ::= 53
id-DCH-InformationResponseItem                 INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem             INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem             INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem              INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem             INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem             INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp               INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD            INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD            INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD             INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD             INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem  INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem  INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem   INTEGER ::= 67
id-DL-CCTrCH-InformationItem                   INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD  INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD  INTEGER ::= 70

```

id-DL-CCTrCH-InformationList-RL-SetupReqTDD	INTEGER ::= 71
id-DL-CCTrCHInformationItem	INTEGER ::= 72
id-DL-CCTrCHInformationList	INTEGER ::= 73
id-DL-CodeInformation	INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem	INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem	INTEGER ::= 76
id-DL-DPCH-Information-RL-ReconfPrepFDD	INTEGER ::= 77
id-DL-DPCH-Information-RL-ReconfPrepTDDItem	INTEGER ::= 78
id-DL-DPCH-Information-RL-SetupReqTDDItem	INTEGER ::= 79
id-DL-DPCH-InformationItem	INTEGER ::= 80
id-DL-DPCH-InformationItem-RL-ReconfReqFDD	INTEGER ::= 81
id-DL-DPCH-InformationItem-RL-SetupReqFDD	INTEGER ::= 82
id-DL-FrameType	INTEGER ::= 83
id-DL-ReferencePowerInformationItem	INTEGER ::= 84
<u>id-DSCH-Add-RL-ReconfPrepFDDItem</u>	<u>INTEGER ::= 225</u>
<u>id-DSCH-Add-RL-ReconfReqFDDItem</u>	<u>INTEGER ::= 226</u>
id-DSCH-AddListItem-RL-ReconfPrepFDD	INTEGER ::= 85
id-DSCH-AddListItem-RL-ReconfReqFDD	INTEGER ::= 86
<u>id-DSCH-Delete-RL-ReconfPrepFDDItem</u>	<u>INTEGER ::= 227</u>
<u>id-DSCH-Delete-RL-ReconfReqFDDItem</u>	<u>INTEGER ::= 228</u>
id-DSCH-DeleteListItem-RL-ReconfPrepFDD	INTEGER ::= 87
id-DSCH-DeleteListItem-RL-ReconfReqFDD	INTEGER ::= 88
id-DSCH-ID	INTEGER ::= 89
id-DSCH-Information-RL-SetupReqFDDItem	INTEGER ::= 90
id-DSCH-InformationList-RL-SetupReqFDD	INTEGER ::= 91
id-DSCH-InformationResponse-RL-SetupFailFDDItem	INTEGER ::= 92
id-DSCH-InformationResponse-RL-setupResFDDItem	INTEGER ::= 93
<u>id-DSCH-Modify-RL-ReconfPrepFDDItem</u>	<u>INTEGER ::= 229</u>
<u>id-DSCH-Modify-RL-ReconfReqFDDItem</u>	<u>INTEGER ::= 230</u>
id-DSCH-ModifyListItem-RL-ReconfPrepFDD	INTEGER ::= 94
id-DSCH-ModifyListItem-RL-ReconfReqFDD	INTEGER ::= 95
id-DedicatedMeasurementObjectType	INTEGER ::= 96
id-DedicatedMeasurementType	INTEGER ::= 97
id-FACH-Information-ResourceStatIndItem	INTEGER ::= 98
id-FACH-InformationItem	INTEGER ::= 99
id-FACH-ListItem	INTEGER ::= 100
id-FACH-ParametersList-CTChreconf-Req-FDD	INTEGER ::= 101
id-FACH-ParametersList-CTChreconf-Req-TTD	INTEGER ::= 102
id-FACH-ParametersListItem-CTChreconf-Req-FDD	INTEGER ::= 103
id-FACH-ParametersListItem-CTChreconf-Req-TTD	INTEGER ::= 104
id-FACH-ParametersListItem-CTChsetup-Req-FDD	INTEGER ::= 105
id-FACH-ParametersListItem-CTChsetup-Response	INTEGER ::= 106
id-GapStartingSlotNumber	INTEGER ::= 107
id-IndicationType	INTEGER ::= 108
id-Local-Cell-Information-ResourceStatIndItem	INTEGER ::= 109
id-Local-CellInformation-ResourceStatIndItem	INTEGER ::= 110
id-LocalCell-ID	INTEGER ::= 111
id-LocalCell-InformationItem	INTEGER ::= 112
id-LocalCellInformationList	INTEGER ::= 113
id-MIB-SegmentInformationItem	INTEGER ::= 114
id-MIB-SegmentInformationList	INTEGER ::= 115
id-MaximumTransmissionPower	INTEGER ::= 116
id-MeasuredCellInfo	INTEGER ::= 117
id-MeasurementCharacteristics	INTEGER ::= 118
id-MeasurementID	INTEGER ::= 119
id-MeasurementType	INTEGER ::= 120
id-NeighbouringFDD-Cell-InformationItem	INTEGER ::= 121
id-NeighbouringTDD-Cell-InformationItem	INTEGER ::= 122
id-NodeB-CommunicationContextID	INTEGER ::= 123
id-PCCPCH-Information	INTEGER ::= 124
id-PCH-Information-ResourceStatIndItem	INTEGER ::= 125
id-PCH-InformationItem	INTEGER ::= 126
id-PCH-ListItem	INTEGER ::= 127
id-PCH-Parameters-CTChreconf-Req-FDD	INTEGER ::= 128
id-PCH-ParametersList	INTEGER ::= 129
id-PCH-ParametersListItem	INTEGER ::= 130
id-PICH-Parameters-CTChreconf-Req-FDD	INTEGER ::= 131
id-PRACH-ParametersList	INTEGER ::= 132
id-PRACH-ParametersListItem	INTEGER ::= 133
id-PSCH-Information	INTEGER ::= 134
id-PSCHandPCCPCH-Information	INTEGER ::= 135
id-PUSCH-ListItem	INTEGER ::= 136
id-PatternDuration	INTEGER ::= 137
id-PowerControlMode	INTEGER ::= 138
id-PowerResumeMode	INTEGER ::= 139
id-PrimaryCCPCH-Information	INTEGER ::= 140
id-PrimaryCPICH-Information	INTEGER ::= 141

id-PrimarySCH-Information	INTEGER ::= 142
id-PrimaryScramblingCode	INTEGER ::= 143
id-ProcedureScopeType	INTEGER ::= 144
id-RACH-Information-ResourceStatIndItem	INTEGER ::= 145
id-RACH-InformationItem	INTEGER ::= 146
id-RL-ID	INTEGER ::= 147
id-RL-Information	INTEGER ::= 148
id-RL-Information-DMeasureReportItem	INTEGER ::= 149
id-RL-Information-DMeasureRequestItem	INTEGER ::= 150
id-RL-Information-DMeasureResponseItem	INTEGER ::= 151
id-RL-Information-RL-ReconfPrepFDDItem	INTEGER ::= 152
id-RL-Information-RL-SetupReqFDDItem	INTEGER ::= 153
id-RL-InformationItem	INTEGER ::= 154
id-RL-InformationItem-RL-SetupReqTDD	INTEGER ::= 155
id-RL-InformationList	INTEGER ::= 156
id-RL-InformationList-RL-ReconfReqFDD	INTEGER ::= 157
id-RL-InformationList-RL-SetupReqFDD	INTEGER ::= 158
id-RL-InformationResponse-RL-setupResFDDItem	INTEGER ::= 159
id-RL-InformationResponseItem-RL-ReconfResp	INTEGER ::= 160
id-RL-InformationResponseList-RL-ReconfReady	INTEGER ::= 161
id-RL-InformationResponseList-RL-ReconfReadyItem	INTEGER ::= 162
id-RL-InformationResponseList-RL-ReconfResp	INTEGER ::= 163
id-RL-InformationResponseList-RL-setupResFDD	INTEGER ::= 164
id-RL-InformationResponseList-RL-setupResTDD	INTEGER ::= 165
id-RL-ReconfigurationFailure-RL-ReconfFailItem	INTEGER ::= 166
id-RL-ReconfigurationFailureList-RL-ReconfFail	INTEGER ::= 167
id-RL-ResponseInformation	INTEGER ::= 168
id-RL-ResponseInformationItem	INTEGER ::= 169
id-RL-ResponseInformationList	INTEGER ::= 170
id-RL-informationItem	INTEGER ::= 171
id-RL-informationList	INTEGER ::= 172
id-RadioLinkInformation-RL-ReconfPrepFDDItem	INTEGER ::= 173
id-RadioLinkInformation-RL-ReconfPrepTDD	INTEGER ::= 174
id-RadioLinkInformation-RL-ReconfReqTDD	INTEGER ::= 175
id-RadioLinkInformationList-RL-ReconfPrepFDD	INTEGER ::= 176
id-ReportCharacteristics	INTEGER ::= 177
id-SFN	INTEGER ::= 178
id-SIB-SegmentInformationItem	INTEGER ::= 179
id-SIB-SegmentInformationList	INTEGER ::= 180
id-ScramblingCodeChange	INTEGER ::= 181
id-Secondary-CCPCHListItem	INTEGER ::= 182
id-SecondaryCPICH-Information	INTEGER ::= 183
id-SecondarySCH-Information	INTEGER ::= 184
id-ShutdownTimer	INTEGER ::= 185
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem	INTEGER ::= 186
id-Successful-RL-InformationResponseItem	INTEGER ::= 187
id-Successful-RL-InformationResponseList	INTEGER ::= 188
id-Successful-RL-InformationResponseList-RL-SetupFailFDD	INTEGER ::= 189
id-SynchronisationMethod	INTEGER ::= 190
id-T-Cell	INTEGER ::= 191
id-TDDChipOffset	INTEGER ::= 192
id-TimeSlotConfigurationItem	INTEGER ::= 193
id-TimeSlotConfigurationList	INTEGER ::= 194
id-TransmissionGapDistance	INTEGER ::= 195
id-TransmissionGapPeriod	INTEGER ::= 196
id-TransmitGapLength	INTEGER ::= 197
id-TransmitGapPositionMode	INTEGER ::= 198
id-UARFCN	INTEGER ::= 199
id-UC-ID	INTEGER ::= 200
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem	INTEGER ::= 201
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem	INTEGER ::= 202
id-UL-CCTrCH-Information-RL-SetupReqTDDItem	INTEGER ::= 203
id-UL-CCTrCH-InformationItemIE	INTEGER ::= 204
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD	INTEGER ::= 205
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD	INTEGER ::= 206
id-UL-CCTrCH-InformationList-RL-SetupReqTDD	INTEGER ::= 207
id-UL-CCTrCHInformation	INTEGER ::= 208
id-UL-CCTrCHInformationList	INTEGER ::= 209
id-UL-DPCH-Information-RL-ReconfPrepFDD	INTEGER ::= 210
id-UL-DPCH-Information-RL-ReconfPrepTDDItem	INTEGER ::= 211
id-UL-DPCH-Information-RL-SetupReqTDDItem	INTEGER ::= 212
id-UL-DPCH-InformationItem-RL-ReconfReqFDD	INTEGER ::= 213
id-UL-DPCH-InformationItem-RL-SetupReqFDD	INTEGER ::= 214
id-UL-DPCH-InformationItemIE	INTEGER ::= 215
id-USCH-Information-ResourceStatIndItem	INTEGER ::= 216
id-USCH-InformationItem	INTEGER ::= 217
id-USCH-ListItem-CTCHsetup-Req-TDD	INTEGER ::= 218

```
id-Unsuccessful-RL-InformationResponse          INTEGER ::= 219
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem  INTEGER ::= 220
id-Unsuccessful-RL-InformationResponseItem      INTEGER ::= 221
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD  INTEGER ::= 222
id-Unsuccessful-RL-InformationResponseList      INTEGER ::= 223
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD  INTEGER ::= 224
```

END

9.2.1.20 DL Power

The DL Power IE indicates a power level relative to the [FDD-primary CPICH power] [TDD-primary CCPCH power] configured in a cell. [FDD-If referred to a DPCH, it indicates the power of the DPDCH symbols].

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
DL Power			Enumerated(-35..+15dB)	Step 0.1dB

CHANGE REQUEST		Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.	
25.433	CR	031 R1	Current Version: 3.0.0
GSM (AA.BB) or 3G (AA.BBB) specification number ↑		↑ CR number as allocated by MCC support team	
For submission to: TSG RAN #7 <small>list expected approval meeting # here ↑</small>	for approval <input checked="" type="checkbox"/>	for information <input type="checkbox"/>	strategic <input type="checkbox"/> non-strategic <input type="checkbox"/> <small>(for SMG use only)</small>

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: RAN-WG3 **Date:** 2000-02-15

Subject: Change of definition of the quality estimate (QE)

Work item: _____

Category:	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
------------------	--	-----------------	--

(only one category shall be marked with an X)

Reason for change: In WG1 the definition of Physical channel BER type 1 is proposed to be changed to Transport channel BER. Therefore the handling of the QE has to be updated.

Clauses affected: 8.2.17, 8.3.2, 8.3.5, 9.1.35.1, 9.1.41.1, 9.1.46.1, 9.2.2.x, 9.3.3, 9.3.4

Other specs	Other 3G core specifications <input checked="" type="checkbox"/>	→ List of CRs:	25.215 3.1.0 CR-XXX, 25.427 3.1.0 CR-005, 25.423 3.0.0 CR-018
affected:	Other GSM core specifications <input type="checkbox"/>	→ List of CRs:	
	MS test specifications <input type="checkbox"/>	→ List of CRs:	
	BSS test specifications <input type="checkbox"/>	→ List of CRs:	
	O&M specifications <input type="checkbox"/>	→ List of CRs:	

Other comments: _____



<----- double-click here for help and instructions on how to create a CR.

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.

8.2.17.2 Successful operation

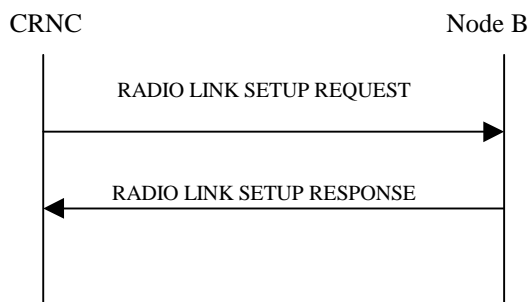


Figure 1: RL Setup procedure: Successful case

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.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[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 indicates, "may be combined with already existing RLs", then Node B shall decide for either of the alternatives. 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 NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and
- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

[FDD - For DCHs with a unique or no "DCH Combination Ind" and the *QE-Selector* IE set to "selected DCH", 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. [25.427]. If the *QE-Selector* is set to "non-selected DCH", the Physical channel BER shall be used for the QE in the UL data frames, ref. [25.427]].

[FDD - For DCHs with the same "DCH Combination Ind" the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected DCH" shall be used for the QE in the UL data frames, ref. [25.427]. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [25.427]. If all DCHs have *QE-Selector* IE set to "non-selected DCH" the Physical channel BER shall be used for the QE, ref. [25.427]].

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 configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

The included *RLC Mode* IE may be used by the NodeB to optimise the power control.

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.

The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

[FDD] 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 NodeB 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.]

The NodeB 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 – The NodeB 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.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specify for only one of the coordinated DCHs.

8.2.17.3 Unsuccessful Operation

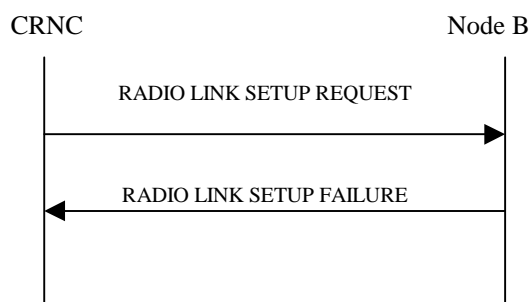


Figure 2: RL Setup procedure: Unsuccessful case

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.

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.

[FDD - If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected DCH” the DRNS shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message].

Typical cause values are as follows:

Radio Network Layer Cause

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.2.17.4 Abnormal Conditions

-

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 all Radio Links related to one UE-UTRAN connection within a Node B.

8.3.2.2 Successful Operation

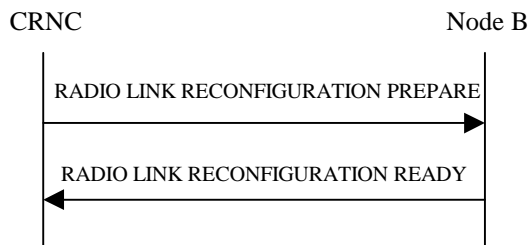


Figure 3: Synchronised Radio Link Reconfiguration procedure, Successful Case

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 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.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION PREPARE message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall.

1. treat all DCHs with the same value of this IE as a set of coordinated DCHs and

2. include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

[FDD - For DCHs with a unique or no "DCH Combination Ind" and the *QE-Selector* IE set to "selected DCH", 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. [25.427]. If the *QE-Selector* is set to "non-selected DCH", the Physical channel BER shall be used for the QE in the UL data frames, ref. [25.427]].

[FDD - For DCHs with the same "DCH Combination Ind" the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected DCH" shall be used for the QE in the UL data frames, ref. [25.427]. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [25.427]. If all DCHs have *QE-Selector* IE set to "non-selected DCH" the Physical channel BER shall be used for the QE, ref. [25.427]].

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 may use the included *RLC Mode* IE to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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 the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Uplink Channelisation Code* IEs, the Node B shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Downlink Channelisation Code* IEs, the Node B shall apply the new Downlink Channelisation Code(s) in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *UL DPCH Information* IE groups, the Node B shall apply the new UL physical channel(s) setting in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *DL DPCH Information* IE groups, the Node B shall apply the new physical channel(s) setting in the new configuration.]

The Node B shall use the *TFCS (UL)* IE when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

The Node B shall use the *TFCS (DL)* IE when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCCH Structure* IE, group the Node B shall set the new Uplink DPCCCH Structure to the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION PREPARE includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

SSDT Activation/Deactivation:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

DSCH Addition/Modification/Deletion:

[FDD] It is FFS how the Node B shall treat any included DSCH Information.

[TDD – The RADIO LINK RECONFIGURATION PREPARE message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

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.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub DCH-to-be-added group or DCH-to-be-modified group 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 group shall be included only for one of the combined RLs.

8.3.2.3 Unsuccessful Operation

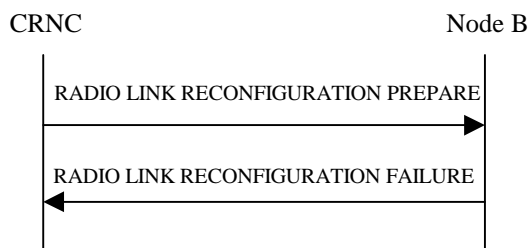


Figure 4: Synchronised Radio Link Reconfiguration procedure, Unsuccessful Case

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of coordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration 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.

[FDD - If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected DCH" the DRNS shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK RECONFIGURATION FAILURE message].

Typical cause values are as follows:

Radio Network Layer Cause

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated 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 with.

8.3.5 Unsynchronised Radio Link Reconfiguration

8.3.5.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a Node B.

The Unsynchronised RL Reconfiguration procedure is used when there is no need to synchronise the time of the switching from the old to the new configuration in one Node B used for a UE-UTRAN connection with any other Node B also used for the UE –UTRAN connection.

8.3.5.2 Successful Operation

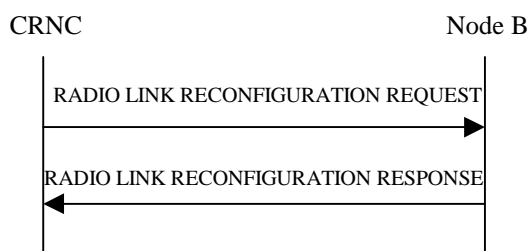


Figure 5: Unsynchronised Radio Link Reconfiguration Procedure, Successful Case

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION REQUEST to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the DRNS shall modify the 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.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the DRNS shall.

1. Treat all DCHs with the same value of this IE as a set of coordinated DCHs and
2. Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration.

[FDD - For DCHs with a unique or no "DCH Combination Ind" and the *QE-Selector* IE set to "selected DCH", 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. [25.427]. If the *QE-Selector* is set to "non-selected DCH", the Physical channel BER shall be used for the QE in the UL data frames, ref. [25.427]].

[FDD - For DCHs with the same "DCH Combination Ind" the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected DCH" shall be used for the QE in the UL data frames, ref. [25.427]. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [25.427]. If all DCHs have *QE-Selector* IE set to "non-selected DCH" the Physical channel BER shall be used for the QE, ref. [25.427]].

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 DRNS once the new configuration has been activated.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *RLC Mode* IE, the Node B may use this information to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (UL)* IE, the Node B shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (DL)* IE, the Node B shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

DSCH Addition/Modification/Deletion:

[FDD] It is FFS how the Node B shall treat any included DSCH Information.

[TDD – The RADIO LINK RECONFIGURATION REQUEST message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is

used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION RESPONSE message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

If the requested modifications are allowed by the Node B, the Node B has successfully allocated the required resources, and changed to the new configuration it shall respond to the CRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the DCH-to-be-added group or DCH-to-be-modified group shall be included 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, RL Information Response IE group shall be included only for one of the combined Radio Links.

8.3.5.1 Unsuccessful Operation

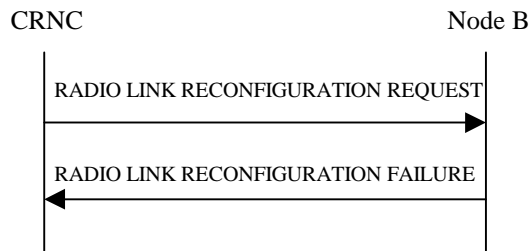


Figure 6: Unsynchronised Radio Link Reconfiguration procedure, Successful Case

If the DRNS cannot allocate the necessary resources for all the new DCHs of one set of coordinated, DCHs requested to be set-up it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s) the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC, indicating the reason for failure.

[FDD - If more than one DCH of a set of co-ordinated DCHs has the *OE-Selector* IE set to “selected DCH” the DRNS shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK RECONFIGURATION FAILURE message].

Typical cause values are as follows:

Radio Network Layer Cause

- RL Already Activated/allocated

Transport Layer Cause

- Transport Resources Unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.5.2 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated DCHs is requested to be deleted, the Node B shall regard the Synchronised Radio Link Reconfiguration procedure as having failed and shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC.

9.1.35 RADIO LINK SETUP REQUEST

9.1.35.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		1		
UL Scrambling Code	M			
Min UL Channelisation Code length	M			
Max Number of UL DPDCHs	C – CodeLen			
puncture limit	M			For UL
Transport Format Combination Set	M			for UL
UL DPCH Slot Format	M			
UL Eb/No Target	M		Uplink Eb/No	
Diversity mode	M			
D Field Length	C – FB			
SSDT cell ID Length	O			
S Field Length	O			
DL DPCH Information				
Transport Format Combination Set	M			For DL
DL DPCH Slot Format	M			
TFCI signalling mode	M			
TFCI presence	C- SlotFormat			
Multiplexing Position	M			
Power Offset Information		1		
PO1	M		Power Offset	Power offset for the TFCI bits
PO2	M		Power Offset	Power offset for the TPC bits
PO3	M		Power Offset	Power offset for the pilot bits
Delta TPC	M			
DCH Information		1 to <maxnoofDCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC mode	M			
Transport Format Set	M			For UL
Transport Format Set	M			For DL
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
<u>QE-Selector</u>	<u>M</u>			
ToAWS	M			
ToAWE	M			
RL ID	O			RL Supporting the DSCH
DSCH TFCS	O			
DSCH Information		0 to <maxnoofDSCHs>		

		>		
DSCH ID	M			
Transport Format Set	M			For DSCH
Frame handling Priority	M			
ToAWS	M			
ToAWE	M			
RL Information		1 to <maxnoofRLs>		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
DL Code Information		1 to <maxnoof- DLCodes		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Initial DL transmission Power	M		DL Power	
Maximum DL power	M		DL Power	
Minimum DL power	M		DL Power	
SSDT Cell Identity	O			

Condition	Explanation
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4
FB	This IE is present only if Feed Back mode diversity is activated.
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

Range bound	Explanation
MaxnoofDSCHs	Maximum no. of DSCHs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDLCodes	Maximum no. of DL code information.

9.1.41 RADIO LINK RECONFIGURATION PREPARE

9.1.41.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		0..1		
UL Scrambling code	O			
Min UL Channelisation Code Length	O			
Max Number of UL DPDCHs	C – CodeLen			
Puncture Limit	O			For UL
TFCS	O			
UL DPCH Slot Format	O			
SSDT Cell Identity Length	O			
S-Field Length	O			
DL DPCH Information		0..1		
TFCS	O			
DL DPCH Slot Format	O			
TFCI Signalling Mode	O			
TFCI presence	C-Slot Format			
DTX Insertion Point	O			
DCHs to Modify		0..<maxnoof DCHs>		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		0..<maxnoof DCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
QE-Selector	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		0..<maxnoof DCHs>		
DCH ID	M			
DSCH to modify		0..1		
Transport Format Set	O			For the DL.
RL ID	O			
Frame Handling Priority	O			

ToAWS	O			
ToAWE	O			
DSCH to add		0..1		
Transport Format Set	M			For the DL.
RL ID	M			
Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		0..1		
RL ID	M			
RL Information		0..<maxnoof RLs>		
RL ID	M			
DL Code Information		0..<maxnoof DLCodes<		
DL Scrambling Code	O			
FDD DL Channelisation Code Number	O			
Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	
SSDT Indication	O			
SSDT Cell Identity	C - SSDTIndON			

Condition	Explanation
SSDTIndON	The IE may be present if the SSDT Indication is set to 'SSDT Active in the UE'.
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4.
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

Range Bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs for a UE.
<i>MaxnoofRLs</i>	Maximum number of RLs for a UE.
<i>MaxnoofDLCodes</i>	Maximum number of Downlink Channelisation Codes.

9.1.46 RADIO LINK RECONFIGURATION REQUEST

9.1.46.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		0..1		
TFCS	O			For the UL.
DL DPCH Information		0..1		
TFCS	O			For the DL.
TFCI Signalling Mode	O			
DCHs to Modify		0..<maxnoof DCHs>		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		0..<maxnoof DCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
QE-Selector	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		0..<maxnoof DCHs>		
DCH ID	M			
DSCH to Modify		0..1		
Transport Format Set	O			For the DL.
RL ID	O			
Frame Handling Priority	O			
ToAWS	O			
ToAWE	O			
DSCH to Add		0..1		
Transport Format Set	M			For the DL.
RL ID	M			
Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		0..1		
RL ID	M			
Radio Link Information		0..<maxnoof RLS>		
RL ID	M			

Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	

Range Bound	Explanation
<i>MaxnoofDCHs</i>	Maximum number of DCHs for a UE.
<i>MaxnoofRLs</i>	Maximum number of RLs for a UE.

9.2.2.x QE-Selector

The QE-Selector indicates from which source the value for the quality estimate (QE) shall be taken.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>QE-Selector</u>			ENUMERATED(selected DCH, non-selected DCH)	

9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    AICH-InformationList,
    AICH-Parameters,
    AICH-Power,
    AICH-TransmissionTiming,
    AddOrDeleteIndicator,
    AvailabilityStatus,
    BindingID,
    BlockingPriorityIndicator,
    BurstType,
    CTrCH-ID,
    CFN,
    CN-CSDomainIdentifier,
    CN-PSDomainIdentifier,
    CRNC-CommunicationContextID,
    Cause,
    CellParameter,
    Cell-Parameter,
    ChipOffset,
    CommonMeasurementType,
    CommonPhysicalChannelID,
    CommonPhysicalChannelType,
    CommonTransportChannelID,
    CommonTransportChannelType,
    CommunicationControlPortID,
    CommunicationControlPortInformationList,
    CompressesModeMethod,
    ConfigurationGenerationID,
    DCH-CombinationIndication,
    DCH-Delete-RL-ReconfReqTDDItem,
    DCH-ID,
    DCH-InformationResponse-RL-setupResFDD,
    DCH-Modify-RL-ReconfPrepTDDItem,
    DL-CTrCH-ID,
    DL-CodeInformation,
    DL-DPCH-InformationItem-RL-ReconfReqFDD,
    DL-DPCH-SlotFormat,
    DL-FrameType,
    DL-Power,
    DL-ReferencePower,
    DL-ReferencePowerInformationItem,
    DL-ScramblingCode,
    DPCH-ID,
    DPCH-Offset,
    DSCH-ID,
    DSCH-InformationResponse-RL-setupResFDD,
    DSCH-ModifyList-RL-ReconfResp,
    DSCH-SetupList-RL-ReconfResp,
    DSCH-TransportFormatSet,
    DTX-InsertionPoint,
    DTX-InsertionPosition,
    D-FieldLength,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DeltaTPC,
    DiversityControlField,
    DiversityMode,
    FACH-Power,
    FDD-DL-ChannelisationCodeNumber,
    FDD-SCCPCH-Offset,
    FrameHandlingPriority,
    FrameOffset,
    GapStartingSlotNumber,
    LocalCellID,
    LocalCellInformationList,

```

LocalCell-ID,
 Local-CellID,
 MIB-SG-POS,
 MIB-SG-REP,
 MaxFACH-Power,
 MaxNrOfUL-DPDCHs,
 MaxNumberOfUL-DPDCHs,
 MaximumDLPowerCapability,
 MaximumDL-PowerCapability,
 MaximumTransmissionPower,
 MaximumUL-EbN0,
 Maximum-DL-PowerCapability,
 MeasuredCellInfo,
 MeasurementCharacteristics,
 MeasurementID,
 MeasurementType,
 MessagePartScramblingCode,
 MidambleShift,
 Midambleshift,
 MinUL-ChannelisationCodeLength,
 MinimumSpreadingFactor,
 MinimumUL-EbN0,
 NodeB-CommunicationContextID,
 NumberOfChannelElements,
 Offset,
 PCCPCH-Power,
 PCCPCH-TimeSlotI,
 PCH-Power,
 PICH-Information,
 PICH-Power,
 PSCH-Power,
 PSCHandPCCPCH-Allocation,
 PSCHandPCCPCH-TimeSlotK,
 PUSCH,
 PagingIndicatorLength,
 PatternDuration,
 PayloadCRC-PresenceIndicator,
 PilotBitsUsedIndicator,
 PowerControlMode,
 PowerOffset,
 PowerResumeMode,
 PreambleScramblingCode,
 PreambleSignatures,
 PrimaryCPICH-Power,
 PrimarySCH-Power,
 PrimaryScramblingCode,
 Primary-ScramblingCode,
 PropagationDelay,
 PunctureLimit,
QE-Selector,
 RACH-SlotFormat,
 RACH-SubChannelNumbers,
 RLC-Mode,
 RL-ID,
 RL-Information,
 RL-InformationItem,
 RL-InformationItem-RL-SetupReqTDD,
 RL-InformationList-DMeasureRequest,
 RL-ReconfigurationFailure-RL-ReconfFailItem,
 RadioLinkInformation-RL-ReconfReqTDD,
 RepetitionLength,
 RepetitionPeriod,
 ReportCharacteristics,
 ResourceOperationState,
 ResourceOperationalState,
 SAI,
 SFN,
 SIB-SG-POS,
 SIB-SG-REP,
 SSDT-CellIdentity,
 SSDT-CellIdentityLength,
 SSDT-Cell-IDLength,
 SSDT-Indication,
 SSDT-SupportIndicator,
 STTD-Indicator,
 S-CCPCH-Offset,
 S-CCPCH-Power,
 S-FieldLength,
 ScramblingCode,
 ScramblingCodeChange,
 SecondaryCCPCH-SlotFormat,
 SecondaryCPICH-Power,
 SecondarySCH-Power,
 ShutdownTimer,
 SynchronisationMethod,
 TDDChipOffset,
 TDD-ChannelisationCode,

TFCI-Presence,
 TFCI-SignallingMode,
 TFCS,
 TSTD-Indicator,
 T-Cell,
 TimeSlot,
 TimeSlotDirection,
 TimeSlotStatus,
 ToAWE,
 ToAWS,
 TransmissionGapDistance,
 TransmissionGapPeriod,
 TransmitGapLength,
 TransmitGapPositionMode,
 TransportFormatCombinationSet,
 TransportFormatSet,
 TransportLayerAddress,
 UARFCN,
 C-ID,
 UL-CCTrCHInformation,
 UL-CCTrCH-ID,
 UL-DPCCH-SlotFormat,
 UL-FP-Mode,
 UL-InterferenceLevel,
 UL-PunctureLimit,
 UL-ScramblingCode,
 UplinkEbNo
 FROM NBAP-IEs

ProtocolExtensionContainer{},
 PrivateExtensionContainer{},
 ProtocolIE-Container{},
 ProtocolIE-ContainerList{},
 NBAP-PROTOCOL-IES,
 NBAP-PROTOCOL-EXTENSION,
 NBAP-PRIVATE-EXTENSION
 FROM NBAP-Containers

id-AICH-Information-ResourceStatIndItem,
 id-AICH-ParametersList,
 id-AICH-ParametersListItem,
 id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
 id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
 id-BlockingPriorityIndicator,
 id-CCTrCH-ParametersList,
 id-CCTrCH-ParametersListItem,
 id-CFN,
 id-CRNC-CommunicationContextID,
 id-CRNCommunicationContextID,
 id-Cause,
 id-Cell-Information-ResourceStatIndItem,
 id-Cell-InformationItem,
 id-Cell-InformationList,
 id-Cell-Parameter,
 id-Cell-ParametersItem,
 id-Cell-ParametersList,
 id-CellParameter,
 id-CommonMeasurementObjectType,
 id-CommonMeasurementType,
 id-CommonPhysicalChannelID,
 id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,
 id-CommonPhysicalChannelType-CTCHsetup-Response,
 id-CommunicationControlPort-InformationItem,
 id-CommunicationControlPortID,
 id-CommunicationControlPortInformation-ResourceStatIndItem,
 id-CommunicationControlPortInformationList,
 id-CompressesModeMethod,
 id-ConfigurationGenerationID,
 id-DCH-Add-RL-ReconfPrepFDDItem,
 id-DCH-Add-RL-ReconfPrepTDDItem,
 id-DCH-Add-RL-ReconfReadyItem,
 id-DCH-Add-RL-ReconfReqFDDItem,
 id-DCH-Add-RL-ReconfReqTDDItem,
 id-DCH-AddItem-RL-ReconfResp,
 id-DCH-AddList-RL-ReconfPrepFDD,
 id-DCH-AddList-RL-ReconfPrepTDD,
 id-DCH-AddList-RL-ReconfReqFDD,
 id-DCH-AddList-RL-ReconfReqTDD,
 id-DCH-Delete-RL-ReconfPrepFDDItem,
 id-DCH-Delete-RL-ReconfPrepTDDItem,
 id-DCH-Delete-RL-ReconfReqFDDItem,
 id-DCH-Delete-RL-ReconfReqTDDItem,
 id-DCH-DeleteList-RL-ReconfPrepFDD,
 id-DCH-DeleteList-RL-ReconfPrepTDD,
 id-DCH-DeleteList-RL-ReconfReqFDD,
 id-DCH-DeleteList-RL-ReconfReqTDD,
 id-DCH-Information-RL-SetupReqFDDItem,

id-DCH-Information-RL-SetupReqTDDItem,
 id-DCH-InformationList-RL-SetupReqFDD,
 id-DCH-InformationList-RL-SetupReqTDD,
 id-DCH-InformationResponse-RL-SetupFailFDDItem,
 id-DCH-InformationResponse-RL-setupResTDDItem,
 id-DCH-InformationResponseItem,
 id-DCH-Modify-RL-ReconfPrepFDDItem,
 id-DCH-Modify-RL-ReconfPrepTDDItem,
 id-DCH-Modify-RL-ReconfReadyItem,
 id-DCH-Modify-RL-ReconfReqFDDItem,
 id-DCH-Modify-RL-ReconfReqTDDItem,
 id-DCH-ModifyItem-RL-ReconfResp,
 id-DCH-ModifyList-RL-ReconfPrepFDD,
 id-DCH-ModifyList-RL-ReconfPrepTDD,
 id-DCH-ModifyList-RL-ReconfReqFDD,
 id-DCH-ModifyList-RL-ReconfReqTDD,
 id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,
 id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,
 id-DL-CCTrCH-Information-RL-SetupReqTDDItem,
 id-DL-CCTrCH-InformationItem,
 id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
 id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,
 id-DL-CCTrCH-InformationList-RL-SetupReqTDD,
 id-DL-CCTrCHInformationItem,
 id-DL-CCTrCHInformationList,
 id-DL-CodeInformation,
 id-DL-CodeInformation-RL-ReconfPrepFDDItem,
 id-DL-CodeInformation-RL-SetupReqFDDItem,
 id-DL-DPCH-Information-RL-ReconfPrepFDD,
 id-DL-DPCH-Information-RL-ReconfPrepTDDItem,
 id-DL-DPCH-Information-RL-SetupReqTDDItem,
 id-DL-DPCH-InformationItem,
 id-DL-DPCH-InformationItem-RL-ReconfReqFDD,
 id-DL-DPCH-InformationItem-RL-SetupReqFDD,
 id-DL-FrameType,
 id-DL-ReferencePowerInformationItem,
 id-DSCH-AddItem-RL-ReconfPrepFDD,
 id-DSCH-AddItem-RL-ReconfReqFDD,
 id-DSCH-DeleteItem-RL-ReconfPrepFDD,
 id-DSCH-DeleteItem-RL-ReconfReqFDD,
 id-DSCH-ID,
 id-DSCH-Information-RL-SetupReqFDDItem,
 id-DSCH-InformationList-RL-SetupReqFDD,
 id-DSCH-InformationResponse-RL-SetupFailFDDItem,
 id-DSCH-InformationResponse-RL-setupResFDDItem,
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,
 id-DSCH-ModifyItem-RL-ReconfReqFDD,
 id-DedicatedMeasurementObjectType,
 id-DedicatedMeasurementType,
 id-FACH-Information-ResourceStatIndItem,
 id-FACH-InformationItem,
 id-FACH-ListItem,
 id-FACH-ParametersList-CTCHreconf-Req-FDD,
 id-FACH-ParametersList-CTCHreconf-Req-TTD,
 id-FACH-ParametersListItem-CTCHreconf-Req-FDD,
 id-FACH-ParametersListItem-CTCHreconf-Req-TTD,
 id-FACH-ParametersListItem-CTCHsetup-Req-FDD,
 id-FACH-ParametersListItem-CTCHsetup-Response,
 id-GapStartingSlotNumber,
 id-IndicationType,
 id-Local-Cell-Information-ResourceStatIndItem,
 id-Local-CellInformation-ResourceStatIndItem,
 id-LocalCell-ID,
 id-LocalCell-InformationItem,
 id-LocalCellInformationList,
 id-MIB-SegmentInformationItem,
 id-MIB-SegmentInformationList,
 id-MaximumTransmissionPower,
 id-MeasuredCellInfo,
 id-MeasurementCharacteristics,
 id-MeasurementID,
 id-MeasurementType,
 id-NeighbouringFDD-Cell-InformationItem,
 id-NeighbouringTDD-Cell-InformationItem,
 id-NodeB-CommunicationContextID,
 id-PCCPCH-Information,
 id-PCH-Information-ResourceStatIndItem,
 id-PCH-InformationItem,
 id-PCH-ListItem,
 id-PCH-Parameters-CTCHreconf-Req-FDD,
 id-PCH-ParametersList,
 id-PCH-ParametersListItem,
 id-PICH-Parameters-CTCHreconf-Req-FDD,
 id-PRACH-ParametersList,
 id-PRACH-ParametersListItem,
 id-PSCH-Information,
 id-PSCHandPCCPCH-Information,

id-PUSCH-ListItem,
 id-PatternDuration,
 id-PowerControlMode,
 id-PowerResumeMode,
 id-PrimaryCCPCH-Information,
 id-PrimaryCPICH-Information,
 id-PrimarySCH-Information,
 id-PrimaryScramblingCode,
 id-ProcedureScopeType,
 id-RACH-Information-ResourceStatIndItem,
 id-RACH-InformationItem,
 id-RL-ID,
 id-RL-Information,
 id-RL-Information-DMeasureReportItem,
 id-RL-Information-DMeasureRequestItem,
 id-RL-Information-DMeasureResponseItem,
 id-RL-Information-RL-ReconfPrepFDDItem,
 id-RL-Information-RL-SetupReqFDDItem,
 id-RL-InformationItem,
 id-RL-InformationItem-RL-SetupReqTDD,
 id-RL-InformationList,
 id-RL-InformationList-RL-ReconfReqFDD,
 id-RL-InformationList-RL-SetupReqFDD,
 id-RL-InformationResponse-RL-setupResFDDItem,
 id-RL-InformationResponseItem-RL-ReconfResp,
 id-RL-InformationResponseList-RL-ReconfReady,
 id-RL-InformationResponseList-RL-ReconfReadyItem,
 id-RL-InformationResponseList-RL-ReconfResp,
 id-RL-InformationResponseList-RL-setupResFDD,
 id-RL-InformationResponseList-RL-setupResTDD,
 id-RL-ReconfigurationFailure-RL-ReconfFailItem,
 id-RL-ReconfigurationFailureList-RL-ReconfFail,
 id-RL-ResponseInformation,
 id-RL-ResponseInformationItem,
 id-RL-ResponseInformationList,
 id-RL-informationItem,
 id-RL-informationList,
 id-RadioLinkInformation-RL-ReconfPrepFDDItem,
 id-RadioLinkInformation-RL-ReconfPrepTDD,
 id-RadioLinkInformation-RL-ReconfReqTDD,
 id-RadioLinkInformationList-RL-ReconfPrepFDD,
 id-ReportCharacteristics,
 id-SFN,
 id-SIB-SegmentInformationItem,
 id-SIB-SegmentInformationList,
 id-ScramblingCodeChange,
 id-Secondary-CCPCHListItem,
 id-SecondaryCPICH-Information,
 id-SecondarySCH-Information,
 id-ShutdownTimer,
 id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,
 id-Successful-RL-InformationResponseItem,
 id-Successful-RL-InformationResponseList,
 id-Successful-RL-InformationResponseList-RL-SetupFailFDD,
 id-SynchronisationMethod,
 id-T-Cell,
 id-TDDChipOffset,
 id-TimeSlotConfigurationItem,
 id-TimeSlotConfigurationList,
 id-TransmissionGapDistance,
 id-TransmissionGapPeriod,
 id-TransmitGapLength,
 id-TransmitGapPositionMode,
 id-UARFCN,
 id-C-ID,
 id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,
 id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,
 id-UL-CCTrCH-Information-RL-SetupReqTDDItem,
 id-UL-CCTrCH-InformationItemIE,
 id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
 id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,
 id-UL-CCTrCH-InformationList-RL-SetupReqTDD,
 id-UL-CCTrCHInformation,
 id-UL-CCTrCHInformationList,
 id-UL-DPCH-Information-RL-ReconfPrepFDD,
 id-UL-DPCH-Information-RL-ReconfPrepTDDItem,
 id-UL-DPCH-Information-RL-SetupReqTDDItem,
 id-UL-DPCH-InformationItem-RL-ReconfReqFDD,
 id-UL-DPCH-InformationItem-RL-SetupReqFDD,
 id-UL-DPCH-InformationItemIE,
 id-USCH-Information-ResourceStatIndItem,
 id-USCH-InformationItem,
 id-USCH-ListItem-CTCHsetup-Req-TDD,
 id-Unsuccessful-RL-InformationResponse,
 id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,
 id-Unsuccessful-RL-InformationResponseItem,
 id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,

```

id-Unsuccessful-RL-InformationResponseList,
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,

maxAICHCell,
maxCCPinNodeB,
maxCellinNodeB,
maxFACHCell,
maxLocalCellinNodeB,
maxMIBSEG,
maxPCHCell,
maxPCHinNodeB,
maxRACHCell,
maxSF,
maxSIBSEG,
maxUCIDinNodeB,
maxUSCHCell,
maxnoCCTrCHs,
maxnoofCCTrCHs,
maxnoofDCHs,
maxnoofDLCodes,
maxnoofDPCHs,
maxnoofDSCHs,
maxnoofFACHCell,
maxnoofFACHs,
maxnoofFDDNeighbours,
maxnoofPCHs,
maxnoofPRACHs,
maxnoofPUSHs,
maxnoofRL-1,
maxnoofRL-2,
maxnoofRLs,
maxnoofSCCPCHs,
maxnoofTDDNeighbours,
maxnoofUSCHs
FROM NBAP-Constants;

.
.
.
Several Messages Skipped
.
.
.

-- *****
--
-- 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 ignore   TYPE CRNC-CommunicationContextID
    PRESENCE mandatory } |
    { ID id-UL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore   TYPE UL-DPCH-
InformationItem-RL-SetupReq-FDD PRESENCE mandatory } |
    { ID id-DL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore   TYPE DL-DPCH-
InformationItem-RL-SetupReq-FDD PRESENCE mandatory } |
    { ID id-DCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore   TYPE DCH-InformationList-RL-
SetupReq-FDD PRESENCE mandatory } |
    { ID id-RL-ID                        CRITICALITY ignore   TYPE RL-ID                                PRESENCE
optional } |
    { ID id-DSCH-ID                        CRITICALITY ignore   TYPE DSCH-ID                                PRESENCE
optional } |
    { ID id-DSCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore   TYPE DSCH-InformationList-
RL-SetupReq-FDD PRESENCE optional } |
    { ID id-RL-InformationList-RL-SetupReq-FDD CRITICALITY ignore   TYPE RL-InformationList-RL-
SetupReq-FDD PRESENCE mandatory } ,
    ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    ul-ScramblingCode          UL-ScramblingCode,
    minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength,

```



```

    MaxNumberOfUL-DPDCHs      OPTIONAL
    -- This IE is present only if "Min UL Channelisation Code length" equals to 4 -- ,
    ul-PunctureLimit          UL-PunctureLimit,
    transportFormatCombinationSet TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat      UL-DPCCH-SlotFormat,
    ul-EbNo-Target           UplinkEbNo,
    diversityMode            DiversityMode,
    d-FieldLength            D-FieldLength      OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-Cell-IDLength      SSdT-Cell-IDLength OPTIONAL,
    s-FieldLength           S-FieldLength      OPTIONAL
}

DL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    transportFormatCombinationSet TransportFormatCombinationSet,
    dl-DPCH-SlotFormat          DL-DPCH-SlotFormat,
    tFCI-SignallingMode        TFCI-SignallingMode,
    multiplexingPosition,      MultiplexingPosition,
    tFCI-Presence              TFCI-Presence,
    powerOffsetInformationItem-RL-SetupReq-FDD
    PowerOffsetInformationItem-RL-SetupReq-FDD,
    deltaTPC                   DeltaTPC
}

PowerOffsetInformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    p01          PowerOffset,
    p02          PowerOffset,
    p03          PowerOffset
}

DCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container{{DCH-Information-RL-SetupReq-FDDItemIE }}

DCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DCH-Information-RL-
    SetupReq-FDDItem PRESENCE mandatory },
    ...
}

DCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
    rLC-Mode        RLC-Mode,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode       UL-FP-Mode,
    qE-Selector      QE-Selector,
    toAWS            ToAWS,
    toAWE            ToAWE
}

DSCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-Information-RL-SetupReq-FDDItemIE }}

DSCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DSCH-Information-RL-
    SetupReq-FDDItem PRESENCE mandatory },
    ...
}

DSCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dSCH-ID          DSCH-ID,
    dSCH-TransportFormatSet DSCH-TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    toAWS            ToAWS,
    toAWE            ToAWE
}

RL-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{RL-Information-RL-SetupReq-FDDItemIE }}

RL-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE RL-Information-RL-
    SetupReq-FDDItem PRESENCE optional },
    ...
}

RL-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    rL-ID          RL-ID,
    c-ID           C-ID,
    frameOffset    FrameOffset,
    chipOffset     ChipOffset,
    propagationDelay PropagationDelay,
    diversityControlField DiversityControlField OPTIONAL,
    -- This IE is present only if the RL is not the first one in the RL Information

```

```

    dl-CodeInformationList-RL-SetupReqFDD
CodeInformationList-RL-SetupReqFDD,
    initialDL-transmissionPower DL-Power,
    maximumDL-power           DL-Power,
    minimumDL-power           DL-Power,
    sSDT-CellIdentity         SSdT-CellIdentity  OPTIONAL
}

DL-CodeInformationList-RL-SetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{DL-CodeInformation-RL-SetupReqFDDItemIE }}

DL-CodeInformation-RL-SetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformation-RL-SetupReqFDDItem  CRITICALITY ignore  TYPE DL-CodeInformation-RL-
SetupReqFDDItem PRESENCE optional  },
    ...
}

DL-CodeInformation-RL-SetupReqFDDItem ::= SEQUENCE {
    dl-ScramblingCode           DL-ScramblingCode,
    fdd-DL-ChannelisationCodeNumber  FDD-DL-ChannelisationCodeNumber
}

.
.
.
Several Messages Skipped
.
.
.
-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
-- *****

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

RadioLinkReconfigurationPrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID  CRITICALITY ignore  TYPE NodeB-
CommunicationContextID  PRESENCE mandatory  } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE UL-DPCH-Information-
RL-ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DL-DPCH-Information-
RL-ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DCH-ModifyList-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DCH-ModifyList-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DCH-AddList-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DCH-AddList-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DCH-DeleteList-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DSCH-ModifyItem-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DSCH-ModifyItem-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DSCH-AddItem-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DSCH-AddItem-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-DSCH-DeleteItem-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE DSCH-DeleteItem-RL-
ReconfPrepFDD  PRESENCE optional  } |
    { ID id-RadioLinkInformationList-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE
RadioLinkInformationList-RL-ReconfPrepFDD  PRESENCE optional
},
    ...
}

RadioLinkReconfigurationPrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode           UL-ScramblingCode          OPTIONAL,
    minUL-ChannelisationCodeLength  MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs             MaxNrOfUL-DPDCHs          OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4
    ul-PunctureLimit             UL-PunctureLimit           OPTIONAL,
    tFCS                         TFCS                       OPTIONAL,
    ul-DPCCH-SlotFormat          UL-DPCCH-SlotFormat        OPTIONAL,
    sSDT-CellIdentityLength      SSdT-CellIdentityLength    OPTIONAL,
    s-FieldLength                S-FieldLength              OPTIONAL,
    -- The following information element is needed if there is a need to add Ies with specific
    criticality.

```

```

}

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,
    dTX-InsertionPoint  DTX-InsertionPoint  OPTIONAL,
    ...
}

DCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepFDDItemIE }}

DCH-Modify-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DCH-Modify-RL-
    ReconfPrepFDDItem PRESENCE optional      },
    ...
}

DCH-Modify-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    ul-TransportFormatSet TransportFormatSet OPTIONAL,
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    ul-FP-Mode            UL-FP-Mode            OPTIONAL,
    toAWS                 ToAWS                 OPTIONAL,
    toAWE                 ToAWE                 OPTIONAL
}

DCH-AddList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfPrepFDDItemIE }}

DCH-Add-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DCH-Add-RL-
    ReconfPrepFDDItem PRESENCE optional      },
    ...
}

DCH-Add-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
    rLC-Mode              RLC-Mode,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    frameHandlingPriority FrameHandlingPriority,
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode            UL-FP-Mode,
    qE-Selector           QE-Selector,
    toAWS                 ToAWS,
    toAWE                 ToAWE
}

DCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepFDDItemIE }}

DCH-Delete-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfPrepFDDItem CRITICALITY ignore      TYPE DCH-Delete-RL-
    ReconfPrepFDDItem PRESENCE optional      },
    ...
}

DCH-Delete-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID
}

DSCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dl-TransportFormatSet TransportFormatSet OPTIONAL,
    rL-ID                 RL-ID            OPTIONAL,
    frameHandlingPriority FrameHandlingPriority OPTIONAL,
    toAWS                 ToAWS            OPTIONAL,
    toAWE                 ToAWE            OPTIONAL
}

DSCH-AddItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dl-TransportFormatSet TransportFormatSet,
    rL-ID                 RL-ID,
    frameHandlingPriority FrameHandlingPriority,
    toAWS                 ToAWS,
    toAWE                 ToAWE
}

DSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                 RL-ID
}

RadioLinkInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF

```

```

ProtocolIE-Container {{RadioLinkInformation-RL-ReconfPrepFDDItemIE}}

RadioLinkInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-RadioLinkInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE
    RadioLinkInformation-RL-ReconfPrepFDDItem PRESENCE mandatory},
  ...
}

RadioLinkInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
  rL-ID RL-ID,
  dl-CodeInformationList-RL-ReconfPrepFDD DL-CodeInformationList-RL-
ReconfPrepFDD OPTIONAL,
  maxDL-Power DL-Power OPTIONAL,
  minDL-Power DL-Power OPTIONAL,
  sSDT-Indication SSdT-Indication OPTIONAL,
  sSDT-CellIdentity SSdT-CellIdentity OPTIONAL
-- The IE may be present if the SSdT Indication is set to SSdT Active in the UE
}

DL-CodeInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
  ProtocolIE-Container {{DL-CodeInformation-RL-ReconfPrepFDDItemIE }}

DL-CodeInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
  { ID id-DL-CodeInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DL-CodeInformation-RL-
ReconfPrepFDDItem PRESENCE optional },
  ...
}

DL-CodeInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
  scramblingCode ScramblingCode OPTIONAL,
  fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber OPTIONAL
}

.
.
.
Several Messages Skipped
.
.
.

-- *****
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- *****

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

RadioLinkReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-
CommunicationContextID PRESENCE mandatory } |
  { ID id-UL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE UL-DPCH-
InformationItem-RL-ReconfReqFDD PRESENCE optional } |
  { ID id-DL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DL-DPCH-
InformationItem-RL-ReconfReqFDD PRESENCE optional } |
  { ID id-DCH-ModifyList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-ModifyList-RL-
ReconfReqFDD PRESENCE optional } |
  { ID id-DCH-AddList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-AddList-RL-ReconfReqFDD
PRESENCE optional } |
  { ID id-DCH-DeleteList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-DeleteList-RL-
ReconfReqFDD PRESENCE optional } |
  { ID id-DSCH-ModifyItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-ModifyItem-RL-
ReconfReqFDD PRESENCE optional } |
  { ID id-DSCH-AddItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-AddItem-RL-
ReconfReqFDD PRESENCE optional } |
  { ID id-DSCH-DeleteItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-DeleteItem-RL-
ReconfReqFDD PRESENCE optional } |
  { ID id-RL-InformationList-RL-ReconfReqFDD CRITICALITY ignore TYPE RL-InformationList-RL-
ReconfPrepFDD PRESENCE optional },
  ...
}

RadioLinkReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

UL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
  tFCS TFCS OPTIONAL
}

```

```

}

DL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
    tFCS          TFCS          OPTIONAL
    tFCI-SignallingMode    TFCI-SignallingMode OPTIONAL
}

DCH-ModifyList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReqFDDItemIE }}

DCH-Modify-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReqFDDItem CRITICALITY ignore    TYPE DCH-Modify-RL-
ReconfReqFDDItem    PRESENCE optional    },
    ...
}

DCH-Modify-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    ul-TransportFormatSet    TransportFormatSet    OPTIONAL,
    dl-TransportFormatSet    TransportFormatSet    OPTIONAL,
    frameHandlingPriority    FrameHandlingPriority    OPTIONAL,
    ul-FP-Mode          UL-FP-Mode    OPTIONAL,
    toAWS              ToAWS          OPTIONAL,
    toAWE              ToAWE          OPTIONAL
}

DCH-AddList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReqFDDItemIE }}

DCH-Add-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReqFDDItem CRITICALITY ignore    TYPE DCH-Add-RL-ReconfReqFDDItem
PRESENCE optional    },
    ...
}

DCH-Add-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    ul-TransportFormatSet    TransportFormatSet,
    dl-TransportFormatSet    TransportFormatSet,
    frameHandlingPriority    FrameHandlingPriority,
    payloadCRC-PresenceIndicator    PayloadCRC-PresenceIndicator,
    ul-FP-Mode          UL-FP-Mode,
    qE-Selector          QE-Selector,
    toAWS              ToAWS,
    toAWE              ToAWE
}

DCH-DeleteList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfReqFDDItemIE }}

DCH-Delete-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfReqFDDItem CRITICALITY ignore    TYPE DCH-Delete-RL-
ReconfReqFDDItem    PRESENCE optional    },
    ...
}

DCH-Delete-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}

DSCH-ModifyItem-RL-ReconfReqFDD ::= SEQUENCE {
    dl-TransportFormatSet    TransportFormatSet    OPTIONAL,
    rL-ID          RL-ID    OPTIONAL,
    frameHandlingPriority    FrameHandlingPriority    OPTIONAL,
    toAWS          ToAWS    OPTIONAL,
    toAWE          ToAWE    OPTIONAL
}

DSCH-AddItem-RL-ReconfReqFDD ::= SEQUENCE {
    dl-TransportFormatSet    TransportFormatSet,
    rL-ID          RL-ID,
    frameHandlingPriority    FrameHandlingPriority,
    toAWS          ToAWS,
    toAWE          ToAWE
}

DSCH-DeleteItem-RL-ReconfReqFDD ::= SEQUENCE {
    rL-ID          RL-ID
}

RL-InformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-RL-ReconfPrepFDDItemIE }}

RL-Information-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-ReconfPrepFDDItem CRITICALITY ignore    TYPE RL-Information-RL-
ReconfPrepFDDItem    PRESENCE optional    },
    ...
}

```

```
}  
RL-Information-RL-ReconfPrepFDDItem ::= SEQUENCE {  
    rL-ID          RL-ID,  
    maxDL-Power   DL-Power   OPTIONAL,  
    minDL-Power   DL-Power   OPTIONAL  
}
```

-
-
-
-
-
-

Several Messages Skipped

9.3.4 NBAP Information Elements

```

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

```

```

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

```

```

IMPORTS
    maxTFcount,
    maxnoofTFCS,
    maxCTF-1,
    maxRM,

```

```

FROM NBAP-Constants;

```

-
-
-
- Several IEs Skipped
-
-
-

```

-----
-- Q
-----
QE-Selector ::= ENUMERATED {
    selected-DCH,
    non-selected-DCH,
}

```

- ```

-- R

```
- - 
  - 
  - Several IEs Skipped
  - 
  - 
  -





2  
4  
Not Used  
M

Pattern4  
7  
2  
4  
20  
M

Pattern5  
7  
2  
4  
140  
M

Pattern6  
14  
3  
6  
18  
M

Pattern7  
14  
3  
6  
138  
M

On the other hand, R3 has so far considered that the number of frames for TGD is an integer which has defined it as "INTEGER(0..255)".

In order to support both Compressed Mode Pattern1 and 2 in the quotation above, it is proposed to express the TGD in unit of "Slots" rather than in "Frames". It is also proposed to expand the range of TGD in accordance with change of unit.

**Clauses affected:**

9.2.2.41 TGP  
9.3.4 Information Element Definitions

**Other specs affected:**

|                               |                          |                |
|-------------------------------|--------------------------|----------------|
| Other 3G core specifications  | <input type="checkbox"/> | → List of CRs: |
| Other GSM core specifications | <input type="checkbox"/> | → List of CRs: |
| MS test specifications        | <input type="checkbox"/> | → List of CRs: |
| BSS test specifications       | <input type="checkbox"/> | → List of CRs: |
| O&M specifications            | <input type="checkbox"/> | → List of CRs: |

**Other comments:**



help.doc

<----- double-click here for help and instructions on how to create a CR.

### 9.2.2.41 TGD

Transmission Gap Distance is the duration of transmission between two consecutive transmission gaps within a transmission gap period, expressed in number of [slotsframes](#). In case there is only one transmission gap in the transmission gap period, this parameter shall be set to zero.

| IE/Group Name | Presence | Range | IE type and reference            | Semantics description       |
|---------------|----------|-------|----------------------------------|-----------------------------|
| TGD           |          |       | INTEGER(0.. <del>3839255</del> ) | <a href="#">SlotsFrames</a> |

## 9.3.4 Information Element Definitions

----- Omitted -----

```
TFCI-SignallingMode ::= ENUMERATED {
normal,
split
}
```

```
TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
SEQUENCE {
cTFC CTFC
}
```

```
TFS ::= SEQUENCE {
dynamicTransportFormatInformation
DynamicTransportFormatInformation,
semiStaticTransportFormatInformation
SemiStaticTransportFormatInformation
}
```

```
TGD ::= INTEGER (0..3839255)
```

```
TGL ::= INTEGER (3,4,7,10,14)
```

```
TimeSlot ::= INTEGER (0..14)
```

```
TimeSlotDirection ::= ENUMERATED {
ul,
dl
}
```

----- Omitted -----

|                                                   |                                                  |                                                                                                                  |
|---------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>CHANGE REQUEST</b>                             |                                                  | Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly. |
| <b>25.433</b>                                     | <b>CR</b>                                        | <b>057r1</b>                                                                                                     |
| GSM (AA.BB) or 3G (AA.BBB) specification number ↑ |                                                  | ↑ CR number as allocated by MCC support team                                                                     |
| For submission to: <b>TSG RAN #7</b>              | for approval <input checked="" type="checkbox"/> | Current Version: <b>3.0.0</b>                                                                                    |
| list expected approval meeting # here ↑           | for information <input type="checkbox"/>         | strategic <input type="checkbox"/> (for SMG use only)                                                            |
|                                                   |                                                  | non-strategic <input type="checkbox"/>                                                                           |

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <http://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:** (U)SIM  ME  UTRAN / Radio  Core Network   
(at least one should be marked with an X)

**Source:** RAN-WG3 **Date:** 28 February 2000

**Subject:** A new IE for "RL information" regarding Transmit Diversity (NBAP)

**Work item:**

|                  |                                                                                                                                                                                                                                                                                                          |                 |                                                                                                                                                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category:</b> | F Correction <input type="checkbox"/><br>A Corresponds to a correction in an earlier release <input type="checkbox"/><br>B Addition of feature <input checked="" type="checkbox"/><br>C Functional modification of feature <input type="checkbox"/><br>D Editorial modification <input type="checkbox"/> | <b>Release:</b> | Phase 2 <input type="checkbox"/><br>Release 96 <input type="checkbox"/><br>Release 97 <input type="checkbox"/><br>Release 98 <input type="checkbox"/><br>Release 99 <input checked="" type="checkbox"/><br>Release 00 <input type="checkbox"/> |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(only one category shall be marked with an X)

**Reason for change:** Although the applied Transmit Diversity mode shall be identical among the Radio Links in one Active Set for one UE, it is assumed that, in R1, the Transmit Diversity status (whether the Transmit Diversity is active or inactive) is allowed to be different among those Radio Links.

This CR proposes to introduce an IE "Transmit Diversity Indicator (active or inactive)" to "RL information" group in both RADIO LINK SETUP REQUEST and RADIO LINK ADDITION REQUEST messages. As a result, each RL in one Active Set may have unique Transmit Diversity status, either "active" or "inactive".

**Clauses affected:** 8.2.17 Radio Link Setup  
 8.3.1 Radio Link Addition  
 9.1.35 RADIO LINK SETUP REQUEST  
 9.1.38 RADIO LINK ADDITION REQUEST  
 9.2.2.44 Transmit Diversity Indicator  
 9.3.3 PDU Definitions

**Other specs affected:**

|                               |                          |                |  |
|-------------------------------|--------------------------|----------------|--|
| Other 3G core specifications  | <input type="checkbox"/> | → List of CRs: |  |
| Other GSM core specifications | <input type="checkbox"/> | → List of CRs: |  |
| MS test specifications        | <input type="checkbox"/> | → List of CRs: |  |
| BSS test specifications       | <input type="checkbox"/> | → List of CRs: |  |
| O&M specifications            | <input type="checkbox"/> | → List of CRs: |  |

**Other comments:**



help.doc

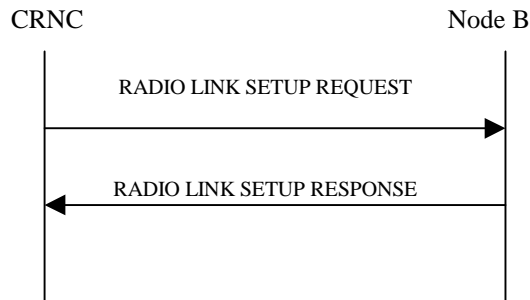
<----- double-click here for help and instructions on how to create a CR.

## 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.

### 8.2.17.2 Successful operation



**Figure 1: RL Setup procedure: Successful case**

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.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[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 indicates, "may be combined with already existing RLs", then Node B shall decide for either of the alternatives. 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 NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and
- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new 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 configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

The included *RLC Mode* IE may be used by the NodeB to optimise the power control.

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.

The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

[FDD] 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 NodeB 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.]

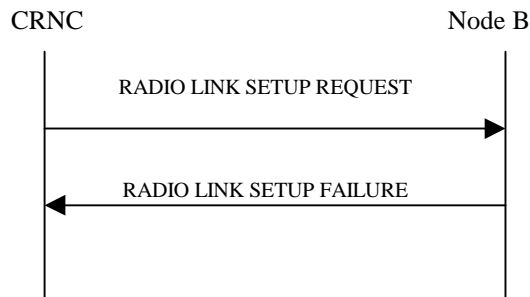
The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DSCH of this RL.

[TDD – The NodeB 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.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specify for only one of the coordinated DCHs.

[FDD – When *Diversity Mode* IE is “STTD”, “Closedloop mode1”, or “Closedloop mode2”, the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE]

### 8.2.17.3 Unsuccessful Operation



**Figure 2: RL Setup procedure: Unsuccessful case**

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.

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

- RL Already Activated/allocated

#### Transport Layer Cause

- Transport Resources Unavailable

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

#### 8.2.17.4 Abnormal Conditions

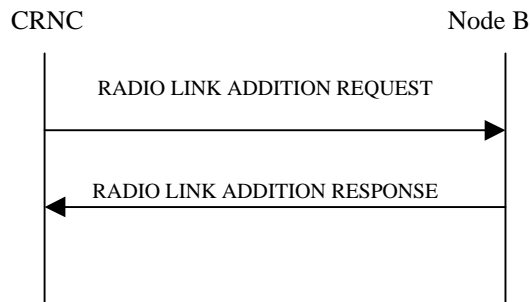
-

## 8.3.1 Radio Link Addition

### 8.3.1.1 General

This procedure is used for establishing the necessary resources in the Node B for one or more additional RLs towards a UE when there is already a Node B communication context for this UE in the Node B.

### 8.3.1.2 Successful operation



**Figure: 3 RL Addition procedure: Successful case**

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the CRNC to the Node B.

Upon reception, the Node B shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

[FDD The *Diversity Control Field* IE indicates for each RL whether the Node B shall combine the new RL with existing RL(s) or not. ].[TDD - The *Diversity Control Field* IE indicates whether the Node B shall reuse the Iub interface Transport Bearers of the old RL for the new RL.] If the *Diversity Control Field* IE indicates, "may be combined with already existing RLs", then Node B shall decide for any of the alternatives. When a new RL is to be combined, the NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK ADDITION REQUEST message includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DL Channelisation Code of the RL when starting transmission. If no *Initial DL Transmission power* IE is included, the Node B shall use any transmission power level currently used on already existing RL's for this UE.

If the RADIO LINK ADDITION REQUEST message includes the *Maximum DL power* IE, the Node B shall store this value and never transmit with a higher power on any DL Channelisation Code of the RL. If no *Maximum DL power* IE is included, any Maximum DL power stored for already existing RLs for this UE shall be applied.

If the RADIO LINK ADDITION REQUEST message includes the *Minimum DL power* IE, the Node B shall store this value and never transmit with a lower power on any DL Channelisation Code of the RL. If no *Minimum DL power* IE is included, any Minimum DL power stored for already existing RLs for this UE shall be applied.

[FDD] If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE the Node B may activate SSDT for the concerned new RL , with the indicated cell identity used for that RL.

If all requested RLs are successfully added, the Node B shall respond with a RADIO LINK ADDITION RESPONSE message.

[FDD] In the case of combining an RL with existing RL(s) the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that the RL is combined. In this case the Reference RL ID shall be included to indicate one of the existing RLs that the new RL is combined with.

[FDD] In the case of not combining an RL with existing RL(s), the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the Node B shall include both the Transport Layer Address and the binding ID for the transport bearer to be established for each DCH of the RL in the RADIO LINK ADDITION RESPONSE message.



[TDD - In the case of not reusing the transport bearers of the old RL for the new RL, the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the "Diversity Indication" that no transport bearer reuse is done. In this case the Node B shall include both the Transport Layer Address and the Binding ID for the transport bearer to be established for each DCH, DSCH and USCH of the RL in the RADIO LINK ADDITION RESPONSE message.]

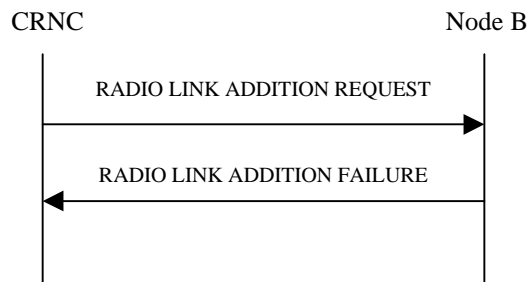
In case of coordinated DCH, the binding ID and the transport address shall be included for only one of the co-ordinated DCHs.

[FDD] Irrespective of SSdT activation, the Node B shall include in the RADIO LINK ADDITION RESPONSE message an indication concerning the capability to support SSdT on this RL. Only if the RADIO LINK ADDITION REQUEST message requested SSdT activation and the RADIO LINK ADDITION RESPONSE message indicates that the SSdT capability is supported for this RL, SSdT is activated in the Node B.

[FDD] After sending of the RADIO LINK ADDITION RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The Node B shall start transmission on the new RL after synchronisation is achieved in the Iub user plane as specified in 25.427.

[FDD – When Diversity Mode IE is “STTD”, “Closedloop mode1”, or “Closedloop mode2”, the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with Transmit Diversity Indication IE]

### 8.3.1.3 Unsuccessful operation



**Figure 4: RL Addition procedure: Unsuccessful case**

**If the establishment of at least one RL is unsuccessful, the Node B shall send a RADIO LINK ADDITION FAILURE as response indicating the failure cause.**

If some RL(s) were established successfully, the Node B shall indicate this in the RADIO LINK ADDITION FAILURE message in the same way as in the RADIO LINK ADDITION RESPONSE message.

Typical cause values are as follows:

#### Radio Network Layer Cause

- RL Already Activated/allocated

#### Transport Layer Cause

- Transport Resources Unavailable

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.1.4 Abnormal conditions

-

## 9.1.35 RADIO LINK SETUP REQUEST

## 9.1.35.1 FDD message

| IE/Group Name                     | Presence      | Range              | IE type and reference | Semantics description           |
|-----------------------------------|---------------|--------------------|-----------------------|---------------------------------|
| Message Discriminator             | M             |                    |                       |                                 |
| Message Type                      | M             |                    |                       |                                 |
| CRNC Communication Context ID     | M             |                    |                       |                                 |
| Transaction ID                    | M             |                    |                       |                                 |
| <b>UL DPCH Information</b>        |               | 1                  |                       |                                 |
| UL Scrambling Code                | M             |                    |                       |                                 |
| Min UL Channelisation Code length | M             |                    |                       |                                 |
| Max Number of UL DPCHs            | C – CodeLen   |                    |                       |                                 |
| puncture limit                    | M             |                    |                       | For UL                          |
| Transport Format Combination Set  | M             |                    |                       | for UL                          |
| UL DPCH Slot Format               | M             |                    |                       |                                 |
| UL Eb/No Target                   | M             |                    | Uplink Eb/No          |                                 |
| Diversity mode                    | M             |                    |                       |                                 |
| D Field Length                    | C – FB        |                    |                       |                                 |
| SSDT cell ID Length               | O             |                    |                       |                                 |
| S Field Length                    | O             |                    |                       |                                 |
| <b>DL DPCH Information</b>        |               |                    |                       |                                 |
| Transport Format Combination Set  | M             |                    |                       | For DL                          |
| DL DPCH Slot Format               | M             |                    |                       |                                 |
| TFCI signalling mode              | M             |                    |                       |                                 |
| TFCI presence                     | C- SlotFormat |                    |                       |                                 |
| Multiplexing Position             | M             |                    |                       |                                 |
| <b>Power Offset Information</b>   |               | 1                  |                       |                                 |
| PO1                               | M             |                    | Power Offset          | Power offset for the TFCI bits  |
| PO2                               | M             |                    | Power Offset          | Power offset for the TPC bits   |
| PO3                               | M             |                    | Power Offset          | Power offset for the pilot bits |
| Delta TPC                         | M             |                    |                       |                                 |
| <b>DCH Information</b>            |               | 1 to <maxnoofDCHs> |                       |                                 |
| DCH ID                            | M             |                    |                       |                                 |
| DCH Combination Ind               | O             |                    |                       |                                 |
| RLC mode                          | M             |                    |                       |                                 |
| Transport Format Set              | M             |                    |                       | For UL                          |
| Transport Format Set              | M             |                    |                       | For DL                          |
| Frame Handling Priority           | M             |                    |                       |                                 |
| Payload CRC Presence Indicator    | M             |                    |                       |                                 |
| UL FP mode                        | M             |                    |                       |                                 |
| ToAWS                             | M             |                    |                       |                                 |
| ToAWE                             | M             |                    |                       |                                 |
| RL ID                             | O             |                    |                       | RL Supporting the DSCH          |
| DSCH TFCS                         | O             |                    |                       |                                 |
| <b>DSCH Information</b>           |               | 0 to               |                       |                                 |

|                                      |                          |                              |          |          |
|--------------------------------------|--------------------------|------------------------------|----------|----------|
|                                      |                          | <maxnoofDSCHs<br>>           |          |          |
| DSCH ID                              | M                        |                              |          |          |
| Transport Format Set                 | M                        |                              |          | For DSCH |
| Frame handling Priority              | M                        |                              |          |          |
| ToAWS                                | M                        |                              |          |          |
| ToAWE                                | M                        |                              |          |          |
| <b>RL Information</b>                |                          | 1 to<br><maxnoofRLs>         |          |          |
| RL ID                                | M                        |                              |          |          |
| C-ID                                 | M                        |                              |          |          |
| Frame Offset                         | M                        |                              |          |          |
| Chip Offset                          | M                        |                              |          |          |
| Propagation Delay                    | O                        |                              |          |          |
| Diversity Control Field              | C –<br>NotFirstRL        |                              |          |          |
| <b>DL Code Information</b>           |                          | 1 to<br><maxnoof-<br>DLCodes |          |          |
| DL Scrambling Code                   | M                        |                              |          |          |
| FDD DL Channelisation<br>Code Number | M                        |                              |          |          |
| Initial DL transmission<br>Power     | M                        |                              | DL Power |          |
| Maximum DL power                     | M                        |                              | DL Power |          |
| Minimum DL power                     | M                        |                              | DL Power |          |
| SSTD Cell Identity                   | O                        |                              |          |          |
| >Transmit Diversity<br>Indicator     | C –<br>Diversity<br>mode |                              |          |          |

| Condition             | Explanation                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------|
| CodeLen               | This IE is present only if "Min UL Channelisation Code length" equals to 4                |
| FB                    | This IE is present only if Feed Back mode diversity is activated.                         |
| NotFirstRL            | This IE is present only if the RL is not the first one in the RL Information.             |
| SlotFormat            | This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16. |
| <u>Diversity mode</u> | <u>This IE is present unless Diversity Mode IE in UL DPCH Information group is "none"</u> |

| Range bound    | Explanation                         |
|----------------|-------------------------------------|
| MaxnoofDSCHs   | Maximum no. of DSCHs for one UE.    |
| MaxnoofDCHs    | Maximum no. of DCHs for one UE.     |
| MaxnoofRLs     | Maximum no. of RLs for one UE.      |
| MaxnoofDLCodes | Maximum no. of DL code information. |

## 9.1.38 RADIO LINK ADDITION REQUEST

### 9.1.38.1 FDD Message

| IE/Group Name                           | Presence                  | Range                          | IE type and reference | Semantics description |
|-----------------------------------------|---------------------------|--------------------------------|-----------------------|-----------------------|
| Message Discriminator                   | M                         |                                |                       |                       |
| Message Type                            | M                         |                                |                       |                       |
| Node B Communication Context ID         | M                         |                                |                       |                       |
| Transaction ID                          | M                         |                                |                       |                       |
| <b>RL Information</b>                   |                           | <i>1..&lt;maxno ofRL-1&gt;</i> |                       |                       |
| RL ID                                   | M                         |                                |                       |                       |
| C-Id                                    | M                         |                                |                       |                       |
| Frame Offset                            | M                         |                                |                       |                       |
| Chip Offset                             | M                         |                                |                       |                       |
| Diversity Control Field                 | M                         |                                |                       |                       |
| <b>DL Code Information</b>              |                           | <i>1..maxno ofDL Codes</i>     |                       |                       |
| DL Scrambling code                      | M                         |                                |                       |                       |
| FDD DL channelisation code number       | M                         |                                |                       |                       |
| Initial DL transmission power           | O                         |                                | DL Power              |                       |
| Maximum DL power                        | O                         |                                | DL Power              |                       |
| Minimum DL power                        | O                         |                                | DL Power              |                       |
| SSDT Cell Identity                      | O                         |                                |                       |                       |
| <u>&gt;Transmit Diversity Indicator</u> | <u>C = Diversity mode</u> |                                |                       |                       |

| <u>Condition</u>      | <u>Explanation</u>                                                                        |
|-----------------------|-------------------------------------------------------------------------------------------|
| <u>Diversity mode</u> | <u>This IE is present unless Diversity Mode IE in UL DPCH Information group is "none"</u> |

| <u>Range bound</u>     | <u>Explanation</u>                    |
|------------------------|---------------------------------------|
| <i>MaxnoofRL</i>       | Maximum number of RLs for one UE      |
| <i>MaxnoofDL Codes</i> | Maximum number of DL code information |

#### 9.2.2.44 Transmit Diversity Indicator

The Transmit Diversity Indicator indicates ~~whether~~ transmit diversity shall be active or not ~~for primary and secondary CPICH~~.

| Information Element/Group Name | Presence | Range | IE type and reference         | Semantics description |
|--------------------------------|----------|-------|-------------------------------|-----------------------|
| Transmit Diversity Indicator   |          |       | ENUMERATED (active, inactive) |                       |

### 9.3.3 NBAP PDU Content Definitions

--- Partly 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 ignore TYPE CRNC-CommunicationContextID
 PRESENCE mandatory }|
 { ID id-UL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE UL-DPCH-
InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
 { ID id-DL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE DL-DPCH-
InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
 { ID id-DCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DCH-InformationList-RL-
SetupReq-FDD PRESENCE mandatory }|
 { ID id-RL-ID CRITICALITY ignore TYPE RL-ID PRESENCE
optional }|
 { ID id-DSCH-ID CRITICALITY ignore TYPE DSCH-ID PRESENCE
optional }|
 { ID id-DSCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DSCH-InformationList-
RL-SetupReq-FDD PRESENCE optional }|
 { ID id-RL-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE RL-InformationList-RL-
SetupReq-FDD PRESENCE mandatory },
 ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 ul-ScramblingCode UL-ScramblingCode,
 minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength,
 maxNumberOfUL-DPDCHs MaxNumberOfUL-DPDCHs OPTIONAL
 -- This IE is present only if "Min UL Channelisation Code length" equals to 4 -- ,
 ul-PunctureLimit UL-PunctureLimit,
 transportFormatCombinationSet TransportFormatCombinationSet,
 ul-DPCCH-SlotFormat UL-DPCCH-SlotFormat,
 ul-EbNo-Target UplinkEbNo,
 diversityMode DiversityMode,
 d-FieldLength D-FieldLength OPTIONAL
 -- This IE is present only if Feed Back mode diversity is activated -- ,
 sSDT-Cell-IDLength SSDT-Cell-IDLength OPTIONAL,
 s-FieldLength S-FieldLength OPTIONAL
}

DL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 transportFormatCombinationSet TransportFormatCombinationSet,
 dl-DPCH-SlotFormat DL-DPCH-SlotFormat,
 tFCI-SignallingMode TFCI-SignallingMode,
 multiplexingPosition, MultiplexingPosition,
 tFCI-Presence TFCI-Presence,
 powerOffsetInformationItem-RL-SetupReq-FDD
 PowerOffsetInformationItem-RL-SetupReq-FDD,
 deltaTPC DeltaTPC
}

PowerOffsetInformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 p01 PowerOffset,
 p02 PowerOffset,
 p03 PowerOffset
}

```

```

DCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container{{DCH-Information-RL-SetupReq-FDDItemIE }}

DCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DCH-Information-RL-
 SetupReq-FDDItem PRESENCE mandatory },
 ...
}

DCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
 rLC-Mode RLC-Mode,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWS ToAWS,
 toAWE ToAWE
}

DSCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container{{DSCH-Information-RL-SetupReq-FDDItemIE }}

DSCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DSCH-Information-RL-
 SetupReq-FDDItem PRESENCE mandatory },
 ...
}

DSCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 dSCH-TransportFormatSet DSCH-TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 toAWS ToAWS,
 toAWE ToAWE
}

RL-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container{{RL-Information-RL-SetupReq-FDDItemIE }}

RL-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE RL-Information-RL-SetupReq-
 FDDItem PRESENCE optional },
 ...
}

RL-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 c-ID C-ID,
 frameOffset FrameOffset,
 chipOffset ChipOffset,
 propagationDelay PropagationDelay,
 diversityControlField DiversityControlField OPTIONAL,
 -- This IE is present only if the RL is not the first one in the RL Information
 dl-CodeInformationList-RL-SetupReqFDD DL-
 CodeInformationList-RL-SetupReqFDD,
 initialDL-transmissionPower DL-Power,
 maximumDL-power DL-Power,
 minimumDL-power DL-Power,
 sSDT-CellIdentity SSdT-CellIdentity OPTIONAL,
 transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL
}

DL-CodeInformationList-RL-SetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container{{DL-CodeInformation-RL-SetupReqFDDItemIE }}

DL-CodeInformation-RL-SetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CodeInformation-RL-SetupReqFDDItem CRITICALITY ignore TYPE DL-CodeInformation-RL-
 SetupReqFDDItem PRESENCE optional },
 ...
}

DL-CodeInformation-RL-SetupReqFDDItem ::= SEQUENCE {
 dl-ScramblingCode DL-ScramblingCode,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber
}

```

--- Partly omitted ---



```

-- *****
--
-- RADIO LINK ADDITION REQUEST FDD
--
-- *****

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

RadioLinkAdditionRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-
CommunicationContextID PRESENCE mandatory } |
 { ID id-RL-InformationList-RL-Add-ReqFDD CRITICALITY ignore TYPE RL-InformationList-RL-
Add-ReqFDD PRESENCE optional },
 ...
}

RadioLinkAdditionRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

RadioLinkAdditionRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
 ...
}

RL-InformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
 ProtocolIE-Container {{RL-informationList-RL-Add-ReqFDDItemIE }}

RL-InformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-InformationList-RL-Add-ReqFDDItem CRITICALITY ignore TYPE RL-InformationList-
RL-Add-ReqFDDItem PRESENCE mandatory },
 ...
}

RL-InformationList-RL-Add-ReqFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 c-ID C-ID,
 frameOffset FrameOffset,
 chipOffset ChipOffset,
 diversityControlField DiversityControlField,
 dl-CodeInformationList-RL-Add-ReqFDD DL-
CodeInformationList-RL-Add-ReqFDD
 initialDL-TransmissionPower DL-Power,
 maximumDL-Power DL-Power OPTIONAL,
 minimumDL-Power DL-Power OPTIONAL,
 sSDT-CellIdentity SSDT-CellIdentity OPTIONAL,
 transmitDiversityIndicator TransmitDiversityIndicator OPTIONAL
}

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
 ProtocolIE-Container {{ DL-CodeInformationList-RL-Add-ReqFDDItemIE }}

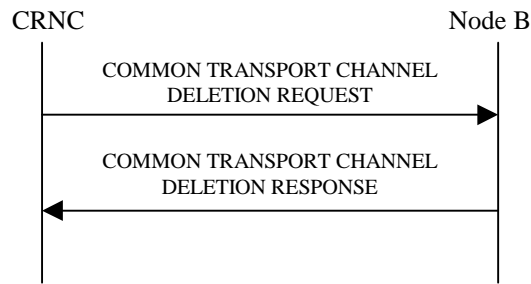
DL-CodeInformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CodeInformationList-RL-Add-ReqFDD CRITICALITY ignore TYPE DL-
CodeInformationList-RL-Add-ReqFDD PRESENCE mandatory },
 ...
}

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE {
 scramblingCode ScramblingCode,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber
}

```



### 8.2.3.2 Successful Operation



**Figure 1: Common Transport Channel Deletion procedure, successful case**

The procedure is initiated with a COMMON TRANSPORT CHANNEL DELETION REQUEST message sent from the CRNC to the Node B.

**Secondary CCPCH:** When the COMMON TRANSPORT CHANNEL DELETION REQUEST message contains a Secondary CCPCH, Node B shall delete the indicated channel and the FACHes and PCH supported by that Secondary CCPCH. If there is a PCH that is deleted, the PICH associated with that PCH shall also be deleted.

**PRACH:** When the COMMON TRANSPORT CHANNEL DELETION REQUEST message contains a PRACH, Node B shall delete the indicated channel and the RACH supported by the PRACH. [FDD- The AICH associated with the PCH shall also be deleted.]

[TDD- If the requested common physical channel is a part of a CCTrCH, all common transport channels and all common physical channels associated with this CCTrCH shall be deleted.]

After a successful procedure, the channels are deleted in Node B. Node B shall store the new value of the *Configuration Generation ID* IE, and respond with the COMMON TRANSPORT CHANNEL DELETION RESPONSE message.

### 8.2.3.3 Unsuccessful Operation

-

### 8.2.3.4 Abnormal Conditions

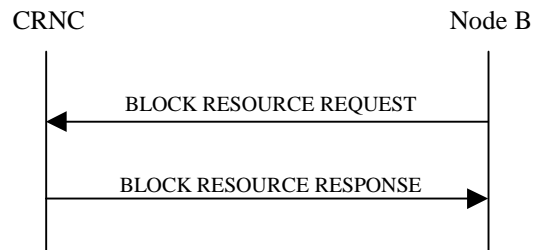
If the C-ID in the COMMON TRANSPORT CHANNEL DELETION REQUEST message is not existing in the Node B, the Node B shall respond with the COMMON TRANSPORT CHANNEL DELETION RESPONSE message.

## 8.2.4 Block Resource

### 8.2.4.1 General

The Node B initiates this procedure to request the CRNC to prohibit the usage of the specified logical resources.

### 8.2.4.2 Successful Operation



**Figure 6: Block Resource procedure, Successful case**

The procedure is initiated with a BLOCK RESOURCE REQUEST message sent from the Node B to the CRNC.

Upon reception of the BLOCK RESOURCE REQUEST message, the CRNC shall prohibit the use of the indicated logical resources according to the *Blocking Priority Indicator* IE.

If the *Blocking Priority Indicator* IE in the BLOCK RESOURCE REQUEST message indicates 'High Priority', the CRNC shall prohibit the use of the logical resources immediately.

The BLOCK RESOURCE REQUEST message shall include the *Shutdown Timer* IE when the *Blocking Priority Indicator* IE indicates 'Normal Priority'. The CRNC shall prohibit the use of the logical resources if the resources are idle or immediately upon expiry of the shutdown timer specified in the message. New traffic shall not be allowed to use the logical resources while the CRNC waits for the resources to become idle and once the resources are blocked.

If the *Blocking Priority Indicator* IE in the BLOCK RESOURCE REQUEST message indicates 'Low Priority', the CRNC shall prohibit the use of the logical resources when the resources become idle. New traffic shall not be allowed to use the logical resources while the CRNC waits for the resources to become idle and once the resources are blocked.

When the logical resource indicated is a cell, all associated physical channels and transport channels are blocked.

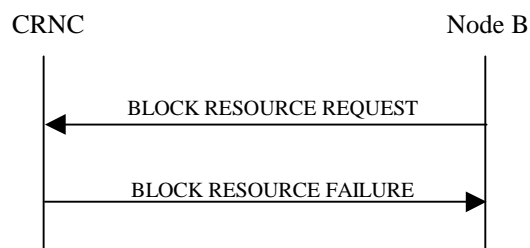
If the resources are successfully blocked, the CRNC shall respond with a BLOCK RESOURCE RESPONSE message. Upon reception of the BLOCK RESOURCE RESPONSE message, the Node B shall consider the logical resources blocked.

#### Interactions with the Unblock Resource procedure:

If the UNBLOCK RESOURCE INDICATION message is received by the CRNC while a Block Resource procedure on the same logical resources is in progress, the CRNC shall cancel the Block Resource procedure and proceed with the Unblock Resource procedure.

If the BLOCK RESOURCE RESPONSE message or the BLOCK RESOURCE FAILURE message is received by the Node B after the Node B has initiated an Unblock Resource procedure on the same logical resources as the ongoing Block Resource procedure, the Node B shall ignore the response to the Block Resource procedure.

### 8.2.4.3 Unsuccessful Operation



**Figure 7: Block Resource procedure, Unsuccessful case**

The CRNC may reject the request to block the logical resources, in which case the logical resources will remain unaffected and the CRNC shall respond to the Node B with the BLOCK RESOURCE FAILURE message. Upon

reception of the BLOCK RESOURCE FAILURE message, the Node B shall leave the logical resources in the state that they were in prior to the start of the Block Resource procedure.

Typical cause values are as follows:

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

##### Priority call in progress

- O&M Intervention
- Control processing overload
- HW failure

#### Radio Network Layer Cause

- Priority transport channel established

#### 8.2.4.4 Abnormal Conditions

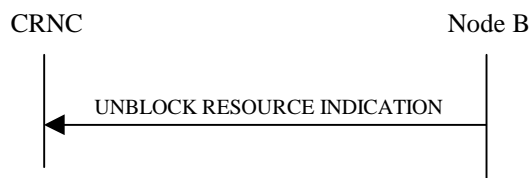
-

### 8.2.5 Unblock Resource

#### 8.2.5.1 General

The Node B initiates this procedure to indicate to the CRNC that logical resources are now unblocked.

#### 8.2.5.2 Successful Operation



**Figure 8: Unblock Resource procedure, Successful case**

The procedure is initiated with an UNBLOCK RESOURCE INDICATION message sent from the Node B to the CRNC. Upon reception of the UNBLOCK RESOURCE INDICATION message, the CRNC may permit the use of the logical resources.

When the logical resource indicated is a cell, all associated physical channels and transport channels are unblocked.

#### 8.2.5.3 Abnormal Conditions

-

### 8.2.6 Audit Required

#### 8.2.6.1 General

The Node B initiates this procedure to request the CRNC to perform an audit of the logical resources at the Node B. This procedure is used to indicate a possible misalignment of state or configuration information

## 9.2.1.6 Cause

| Information Element/Group Name | Presence | Range | IE type and reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Semantics description |
|--------------------------------|----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Cause group                    | M        |       | Enumerated<br>(Radio Network Layer,<br>Transport Layer,<br>Protocol,<br>Misc)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |
| <i>CHOICE Cause group</i>      |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| <i>Radio Network Layer</i>     |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| Radio Network Layer Cause      | M        |       | Enumerated<br>(unknown C-ID,<br>Cell not available,<br>Power level not supported,<br>UL scrambling code already in use,<br>DL radio resources not available,<br>UL radio resources not available,<br>RL Already Activated/allocated Node B Resources Unavailable<br>Insufficient physical channel resources<br>Measurement not supported for the object,<br>Macrodiversity combining not possible,<br>Reconfiguration not allowed,<br>Requested configuration not supported<br>Synchronization failure,<br><b>Priority transport channel established,</b><br>Unspecified) |                       |
| <i>Transport Layer</i>         |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| Transport Layer Cause          | M        |       | Enumerated<br>(Transport link failure,<br>Transmission port not available,<br>Transport resource unavailable<br>Unspecified)                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |
| <i>Protocol</i>                |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| Protocol Cause                 |          |       | Enumerated<br>(Transaction not allowed,<br>Transfer syntax error,<br>Abstract syntax error (reject),<br>Abstract syntax error (ignore and notify),<br>Message not compatible with receiver state<br>Semantic error<br><br>Unspecified)                                                                                                                                                                                                                                                                                                                                    |                       |
| <i>Misc</i>                    |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| Miscellaneous Cause            | M        |       | Enumerated<br>(Control processing overload<br>Hardware failure,<br>O&M intervention,<br>Not enough user plane processing resources,<br><b>Priority call in progress,</b><br>Unspecified)                                                                                                                                                                                                                                                                                                                                                                                  |                       |

```
-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)

PSCH-TimeSlot ::= INTEGER (0..6)

PSCH-Power ::= INTEGER (0..511)

PUSCH-Offset ::= INTEGER (0..255)

-- R

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, .., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause :: Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified,
priority-transport-channel-established,
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}
```

## CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

**25.433 CR 052r2**

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **RAN#7**  
list expected approval meeting # here ↑

for approval   
for information

strategic   
non-strategic  (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:**  
(at least one should be marked with an X)

(U)SIM  ME  UTRAN / Radio  Core Network

**Source:** R-WG3 **Date:** 28 Feb 2000

**Subject:** Clarification on the 'RLC Mode' parameter

**Work item:**

**Category:**

F Correction   
A Corresponds to a correction in an earlier release   
B Addition of feature   
C Functional modification of feature   
D Editorial modification

(only one category shall be marked with an X)

**Release:** Phase 2   
Release 96   
Release 97   
Release 98   
Release 99   
Release 00

**Reason for change:**

The 'RLC Mode' parameter was agreed in WG3 meeting #8 (as proposed by Tdoc R3-99F23). This CR is intended to clarify the effect on this parameter on the closed loop power control algorithm. Parameter is renamed Limited Power Increase. Correction also in the ASN.1 (IE missing in some PDU).

**Clauses affected:** 8.2.17.2, 8.3.2.2, 8.3.5.2, 9.1.35, 9.1.41, 9.1.46, 9.2.1.47, 9.3.3, 9.3.4

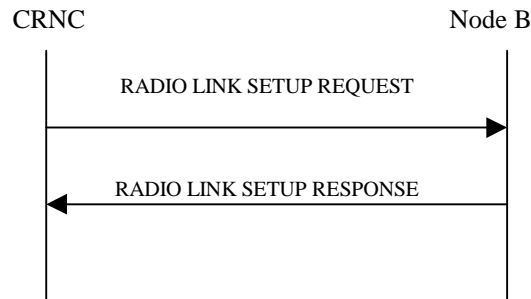
**Other specs affected:**

Other 3G core specifications  → List of CRs:  
Other GSM core specifications  → List of CRs:  
MS test specifications  → List of CRs:  
BSS test specifications  → List of CRs:  
O&M specifications  → List of CRs:

**Other comments:**



### 8.2.17.2 Successful operation



**Figure 1: RL Setup procedure: Successful case**

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.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[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 indicates, "may be combined with already existing RLs", then Node B shall decide for either of the alternatives. 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 RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and
- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new 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 configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

~~The included *RLC Mode* IE may be used by the Node B to optimise the power control.~~

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.

The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

[FDD] 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.

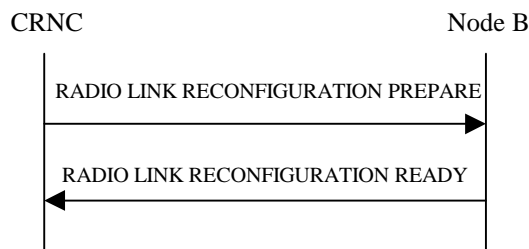
[TDD – The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

The NodeB 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 – The NodeB 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.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specify for only one of the coordinated DCHs.

### 8.3.2.2 Successful Operation



**Figure 2: Synchronised Radio Link Reconfiguration procedure, Successful Case**

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 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.

#### **DCH Modification:**

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

#### **DCH Addition:**

If the RADIO LINK RECONFIGURATION PREPARE message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION PREPARE message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall.

1. treat all DCHs with the same value of this IE as a set of coordinated DCHs and
2. include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

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 may use the included *RLC Mode* IE to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

#### **DCH Deletion:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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 the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Uplink Channelisation Code* IEs, the Node B shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Downlink Channelisation Code* IEs, the Node B shall apply the new Downlink Channelisation Code(s) in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *UL DPCH Information* IE groups, the Node B shall apply the new UL physical channel(s) setting in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *DL DPCH Information* IE groups, the Node B shall apply the new physical channel(s) setting in the new configuration.]

The Node B shall use the *TFCS (UL)* IE when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

The Node B shall use the *TFCS (DL)* IE when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCCH Structure* IE, group the Node B shall set the new Uplink DPCCCH Structure to the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION PREPARE includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

#### **SSDT Activation/Deactivation:**

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

#### **DSCH Addition/Modification/Deletion:**

[FDD] It is FFS how the Node B shall treat any included DSCH Information.

[TDD – The RADIO LINK RECONFIGURATION PREPARE message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is

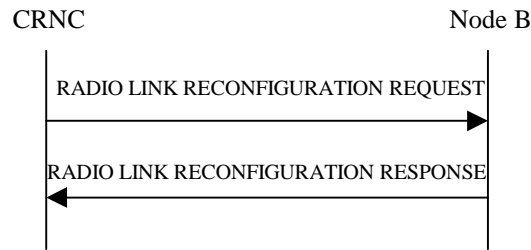
used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

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.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub DCH-to-be-added group or DCH-to-be-modified group 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 group shall be included only for one of the combined RLs.

### 8.3.5.2 Successful Operation



**Figure 3: Unsynchronised Radio Link Reconfiguration Procedure, Successful Case**

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION REQUEST to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the DRNS shall modify the 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.

#### **DCH Modification:**

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, 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 RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

#### **DCH Addition:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be added to the Radio Link(s), the Node B 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 RADIO LINK RECONFIGURATION REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the DRNS shall.

1. Treat all DCHs with the same value of this IE as a set of coordinated DCHs and
2. Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration.

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 DRNS once the new configuration has been activated.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *RLC Mode* IE, the Node B may use this information to optimise the power control.

The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.

The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

#### **DCH Deletion:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.

If of all 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:**

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (UL)* IE, the Node B shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (DL)* IE, the Node B shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

If the RADIO LINK RECONFIGURATION REQUEST includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

#### **DSCH Addition/Modification/Deletion:**

[FDD] It is FFS how the Node B shall treat any included DSCH Information.

[TDD – The RADIO LINK RECONFIGURATION REQUEST message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION RESPONSE message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

If the requested modifications are allowed by the Node B, the Node B has successfully allocated the required resources, and changed to the new configuration it shall respond to the CRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the DCH-to-be-added group or DCH-to-be-modified group shall be included 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, RL Information Response IE group shall be included only for one of the combined Radio Links.

## 9.1.35 RADIO LINK SETUP REQUEST

## 9.1.35.1 FDD message

| IE/Group Name                              | Presence      | Range               | IE type and reference | Semantics description           |
|--------------------------------------------|---------------|---------------------|-----------------------|---------------------------------|
| Message Discriminator                      | M             |                     |                       |                                 |
| Message Type                               | M             |                     |                       |                                 |
| CRNC Communication Context ID              | M             |                     |                       |                                 |
| Transaction ID                             | M             |                     |                       |                                 |
| <b>UL DPCH Information</b>                 |               | 1                   |                       |                                 |
| UL Scrambling Code                         | M             |                     |                       |                                 |
| Min UL Channelisation Code length          | M             |                     |                       |                                 |
| Max Number of UL DPDCHs                    | C – CodeLen   |                     |                       |                                 |
| puncture limit                             | M             |                     |                       | For UL                          |
| Transport Format Combination Set           | M             |                     |                       | for UL                          |
| UL DPCCH Slot Format                       | M             |                     |                       |                                 |
| UL Eb/No Target                            | M             |                     | Uplink Eb/No          |                                 |
| Diversity mode                             | M             |                     |                       |                                 |
| D Field Length                             | C – FB        |                     |                       |                                 |
| SSDT cell ID Length                        | O             |                     |                       |                                 |
| S Field Length                             | O             |                     |                       |                                 |
| <b>DL DPCH Information</b>                 |               |                     |                       |                                 |
| Transport Format Combination Set           | M             |                     |                       | For DL                          |
| DL DPCH Slot Format                        | M             |                     |                       |                                 |
| TFCI signalling mode                       | M             |                     |                       |                                 |
| TFCI presence                              | C- SlotFormat |                     |                       |                                 |
| Multiplexing Position                      | M             |                     |                       |                                 |
| <b>Power Offset Information</b>            |               | 1                   |                       |                                 |
| PO1                                        | M             |                     | Power Offset          | Power offset for the TFCI bits  |
| PO2                                        | M             |                     | Power Offset          | Power offset for the TPC bits   |
| PO3                                        | M             |                     | Power Offset          | Power offset for the pilot bits |
| Delta TPC                                  | M             |                     |                       |                                 |
| <b>DCH Information</b>                     |               | 1 to <maxnoofDCHs>  |                       |                                 |
| DCH ID                                     | M             |                     |                       |                                 |
| DCH Combination Ind                        | O             |                     |                       |                                 |
| <del>RLC mode</del> Limited Power Increase | M             |                     |                       |                                 |
| Transport Format Set                       | M             |                     |                       | For UL                          |
| Transport Format Set                       | M             |                     |                       | For DL                          |
| Frame Handling Priority                    | M             |                     |                       |                                 |
| Payload CRC Presence Indicator             | M             |                     |                       |                                 |
| UL FP mode                                 | M             |                     |                       |                                 |
| ToAWS                                      | M             |                     |                       |                                 |
| ToAWE                                      | M             |                     |                       |                                 |
| RL ID                                      | O             |                     |                       | RL Supporting the DSCH          |
| DSCH TFCS                                  | O             |                     |                       |                                 |
| <b>DSCH Information</b>                    |               | 0 to <maxnoofDSCHs> |                       |                                 |



|                                      |                   |                              |          |          |
|--------------------------------------|-------------------|------------------------------|----------|----------|
| DSCH ID                              | M                 |                              |          |          |
| Transport Format Set                 | M                 |                              |          | For DSCH |
| Frame handling Priority              | M                 |                              |          |          |
| ToAWS                                | M                 |                              |          |          |
| ToAWE                                | M                 |                              |          |          |
| <b>RL Information</b>                |                   | 1 to<br><maxnoofRLs>         |          |          |
| RL ID                                | M                 |                              |          |          |
| C-ID                                 | M                 |                              |          |          |
| Frame Offset                         | M                 |                              |          |          |
| Chip Offset                          | M                 |                              |          |          |
| Propagation Delay                    | O                 |                              |          |          |
| Diversity Control Field              | C –<br>NotFirstRL |                              |          |          |
| <b>DL Code Information</b>           |                   | 1 to<br><maxnoof-<br>DLCodes |          |          |
| DL Scrambling Code                   | M                 |                              |          |          |
| FDD DL Channelisation<br>Code Number | M                 |                              |          |          |
| Initial DL transmission<br>Power     | M                 |                              | DL Power |          |
| Maximum DL power                     | M                 |                              | DL Power |          |
| Minimum DL power                     | M                 |                              | DL Power |          |
| SSDT Cell Identity                   | O                 |                              |          |          |

| Condition  | Explanation                                                                               |
|------------|-------------------------------------------------------------------------------------------|
| CodeLen    | This IE is present only if "Min UL Channelisation Code length" equals to 4                |
| FB         | This IE is present only if Feed Back mode diversity is activated.                         |
| NotFirstRL | This IE is present only if the RL is not the first one in the RL Information.             |
| SlotFormat | This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16. |

| Range bound    | Explanation                         |
|----------------|-------------------------------------|
| MaxnoofDSCHs   | Maximum no. of DSCHs for one UE.    |
| MaxnoofDCHs    | Maximum no. of DCHs for one UE.     |
| MaxnoofRLs     | Maximum no. of RLs for one UE.      |
| MaxnoofDLCodes | Maximum no. of DL code information. |

## 9.1.35.2 TDD message

| IE/Group Name                             | Presence | Range              | IE type and reference | Semantics description               |
|-------------------------------------------|----------|--------------------|-----------------------|-------------------------------------|
| Message Discriminator                     | M        |                    |                       |                                     |
| Message Type                              | M        |                    |                       |                                     |
| CRNC Communication Context ID             | M        |                    |                       |                                     |
| Transaction ID                            | M        |                    |                       |                                     |
| <b>UL CTrCH Information</b>               |          | 0 to <maxno CTrCH> |                       |                                     |
| CTrCH ID                                  | M        |                    |                       |                                     |
| Transport Format Combination Set          | M        |                    |                       |                                     |
| TFCI Coding                               | M        |                    |                       |                                     |
| Puncture Limit                            | M        |                    |                       |                                     |
| <b>UL DPCH Information</b>                |          | 0 to <maxnoOfDPCH> |                       |                                     |
| DPCH ID                                   | M        |                    |                       |                                     |
| TDD Channelisation Code                   | M        |                    |                       |                                     |
| Burst Type                                | M        |                    |                       |                                     |
| Midamble Shift                            | M        |                    |                       |                                     |
| Time Slot                                 | M        |                    |                       |                                     |
| TDD Physical Channel Offset               | M        |                    |                       |                                     |
| Repetition Period                         | M        |                    |                       |                                     |
| Repetition Length                         | M        |                    |                       |                                     |
| TFCI Presence                             | M        |                    |                       |                                     |
| <b>DL CTrCH Information</b>               |          | 0 to <maxno CTrCH> |                       |                                     |
| CTrCH ID                                  | M        |                    |                       |                                     |
| Transport Format Combination Set          | M        |                    |                       |                                     |
| TFCI Coding                               | M        |                    |                       |                                     |
| Puncture Limit                            | M        |                    |                       |                                     |
| <b>DL DPCH information</b>                |          | 0 to <maxnoOfDPCH> |                       |                                     |
| DPCH ID                                   | M        |                    |                       |                                     |
| TDD Channelisation Code                   | M        |                    |                       |                                     |
| Burst Type                                | M        |                    |                       |                                     |
| Midamble Shift                            | M        |                    |                       |                                     |
| Time Slot                                 | M        |                    |                       |                                     |
| TDD Physical Channel Offset               | M        |                    |                       |                                     |
| Repetition Period                         | M        |                    |                       |                                     |
| Repetition Length                         | M        |                    |                       |                                     |
| TFCI Presence                             | M        |                    |                       |                                     |
| <b>DCH Information</b>                    |          | 1 to <maxnoofDCHs> |                       |                                     |
| DCH ID                                    | M        |                    |                       |                                     |
| <del>Limited Power IncreaseRLC mode</del> | M        |                    |                       |                                     |
| CTrCH ID                                  | M        |                    |                       | UL CTrCH in which the DCH is mapped |
| CTrCH ID                                  | M        |                    |                       | DL CTrCH in which the DCH is mapped |
| DCH Combination Ind                       | O        |                    |                       |                                     |
| Transport Format Set                      | M        |                    |                       | For UL                              |
| Transport Format Set                      | M        |                    |                       | For DL                              |
| Frame Handling Priority                   | O        |                    |                       |                                     |
| Payload CRC Presence Indicator            | M        |                    |                       |                                     |

|                                      |   |                            |  |                                          |
|--------------------------------------|---|----------------------------|--|------------------------------------------|
| UL FP mode                           | M |                            |  |                                          |
| ToAWS                                | M |                            |  |                                          |
| ToAWE                                | M |                            |  |                                          |
| <b>DSCH Information</b>              |   | 0 to<br><MaxnoofDSCHs<br>> |  |                                          |
| DSCH ID                              | M |                            |  |                                          |
| CCTrCH ID                            | M |                            |  | DL CCTrCH in which the<br>DSCH is mapped |
| Transport Format Set                 | M |                            |  | For DSCH                                 |
| Frame handling Priority              | M |                            |  |                                          |
| ToAWS                                | M |                            |  |                                          |
| ToAWE                                | M |                            |  |                                          |
| <b>USCH Information</b>              |   | 0 to<br><MaxnoofUSCHs<br>> |  |                                          |
| USCH ID                              | M |                            |  |                                          |
| CCTrCH ID                            | M |                            |  | UL CCTrCH in which the<br>USCH is mapped |
| Transport Format Set                 | M |                            |  | For USCH                                 |
| <b>RL Information</b>                |   | 1                          |  |                                          |
| RL ID                                | M |                            |  |                                          |
| C-ID                                 | M |                            |  |                                          |
| Frame TDD Physical<br>Channel Offset | M |                            |  |                                          |
| Initial DL transmission<br>Power     | M |                            |  | DL Power                                 |
| Maximum DL power                     | M |                            |  | DL Power                                 |
| Minimum DL power                     | M |                            |  | DL Power                                 |

| Range bound  | Explanation                          |
|--------------|--------------------------------------|
| MaxnoofDCHs  | Maximum no. of DCHs for one UE.      |
| maxnoOfDPCH  | Maximum number of DPCH in one CCTrCH |
| maxnoCCTrCH  | no. of CCTrCH for one UE.            |
| MaxnoofDSCHs | Maximum number of DSCH for one UE    |
| MaxnoofUSCHs | Maximum number of USCH for one UE    |

## 9.1.41 RADIO LINK RECONFIGURATION PREPARE

## 9.1.41.1 FDD Message

| IE/Group Name                          | Presence      | Range             | IE Type and Reference | Semantic Description |
|----------------------------------------|---------------|-------------------|-----------------------|----------------------|
| Message Discriminator                  | M             |                   |                       |                      |
| Message Type                           | M             |                   |                       |                      |
| Node B Communication Context ID        | M             |                   |                       |                      |
| Transaction ID                         | M             |                   |                       |                      |
| <b>UL DPCH Information</b>             |               | 0..1              |                       |                      |
| UL Scrambling code                     | O             |                   |                       |                      |
| Min UL Channelisation Code Length      | O             |                   |                       |                      |
| Max Number of UL DPDCHs                | C – CodeLen   |                   |                       |                      |
| Puncture Limit                         | O             |                   |                       | For UL               |
| TFCS                                   | O             |                   |                       |                      |
| UL DPCCCH Slot Format                  | O             |                   |                       |                      |
| SSDT Cell Identity Length              | O             |                   |                       |                      |
| S-Field Length                         | O             |                   |                       |                      |
| <b>DL DPCH Information</b>             |               | 0..1              |                       |                      |
| TFCS                                   | O             |                   |                       |                      |
| DL DPCH Slot Format                    | O             |                   |                       |                      |
| TFCI Signalling Mode                   | O             |                   |                       |                      |
| TFCI presence                          | C-Slot Format |                   |                       |                      |
| DTX Insertion Point                    | O             |                   |                       |                      |
| <b>DCHs to Modify</b>                  |               | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                                 | M             |                   |                       |                      |
| Transport Format Set                   | O             |                   |                       | For the UL.          |
| Transport Format Set                   | O             |                   |                       | For the DL.          |
| Frame Handling Priority                | O             |                   |                       |                      |
| UL FP Mode                             | O             |                   |                       |                      |
| ToAWS                                  | O             |                   |                       |                      |
| ToAWE                                  | O             |                   |                       |                      |
| <b>DCHs to Add</b>                     |               | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                                 | M             |                   |                       |                      |
| DCH Combination Ind                    | O             |                   |                       |                      |
| <u>Limited Power Increase</u> RLC Mode | M             |                   |                       |                      |
| Transport Format Set                   | M             |                   |                       | For the UL.          |
| Transport Format Set                   | M             |                   |                       | For the DL.          |
| Frame Handling Priority                | M             |                   |                       |                      |
| Payload CRC Presence Indicator         | M             |                   |                       |                      |
| UL FP Mode                             | M             |                   |                       |                      |
| ToAWS                                  | M             |                   |                       |                      |
| ToAWE                                  | M             |                   |                       |                      |
| <b>DCHs to Delete</b>                  |               | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                                 | M             |                   |                       |                      |
| <b>DSCH to modify</b>                  |               | 0..1              |                       |                      |
| Transport Format Set                   | O             |                   |                       | For the DL.          |
| RL ID                                  | O             |                   |                       |                      |
| Frame Handling Priority                | O             |                   |                       |                      |
| ToAWS                                  | O             |                   |                       |                      |

|                                      |                  |                         |          |             |
|--------------------------------------|------------------|-------------------------|----------|-------------|
| ToAWE                                | O                |                         |          |             |
| <b>DSCH to add</b>                   |                  | 0..1                    |          |             |
| Transport Format Set                 | M                |                         |          | For the DL. |
| RL ID                                | M                |                         |          |             |
| Frame Handling Priority              | M                |                         |          |             |
| ToAWS                                | M                |                         |          |             |
| ToAWE                                | M                |                         |          |             |
| <b>DSCH to Delete</b>                |                  | 0..1                    |          |             |
| RL ID                                | M                |                         |          |             |
| <b>RL Information</b>                |                  | 0..<maxnoof<br>RLs>     |          |             |
| RL ID                                | M                |                         |          |             |
| <b>DL Code Information</b>           |                  | 0..<maxnoof<br>DLCodes< |          |             |
| DL Scrambling Code                   | O                |                         |          |             |
| FDD DL Channelisation<br>Code Number | O                |                         |          |             |
| Maximum DL Power                     | O                |                         | DL Power |             |
| Minimum DL Power                     | O                |                         | DL Power |             |
| SSDT Indication                      | O                |                         |          |             |
| SSDT Cell Identity                   | C -<br>SSDTIndON |                         |          |             |

| Condition  | Explanation                                                                               |
|------------|-------------------------------------------------------------------------------------------|
| SSDTIndON  | The IE may be present if the SSDT Indication is set to 'SSDT Active in the UE'.           |
| CodeLen    | This IE is present only if "Min UL Channelisation Code length" equals to 4.               |
| SlotFormat | This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16. |

| Range Bound           | Explanation                                      |
|-----------------------|--------------------------------------------------|
| <i>MaxnoofDCHs</i>    | Maximum number of DCHs for a UE.                 |
| <i>MaxnoofRLs</i>     | Maximum number of RLs for a UE.                  |
| <i>MaxnoofDLCodes</i> | Maximum number of Downlink Channelisation Codes. |

## 9.1.41.2 TDD Message

| IE/Group Name                   | Presence | Range                      | IE Type and Reference | Semantic Description                 |
|---------------------------------|----------|----------------------------|-----------------------|--------------------------------------|
| Message Discriminator           | M        |                            |                       |                                      |
| Message Type                    | M        |                            |                       |                                      |
| Node B Communication Context ID | M        |                            |                       |                                      |
| Transaction ID                  | M        |                            |                       |                                      |
| <b>UL CTrCH Information</b>     |          | 0..<br><maxnoof<br>CTrCHs> |                       |                                      |
| CTrCH ID                        | M        |                            |                       |                                      |
| TFCS                            | O        |                            |                       |                                      |
| TFCI Coding                     | O        |                            |                       |                                      |
| Puncture Limit                  | O        |                            |                       |                                      |
| <b>UL DPCH Information</b>      |          | 0..<br><maxnoof<br>DPCHs>  |                       |                                      |
| DPCH ID                         | M        |                            |                       |                                      |
| TDD Channelisation Code         | O        |                            |                       |                                      |
| Burst Type                      | O        |                            |                       |                                      |
| Midamble Shift                  | O        |                            |                       |                                      |
| Time Slot                       | O        |                            |                       |                                      |
| TDD Physical channel Offset     | O        |                            |                       |                                      |
| Repetition Period               | O        |                            |                       |                                      |
| Repetition Length               | O        |                            |                       |                                      |
| TFCI Presence                   | O        |                            |                       |                                      |
| <b>DL CTrCH Information</b>     |          | 0..<br><maxnoof<br>CTrCHs> |                       |                                      |
| CTrCH ID                        | M        |                            |                       |                                      |
| TFCS                            | O        |                            |                       |                                      |
| TFCI Coding                     | O        |                            |                       |                                      |
| PunctureLimit                   |          |                            |                       |                                      |
| <b>DL DPCH Information</b>      |          | 0..<br><maxnoof<br>DPCHs>  |                       |                                      |
| DPCH ID                         | M        |                            |                       |                                      |
| TDD Channelisation Code         | O        |                            |                       |                                      |
| Burst Type                      | O        |                            |                       |                                      |
| Midamble Shift                  | O        |                            |                       |                                      |
| Time Slot                       | O        |                            |                       |                                      |
| TDD Physical Channel Offset     | O        |                            |                       |                                      |
| Repetition Period               | O        |                            |                       |                                      |
| Repetition Length               | O        |                            |                       |                                      |
| TFCI Presence                   | O        |                            |                       |                                      |
| <b>DCHs to Modify</b>           |          | 0..<maxnoof<br>DCHs>       |                       |                                      |
| DCH ID                          | M        |                            |                       |                                      |
| CTrCH ID                        | O        |                            |                       | UL CTrCH in which the DCH is mapped. |
| CTrCH ID                        | O        |                            |                       | DL CTrCH in which the DCH is mapped  |
| Transport Format Set            | O        |                            |                       | For the UL.                          |
| Transport Format Set            | O        |                            |                       | For the DL.                          |
| Frame Handling Priority         | O        |                            |                       |                                      |
| UL FP Mode                      | O        |                            |                       |                                      |
| ToAWS                           | O        |                            |                       |                                      |
| ToAWE                           | O        |                            |                       |                                      |

|                                   |   |                                   |  |                                       |
|-----------------------------------|---|-----------------------------------|--|---------------------------------------|
| <b>DCHs to Add</b>                |   | <i>0..&lt;maxnoof DCHs&gt;</i>    |  |                                       |
| DCH ID                            | M |                                   |  |                                       |
| Limited Power Increase Mode       | M |                                   |  |                                       |
| CCTrCH ID                         | M |                                   |  | UL CCTrCH in which the DCH is mapped. |
| CCTrCH ID                         | M |                                   |  | DL CCTrCH in which the DCH is mapped  |
| DCH Combination Ind               | O |                                   |  |                                       |
| Transport Format Set              | M |                                   |  | For the UL.                           |
| Transport Format Set              | M |                                   |  | For the DL.                           |
| Frame Handling Priority           | M |                                   |  |                                       |
| Payload CRC Presence Indicator    | M |                                   |  |                                       |
| UL FP Mode                        | M |                                   |  |                                       |
| ToAWS                             | M |                                   |  |                                       |
| ToAWE                             | M |                                   |  |                                       |
| <b>DCHs to Delete</b>             |   | <i>0..&lt;maxnoof DCHs&gt;</i>    |  |                                       |
| DCH ID                            | M |                                   |  |                                       |
| <b>DSCH Information to modify</b> |   | <i>0 .. &lt;Maxnoof DSCHs&gt;</i> |  |                                       |
| DSCH ID                           | M |                                   |  |                                       |
| CCTrCH ID                         | O |                                   |  | DL CCTrCH in which the DSCH is mapped |
| Transport Format Set              | O |                                   |  |                                       |
| Frame handling Priority           | O |                                   |  |                                       |
| ToAWS                             | O |                                   |  |                                       |
| ToAWE                             | O |                                   |  |                                       |
| <b>DSCH Information to add</b>    |   | <i>0 .. &lt;Maxnoof DSCHs&gt;</i> |  |                                       |
| DSCH ID                           | M |                                   |  |                                       |
| CCTrCH ID                         | M |                                   |  | DL CCTrCH in which the DSCH is mapped |
| Transport Format Set              | M |                                   |  |                                       |
| Frame handling Priority           | O |                                   |  |                                       |
| ToAWS                             | M |                                   |  |                                       |
| ToAWE                             | M |                                   |  |                                       |
| <b>DSCH Information to delete</b> |   | <i>0 .. &lt;Maxnoof DSCHs&gt;</i> |  |                                       |
| DSCH ID                           | M |                                   |  |                                       |
| <b>USCH Information to modify</b> |   | <i>0 .. &lt;Maxnoof USCHs&gt;</i> |  |                                       |
| USCH ID                           | M |                                   |  |                                       |
| Transport Format Set              | O |                                   |  |                                       |
| CCTrCH ID                         | O |                                   |  | UL CCTrCH in which the USCH is mapped |
| <b>USCH Information to add</b>    |   | <i>0 .. &lt;Maxnoof USCHs&gt;</i> |  |                                       |
| USCH ID                           | M |                                   |  |                                       |
| CCTrCH ID                         | M |                                   |  | UL CCTrCH in which the USCH is mapped |
| Transport Format Set              | M |                                   |  |                                       |
| <b>USCH Information to delete</b> |   | <i>0 .. &lt;Maxnoof USCHs&gt;</i> |  |                                       |
| USCH ID                           | M |                                   |  |                                       |
| <b>RL Information</b>             |   | <i>0..1</i>                       |  |                                       |

|                        |   |  |          |  |
|------------------------|---|--|----------|--|
| RL ID                  | M |  |          |  |
| Maximum Downlink Power | O |  | DL Power |  |
| Minimum Downlink Power | O |  | DL Power |  |

| <b>Range Bound</b>    | <b>Explanation</b>                     |
|-----------------------|----------------------------------------|
| <i>MaxnoofDCHs</i>    | Maximum number of DCHs for a UE.       |
| <i>MaxnoofCCTrCHs</i> | Maximum number of CCTrCHs for a UE.    |
| <i>MaxnoofDPCHs</i>   | Maximum number of DPCHs in one CCTrCH. |
| <i>MaxnoofDSCHs</i>   | Maximum number of DSCHs for one UE     |
| <i>MaxnoofUSCHs</i>   | Maximum number of USCHs for one UE     |



## 9.1.46 RADIO LINK RECONFIGURATION REQUEST

## 9.1.46.1 FDD Message

| IE/Group Name                   | Presence | Range             | IE Type and Reference | Semantic Description |
|---------------------------------|----------|-------------------|-----------------------|----------------------|
| Message Discriminator           | M        |                   |                       |                      |
| Message Type                    | M        |                   |                       |                      |
| Node B Communication Context ID | M        |                   |                       |                      |
| Transaction ID                  | M        |                   |                       |                      |
| <b>UL DPCH Information</b>      |          | 0..1              |                       |                      |
| TFCS                            | O        |                   |                       | For the UL.          |
| <b>DL DPCH Information</b>      |          | 0..1              |                       |                      |
| TFCS                            | O        |                   |                       | For the DL.          |
| TFCI Signalling Mode            | O        |                   |                       |                      |
| <b>DCHs to Modify</b>           |          | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                          | M        |                   |                       |                      |
| Transport Format Set            | O        |                   |                       | For the UL.          |
| Transport Format Set            | O        |                   |                       | For the DL.          |
| Frame Handling Priority         | O        |                   |                       |                      |
| UL FP Mode                      | O        |                   |                       |                      |
| ToAWS                           | O        |                   |                       |                      |
| ToAWE                           | O        |                   |                       |                      |
| <b>DCHs to Add</b>              |          | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                          | M        |                   |                       |                      |
| DCH Combination Ind             | O        |                   |                       |                      |
| Limited Power Increase RLC Mode | M        |                   |                       |                      |
| Transport Format Set            | M        |                   |                       | For the UL.          |
| Transport Format Set            | M        |                   |                       | For the DL.          |
| Frame Handling Priority         | M        |                   |                       |                      |
| Payload CRC Presence Indicator  | M        |                   |                       |                      |
| UL FP mode                      | M        |                   |                       |                      |
| ToAWS                           | M        |                   |                       |                      |
| ToAWE                           | M        |                   |                       |                      |
| <b>DCHs to Delete</b>           |          | 0..<maxnoof DCHs> |                       |                      |
| DCH ID                          | M        |                   |                       |                      |
| <b>DSCH to Modify</b>           |          | 0..1              |                       |                      |
| Transport Format Set            | O        |                   |                       | For the DL.          |
| RL ID                           | O        |                   |                       |                      |
| Frame Handling Priority         | O        |                   |                       |                      |
| ToAWS                           | O        |                   |                       |                      |
| ToAWE                           | O        |                   |                       |                      |
| <b>DSCH to Add</b>              |          | 0..1              |                       |                      |
| Transport Format Set            | M        |                   |                       | For the DL.          |
| RL ID                           | M        |                   |                       |                      |
| Frame Handling Priority         | M        |                   |                       |                      |
| ToAWS                           | M        |                   |                       |                      |
| ToAWE                           | M        |                   |                       |                      |
| <b>DSCH to Delete</b>           |          | 0..1              |                       |                      |
| RL ID                           | M        |                   |                       |                      |
| <b>Radio Link Information</b>   |          | 0..<maxnoof RLS>  |                       |                      |
| RL ID                           | M        |                   |                       |                      |

|                  |   |  |          |  |
|------------------|---|--|----------|--|
| Maximum DL Power | O |  | DL Power |  |
| Minimum DL Power | O |  | DL Power |  |

| <b>Range Bound</b> | <b>Explanation</b>               |
|--------------------|----------------------------------|
| <i>MaxnoofDCHs</i> | Maximum number of DCHs for a UE. |
| <i>MaxnoofRLs</i>  | Maximum number of RLs for a UE.  |

## 9.1.46.2 TDD Message

| IE/Group Name                     | Presence | Range                             | IE Type and Reference | Semantic Description               |
|-----------------------------------|----------|-----------------------------------|-----------------------|------------------------------------|
| Message Discriminator             | M        |                                   |                       |                                    |
| Message Type                      | M        |                                   |                       |                                    |
| Node B Communication Context ID   | M        |                                   |                       |                                    |
| Transaction ID                    | M        |                                   |                       |                                    |
| <b>UL CCH Information</b>         |          | <i>0..&lt;maxnoof CCHs&gt;</i>    |                       |                                    |
| CCH ID                            | M        |                                   |                       |                                    |
| TFCS                              | O        |                                   |                       |                                    |
| Puncture Limit                    | O        |                                   |                       |                                    |
| <b>DL CCH Information</b>         |          | <i>0..&lt;maxnoof CCHs&gt;</i>    |                       |                                    |
| CCH ID                            | M        |                                   |                       |                                    |
| TFCS                              | O        |                                   |                       |                                    |
| Puncture Limit                    | O        |                                   |                       |                                    |
| <b>DCHs to Modify</b>             |          | <i>0..&lt;maxnoof DCHs&gt;</i>    |                       |                                    |
| DCH ID                            | M        |                                   |                       |                                    |
| CCH ID                            | O        |                                   |                       | UL CCH in which the DCH is mapped. |
| CCH ID                            | O        |                                   |                       | DL CCH in which the DCH is mapped  |
| Transport Format Set              | O        |                                   |                       | For the UL.                        |
| Transport Format Set              | O        |                                   |                       | For the DL.                        |
| Frame Handling Priority           | O        |                                   |                       |                                    |
| UL FP Mode                        | O        |                                   |                       |                                    |
| ToAWS                             | O        |                                   |                       |                                    |
| ToAWE                             | O        |                                   |                       |                                    |
| <b>DCHs to Add</b>                |          | <i>0..&lt;maxnoof DCHs&gt;</i>    |                       |                                    |
| DCH ID                            | M        |                                   |                       |                                    |
| Limited Power Increase Mode       | M        |                                   |                       |                                    |
| CCH ID                            | M        |                                   |                       | UL CCH in which the DCH is mapped. |
| CCH ID                            | M        |                                   |                       | DL CCH in which the DCH is mapped  |
| DCH Combination Ind               | O        |                                   |                       |                                    |
| Transport Format Set              | M        |                                   |                       | For the UL.                        |
| Transport Format Set              | M        |                                   |                       | For the DL.                        |
| Frame Handling Priority           | M        |                                   |                       |                                    |
| Payload CRC Presence Indicator    | M        |                                   |                       |                                    |
| UL FP Mode                        | M        |                                   |                       |                                    |
| ToAWS                             | M        |                                   |                       |                                    |
| ToAWE                             | M        |                                   |                       |                                    |
| <b>DCHs to Delete</b>             |          | <i>0..&lt;maxnoof DCHs&gt;</i>    |                       |                                    |
| DCH ID                            | M        |                                   |                       |                                    |
| <b>DSCH Information to modify</b> |          | <i>0 .. &lt;Maxnoof DSCHs&gt;</i> |                       |                                    |
| DSCH ID                           | M        |                                   |                       |                                    |
| CCH ID                            | O        |                                   |                       | DL CCH in which the DSCH is mapped |
| Transport Format Set              | O        |                                   |                       |                                    |
| Frame handling Priority           | O        |                                   |                       |                                    |
| ToAWS                             | O        |                                   |                       |                                    |

|                                   |   |                            |          |                                          |
|-----------------------------------|---|----------------------------|----------|------------------------------------------|
| ToAWE                             | O |                            |          |                                          |
| <b>DSCH Information to add</b>    |   | 0 ..<br><Maxnoof<br>DSCHs> |          |                                          |
| DSCH ID                           | M |                            |          |                                          |
| CCTrCH ID                         | M |                            |          | DL CCTrCH in which the<br>DSCH is mapped |
| Transport Format Set              | M |                            |          |                                          |
| Frame handling Priority           | O |                            |          |                                          |
| ToAWS                             | M |                            |          |                                          |
| ToAWE                             | M |                            |          |                                          |
| <b>DSCH Information to delete</b> |   | 0 ..<br><Maxnoof<br>DSCHs> |          |                                          |
| DSCH ID                           | M |                            |          |                                          |
| <b>USCH Information to modify</b> |   | 0 ..<br><Maxnoof<br>USCHs> |          |                                          |
| USCH ID                           | M |                            |          |                                          |
| CCTrCH ID                         | O |                            |          | UL CCTrCH in which the<br>USCH is mapped |
| Transport Format Set              | O |                            |          |                                          |
| <b>USCH Information to add</b>    |   | 0 ..<br><Maxnoof<br>USCHs> |          |                                          |
| USCH ID                           | M |                            |          |                                          |
| CCTrCH ID                         | M |                            |          | UL CCTrCH in which the<br>USCH is mapped |
| Transport Format Set              | M |                            |          |                                          |
| <b>USCH Information to delete</b> |   | 0 ..<br><Maxnoof<br>USCHs> |          |                                          |
| USCH ID                           | M |                            |          |                                          |
| <b>RL Information</b>             |   | 0..1                       |          |                                          |
| RL ID                             | M |                            |          |                                          |
| Maximum Downlink Power            | O |                            | DL Power |                                          |
| Minimum Downlink Power            | O |                            | DL Power |                                          |

| Range bound           | Explanation                         |
|-----------------------|-------------------------------------|
| <i>MaxnoofDCHs</i>    | Maximum number of DCHs for a UE.    |
| <i>MaxnoofCCTrCHs</i> | Maximum number of CCTrCHs for a UE. |
| <i>MaxnoofDSCHs</i>   | Maximum number of DSCHs for one UE  |
| <i>MaxnoofUSCHs</i>   | Maximum number of USCHs for one UE  |

### 9.2.1.47 Limited Power IncreaseRLC Mode

This parameter defines the RLC mode of the logical channels multiplexed on the transport channel. The parameter is used for a more efficient use of the inner loop DL power control for non real time data.

If the limited power increase is used, Node B shall not increase the DL power of the RL if it exceeds by more than *Power Raise Limit* dB the averaged DL power used in the last *DL power averaging window size* timeslots of the same RL.

*Power Raise Limit* and *DL power averaging window size* are parameters configured in the Node B.

| IE/Group Name                         | Presence | Range | IE type and reference                                                                | Semantics description |
|---------------------------------------|----------|-------|--------------------------------------------------------------------------------------|-----------------------|
| <u>Limited Power IncreaseRLC Mode</u> |          |       | ENUMERATED(Used, Not used, Acknowledged Mode, Unacknowledged Mode, Transparent Mode) |                       |

### 9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
 AICH-InformationList,
 AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCTrCH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,
 ConfigurationGenerationID,
 DCH-CombinationIndication,
 DCH-Delete-RL-ReconfReqTDDItem,
 DCH-ID,
 DCH-InformationResponse-RL-setupResFDD,
 DCH-Modify-RL-ReconfPrepTDDItem,
 DL-CCTrCH-ID,
 DL-CodeInformation,

```

DL-DPCH-InformationItem-RL-ReconfReqFDD,  
DL-DPCH-SlotFormat,  
DL-FrameType,  
DL-Power,  
DL-ReferencePower,  
DL-ReferencePowerInformationItem,  
DL-ScramblingCode,  
DPCH-ID,  
DPCH-Offset,  
DSCH-ID,  
DSCH-InformationResponse-RL-setupResFDD,  
DSCH-ModifyList-RL-ReconfResp,  
DSCH-SetupList-RL-ReconfResp,  
DSCH-TransportFormatSet,  
DTX-InsertionPoint,  
DTX-InsertionPosition,  
D-FieldLength,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DeltaTPC,  
DiversityControlField,  
DiversityMode,  
FACH-Power,  
FDD-DL-ChannelisationCodeNumber,  
FDD-SCCPCH-Offset,  
FrameHandlingPriority,  
FrameOffset,  
GapStartingSlotNumber,  
LimitedPowerIncrease,  
LocalCellID,  
LocalCellInformationList,  
LocalCell-ID,  
Local-CellID,  
MIB-SG-POS,  
MIB-SG-REP,  
MaxFACH-Power,  
MaxNrOfUL-DPDCHs,  
MaxNumberOfUL-DPDCHs,  
MaximumDLPowerCapability,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
MaximumUL-EbN0,  
Maximum-DL-PowerCapability,  
MeasuredCellInfo,  
MeasurementCharacteristics,  
MeasurementID,  
MeasurementType,  
MessagePartScramblingCode,  
MidambleShift,  
Midambleshift,  
MinUL-ChannelisationCodeLength,  
MinimumSpreadingFactor,  
MinimumUL-EbN0,  
NodeB-CommunicationContextID,  
NumberOfChannelElements,  
Offset,

PCCPCH-Power,  
PCCPCH-TimeSlotI,  
PCH-Power,  
PICH-Information,  
PICH-Power,  
PSCH-Power,  
PSCHandPCCPCH-Allocation,  
PSCHandPCCPCH-TimeSlotK,  
PUSCH,  
PagingIndicatorLength,  
PatternDuration,  
PayloadCRC-PresenceIndicator,  
PilotBitsUsedIndicator,  
PowerControlMode,  
PowerOffset,  
PowerResumeMode,  
PreambleScramblingCode,  
PreambleSignatures,  
PrimaryCPICH-Power,  
PrimarySCH-Power,  
PrimaryScramblingCode,  
Primary-ScramblingCode,  
PropagationDelay,  
PunctureLimit,  
RACH-SlotFormat,  
RACH-SubChannelNumbers,  
RLC-Mode,  
RL-ID,  
RL-Information,  
RL-InformationItem,  
RL-InformationItem-RL-SetupReqTDD,  
RL-InformationList-DMeasureRequest,  
RL-ReconfigurationFailure-RL-ReconfFailItem,  
RadioLinkInformation-RL-ReconfReqTDD,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
ResourceOperationState,  
ResourceOperationalState,  
SAI,  
SFN,  
SIB-SG-POS,  
SIB-SG-REP,  
SSDT-CellIdentity,  
SSDT-CellIdentityLength,  
SSDT-Cell-IDLength,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
S-CCPCH-Offset,  
S-CCPCH-Power,  
S-FieldLength,  
ScramblingCode,  
ScramblingCodeChange,  
SecondaryCCPCH-SlotFormat,  
SecondaryCPICH-Power,



SecondarySCH-Power,  
ShutdownTimer,  
SynchronisationMethod,  
TDDChipOffset,  
TDD-ChannelisationCode,  
TFCI-Presence,  
TFCI-SignallingMode,  
TFCS,  
TSTD-Indicator,  
T-Cell,  
TimeSlot,  
TimeSlotDirection,  
TimeSlotStatus,  
ToAWE,  
ToAWS,  
TransmissionGapDistance,  
TransmissionGapPeriod,  
TransmitGapLength,  
TransmitGapPositionMode,  
TransportFormatCombinationSet,  
TransportFormatSet,  
TransportLayerAddress,  
UARFCN,  
C-ID,  
UL-CCTrCHInformation,  
UL-CCTrCH-ID,  
UL-DPCCH-SlotFormat,  
UL-FP-Mode,  
UL-InterferenceLevel,  
UL-PunctureLimit,  
UL-ScramblingCode,  
UplinkEbNo

```

-- *****
--
-- 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 ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory }|
 { ID id-UL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE UL-DPCH-InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
 { ID id-DL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore TYPE DL-DPCH-InformationItem-RL-SetupReq-FDD PRESENCE mandatory }|
 { ID id-DCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DCH-InformationList-RL-SetupReq-FDD PRESENCE mandatory }|
 { ID id-RL-ID CRITICALITY ignore TYPE RL-ID PRESENCE optional }|
 { ID id-DSCH-ID CRITICALITY ignore TYPE DSCH-ID PRESENCE optional }|
 { ID id-DSCH-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE DSCH-InformationList-RL-SetupReq-FDD PRESENCE optional }|
 { ID id-RL-InformationList-RL-SetupReq-FDD CRITICALITY ignore TYPE RL-InformationList-RL-SetupReq-FDD PRESENCE mandatory }|
 ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 ul-ScramblingCode UL-ScramblingCode,
 minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength,
 maxNumberOfUL-DPDCHs MaxNumberOfUL-DPDCHs OPTIONAL
 -- This IE is present only if "Min UL Channelisation Code length" equals to 4 -- ,
 ul-PunctureLimit UL-PunctureLimit,
 transportFormatCombinationSet TransportFormatCombinationSet,
 ul-DPCCH-SlotFormat UL-DPCCH-SlotFormat,
 ul-EbNo-Target UplinkEbNo,
 diversityMode DiversityMode,
 d-FieldLength D-FieldLength OPTIONAL
 -- This IE is present only if Feed Back mode diversity is activated -- ,
 sSDT-Cell-IDLength SSDT-Cell-IDLength OPTIONAL,
 s-FieldLength S-FieldLength OPTIONAL
}

DL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 transportFormatCombinationSet TransportFormatCombinationSet,
 dl-DPCH-SlotFormat DL-DPCH-SlotFormat,
 tFCI-SignallingMode TFCI-SignallingMode,
 multiplexingPosition, MultiplexingPosition,
 tFCI-Presence TFCI-Presence,
 powerOffsetInformationItem-RL-SetupReq-FDD
 PowerOffsetInformationItem-RL-SetupReq-FDD,
 deltaTPC DeltaTPC
}

```

```

PowerOffsetInformationItem-RL-SetupReq-FDD ::= SEQUENCE {
 pO1 PowerOffset,
 pO2 PowerOffset,
 pO3 PowerOffset
}

DCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container{{DCH-Information-RL-SetupReq-FDDItemIE }}

DCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DCH-Information-RL-SetupReq-FDDItem PRESENCE mandatory },
 ...
}

DCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
 limitedPowerIncrease LimitedPowerIncrease,
 rLC-Mode RLC-Mode,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWS ToAWS,
 toAWE ToAWE
}

DSCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container{{DSCH-Information-RL-SetupReq-FDDItemIE }}

DSCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE DSCH-Information-RL-SetupReq-FDDItem PRESENCE mandatory },
 ...
}

DSCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 dSCH-TransportFormatSet DSCH-TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 toAWS ToAWS,
 toAWE ToAWE
}

RL-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container{{RL-Information-RL-SetupReq-FDDItemIE }}

RL-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Information-RL-SetupReq-FDDItem CRITICALITY ignore TYPE RL-Information-RL-SetupReq-FDDItem PRESENCE optional },
 ...
}

RL-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 c-ID C-ID,
 frameOffset FrameOffset,

```

```

chipOffset ChipOffset,
propagationDelay PropagationDelay,
diversityControlField DiversityControlField OPTIONAL,
-- This IE is present only if the RL is not the first one in the RL Information
dl-CodeInformationList-RL-SetupReqFDD DL-CodeInformationList-RL-SetupReqFDD,
initialDL-transmissionPower DL-Power,
maximumDL-power DL-Power,
minimumDL-power DL-Power,
sSDT-CellIdentity SSdT-CellIdentity OPTIONAL
}

DL-CodeInformationList-RL-SetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container{{DL-CodeInformation-RL-SetupReqFDDItemIE }}

DL-CodeInformation-RL-SetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CodeInformation-RL-SetupReqFDDItem CRITICALITY ignore TYPE DL-CodeInformation-RL-SetupReqFDDItem PRESENCE optional },
 ...
}

DL-CodeInformation-RL-SetupReqFDDItem ::= SEQUENCE {
 dl-ScramblingCode DL-ScramblingCode,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber
}

-- *****
--
-- 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 ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory }|
 { ID id-UL-CCTrCH-InformationList-RL-SetupReqTDD CRITICALITY ignore TYPE UL-CCTrCH-InformationList-RL-SetupReqTDD PRESENCE optional }|
 { ID id-DL-CCTrCH-InformationList-RL-SetupReqTDD CRITICALITY ignore TYPE DL-CCTrCH-InformationList-RL-SetupReqTDD PRESENCE optional }|
 { ID id-DCH-InformationList-RL-SetupReqTDD CRITICALITY ignore TYPE DCH-InformationList-RL-SetupReqTDD PRESENCE optional }|
 { ID id-DSCH-InformationList-RL-SetupReqTDD CRITICALITY ignore TYPE DSCH-InformationList-RL-SetupReqTDD PRESENCE optional }|
 { ID id-USCH-InformationList-RL-SetupReqTDD CRITICALITY ignore TYPE USCH-InformationList-RL-SetupReqTDD PRESENCE optional }|
 { ID id-RL-InformationItem-RL-SetupReqTDD CRITICALITY ignore TYPE RL-InformationItem-RL-SetupReqTDD PRESENCE mandatory },
 ...
}

RadioLinkSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE(1..maxnoofCCTrCHs)) OF
 ProtocolIE-Container{{UL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

UL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {

```

```

 { ID id-UL-CCTrCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE UL-CCTrCH-Information-RL-SetupReqTDDItem PRESENCE mandatory },
 ...
}

UL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,
 transportFormatCombinationSet TransportFormatCombinationSet,
 tFCI-Coding TFCI-Coding,
 puncturing-Limit Puncturing-Limit,
 ul-DPCH-InformationList-RL-SetupReqTDD UL-DPCH-InformationList-RL-SetupReqTDD OPTIONAL
}

UL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
 ProtocolIE-Container{{UL-DPCH-Information-RL-SetupReqTDDItemIE }}

UL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-UL-DPCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE UL-DPCH-Information-RL-SetupReqTDDItem PRESENCE mandatory },
 ...
}

UL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 dPCH-ID DPCH-ID,
 tdd-ChannelisationCode TDD-ChannelisationCode,
 burstType BurstType,
 midambleShift MidambleShift,
 timeSlot TimeSlot,
 tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
 repetitionPeriod RepetitionPeriod,
 repetitionLength RepetitionLength,
 tFCI-Presence TFCI-Presence
}

DL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoCCTrCHs)) OF
 ProtocolIE-Container{{DL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

DL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CCTrCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DL-CCTrCH-Information-RL-SetupReqTDDItem PRESENCE mandatory },
 ...
}

DL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,
 transportFormatCombinationSet TransportFormatCombinationSet,
 tFCI-Coding TFCI-Coding,
 puncturing-Limit Puncturing-Limit,
 dl-DPCH-InformationList-RL-SetupReqTDD DL-DPCH-InformationList-RL-SetupReqTDD OPTIONAL
}

DL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
 ProtocolIE-Container{{DL-DPCH-Information-RL-SetupReqTDDItemIE }}

DL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-DPCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DL-DPCH-Information-RL-SetupReqTDDItem PRESENCE mandatory },
 ...
}

```

```

}
DL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 dpch-ID DPCH-ID,
 tdd-ChannelisationCode TDD-ChannelisationCode,
 burstType BurstType,
 midambleShift MidambleShift,
 timeSlot TimeSlot,
 tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
 repetitionPeriod RepetitionPeriod,
 repetitionLength RepetitionLength,
 tFCI-Presence TFCI-Presence
}

DCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
 ProtocolIE-Container{{DCH-Information-RL-SetupReqTDDItemIE }}

DCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DCH-Information-RL-SetupReqTDDItem PRESENCE mandatory},
 ...
}

DCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 ul-CCTrCH-ID UL-CCTrCH-ID,
 dl-CCTrCH-ID DL-CCTrCH-ID,
 dch-CombinationIndication DCH-CombinationIndication OPTIONAL,
 limitedPowerIncrease LimitedPowerIncrease,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWE ToAWE,
 toAWS ToAWS
}

DSCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container{{DSCH-Information-RL-SetupReqTDDItemIE }}

DSCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 {ID id-DCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE DSCH-Information-RL-SetupReqTDDItem PRESENCE mandatory},
 ...
}

DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 dsch-ID DSCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 toAWE ToAWE,
 toAWS ToAWS
}

USCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
 ProtocolIE-Container{{USCH-Information-RL-SetupReqTDDItemIE }}

```

```
USCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 {ID id-USCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE USCH-Information-RL-SetupReqTDDItem PRESENCE mandatory}
 ...
}

USCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet
}

RL-Information-RL-SetupReqTDD ::= SEQUENCE {
 rL-ID RL-ID,
 c-ID C-ID,
 tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
 initialDL-transmissionPower DL-Power,
 maximumDL-power DL-Power,
 minimumDL-power DL-Power
}
```

```

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

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

RadioLinkReconfigurationPrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory } |
 { ID id-UL-DPCH-Information-RL-ReconfPrepFDD CRITICALITY ignore TYPE UL-DPCH-Information-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DL-DPCH-Information-RL-ReconfPrepFDD CRITICALITY ignore TYPE DL-DPCH-Information-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DCH-ModifyList-RL-ReconfPrepFDD CRITICALITY ignore TYPE DCH-ModifyList-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DCH-AddList-RL-ReconfPrepFDD CRITICALITY ignore TYPE DCH-AddList-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DCH-DeleteList-RL-ReconfPrepFDD CRITICALITY ignore TYPE DCH-DeleteList-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DSCH-ModifyItem-RL-ReconfPrepFDD CRITICALITY ignore TYPE DSCH-ModifyItem-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DSCH-AddItem-RL-ReconfPrepFDD CRITICALITY ignore TYPE DSCH-AddItem-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-DSCH-DeleteItem-RL-ReconfPrepFDD CRITICALITY ignore TYPE DSCH-DeleteItem-RL-ReconfPrepFDD PRESENCE optional } |
 { ID id-RadioLinkInformationList-RL-ReconfPrepFDD CRITICALITY ignore TYPE RadioLinkInformationList-RL-ReconfPrepFDD PRESENCE optional } |
 optional
},
...
}

RadioLinkReconfigurationPrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
 ul-ScramblingCode UL-ScramblingCode OPTIONAL,
 minUL-ChannelisationCodeLength MinUL-ChannelisationCodeLength OPTIONAL,
 maxNrOfUL-DPDCHs MaxNrOfUL-DPDCHs OPTIONAL
 -- This IE is present only if minUL-ChannelisationCodeLength equals to 4
 ul-PunctureLimit UL-PunctureLimit OPTIONAL,
 tFCS TFCS OPTIONAL,
 ul-DPCCH-SlotFormat UL-DPCCH-SlotFormat OPTIONAL,
 sSDT-CellIdentityLength SSDT-CellIdentityLength OPTIONAL,
 s-FieldLength S-FieldLength OPTIONAL,
 -- The following information element is needed if there is a need to add Ies with specific criticality.
}

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,
 dTX-InsertionPoint DTX-InsertionPoint OPTIONAL,
 ...
}

DCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF

```



```

ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepFDDItemIE }}
DCH-Modify-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Modify-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DCH-Modify-RL-ReconfPrepFDDItem PRESENCE optional },
 ...
}
DCH-Modify-RL-ReconfPrepFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 ul-TransportFormatSet TransportFormatSet OPTIONAL,
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 ul-FP-Mode UL-FP-Mode OPTIONAL,
 toAWS ToAWS OPTIONAL,
 toAWE ToAWE OPTIONAL
}
DCH-AddList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Add-RL-ReconfPrepFDDItemIE }}
DCH-Add-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Add-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DCH-Add-RL-ReconfPrepFDDItem PRESENCE optional },
 ...
}
DCH-Add-RL-ReconfPrepFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
 limitedPowerIncrease LimitedPowerIncrease,
 rlc-Mode RLC-Mode,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWS ToAWS,
 toAWE ToAWE
}
DCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepFDDItemIE }}
DCH-Delete-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Delete-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DCH-Delete-RL-ReconfPrepFDDItem PRESENCE optional },
 ...
}
DCH-Delete-RL-ReconfPrepFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID
}
DSCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 rL-ID RL-ID OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWS ToAWS OPTIONAL,
}

```

```

 toAWE ToAWE OPTIONAL
}

DSCH-AddItem-RL-ReconfPrepFDD ::= SEQUENCE {
 dl-TransportFormatSet TransportFormatSet,
 rL-ID RL-ID,
 frameHandlingPriority FrameHandlingPriority,
 toAWS ToAWS,
 toAWE ToAWE
}

DSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
 rL-ID RL-ID
}

RadioLinkInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{RadioLinkInformation-RL-ReconfPrepFDDItemIE}}

RadioLinkInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RadioLinkInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE RadioLinkInformation-RL-ReconfPrepFDDItem PRESENCE
 mandatory},
 ...
}

RadioLinkInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 dl-CodeInformationList-RL-ReconfPrepFDD DL-CodeInformationList-RL-ReconfPrepFDD OPTIONAL,
 maxDL-Power DL-Power OPTIONAL,
 minDL-Power DL-Power OPTIONAL,
 sSDT-Indication SSdT-Indication OPTIONAL,
 sSDT-CellIdentity SSdT-CellIdentity OPTIONAL
-- The IE may be present if the SSdT Indication is set to SSdT Active in the UE
}

DL-CodeInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
 ProtocolIE-Container {{DL-CodeInformation-RL-ReconfPrepFDDItemIE }}

DL-CodeInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CodeInformation-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE DL-CodeInformation-RL-ReconfPrepFDDItem PRESENCE optional },
 ...
}

DL-CodeInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
 scramblingCode ScramblingCode OPTIONAL,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber OPTIONAL
}

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

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
 protocolIEs ProtocolIE-Container {{RadioLinkReconfigurationPrepareTDD-IEs}},

```

```

 protocolExtensions ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareTDD-Extensions}} OPTIONAL,
 ...
}

RadioLinkReconfigurationPrepareTDD-IES NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory } |
 { ID id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD CRITICALITY ignore TYPE UL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-DCH-ModifyList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DCH-ModifyList-RL-ReconfPrepTDD PRESENCE optional } |
 { ID id-DCH-AddList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DCH-AddList-RL-ReconfPrepTDD PRESENCE optional } |
 { ID id-DCH-DeleteList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DCH-DeleteList-RL-ReconfPrepTDD PRESENCE optional } |
 { ID id-DSCH-Information-ModifyList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DSCH-Information-ModifyList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-DSCH-information-AddList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DSCH-Information-AddList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-DSCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY ignore TYPE DSCH-Information-DeleteList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-USCH-Information-ModifyList-RL-ReconfPrepTDD CRITICALITY ignore TYPE USCH-Information-ModifyList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-USCH-information-AddList-RL-ReconfPrepTDD CRITICALITY ignore TYPE USCH-Information-AddList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-USCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY ignore TYPE USCH-Information-DeleteList-RL-ReconfPrepTDD PRESENCE optional
 } |
 { ID id-RadioLinkInformation-RL-ReconfPrepTDD CRITICALITY ignore TYPE RadioLinkInformation-RL-ReconfPrepTDD PRESENCE optional
 },
 ...
}

RadioLinkReconfigurationPrepareTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE UL-CCTrCH-Information-RL-ReconfPrepTDDItem PRESENCE optional},
 ...
}

UL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,

```

```

 tFCS TFCS OPTIONAL,
 tFCI-Coding TFCI-Coding OPTIONAL, punturing-Limit Punturing-Limit OPTIONAL
 ul-DPCH-InformationList-RL-ReconfPrepTDD UL-DPCH-InformationList-RL-ReconfPrepTDD OPTIONAL
}

UL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
 ProtocolIE-Container {{UL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

UL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-UL-DPCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE UL-DPCH-Information-RL-ReconfPrepTDDItem PRESENCE
 mandatory
 },
 ...
}

UL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
dPCH-ID DPCH-ID,
 tDD-ChannelisationCode TDD-ChannelisationCode OPTIONAL,
 burstType BurstType OPTIONAL,
 midambleShift MidambleShift OPTIONAL,
 timeSlot TimeSlot OPTIONAL,
 tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONAL,
 repetitionPeriod RepetitionPeriod OPTIONAL,
 repetitionLength RepetitionLength OPTIONAL,
 tFCI-Presence TFCI-Presence OPTIONAL
}

DL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF ProtocolIE-Container {{DL-CCTrCH-Information-RL-
ReconfPrepTDDItemIE }}

DL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DL-CCTrCH-Information-RL-ReconfPrepTDDItem PRESENCE
 mandatory
 },
 ...
}

DL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,
 tFCS TFCS OPTIONAL,
 tFCI-Coding TFCI-Coding OPTIONAL, punturing-Limit Punturing-Limit OPTIONAL
 dl-DPCH-InformationList-RL-ReconfPrepTDD DL-DPCH-InformationList-RL-ReconfPrepTDD OPTIONAL
}

DL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
 ProtocolIE-Container {{DL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

DL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-DPCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DL-DPCH-Information-RL-ReconfPrepTDDItem PRESENCE
 mandatory
 },
 ...
}

DL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
dPCH-ID DPCH-ID,

```

```

 tDD-ChannelisationCode TDD-ChannelisationCode OPTIONAL,
 burstType BurstType OPTIONAL,
 midambleShift MidambleShift OPTIONAL,
 timeSlot TimeSlot OPTIONAL,
tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONA
repetitionPeriod RepetitionPeriod OPTIONAL,
 rpetitionLength RepetitionLength OPTIONAL,
 tFCI-Presence TFCI-Presence OPTIONAL
}

DCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepTDDItemIE }}

DCH-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Modify-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DCH-Modify-RL-ReconfPrepTDDItem PRESENCE optional },
 ...
}

DCH-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 ul-TransportFormatSet TransportFormatSet OPTIONAL,
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 ul-FP-Mode UL-FP-Mode OPTIONAL,
 toAWS ToAWS OPTIONAL,
 toAWE ToAWE OPTIONAL,
}

DCH-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Add-RL-ReconfPrepTDDItemIE }}

DCH-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Add-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DCH-Add-RL-ReconfPrepTDDItem PRESENCE optional },
 ...
}

DCH-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 dCH-CombinationIndication DCH-CombinationIndication OPTIONAL,
 limitedPowerIncrease LimitedPowerIncrease,
 rLC Mode RLC Mode,
 ul-CCTrCH-ID CCTrCH-ID,
 dl-CCTrCH-ID CCTrCH-ID,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormats TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWS ToAWS,
 toAWE ToAWE
}

DCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DCH-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {

```

```

 { ID id-DCH-Delete-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DCH-Delete-RL-ReconfPrepTDDItem PRESENCE optional },
 ...
}

DCH-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID
}

DSCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF ProtocolIE-Container {{DSCH-Information-Modify-RL-
ReconfPrepTDDItemIE }}

DSCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Information-Modify-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DSCH-Information-Modify-RL-ReconfPrepTDDItem PRESENCE
 optional
 },
 ...
}

DSCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 transportFormatSet TransportFormatSet OPTIONAL,
 cCTrCH-ID CCTrCH-ID OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWE ToAWE OPTIONAL,
 toAWS ToAWS OPTIONAL
}

DSCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
ProtocolIE-Container {{DSCH-Information-Add-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Information-Add-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DCH-Add-RL-ReconfPrepTDDItem PRESENCE
 mandatory
 },
 ...
}

DSCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWE ToAWE,
 toAWS ToAWS
}

DSCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Information-Delete-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DSCH-Information-Delete-RL-ReconfPrepTDDItem PRESENCE
 optional
 },
 ...
}

DSCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {

```

```

 dSCH-ID DSCH-ID
}

USCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF ProtocolIE-Container {{USCH-Information-Modify-RL-
ReconfPrepTDDItemIE }}

USCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Information-Modify-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE USCH-Information-Modify-RL-ReconfPrepTDDItem PRESENCE
optional },
 ...
}

USCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 transportFormatSet TransportFormatSet OPTIONAL,
 cTrCH-ID CTrCH-ID OPTIONAL
}

USCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
ProtocolIE-Container {{USCH-Information-Add-RL-ReconfPrepTDDItemIE }}

USCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Information-Add-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE USCH-Add-RL-ReconfPrepTDDItem PRESENCE optional
},
 ...
}

USCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID,
 cTrCH-ID CTrCH-ID,
 transportFormatSet TransportFormatSet
}

USCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF ProtocolIE-Container {{USCH-Delete-RL-ReconfPrepTDDItemIE }}

USCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Information-Delete-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE USCH-Information-Delete-RL-ReconfPrepTDDItem PRESENCE
optional
},
 ...
}

USCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID
}

RadioLinkInformation-RL-ReconfPrepTDD ::= SEQUENCE {
 maxDL-Power DL-Power OPTIONAL,
 minDL-Power DL-Power OPTIONAL
}

```

```

-- *****
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- *****

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

RadioLinkReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory } |
 { ID id-UL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE UL-DPCH-InformationItem-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DL-DPCH-InformationItem-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DCH-ModifyList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-ModifyList-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DCH-AddList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-AddList-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DCH-DeleteList-RL-ReconfReqFDD CRITICALITY ignore TYPE DCH-DeleteList-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DSCH-ModifyItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-ModifyItem-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DSCH-AddItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-AddItem-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-DSCH-DeleteItem-RL-ReconfReqFDD CRITICALITY ignore TYPE DSCH-DeleteItem-RL-ReconfReqFDD PRESENCE optional } |
 { ID id-RL-InformationList-RL-ReconfReqFDD CRITICALITY ignore TYPE RL-InformationList-RL-ReconfReqFDD PRESENCE optional }
 ...
}

RadioLinkReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
 tFCS TFCS OPTIONAL
}

DL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
 tFCS TFCS OPTIONAL
 tFCI-SignallingMode TFCI-SignallingMode OPTIONAL
}

DCH-ModifyList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Modify-RL-ReconfReqFDDItemIE }}

DCH-Modify-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Modify-RL-ReconfReqFDDItem CRITICALITY ignore TYPE DCH-Modify-RL-ReconfReqFDDItem PRESENCE optional },
 ...
}

DCH-Modify-RL-ReconfReqFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 ul-TransportFormatSet TransportFormatSet OPTIONAL,
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 ul-FP-Mode UL-FP-Mode OPTIONAL,
 toAWS ToAWS OPTIONAL,
 toAWE ToAWE OPTIONAL
}

```



```

}

DCH-AddList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Add-RL-ReconfReqFDDItemIE }}

DCH-Add-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Add-RL-ReconfReqFDDItem CRITICALITY ignore TYPE DCH-Add-RL-ReconfReqFDDItem PRESENCE optional },
 ...
}

DCH-Add-RL-ReconfReqFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 limitedPowerIncrease LimitedPowerIncrease,
 ul-TransportFormatSet TransportFormatSet,
 dl-TransportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority,
 payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
 ul-FP-Mode UL-FP-Mode,
 toAWS ToAWS,
 toAWE ToAWE
}

DCH-DeleteList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Delete-RL-ReconfReqFDDItemIE }}

DCH-Delete-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Delete-RL-ReconfReqFDDItem CRITICALITY ignore TYPE DCH-Delete-RL-ReconfReqFDDItem PRESENCE optional },
 ...
}

DCH-Delete-RL-ReconfReqFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID
}

DSCH-ModifyItem-RL-ReconfReqFDD ::= SEQUENCE {
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 rL-ID RL-ID OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWS ToAWS OPTIONAL,
 toAWE ToAWE OPTIONAL
}

DSCH-AddItem-RL-ReconfReqFDD ::= SEQUENCE {
 dl-TransportFormatSet TransportFormatSet,
 rL-ID RL-ID,
 frameHandlingPriority FrameHandlingPriority,
 toAWS ToAWS,
 toAWE ToAWE
}

DSCH-DeleteItem-RL-ReconfReqFDD ::= SEQUENCE {
 rL-ID RL-ID
}

RL-InformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{RL-Information-RL-ReconfPrepFDDItemIE }}

```

```

RL-Information-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Information-RL-ReconfPrepFDDItem CRITICALITY ignore TYPE RL-Information-RL-ReconfPrepFDDItem PRESENCE optional },
 ...
}

RL-Information-RL-ReconfPrepFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 maxDL-Power DL-Power OPTIONAL,
 minDL-Power DL-Power OPTIONAL
}

-- *****
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- *****

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

RadioLinkReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory } |
 { ID id-UL-CCTrCH-InformationList-RL-ReconfReqTDD CRITICALITY ignore TYPE UL-CCTrCH-InformationList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DL-CCTrCH-InformationList-RL-ReconfReqTDD CRITICALITY ignore TYPE DL-CCTrCH-InformationList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DCH-ModifyList-RL-ReconfReqTDD CRITICALITY ignore TYPE DCH-ModifyList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DCH-AddList-RL-ReconfReqTDD CRITICALITY ignore TYPE DCH-AddList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DCH-DeleteList-RL-ReconfReqTDD CRITICALITY ignore TYPE DCH-DeleteList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DSCH-ModifyList-RL-ReconfReqTDD CRITICALITY ignore TYPE DSCH-ModifyList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DSCH-AddList-RL-ReconfReqTDD CRITICALITY ignore TYPE DSCH-AddList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-DSCH-DeleteList-RL-ReconfReqTDD CRITICALITY ignore TYPE DSCH-DeleteList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-USCH-ModifyList-RL-ReconfReqTDD CRITICALITY ignore TYPE USCH-ModifyList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-USCH-AddList-RL-ReconfReqTDD CRITICALITY ignore TYPE USCH-AddList-RL-ReconfReqTDD PRESENCE optional } |
 { ID id-USCH-DeleteList-RL-ReconfReqTDD CRITICALITY ignore TYPE USCH-DeleteList-RL-ReconfReqTDD PRESENCE optional },
 ...
}

RadioLinkReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

UL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
 ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-UL-CCTrCH-Information-RL-ReconfReqTDDItem CRITICALITY ignore TYPE UL-CCTrCH-Information-RL-ReconfReqTDDItem PRESENCE mandatory },
 ...
}

```

```

}
...
}
UL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,
 tFCS TFCS,
 puncturingLimit PuncturingLimit
}
DL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
 ProtocolIE-Container {{DL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}
DL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-CCTrCH-Information-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DL-CCTrCH-Information-RL-ReconfReqTDDItem
 PRESENCE mandatory
 },
 ...
}
DL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
 cCTrCH-ID CCTrCH-ID,
 tFCS TFCS,
 puncturingLimit PuncturingLimit
}
DCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Modify-RL-ReconfReqTDDItemIE }}
DCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DCH-Modify-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}
DCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 ul-CCTrCH-ID CCTrCH-ID,
 dl-CCTrCH-ID CCTrCH-ID,
 ul-TransportFormatSet TransportFormatSet OPTIONAL,
 dl-TransportFormatSet TransportFormatSet OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 ul-FP-Mode UL-FP-Mode OPTIONAL,
 toAWS ToAWS OPTIONAL,
 toAWE ToAWE OPTIONAL
}
DCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Add-RL-ReconfReqTDDItemIE }}
DCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DCH-Add-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}
DCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,

```

```

limitedPowerIncrease LimitedPowerIncrease,
RLC-Mode RLC-Mode,
ul-CCTrCH-ID CCTrCH-ID,
dl-CCTrCH-ID CCTrCH-ID,
ul-TransportFormatSet TransportFormatSet,
dl-TransportFormatSet TransportFormatSet,
frameHandlingPriority FrameHandlingPriority,
payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
ul-FP-Mode UL-FP-Mode,
toAWS ToAWS,
toAWE ToAWE
}

DCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container {{DCH-Delete-RL-ReconfReqTDDItemIE }}

DCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DCH-Delete-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

DCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
 dCH-ID DCH-ID
}

DSCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container {{DSCH-Modify-RL-ReconfReqTDDItemIE }}

DSCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DSCH-Modify-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

DSCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet OPTIONAL,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWE ToAWE OPTIONAL,
 toAWS ToAWS OPTIONAL
}

DSCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container {{DSCH-Add-RL-ReconfReqTDDItemIE }}

DSCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DSCH-Add-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

DSCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet,
 frameHandlingPriority FrameHandlingPriority OPTIONAL,
 toAWE ToAWE,
}

```

```

 toAWS ToAWS
 }

DSCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
 ProtocolIE-Container {{DSCH-Delete-RL-ReconfReqTDDItemIE }}

DSCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore TYPE DSCH-Delete-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

DSCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID
}

USCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
 ProtocolIE-Container {{USCH-Modify-RL-ReconfReqTDDItemIE }}

USCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Modify-RL-ReconfReqTDDItem CRITICALITY ignore TYPE USCH-Modify-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

USCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID,
 cCTrCH-ID CCTrCH-ID OPTIONAL,
 transportFormatSet TransportFormatSet OPTIONAL,
}

USCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
 ProtocolIE-Container {{USCH-Add-RL-ReconfReqTDDItemIE }}

USCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore TYPE USCH-Add-RL-ReconfReqTDDItem PRESENCE optional },
 ...
}

USCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID,
 cCTrCH-ID CCTrCH-ID,
 transportFormatSet TransportFormatSet,
}

USCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
 ProtocolIE-Container {{USCH-Delete-RL-ReconfReqTDDItemIE }}

USCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-USCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore TYPE USCH-Delete-RL-ReconfReqTDDItem PRESENCE mandatory },
 ...
}

USCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
 uSCH-ID USCH-ID
}

```

### 9.3.4 NBAP Information Elements

```
RLC-ModeLimitedPowerIncrease ::= ENUMERATED {
 acknowledgedMode,
 unacknowledgedModeused,
 transparentModenot used
}
```

**CHANGE REQUEST**

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

**25.433 CR 077r1**

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to:   
list expected approval meeting # here ↑

for approval   
for information

strategic   
non-strategic  (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:**  
(at least one should be marked with an X)

(U)SIM  ME  UTRAN / Radio  Core Network

**Source:** R-WG3 **Date:** 00.02.28

**Subject:** Correction for RACH

**Work item:**

**Category:** F Correction  **Release:** Phase 2   
(only one category shall be marked with an X) A Corresponds to a correction in an earlier release  Release 96   
B Addition of feature  Release 97   
C Functional modification of feature  Release 98   
D Editorial modification  Release 99   
Release 00

**Reason for change:** Some errors exist about RACH sub Channel numbers.

**Clauses affected:** 9.2.2.29

**Other specs affected:** Other 3G core specifications  → List of CRs:   
Other GSM core specifications  → List of CRs:   
MS test specifications  → List of CRs:   
BSS test specifications  → List of CRs:   
O&M specifications  → List of CRs:

**Other comments:**



<----- double-click here for help and instructions on how to create a CR.

### 9.2.2.29 RACH sub Channel numbers

| Information Element/Group Name | Presence | Range | IE type and reference             | Semantics description                                                                                                      |
|--------------------------------|----------|-------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| RACH Sub Channel Numbers       |          |       | BIT STRING<br>( <del>1245</del> ) | Bit 0=Sub Channel Number 0<br>Bit 1=Sub Channel Number 1<br>...<br>Bit <del>1144</del> =Sub Channel Number <del>1144</del> |

### 9.3.4 NBAP Information Elements

```

--
-- Information Element Definitions
--

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
 maxTFcount,
 maxnoofTFCs,
 maxCTF-1,
 maxRM,

FROM NBAP-Constants;

DTX-InsertionPoint ::= INTEGER
DedicatedMeasurementValue ::= INTEGER
DeltaTPC ::= INTEGER

-- A

-- to do
AcknowledgedRA-TriesValue ::= TBD

AddOrDeleteIndicator ::= ENUMERATED {
 add,
 delete
}

AICH-TransmissionTiming ::= ENUMERATED {
 timing0,
 timing1
}

AvailabilityStatus ::= ENUMERATED {
 empty,
 in-test,
 failed,
 power-off,
 off-line,
 off-duty,
 dependency,
 degraded,
 not-installed,
 log-full,
 ...
}

--to do
AveragingDuration ::= TBD

-- B

BCCH-ModificationTime ::= INTEGER (0 | 2 | 4 | .. | 4095)

```



```

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
high,
normal,
low
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {
type1,
type2
}

-- C

Cause ::= ENUMERATED {
radioNetworkLayer RadioNetworkLayerCause,
transportLayer TransportLayerCause,
protocol ProtocolCause,
misc MiscellaneousCause
...
}

CCTrCH-ID ::= INTEGER (1..15)

CellID-Length ::= ENUMERATED {
short,
medium,
long
}

CFN ::= INTEGER (0..255)

ChipOffset ::= INTEGER (0..38399)

C-ID ::= INTEGER (0..65535)

CodingRate ::= ENUMERATED {
rate1-2,
rate1-3
}

CommonMeasurementObjectType ::= ENUMERATED {
cell,
rach,
...
}

CommonMeasurementType ::= SEQUENCE {
rsSI RSSI-Value,
transmitted-carrier-power TransmittedCarrierPowerValue,
acknowledged-ra-tries AcknowledgedRA-TriesValue,
time-slot-iscp TimeSlotISCP-Value,
...
}

CommonPhysicalChannelID ::= INTEGER (0..255)

CommonTransportChannelID ::= INTEGER (0..255)

CommunicationControlPortID ::= INTEGER (0..65535)

CompressedModeMethod ::= ENUMERATED {
puncturing,
sF-2,
gating,
none
}

ConfigurationGenerationID ::= INTEGER (0..255)

CRC-Size ::= ENUMERATED {
size0,
size12,
size16,
size24
}

```

```

CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CTFC ::= INTEGER (0..maxCTF-1)

-- D

DCH-CombinationInd ::= INTEGER (0..255)

DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
 cell,
 rach,
 ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
 sir-value SIR-Value OPTIONAL,
 sir-error-value SIR-ErrorValue OPTIONAL,
 transmitted-code-power TransmittedCodePowerValue OPTIONAL,
 time-slot-iscp TimeSlotISCP-Value OPTIONAL,
 ...
}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
 rl,
 all-rl,
 ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
 sir,
 sir-error,
 transmitted-code-power,
 timeslot-iscp,
 ...
}

D-FieldLength ::= ENUMERATED {
 d-length1,
 d-length2
}

DiversityControlField ::= ENUMERATED {
 may,
 must,
 must-not
}

DiversityIndication ::= ENUMERATED {
 combined,
 not-combined
}

DiversityMode ::= ENUMERATED {
 none,
 sTTD,
 closed-loop-mode1,
 closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)

DL-FrameType ::= ENUMERATED {
 typeA,
 typeB
}

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates -35dB, Power1 indicates -34.9dB, ..., Power500 indicates 15dB
DL-Power ::= ENUMERATED {
 power0,
 power1,
 ...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

```

```

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
fixed,
flexible
}

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
SEQUENCE {
numberOfTransportBlocks NumberOfTransportBlocks,
transportBlockSize TransportBlockSize OPTIONAL
-- This IE is only present if Number of Transport Blocks is greater than 0 --,
mode-dynamicTFS Mode-DynamicTFS
...
}

-- E

EventA ::= SEQUENCE {
measurementThreshold MeasurementThreshold,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventB ::= SEQUENCE {
measurementThreshold MeasurementThreshold,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventC ::= SEQUENCE {
measurementIncreaseThreshold MeasurementIncreaseThreshold,
measurementChangeTime MeasurementChangeTime
}

EventD ::= SEQUENCE {
measurementDecreaseThreshold MeasurementDecreaseThreshold,
measurementChangeTime MeasurementChangeTime
}

EventE ::= SEQUENCE {
measurementThreshold1 MeasurementThreshold1,
measurementThreshold2 MeasurementThreshold2 OPTIONAL,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
reportPeriodicity ReportPeriodicity OPTIONAL
}

EventF ::= SEQUENCE {
measurementThreshold1 MeasurementThreshold1,
measurementThreshold2 MeasurementThreshold2 OPTIONAL,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
reportPeriodicity ReportPeriodicity OPTIONAL
}

-- F

-- The maximum value is equal to the DL spreading factor • --
FDD-DL-ChannalisationCodeNumber ::= INTEGER(0.. 255)

-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [TS 25.211] --
FDD-S-CCPCH-Offset ::= INTEGER (0.. 149)

-- 0=lower priority, 15=higher priority --
FrameHandlingPriority ::= INTEGER (0..15)

-- G

GapPeriod ::= INTEGER(0..255)

```

```

Gap Position Mode ::= ENUMERATED {
fixed,
flexible
}

-- H

-- I

-- to do
IB-SG ::= BIT STRING

IB-SG-POS ::= INTEGER (0..4095)

IB-SG-REP ::= INTEGER {rep(16), rep(32), rep(64), rep(128), rep(256), rep(512), rep(1024),
rep(2048)}

IB-Type :: Enumerated {
MIB,
SIB1,
SIB2,
SIB12
}

IndicationType ::= ENUMERATED {
noFailure,
serviceImpacting,
cellControl,
...
}

-- J

-- L

LocalCell-ID ::= INTEGER (0..268435455)

-- M

-- dBm, granularity 1 dBm
-- dl-power0 indicates 0 dBm
MaximumDL-PowerCapability ::= ENUMERATED{
dl-power0,
dl-power1,
dl-power2,
...
}

-- Unit dBm, 0 to 50, Granularity 1 dB
MaximumTransmissionPower ::= ENUMERATED {
power0,
power1,
power2,
...
}

MaxNumberOfUL-DPDCHs ::= INTEGER (1..6)

MaxPRACH-MidambleShifts ::= ENUMERATED {
shift4,
shift8
}

-- 10ms to 1min, Step10ms
MeasurementChangeTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}

MeasurementCharacteristics ::= SEQUENCE {
measurementFrequency MeasurementFrequency,
averagingDuration AveragingDuration
}

```

```

}

-- to do
MeasurementDecreaseThreshold ::= TBD

-- to do
MeasurementFrequency ::= TBD

-- to do
MeasurementIncreaseThreshold ::= TBD

-- to do
-- 10ms to 1min, Step10ms --
MeasurementHysteresisTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}

MeasurementID ::= INTEGER (0..1048575)

-- to do
MeasurementThreshold ::= TBD

-- to do
MeasurementThreshold1 ::= TBD

-- to do
MeasurementThreshold2 ::= TBD

MeasurementType ::= ENUMERATED {
sCH,
syncRACH-access
}

MessageDiscriminator ::= ENUMERATED {
common,
dedicated
}

MidambleShift ::= INTEGER (0..15)

MinimumSpreadingFactor ::= ENUMERATED {
sF4,
sF16,
sF32,
sF64,
sF128,
sF256,
sF512
}

MinUL-ChannelisationCodeLength ::= ENUMERATED {
code-length4,
code-length8,
code-length16,
code-length32,
code-length64,
code-length128,
code-length256
}

MiscellaneousCause ::= ENUMERATED {
control-processing-overload,
hardware-failure,
oam-intervention,
not-enough-user-plane-processing-resources,
unspecified
}

Mode-DynamicTFS ::= CHOICE {
tdd-mode-dynamic TransmissionTimeInterval-Dynamic,
...
}

Mode-SemiStaticTFS ::= CHOICE {
tdd-mode-semistatic TransmissionTimeInterval-SemiStatic,
...
}

-- N

```

```

-- to do
NumberOfChannelElements ::= TBD

NodeB-CommunicationContextID ::= INTEGER (0..1048576)

NumberOfTransportBlocks ::= INTEGER (0..4095)

-- O

-- P

PagingIndicatorLength ::= ENUMERATED {
ind-length2,
ind-length4,
ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
cRC-Included,
cRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PICH-Mode ::= ENUMERATED {
noofPI18,
noofPI36,
noofPI72,
noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
pilot-bits-used,
pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
pcm0,
pcml,
...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
prm0,
prml,
...
}

PRACH-Midamble ::= ENUMERATED {
inverted,
direct
}

PreambleScramblingCode ::= INTEGER (0..4095)

-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [25.213] --
PreambleSignatures ::= BIT STRING (SIZE (16))

-- Unit dBm, -15 to 40, Granularity 0.1 dB
-- cpich-power1 indicates •5 dB
PrimaryCPICH-Power ::= ENUMERATED {
cpich-power1,
cpich-power2,
...
}

PrimaryScramblingCode ::= INTEGER (0..511)

PropagationDelay ::= INTEGER (0..255)

ProtocolCause ::= ENUMERATED
transaction-not-allowed,
transfer-syntax-error,
abstract-syntax-error -reject,
abstract-syntax-error-ignore-and-notify,
message-not-compatible-with-receiver-state,

```

```

semantic-error,
unspecified
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)

PSCH-TimeSlot ::= INTEGER (0..6)

PSCH-Power ::= INTEGER (0..511)

PUSCH-Offset ::= INTEGER (0..255)

-- R

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

| -- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 1114=Sub Channel Number 1114 -
|
RACH-SubChannelNumbers ::= BIT STRING (SIZE (1215))

RadioNetworkLayerCause ::= Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

ReportCharacteristicsType ::= CHOICE {
onDemand NULL,
periodic ReportPeriodicity,
event-a EventA,
event-b EventB,
event-c EventC,
event-d EventD,
event-e EventE,
event-f EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min
ReportPeriodicity ::= CHOICE {
msec INTEGER (1..1000),
min INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
enabled,
disabled
}

RLC-Mode ::= ENUMERATED {
acknowledgedMode,
unacknowledgedMode,
transparentMode
}

```

```

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)

-- -30..-100 step 0.1
-- rssi1 indicates -30
RSSI-Value ::= ENUMERATED {
rssi1,
rssi2,
...
}

-- S

ScramblingCodeChange ::= ENUMERATED {
change,
no-change
}

Scrambling Code Word Number ::= INTEGER (0..255)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..8)

SegmentType ::= ENUMERATED {
first,
subsequent,
last,
complete
}

SemiStaticTransportFormatInformation ::= SEQUENCE {
transmissionTimeInterval TransmissionTimeInterval,
typeOfChannelCoding TypeOfChannelCoding,
codingRate CodingRate OPTIONAL
-- This IE is only present if IE Type of channel coding is Convolutional or Turbo --,
rateMatchingAttribute RateMatchingAttribute,
CRC-Size CRC-Size,
mode-semistatic Mode-SemiStatic
}

S-FieldLength ::= ENUMERATED {
s-length1,
s-length2
}

SIB-DeletionIndicator ::= ENUMERATED {
noDeletion,
deletion
}

SIB-Originator ::= ENUMERATED {
nodeB,
cRNC
}

--** TODO. -10..10 is transformed to 0..10. 0.1 steps gives 0..200 **
-- sir-error-value1 indicates •0 dB
SIR-ErrorValue ::= ENUMERATED {
sir-error-value1,
sir-error-value2,
...
}

--** TODO. -10..20 is transformed to 0..30. 0.1 steps gives 0..300 **
-- sir-value1 indicates •0 dB
SIR-Value ::= ENUMERATED {
sir-value1,
sir-value2,
...
}

SSDT-CellIdentity ::= ENUMERATED {a, b, c, d, e, f, g, h}

SSDT-Indication ::= ENUMERATED {
ssdtActiveInTheUE,
ssdtNotActiveInTheUE
}

STTD-Indicator ::= ENUMERATED {
active,
inactive
}

```



```

SSDT-SupportIndicator ::= ENUMERATED {
sSDT-not-supported,
sSDT-Supported
}

ShutdownTimer ::= INTEGER (1..3600)

SynchronisationMethod ::= ENUMERATED {
external-reference,
locked-toMaster-cell,
one-time-synchronisation
}

-- T

T-Cell ::= ENUMERATED {
 chip-0,
 chip-256,
 chip-512,
 chip-768,
 chip-1024,
 chip-1280,
 chip-1536,
 chip-1892,
 chip-2048,
 chip-2304
}

TDD-ChannelisationCode ::= ENUMERATED {
channelisationCode1-1,
channelisationCode2-1,
channelisationCode2-2,
channelisationCode4-1,
channelisationCode4-2,
...
}

-- the ChipOffset is *9200 to + 19199
TDD-ChipOffset ::= INTEGER (-19200..19199)

TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
 ENUMERATED {tti10, tti20, tti40, tti80}
}

TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
frameRelated,
timeSlotRelated
}

TDD-S-CCPCH-Offset ::= INTEGER (0..63)

TFCI-Presence ::= ENUMERATED {
present,
not-present
}

TFCI-SignallingMode ::= ENUMERATED {
normal,
split
}

TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
 SEQUENCE {
 cTFC CTFC
 }
}

TFS ::= SEQUENCE {
dynamicTransportFormatInformation
DynamicTransportFormatInformation,
semiStaticTransportFormatInformation
SemiStaticTransportFormatInformation
}

TGD :: = INTEGER (0..255)

TGL ::= INTEGER (3,4,7,10,14)

TimeSlot ::= INTEGER (0..14)

```

```

TimeSlotDirection ::= ENUMERATED {
 ul,
 dl
}

-- to do
TimeSlotISCP-Value ::= TBD

TimeSlotStatus ::= ENUMERATED {
 active,
 not-active
}

ToAWE ::= INTEGER (0..2559) -- msec. --
ToAWS ::= INTEGER (0..1279) -- msec. --

TPC-DownlinkStepSize ::= ENUMERATED {
 step-size0-5,
 step-size1
}

Transmit Diversity Indicator ::= ENUMERATED {
 active,
 inactive
}

TransmissionTimeInterval ::= ENUMERATED {
 time-interval10,
 time-interval20,
 time-interval40,
 time-interval80
} -- mec --

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- carrier-power1 indicates *5 dB
TransmittedCarrierPowerValue ::= ENUMERATED {
 carrier-power1,
 carrier-power2,
 ...
}

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- code-power1 indicated *5 dB
TransmittedCodePowerValue ::= ENUMERATED {
 code-power1,
 code-power2,
 ...
}

TransportBlockSize ::= INTEGER (1..5000)
-- bit --

TSTD-Indicator ::= ENUMERATED {
 active,
 inactive
}

TransportLayerAddress ::= OCTET STRING (SIZE (1..20, ...))

TransportLayerCause ::= ENUMERATED {
 transport-link-failure,
 transmission-port-not-available,
 transport-resource-unavailable,
 unspecified
}

TypeOfChannelCoding ::= ENUMERATED {
 no-coding,
 convolutional,
 turbo
}

-- U

UARFCN ::= INTEGER (174 .. 474)

UL-DL-CompressedModeSelection ::= ENUMERATED {
 ul-only,
 dl-only,
 both-UlandDL
}

```

```

UL-DPCH-SlotFormat ::= INTEGER (0..5)

UL-EbNo ::= INTEGER (0..255)
-- Resolution is 0.1 dB, range 0-25.5 dB --

UL-FP-Mode ::= ENUMERATED {
normal,
silent
}

-- unit dBm, step 0.1dBm
UL-InterferenceLevel ::= INTEGER (-128..60)

UL-PunctureLimit ::= INTEGER (0..100)

UL-ScramblingCode ::= SEQUENCE {
 uL-ScramblingCodeNumber UL-ScramblingCodeNumber,
 uL-ScramblingCodeLength UL-ScramblingCodeLength
}

-- 2^24
UL-ScramblingCodeLength ::= INTEGER (0..16777215)

UL-ScramblingCodeNumber ::= ENUMERATED {
short,
long
}

UplinkDeltaEb-No ::= ENUMERATED {
deltaEb-No-6dB,
...
}

UplinkDeltaEb-No-after ::= ENUMERATED {
deltaEb-No-after-6dB,
...
}

END

```

**3GPP-RAN-WG3 Meeting #10**  
**Sophia Antipolis, 28 February- 3 March 2000**

e.g. for 3GPP use the format TP-99xxx  
 or for SMG, use the format P-99-xxx

|                                                                                               |                                                                  |                                                                                                                  |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <h2 style="margin: 0;">CHANGE REQUEST</h2>                                                    |                                                                  | Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly. |
| <b>25.433</b>                                                                                 | <b>CR 061r1</b>                                                  | Current Version: <b>3.0.0</b>                                                                                    |
| GSM (AA.BB) or 3G (AA.BBB) specification number ↑                                             | ↑ CR number as allocated by MCC support team                     |                                                                                                                  |
| For submission to: <b>TSG RAN#7</b><br><small>list expected approval meeting # here ↑</small> | for approval for information <input checked="" type="checkbox"/> | strategic <input type="checkbox"/> (for SMG use only)<br>non-strategic <input type="checkbox"/>                  |

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

**Proposed change affects:** (U)SIM  ME  UTRAN / Radio  Core Network   
(at least one should be marked with an X)

**Source:** RAN-WG3 **Date:** 28<sup>th</sup> February 2000

**Subject:** Some Editorial modifications to NBAP

**Work item:**

|                  |                                                                                                                                                                                                                                                                                                          |                 |                                                                                                                                                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category:</b> | F Correction <input type="checkbox"/><br>A Corresponds to a correction in an earlier release <input type="checkbox"/><br>B Addition of feature <input type="checkbox"/><br>C Functional modification of feature <input type="checkbox"/><br>D Editorial modification <input checked="" type="checkbox"/> | <b>Release:</b> | Phase 2 <input type="checkbox"/><br>Release 96 <input type="checkbox"/><br>Release 97 <input type="checkbox"/><br>Release 98 <input type="checkbox"/><br>Release 99 <input checked="" type="checkbox"/><br>Release 00 <input type="checkbox"/> |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(only one category Shall be marked With an X)

**Reason for change:** This CR modifies one minor editorial error:  
 - In section 9.2.1.9 “Common Measurement Object Type”, the name of IE shall be “Common Measurement Object Type”, not “Dedicated Measurement Object Type”.

**Clauses affected:** 9.2.1.9 Common Measurement Object Type

**Other specs Affected:**

|                               |                          |                |
|-------------------------------|--------------------------|----------------|
| Other 3G core specifications  | <input type="checkbox"/> | → List of CRs: |
| Other GSM core specifications | <input type="checkbox"/> | → List of CRs: |
| MS test specifications        | <input type="checkbox"/> | → List of CRs: |
| BSS test specifications       | <input type="checkbox"/> | → List of CRs: |
| O&M specifications            | <input type="checkbox"/> | → List of CRs: |

**Other comments:**



<----- double-click here for help and instructions on how to create a CR.

### 9.2.1.9 Common Measurement Object Type

The Common Measurement Object type indicates the type of object that the measurement is to be performed on.

| <b>Information Element /<br/>Group Name</b>            | <b>Presence</b> | <b>Range</b> | <b>IE Type and<br/>Reference</b> | <b>Semantics Description</b> |
|--------------------------------------------------------|-----------------|--------------|----------------------------------|------------------------------|
| <del>Dedicated-Common</del><br>Measurement Object Type |                 |              | ENUMERATED (CELL, RACH,...)      |                              |



The procedure is initiated with a CELL DELETION REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall remove the cell and any channel within the cell created by the Cell Setup procedure or Common Transport Channel Setup procedure.

When the cell is deleted, the Node B shall send a CELL DELETION RESPONSE message as a response.

### 8.2.14.3 Unsuccessful operation

-

### 8.2.14.4 Abnormal Conditions

If the CELL DELETION REQUEST message includes a *C-ID* IE value that is not existing in Node B the Node B shall respond with the CELL DELETION RESPONSE message.

## 8.2.15 Resource Status Indication

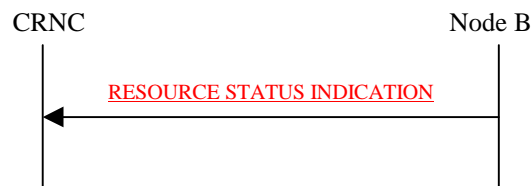
### 8.2.15.1 General

This procedure is used in six different cases:

1. When a Local Cell becomes Existing at the Node B, it shall be made available to the RNC
2. When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Local Cell shall be withdrawn from the CRNC
3. When the capabilities of the Local Cell changes at the Node B
4. When a cell has changed its capability and/or its resource operational state at the Node B
5. When common physical channels and/or common transport channels have changed their capabilities at the Node B
6. When a communication control port has changed its resource operational state at the Node B

Each of the above cases shall trigger a Resource Status Indication procedure and the RESOURCE STATUS INDICATION message shall contain the logical resources affected for that case and the cause value when applicable.

### 8.2.15.2 Successful Operation



**Figure 1: Resource Status Indication**

The procedure is initiated with a RESOURCE STATUS INDICATION message sent from the Node B to CRNC.

When a Local Cell becomes Existing at the Node B, the Node B shall make it available to the CRNC by sending a RESOURCE STATUS INDICATION message with the Local Cell Id IE and the Add/Delete Indicator IE set equal to 'Add'.

When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Node B shall withdraw the Local Cell from the CRNC by sending a RESOURCE STATUS INDICATION message with the Local Cell Id IE and the Add/Delete Indicator IE set equal to 'Delete'. The Node B shall not withdraw a previously configured cell at the Node B that the CRNC had configured using the Cell Setup procedure, until the CRNC has deleted that cell at the Node B using the Cell Delete procedure.

When the capabilities of a Local Cell changes at the Node B, the Node B shall report the new capability by sending a RESOURCE STATUS INDICATION message with the Local Cell Id. The Add/Delete Indicator IE shall not be included in the message. The Cause IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

When the capabilities and/or resource operational state of a cell changes at the Node B, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the C-ID IE. The Cause IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

When the capabilities and/or resource operational state of common physical channels and/or common transport channels have changed, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the logical resource. The Cause IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

When the resource operational state of a communication control port has changed, the Node B shall report the new resource operational state by sending a RESOURCE STATUS INDICATION message with the Communication Control Port ID IE. The Cause IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

### 8.2.15.3 Abnormal Conditions

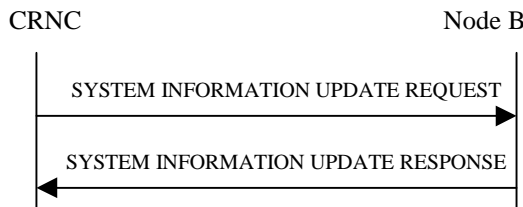
-

## 8.2.16 System Information Update

### 8.2.16.1 General

The System Information Update procedure performs the scheduling and provision of system information segments broadcast on the BCCH, to the Node B.

### 8.2.16.2 Successful Operation



**Figure 2: System Information Update: Successful Case**

The procedure is initiated with a SYSTEM INFORMATION UPDATE REQUEST message sent from the CRNC to the Node B.

If the SYSTEM INFORMATION UPDATE message includes the BCCH Modification Time IE, the new segments provided in the SYSTEM INFORMATION UPDATE REQUEST message shall be applied by Node B at the first time instance starting from the SFN value set by the BCCH Modification Time IE. If no BCCH Modification Time IE is included, the new segments shall be applied as soon as possible.

The Node B shall determine the correct cell system frame number(s) (SFN) for transmission of the segments of system information, from the scheduling parameters provided in the SYSTEM INFORMATION UPDATE REQUEST message. The SFN for transmitting the segments shall be determined by the SIB SG REP IE and SIB SG POS IE such that:

- $SFN \bmod IB\_SG\_REP = IB\_SG\_POS$

If the SYSTEM INFORMATION UPDATE REQUEST message contains Master Information Block (MIB) segments in addition to SIB segments, the MIB segments shall be updated last in the physical channel scheduling cycle by the Node B.

The Segment Type IE shall be used by the Node B to concatenate several segments into one BCH transport block. The allowed combinations of concatenation are specified in TS 25.331.



| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---------------|----------|-------|-----------------------|-----------------------|
| Frame Offset  |          |       | INTEGER<br>(0..255)   | Frames                |

### 9.2.1.29 IB\_SG

Segment which is part of an Information Block.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description           |
|---------------|----------|-------|-----------------------|---------------------------------|
| IB SG         |          |       | Bit String            | Contents defined in ref:25.331. |

### 9.2.1.30 IB\_SG\_POS

First position of an Information Block segment in the SFN cycle ( $IB\_SG\_POS < IB\_SG\_REP$ ).

| IE/Group Name | Presence | Range | IE type and reference        | Semantics description |
|---------------|----------|-------|------------------------------|-----------------------|
| IB SG POS     |          |       | INTEGER<br>( $0..2^{12}-1$ ) |                       |

### 9.2.1.31 IB\_SG\_REP

Repetition distance for an Information Block segment. The segment shall be transmitted when  $SFN \bmod IB\_SG\_REP = IB\_SG\_POS$ .

| IE/Group Name | Presence | Range | IE type and reference                                      | Semantics description                          |
|---------------|----------|-------|------------------------------------------------------------|------------------------------------------------|
| IB SG REP     |          |       | INTEGER<br>(16, 32, 64,<br>128, 256,<br>512,<br>1024,2048) | Repetition period for the IB segment in frames |

### 9.2.1.32 IB Type

The IB type identifies a specific system information block.

| IE/Group Name | Presence | Range | IE type and reference                                 | Semantics description             |
|---------------|----------|-------|-------------------------------------------------------|-----------------------------------|
| IB Type       |          |       | Enumerated<br>(MIB, SIB1,<br>SIB2, ...<br>SIB12, ...) | Complete R99 SIB range still TBD. |

### 9.2.1.33 Indication Type

The indication type shall indicate the category of a failure with respect to its impact on the logical resources supported at Node B.

| Information Element / Group Name | Presence | Range | IE type and reference                                                                   | Semantics description                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------|----------|-------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indication Type                  |          |       | ENUMERATED (No Failure, Service Impacting, Cell Control Lost, Cell Control Restored...) | Service Impacting – The failure has impacted on the logical resources supported at Node B.<br><br>Cell Control Lost – The failure has impacted on the ability for the cell parameters to be administered or O&M functions performed.<br><br>Cell Control Restored – Indicates a previously reported 'Cell Control Lost' condition has been recovered. |

### 9.2.1.34 Local Cell ID

The local cell ID represents resources in Node B that can be used for the configuration of a cell.

| Information Element / Group Name | Presence | Range | IE Type and Reference   | Semantics Description |
|----------------------------------|----------|-------|-------------------------|-----------------------|
| Local Cell ID                    |          |       | INTEGER(0 ...268435455) |                       |

### 9.2.1.35 Maximum DL Power Capability

This parameter indicates the maximum DL power capability for a local cell within Node B.

| Information Element/Group Name | Presence | Range | IE type and reference | Semantics description  |
|--------------------------------|----------|-------|-----------------------|------------------------|
| Maximum DL Power Capability    |          |       | ENUMERATED(0...50)    | dBm, granularity 1 dBm |

### 9.2.1.36 Max Transmission Power

Max Transmission Power is maximum power for all downlink channels added together, that is allowed to be used simultaneously in a cell.

| Information Element / Group Name | Presence | Range | IE Type and Reference    | Semantics Description        |
|----------------------------------|----------|-------|--------------------------|------------------------------|
| Maximum transmission Power       |          |       | ENUMERATED(0, 1, 2 ..50) | Unit dBm<br>Granularity 1 dB |

### 9.2.1.37 Measurement ID

The Measurement Id uniquely identifies any measurement per (Node B- or communication) control port.

| Information Element / Group Name | Presence | Range | IE Type and Reference            | Semantics Description |
|----------------------------------|----------|-------|----------------------------------|-----------------------|
| Measurement ID                   |          |       | Integer(0 .. 2 <sup>20</sup> -1) |                       |

```

-- *****
--
-- ERROR INDICATION
--
-- *****

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

ErrorIndication-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory } |
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE optional } |
 -- This IE is only present when message is transmitted by RNC --
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE optional } |
 -- This IE is only present when message is transmitted by NodeB --
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE L3-CriticalityDiagnostic PRESENCE optional },
 -- At least either or Cause IE or Criticality Diagnostic IE shall be present--
 ...
}

ErrorIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

END

```

### 9.3.4 NBAP Information Elements

```

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

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
 maxTFcount,
 maxnoofTFCs,
 maxCTF-1,
 maxRM,

FROM NBAP-Constants;

DTX-InsertionPoint ::= INTEGER
DedicatedMeasurementValue ::= INTEGER

```

```

DeltaTPC ::= INTEGER

-- A

-- to do
AcknowledgedRA-TriesValue ::= TBD

AddOrDeleteIndicator ::= ENUMERATED {
add,
delete
}

AICH-TransmissionTiming ::= ENUMERATED {
timing0,
timing1
}

AvailabilityStatus ::= ENUMERATED {
empty,
in-test,
failed,
power-off,
off-line,
off-duty,
dependency,
degraded,
not-installed,
log-full,
...
}

--to do
AveragingDuration ::= TBD

-- B

BCCH-ModificationTime ::= INTEGER (0| 2| 4| .. | 4095)

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
high,
normal,
low
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {
type1,
type2
}

```

```

-- C

Cause ::= ENUMERATED {
radioNetworkLayer RadioNetworkLayerCause,
transportLayer TransportLayerCause,
protocol ProtocolCause,
misc MiscellaneousCause
...
}

CCTrCH-ID ::= INTEGER (1..15)

CellID-Length ::= ENUMERATED {
 short,
 medium,
 long
}

CFN ::= INTEGER (0..255)

ChipOffset ::= INTEGER (0..38399)

C-ID ::= INTEGER (0..65535)

CodingRate ::= ENUMERATED {
 rate1-2,
 rate1-3
}

CommonMeasurementObjectType ::= ENUMERATED {
 cell,
 rach,
 ...
}

CommonMeasurementType ::= SEQUENCE {
 rssi RSSI-Value,
 transmitted-carrier-power TransmittedCarrierPowerValue,
 acknowledged-ra-tries AcknowledgedRA-TriesValue,
 time-slot-iscp TimeSlotISCP-Value,
 ...
}

CommonPhysicalChannelID ::= INTEGER (0..255)

CommonTransportChannelID ::= INTEGER (0..255)

CommunicationControlPortID ::= INTEGER (0..65535)

CompressedModeMethod ::= ENUMERATED {
 puncturing,
 sF-2,
 gating,
 none
}

ConfigurationGenerationID ::= INTEGER (0..255)

```

```

CRC-Size ::= ENUMERATED {
size0,
size12,
size16,
size24
}

CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CTFC ::= INTEGER (0..maxCTF-1)

-- D

DCH-CombinationInd ::= INTEGER (0..255)

DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
 cell,
 rach,
 ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
sir-value SIR-Value OPTIONAL,
sir-error-value SIR-ErrorValue OPTIONAL,
transmitted-code-power TransmittedCodePowerValue OPTIONAL,
time-slot-iscp TimeSlotISCP-Value OPTIONAL,
...
}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
 rl,
 all-rl,
 ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
 sir,
 sir-error,
 transmitted-code-power,
 timeslot-iscp,
 ...
}

D-FieldLength ::= ENUMERATED {
d-length1,
d-length2
}

DiversityControlField ::= ENUMERATED {
may,
must,
must-not

```

```

}

DiversityIndication ::= ENUMERATED {
combined,
not-combined
}

DiversityMode ::= ENUMERATED {
none,
sTTD,
closed-loop-mode1,
closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)

DL-FrameType ::= ENUMERATED {
typeA,
typeB
}

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates -35dB, Power1 indicates -34.9dB, ..., Power500 indicates 15dB
DL-Power ::= ENUMERATED {
power0,
power1,
...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
fixed,
flexible
}

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
SEQUENCE {
numberOfTransportBlocks NumberOfTransportBlocks,
transportBlockSize TransportBlockSize OPTIONAL
-- This IE is only present if Number of Transport Blocks is greater than 0 --,
mode-dynamicTFS Mode-DynamicTFS
...
}

```

```

-- E

EventA ::= SEQUENCE {
 measurementThreshold MeasurementThreshold,
 measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventB ::= SEQUENCE {
 measurementThreshold MeasurementThreshold,
 measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventC ::= SEQUENCE {
 measurementIncreaseThreshold MeasurementIncreaseThreshold,
 measurementChangeTime MeasurementChangeTime
}

EventD ::= SEQUENCE {
 measurementDecreaseThreshold MeasurementDecreaseThreshold,
 measurementChangeTime MeasurementChangeTime
}

EventE ::= SEQUENCE {
 measurementThreshold1 MeasurementThreshold1,
 measurementThreshold2 MeasurementThreshold2 OPTIONAL,
 measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
 reportPeriodicity ReportPeriodicity OPTIONAL
}

EventF ::= SEQUENCE {
 measurementThreshold1 MeasurementThreshold1,
 measurementThreshold2 MeasurementThreshold2 OPTIONAL,
 measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
 reportPeriodicity ReportPeriodicity OPTIONAL
}

-- F

-- The maximum value is equal to the DL spreading factor • --
FDD-DL-ChannalisationCodeNumber ::= INTEGER(0.. 255)

-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [TS 25.211] --
FDD-S-CCPCH-Offset ::= INTEGER (0.. 149)

-- 0=lower priority, 15=higher priority --
FrameHandlingPriority ::= INTEGER (0..15)

-- G

```



```

GapPeriod ::= INTEGER(0..255)

Gap Position Mode ::= ENUMERATED {
fixed,
flexible
}

-- H

-- I

-- to do
IB-SG ::= BIT STRING

IB-SG-POS ::= INTEGER (0..4095)

IB-SG-REP ::= INTEGER {rep(16), rep(32), rep(64), rep(128), rep(256), rep(512), rep(1024), rep(2048)}

IB-Type ::= Enumerated {
MIB,
SIB1,
SIB2,
SIB12
}

IndicationType ::= ENUMERATED {
noFailure,
serviceImpacting,
cellControlLost,
cellControlRestored,
...
}

-- J

-- L

LocalCell-ID ::= INTEGER (0..268435455)

-- M

-- dBm, granularity 1 dBm
-- dl-power0 indicates 0 dBm
MaximumDL-PowerCapability ::= ENUMERATED{
dl-power0,
dl-power1,
dl-power2,

```

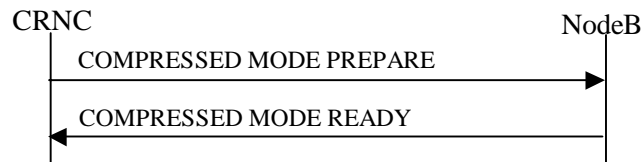


## 8.3.14 Compressed Mode Preparation (for FDD only)

### 8.3.14.1 General

The Compressed Mode Preparation procedure is used to prepare the compressed mode in the NodeB for one UE-UTRAN connection.

### 8.3.14.2 Successful Operation



**Figure 133: Compressed Mode Preparation procedure, Successful Operation**

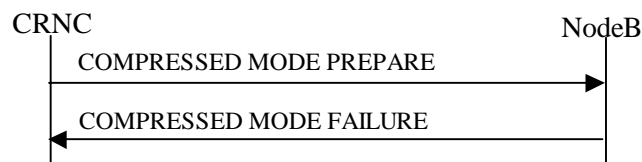
The Compressed Mode Preparation procedure is initiated by the CRNC by sending the COMPRESSED MODE PREPARE message to the NodeB.

If the PD IE is set to 'infinite', the NodeB shall continue with the compressed mode until it is requested to terminate the compressed mode.

If the proposed modifications are allowed by the NodeB and the NodeB has successfully initialised the required resources, the NodeB shall respond to the CRNC with COMPRESSED MODE READY message.

If the *Compressed Mode Method* IE is set to 'None', the NodeB shall terminate the compressed mode even if the COMPRESSED MODE PREPARE message was received before the end of the compressed mode period.

### 8.3.14.3 Unsuccessful Operation



**Figure 234: Compressed Mode Preparation procedure, unsuccessful case**

If the requested reconfiguration fails for one or more RLS the NodeB shall abort the procedure and send the COMPRESSED MODE FAILURE message to the CRNC, indicating the reason for failure.

Typical cause values are:

#### Radio Network Layer Causes:

- Requested Configuration not Supported

#### Miscellaneous Causes:

- Not enough User Plane Processing Resources

## 9.2.2.18 Pattern Duration (PD)

| IE/Group Name | Presence | Range | IE type and reference | Semantics description                                                                                |
|---------------|----------|-------|-----------------------|------------------------------------------------------------------------------------------------------|
| PD            |          |       | INTEGER(0..2047, ...) | Frames<br><u>If the value is set to '0', the Pattern Duration shall be interpreted as 'infinite'</u> |



BSS test specifications  
O&M specifications



→ List of CRs:

→ List of CRs:

**Other  
comments:**



help.doc

<----- double-click here for help and instructions on how to create a CR.

## 9.1.2.1 FDD Message

| Information Element                                    | Presence              | Range              | IE type and reference | Semantics description              |
|--------------------------------------------------------|-----------------------|--------------------|-----------------------|------------------------------------|
| Message Discriminator                                  | M                     |                    |                       |                                    |
| Message Type                                           | M                     |                    |                       |                                    |
| Transaction ID                                         | M                     |                    |                       |                                    |
| C-ID                                                   | M                     |                    |                       |                                    |
| Configuration Generation ID                            | M                     |                    |                       |                                    |
| <b>CHOICE common physical channel to be configured</b> |                       |                    |                       |                                    |
| <i>Secondary CCPCH</i>                                 |                       |                    |                       |                                    |
| <b>Secondary CCPCH</b>                                 |                       | 1                  |                       |                                    |
| Common Physical Channel ID                             | M                     |                    |                       |                                    |
| FDD S-CCPCH Offset                                     | M                     |                    |                       | Corresponds to 25.211: S-CCPCH,k   |
| DL Scrambling Code                                     | M                     |                    |                       |                                    |
| FDD DL Channelisation Code Number                      | M                     |                    |                       |                                    |
| TFCS                                                   | M                     |                    |                       | For the DL.                        |
| Secondary CCPCH Slot Format                            | M                     |                    |                       |                                    |
| >>>TFCI Presence                                       | <u>C - SlotFormat</u> |                    |                       |                                    |
| <u>Pilot Bits Used Indicator</u>                       | <u>M</u>              |                    |                       |                                    |
| Multiplexing Position                                  | M                     |                    |                       |                                    |
| STTD Indicator                                         | M                     |                    |                       |                                    |
| <b>FACH Parameters</b>                                 | C-choiceCh            | 0..<maxnoofFA CHs> |                       |                                    |
| Common transport channel ID                            | M                     |                    |                       |                                    |
| Transport Format Set                                   | M                     |                    |                       | For the DL.                        |
| ToAWS                                                  | M                     |                    |                       |                                    |
| ToAWE                                                  | M                     |                    |                       |                                    |
| Max FACH Power                                         | M                     |                    | DL Power              | Maximum allowed power on the FACH. |
| <b>PCH Parameters</b>                                  | C-choiceCh            | 0..1               |                       |                                    |
| Common Transport Channel ID                            | M                     |                    |                       |                                    |
| Transport Format Set                                   | M                     |                    |                       | For the DL.                        |
| ToAWS                                                  | M                     |                    |                       |                                    |
| ToAWE                                                  | M                     |                    |                       |                                    |
| PCH Power                                              | M                     |                    | DL Power              |                                    |
| <b>PICH Parameters</b>                                 |                       | 1                  |                       |                                    |
| Common Physical Channel ID                             | M                     |                    |                       |                                    |
| DL Scrambling Code                                     | M                     |                    |                       |                                    |
| FDD DL Channelisation Code Number                      | M                     |                    |                       |                                    |
| PICH Power                                             | M                     |                    | DL Power              | Power to be used on the PICH.      |
| PICH Mode                                              | M                     |                    |                       | Number of PI per frame             |
| STTD Indicator                                         | M                     |                    |                       |                                    |
| <i>PRACH</i>                                           |                       |                    |                       |                                    |
| <b>PRACH</b>                                           |                       | 1                  |                       |                                    |
| Common Physical Channel ID                             | M                     |                    |                       |                                    |

|                                   |   |            |          |             |
|-----------------------------------|---|------------|----------|-------------|
| Scrambling Code Word Number       | M |            |          |             |
| TFCS                              | M |            |          | For the UL. |
| Preamble Signatures               | M |            |          |             |
| Allowed Slot Format Information   |   | 1..<maxSF> |          |             |
| RACH Slot Format                  | M |            |          |             |
| RACH Sub Channel Numbers          | M |            |          |             |
| Puncture Limit                    | M |            |          | For the UL  |
| <b>RACH Parameters</b>            |   | 1          |          |             |
| Common Transport Channel ID       | M |            |          |             |
| Transport Format Set              | M |            |          | For the UL. |
| <b>AICH Parameters</b>            |   | 1          |          |             |
| Common Physical Channel ID        | M |            |          |             |
| DL Scrambling Code                | M |            |          |             |
| AICH Transmission Timing          | M |            |          |             |
| FDD DL Channelisation Code Number | M |            |          |             |
| AICH Power                        | M |            | DL Power |             |
| STTD Indicator                    | M |            |          |             |

| Condition                  | Explanation                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------|
| <a href="#">SlotFormat</a> | <a href="#">This IE is present only if the Secondary CCPCH Slot Format is equal to any of the value 8 to 17</a> |
| <i>ChoiceCh</i>            | One of the channels FACH or PCH or both must be present.                                                        |

| Range bound         | Explanation                                                       |
|---------------------|-------------------------------------------------------------------|
| <i>MaxnoofFACHs</i> | Maximum number of FACHs that can be defined on a Secondary CCPCH. |
| <i>MaxSF</i>        | Maximum number of SF for a PRACH                                  |



## 9.2.2.20 Pilot Bits Used Indicator

| Information Element/Group Name | Presence | Range | IE type and reference                            | Semantics description |
|--------------------------------|----------|-------|--------------------------------------------------|-----------------------|
| Pilot Bits Used Indicator      |          |       | ENUMERATED(Pilot Bits Used, Pilot Bits not Used) |                       |

## 9.2.2.32 Secondary CCPCH Slot Format

| Information Element/Group Name | Presence | Range | IE type and reference | Semantics description |
|--------------------------------|----------|-------|-----------------------|-----------------------|
| Secondary CCPCH Slot Format    |          |       | INTEGER(0..178)       |                       |

### 9.3.3 NBAP PDU Content Definitions

#### --- Partly omitted ---

```

PICH-Information,
PICH-Power,
PSCH-Power,
PSCHandPCCPCH-Allocation,
PSCHandPCCPCH-TimeSlotK,
PUSCH,
PagingIndicatorLength,
PatternDuration,
PayloadCRC-PresenceIndicator,
PilotBitsUsedIndicator,
PowerControlMode,
PowerOffset,
PowerResumeMode,
PreambleScramblingCode,
PreambleSignatures,
PrimaryCPICH-Power,
PrimarySCH-Power,
PrimaryScramblingCode,
Primary-ScramblingCode,
PropagationDelay,
PunctureLimit,

```

#### --- Partly omitted ---

```

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST FDD
--
-- *****

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

CommonTransportChannelSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-C-ID CRITICALITY ignore TYPE C-ID PRESENCE
mandatory }|
 { ID id-ConfigurationGenerationID CRITICALITY ignore TYPE ConfigurationGenerationID
PRESENCE mandatory }|
 { ID id-CommonPhysicalChannelType-CTCHsetup-Req-FDD CRITICALITY ignore TYPE
CommonPhysicalChannelType-CTCHsetup-Req-FDD PRESENCE mandatory
},
 ...
}

CommonTransportChannelSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

CommonPhysicalChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
 secondary-CCPCH-parameters-CTCHsetup-Req-FDD Secondary-CCPCH-
parameters-CTCHsetup-Req-FDD,
 PRACH-parameters-CTCHsetup-Req-FDD PRACH-parameters-CTCHsetup-Req-FDD
}

Secondary-CCPCH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonPhysicalChannelID CommonPhysicalChannelID,
 fdd-SCCPCH-Offset FDD-SCCPCH-Offset,
 dl-ScramblingCode DL-ScramblingCode,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
 tFCS TFCS,
 secondaryCCPCH-SlotFormat SecondaryCCPCH-SlotFormat,
 tFCI-Presence tFCI-Presence OPTIONAL,
 pilotBitsUsedIndicator PilotBitsUsedIndicator,
 multiPlexingPosition MultiPlexngPosition,
 sTTD-Indicator STTD-Indicator,
 commonTransportChannelType CommonTransportChannelType-CTCHsetup-
Req-FDD
}

```

```

}

CommonTransportChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
 fACH-ParametersList FACH-ParametersList-CTCHsetup-Req-FDD,
 pCH-Parameters PCH-Parameters-CTCHsetup-Req-FDD,
 bothCH-Parameters BothCH-Parameters-CTCHsetup-Req-FDD
}

BothCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 fACH-ParametersList FACH-ParametersList-CTCHsetup-Req-FDD,
 pCH-Parameters PCH-Parameters-CTCHsetup-Req-FDD
}

FACH-ParametersList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
 ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHsetup-Req-FDD }}

FACH-ParametersListItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
 { ID id-FACH-ParametersListItem-CTCHsetup-Req-FDD CRITICALITY ignore TYPE FACH-
ParametersListItem-CTCHsetup-Req-FDD PRESENCE mandatory },
 ...
}

FACH-ParametersListItem-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonTransportChannelID CommonTransportChannelID,
 transportFormatSet TransportFormatSet,
 toAWS ToAWS,
 toAWE ToAWE,
 maxFACH-Power DL-Power
}

PCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonTransportChannelID CommonTransportChannelID,
 transportFormatSet TransportFormatSet,
 toAWS ToAWS,
 toAWE ToAWE,
 pCH-Power DL-Power,
 pICH-Parameters PICH-Parameters-CTCHsetup-Req-FDD
}

PICH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonPhysicalChannelID CommonPhysicalChannelID,
 dl-ScramblingCode DL-ScramblingCode,
 fdd-dl-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
 pICH-Power DL-Power,
 pICH-Mode PICH-Mode,
 sTTD-Indicator STTD-Indicator
}

PRACH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonPhysicalChannelID CommonPhysicalChannelID,
 tfcs TFCS,
 preambleSignatures PreambleSignatures,
 scramblingCodeWord ScramblingCodeWord
allowedSlotFormatInformationList AllowedSlotFormatInformationList-
CTCHsetup-Req-FDD,
 rach-SubChannelNumbers RACH-SubChannelNumbers,
 ul-punctureLimit PunctureLimit,
 rach-Parameters RACH-Parameters-CTCHsetup-Req-
FDD,
 aich-Parameters AICH-Parameters-CTCHsetup-Req-
FDD
}

AllowedSlotFormatInformationList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF
 ProtocolIE-Container {{ AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD }}

AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
 { ID id-AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD
CRITICALITY ignore TYPE AllowedSlotFormatInformationItem-CTCHsetup-
Req-FDD PRESENCE mandatory },
 ...
}

AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD ::= SEQUENCE {
 rachSlotFormat RACH-SlotFormat
}

RACH-Parameters ::= SEQUENCE {
 commonTransportChannelID CommonTransportChannelID,
 transportFormatSet TransportFormatSet
}

AICH-Parameters ::= SEQUENCE {
 commonPhysicalChannelID CommonPhysicalChannelID,
 dl-ScramblingCode DL-ScramblingCode,

```

```
aICH-TransmissionTiming AICH-TransmissionTiming,
fDD-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
aICH-Power DL-Power,
sTTD-Indicator STTD-Indicator
}
```

**--- Partly omitted ---**

## 9.3.4 NBAP Information Elements

### --- Partly omitted ---

```

-- P

PagingIndicatorLength ::= ENUMERATED {
ind-length2,
ind-length4,
ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
CRC-Included,
CRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PICH-Mode ::= ENUMERATED {
noofPI18,
noofPI36,
noofPI72,
noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
pilot-bits-used,
pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
pcm0,
pcm1,
...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
prm0,
prm1,
...
}

```

### --- Partly omitted ---

```

-- S

ScramblingCodeChange ::= ENUMERATED {
change,
no-change
}

Scrambling Code Word Number ::= INTEGER (0..255)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..17)

SegmentType ::= ENUMERATED {
first,
subsequent,
last,
complete
}

```

## CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

**25.433 CR 008r3**

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN#7**

list expected approval meeting # here ↑

for approval   
for information

strategic   
non-strategic  (for SMG Use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <http://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:**

(at least one should be marked with an X)

(U)SIM  ME  UTRAN / Radio  Core Network

**Source:**

**RAN-WG3**

**Date:**

**Feb 2000**

**Subject:**

**Addition of measurement threshold information elements.**

**Work item:**

**Category:**

(only one category shall be marked with an X)

F Correction   
A Corresponds to a correction in an earlier release   
B Addition of feature   
C Functional modification of feature   
D Editorial modification

**Release:**

Phase 2   
Release 96   
Release 97   
Release 98   
Release 99   
Release 00

**Reason for change:**

CR8.R3:  
Update to reflect inclusion of both CR8.R1 and CR8.R2 changes. All changes on CR8 are marked with green.

CR 8.R1:  
The first revision of this CR left an error concerning the ranges of the increase/decrease thresholds: for measurements with a range not starting at 0, the absolute threshold and increase/decrease thresholds can not use the same type. This CR attempt to solve this problem. All changes made in revision 2 of the CR are indicated in green. Input for the ranges is mainly based on 25.215 v.3.1.0. In addition, extension capabilities are introduced where considered necessary.

CR 8:  
TSG RAN WG1 recently took a decision on the ranges and resolution on the different L1 measurements. This allows for further progress on the measurement thresholds in 25.433. As different measurements with different units are handled with the same procedures, there is a need to introduce a special mechanism for ensuring that different thresholds in the measurement requests are transferred in a correct way. As reporting event A, B, E and F use absolute thresholds and C and D uses relative, there is also a need to handle the thresholds for them separately. Finally we have discovered some minor typos in the measurement concept, which also are proposed to be corrected.

**Clauses affected:**

**9.2.1.11; 9.2.1.23; 9.2.1.39; 9.3.3; 9.3.4**

**Other specs affected:**

Other 3G core specifications  → List of CRs:  
Other GSM core specifications  → List of CRs:  
MS test specifications  → List of CRs:

BSS test specifications  
O&M specifications



→ List of CRs:  
→ List of CRs:



**Other  
comments:**



help.doc

<----- double-click here for help and instructions on how to create a CR.

9.2.1.11 Common Measurement Value

The Common Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

| Information Element / Group Name | Presence                                  | Range | IE Type and Reference                            | Semantics Description                                                                                                                                                     |
|----------------------------------|-------------------------------------------|-------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transmitted Carrier Power Value  | <u>C</u><br><u>MeasValue</u><br><u>eQ</u> |       | INTEGER(0..100) Enumerated(-35..15), step 0.1 dB | According to mapping in 25.215/25.225                                                                                                                                     |
| RSSI Value                       | <u>C</u><br><u>MeasValue</u><br><u>eQ</u> |       | INTEGER(0..63) Enumerated(-30..100) step 0.1     | According to mapping in 25.215/25.225                                                                                                                                     |
| Acknowledged RA tries Value      | <u>C</u><br><u>MeasValue</u><br><u>eQ</u> |       | INTEGER(0..240) TBD                              | The number of L1 acknowledged random access tries per every 20 ms period. The number of L1 acknowledged random access tries per transmission time interval on the PCCPCH. |
| Timeslot ISCP (TDD only)         | <u>C</u><br><u>MeasValue</u><br><u>eQ</u> |       | INTEGER(0..81)                                   | According to mapping in 25.225                                                                                                                                            |

<Editors Note: Some adjustment of the ranges for these measurements might be needed as they await a decision on range for this measurement in TSG RAN WG1>

| <u>Condition</u> | <u>Explanation</u>                                          |
|------------------|-------------------------------------------------------------|
| <u>MeasValue</u> | Only one measurement value can be present at the same time. |



9.2.1.23 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

| Information Element / Group Name | Presence                                 | Range | IE Type and Reference                            | Semantics Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|------------------------------------------|-------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dedicated measurement Value      |                                          |       |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SIR value                        | <u>C</u><br><u>MeasValue</u>             |       | INTEGER(0..63) Enumerated (-10..20), step 0.1 dB | According to mapping in 25.215/25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SIR error Value                  | <u>C</u><br><u>MeasValue</u><br><u>e</u> |       | INTEGER(0..12) Enumerated (-10..10), step 0.1 dB | $SIR\_Error = SIR - SIR\_target$<br>0: $< -31.0\text{ dB}$<br>1: $-31.0\text{ dB} < SIR\_Error < -30.5\text{ dB}$<br>2: $-30.5\text{ dB} < SIR\_Error < -30.0\text{ dB}$<br>3: $-30.0\text{ dB} < SIR\_Error < -29.5\text{ dB}$<br>4: $-29.5\text{ dB} < SIR\_Error < -29.0\text{ dB}$<br>5: $-29.0\text{ dB} < SIR\_Error < -28.5\text{ dB}$<br>6: $-28.5\text{ dB} < SIR\_Error < -28.0\text{ dB}$<br>7: $-28.0\text{ dB} < SIR\_Error < -27.5\text{ dB}$<br>8: $-27.5\text{ dB} < SIR\_Error < -27.0\text{ dB}$<br>9: $-27.0\text{ dB} < SIR\_Error < -26.5\text{ dB}$<br>10: $-26.5\text{ dB} < SIR\_Error < -26.0\text{ dB}$<br>11: $-26.0\text{ dB} < SIR\_Error < -25.5\text{ dB}$<br>12: $-25.5\text{ dB} < SIR\_Error < -25.0\text{ dB}$<br>13: $-25.0\text{ dB} < SIR\_Error < -24.5\text{ dB}$<br>14: $-24.5\text{ dB} < SIR\_Error < -24.0\text{ dB}$<br>15: $> -23.5\text{ dB}$<br>$Value = (SIR\_Error + 31) * 2$<br>SIRerror $\leq -10$ , SIR error Value shall be set to $-10$<br>If SIRerror $\geq 10$ , SIR error Value shall be set to $10$ |
| Transmitted Code Power Value     | <u>C</u><br><u>MeasValue</u><br><u>e</u> |       | INTEGER(0..12) Enumerated (-35..15), step 0.1 dB | According to mapping in 25.215/25.225 Relative to CPICH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RSCP (TDD only)                  | <u>C</u><br><u>MeasValue</u><br><u>e</u> |       | INTEGER(0..81) TBD                               | TDD only. According to mapping in 25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

<Editors Note: Some adjustment of the ranges for these measurements might be needed as they await a decision on range for this measurement in TSG RAN WG1>

| Condition        | Explanation                                                 |
|------------------|-------------------------------------------------------------|
| <u>MeasValue</u> | Only one measurement value can be present at the same time. |

**9.2.1.39 Report Characteristics**

The report characteristics, defines how the reporting shall be performed.

| Information Element / Group Name           | Presence     | Range | IE Type and Reference                                                                  | Semantics Description                                                                            |
|--------------------------------------------|--------------|-------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Report characteristics</b>              |              |       |                                                                                        |                                                                                                  |
| Report characteristics characteristic type |              |       | ENUMERATED (On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F) |                                                                                                  |
| <b>Periodic Report Information</b>         | C – Periodic |       |                                                                                        |                                                                                                  |
| Report Periodicity                         | M            |       | ENUMERATED (10ms...1min) step 10ms, (1min...1hr) step 1min                             | The frequency with which the Node B shall send measurement reports. First working assumption!    |
| <b>Event A</b>                             | C – Event A  |       |                                                                                        |                                                                                                  |
| Measurement Threshold                      | M            |       | TBD                                                                                    | The threshold for which the Node B shall trigger a measurement report.                           |
| Measurement Hysteresis Time                | O            |       | ENUMERATED (10ms...1min) step 10ms,...                                                 |                                                                                                  |
| <b>Event B</b>                             | C – Event B  |       |                                                                                        |                                                                                                  |
| Measurement Threshold                      | M            |       | TBD                                                                                    | The threshold for which the Node B shall trigger a measurement report.                           |
| Measurement Hysteresis Time                | O            |       | ENUMERATED (10ms...1min) step 10ms,...                                                 |                                                                                                  |
| <b>Event C</b>                             | C – Event C  |       |                                                                                        |                                                                                                  |
| Measurement Increase/Decrease Threshold    | M            |       | TBD                                                                                    |                                                                                                  |
| Measurement Change Time                    | M            |       | ENUMERATED (10ms...1min) step 10ms,...                                                 | The time the measurement entity shall rise on (in ms), in order to trigger a measurement report. |
| <b>Event D</b>                             | C – Event D  |       |                                                                                        |                                                                                                  |
| Measurement Increase/Decrease Threshold    | M            |       | TBD                                                                                    |                                                                                                  |
| Measurement Change Time                    | M            |       | ENUMERATED (10ms...1min) step 10ms,...                                                 | The time the measurement entity shall fall (in ms), in order to trigger a measurement report.    |
| <b>Event E</b>                             | C – Event E  |       |                                                                                        |                                                                                                  |
| Measurement Threshold 1                    | M            |       | TBD Measurement Threshold                                                              |                                                                                                  |

|                             |             |  |                                                            |                                                                     |
|-----------------------------|-------------|--|------------------------------------------------------------|---------------------------------------------------------------------|
| Measurement Threshold 2     | O           |  | <u>TBD Measurement Threshold</u>                           |                                                                     |
| Measurement Hysteresis Time | O           |  | ENUMERATED (10ms...1min) step 10ms,...                     | The hysteresis time in ms                                           |
| Report Periodicity          | O           |  | ENUMERATED (10ms...1min) step 10ms, (1min...1hr) step 1min | The frequency with which the Node B shall send measurement reports. |
| <b>Event F</b>              | C – Event F |  |                                                            |                                                                     |
| Measurement Threshold 1     | M           |  | <u>TBD Measurement Threshold</u>                           |                                                                     |
| Measurement Threshold 2     | O           |  | <u>TBD Measurement Threshold</u>                           |                                                                     |
| Measurement Hysteresis Time | O           |  | ENUMERATED (10ms...1min) step 10ms,...                     | The hysteresis time in ms                                           |
| Report Periodicity          | O           |  | ENUMERATED (10ms...1min) step 10ms, (1min...1hr) step 1min | The frequency with which the Node B shall send measurement reports. |

Editors note: Encoding of threshold TBD.

| Condition  | Explanation                                                         |
|------------|---------------------------------------------------------------------|
| C-Periodic | Valid if <i>Report Characteristics Type IE</i> indicates "periodic" |
| C-Event A  | Valid if <i>Report Characteristics Type IE</i> indicates "Event A"  |
| C-Event B  | Valid if <i>Report Characteristics Type IE</i> indicates "Event B"  |
| C-Event C  | Valid if <i>Report Characteristics Type IE</i> indicates "Event C"  |
| C-Event D  | Valid if <i>Report Characteristics Type IE</i> indicates "Event D"  |
| C-Event E  | Valid if <i>Report Characteristics Type IE</i> indicates "Event E"  |
| C-Event F  | Valid if <i>Report Characteristics Type IE</i> indicates "Event F"  |

9.2.1.X Measurement Threshold (new section)

The Measurement Threshold defines which threshold that shall trigger Event A, B, E or F.

| <u>Information Element / Group Name</u> | <u>Presence</u>      | <u>Range</u> | <u>IE Type and Reference</u> | <u>Semantics Description</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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|-----------------------------------------|----------------------|--------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>RSSI</u>                             | <u>C – Threshold</u> |              | INTEGER(0..63)               | According to mapping in 25.215/25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <u>Transmitted Carrier Power</u>        | <u>C – Threshold</u> |              | INTEGER(0..100)              | According to mapping in 25.215/25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <u>Acknowledged RA tries</u>            | <u>C – Threshold</u> |              | INTEGER(0..240)              | The number of L1 acknowledged random access tries per every 20 ms period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| <u>Timeslot ISCP</u>                    | <u>C – Threshold</u> |              | INTEGER(0..81)               | According to mapping in 25.225 (TDD only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| <u>SIR</u>                              | <u>C – Threshold</u> |              | INTEGER(0..63)               | According to mapping in 25.215/25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| <u>SIR Error</u>                        | <u>C – Threshold</u> |              | INTEGER(0..127)              | $SIR\_Error = SIR - SIR\_target$<br>0: $< -31.0\text{ dB}$<br>1: $-31.0\text{ dB} < SIR\_Error < 30.5\text{ dB}$<br>2: $-30.5\text{ dB} < SIR\_Error < 30.0\text{ dB}$<br>3: $-30.0\text{ dB} < SIR\_Error < 29.5\text{ dB}$<br>4: $-29.5\text{ dB} < SIR\_Error < 29.0\text{ dB}$<br>5: $-29.0\text{ dB} < SIR\_Error < 28.5\text{ dB}$<br>6: $-28.5\text{ dB} < SIR\_Error < 28.0\text{ dB}$<br>7: $-28.0\text{ dB} < SIR\_Error < 27.5\text{ dB}$<br>8: $-27.5\text{ dB} < SIR\_Error < 27.0\text{ dB}$<br>9: $-27.0\text{ dB} < SIR\_Error < 26.5\text{ dB}$<br>10: $-26.5\text{ dB} < SIR\_Error < 26.0\text{ dB}$<br>11: $-26.0\text{ dB} < SIR\_Error < 25.5\text{ dB}$<br>12: $-25.5\text{ dB} < SIR\_Error < 25.0\text{ dB}$<br>13: $-25.0\text{ dB} < SIR\_Error < 24.5\text{ dB}$<br>14: $-24.5\text{ dB} < SIR\_Error < 24.0\text{ dB}$<br>15: $-24.0\text{ dB} < SIR\_Error < 23.5\text{ dB}$<br>16: $-23.5\text{ dB} < SIR\_Error < 23.0\text{ dB}$<br>17: $-23.0\text{ dB} < SIR\_Error < 22.5\text{ dB}$<br>18: $-22.5\text{ dB} < SIR\_Error < 22.0\text{ dB}$<br>19: $-22.0\text{ dB} < SIR\_Error < 21.5\text{ dB}$<br>20: $-21.5\text{ dB} < SIR\_Error < 21.0\text{ dB}$<br>21: $-21.0\text{ dB} < SIR\_Error < 20.5\text{ dB}$<br>22: $-20.5\text{ dB} < SIR\_Error < 20.0\text{ dB}$<br>23: $-20.0\text{ dB} < SIR\_Error < 19.5\text{ dB}$<br>24: $-19.5\text{ dB} < SIR\_Error < 19.0\text{ dB}$<br>25: $-19.0\text{ dB} < SIR\_Error < 18.5\text{ dB}$<br>26: $-18.5\text{ dB} < SIR\_Error < 18.0\text{ dB}$<br>27: $-18.0\text{ dB} < SIR\_Error < 17.5\text{ dB}$<br>28: $-17.5\text{ dB} < SIR\_Error < 17.0\text{ dB}$<br>29: $-17.0\text{ dB} < SIR\_Error < 16.5\text{ dB}$<br>30: $-16.5\text{ dB} < SIR\_Error < 16.0\text{ dB}$<br>31: $-16.0\text{ dB} < SIR\_Error < 15.5\text{ dB}$<br>32: $-15.5\text{ dB} < SIR\_Error < 15.0\text{ dB}$<br>33: $-15.0\text{ dB} < SIR\_Error < 14.5\text{ dB}$<br>34: $-14.5\text{ dB} < SIR\_Error < 14.0\text{ dB}$<br>35: $-14.0\text{ dB} < SIR\_Error < 13.5\text{ dB}$<br>36: $-13.5\text{ dB} < SIR\_Error < 13.0\text{ dB}$<br>37: $-13.0\text{ dB} < SIR\_Error < 12.5\text{ dB}$<br>38: $-12.5\text{ dB} < SIR\_Error < 12.0\text{ dB}$<br>39: $-12.0\text{ dB} < SIR\_Error < 11.5\text{ dB}$<br>40: $-11.5\text{ dB} < SIR\_Error < 11.0\text{ dB}$<br>41: $-11.0\text{ dB} < SIR\_Error < 10.5\text{ dB}$<br>42: $-10.5\text{ dB} < SIR\_Error < 10.0\text{ dB}$<br>43: $-10.0\text{ dB} < SIR\_Error < 9.5\text{ dB}$<br>44: $-9.5\text{ dB} < SIR\_Error < 9.0\text{ dB}$<br>45: $-9.0\text{ dB} < SIR\_Error < 8.5\text{ dB}$<br>46: $-8.5\text{ dB} < SIR\_Error < 8.0\text{ dB}$<br>47: $-8.0\text{ dB} < SIR\_Error < 7.5\text{ dB}$<br>48: $-7.5\text{ dB} < SIR\_Error < 7.0\text{ dB}$<br>49: $-7.0\text{ dB} < SIR\_Error < 6.5\text{ dB}$<br>50: $-6.5\text{ dB} < SIR\_Error < 6.0\text{ dB}$<br>51: $-6.0\text{ dB} < SIR\_Error < 5.5\text{ dB}$<br>52: $-5.5\text{ dB} < SIR\_Error < 5.0\text{ dB}$<br>53: $-5.0\text{ dB} < SIR\_Error < 4.5\text{ dB}$<br>54: $-4.5\text{ dB} < SIR\_Error < 4.0\text{ dB}$<br>55: $-4.0\text{ dB} < SIR\_Error < 3.5\text{ dB}$<br>56: $-3.5\text{ dB} < SIR\_Error < 3.0\text{ dB}$<br>57: $-3.0\text{ dB} < SIR\_Error < 2.5\text{ dB}$<br>58: $-2.5\text{ dB} < SIR\_Error < 2.0\text{ dB}$<br>59: $-2.0\text{ dB} < SIR\_Error < 1.5\text{ dB}$<br>60: $-1.5\text{ dB} < SIR\_Error < 1.0\text{ dB}$<br>61: $-1.0\text{ dB} < SIR\_Error < 0.5\text{ dB}$<br>62: $-0.5\text{ dB} < SIR\_Error < 0\text{ dB}$<br>63: $0\text{ dB} < SIR\_Error < 0.5\text{ dB}$<br>64: $0.5\text{ dB} < SIR\_Error < 1.0\text{ dB}$<br>65: $1.0\text{ dB} < SIR\_Error < 1.5\text{ dB}$<br>66: $1.5\text{ dB} < SIR\_Error < 2.0\text{ dB}$<br>67: $2.0\text{ dB} < SIR\_Error < 2.5\text{ dB}$<br>68: $2.5\text{ dB} < SIR\_Error < 3.0\text{ dB}$<br>69: $3.0\text{ dB} < SIR\_Error < 3.5\text{ dB}$<br>70: $3.5\text{ dB} < SIR\_Error < 4.0\text{ dB}$<br>71: $4.0\text{ dB} < SIR\_Error < 4.5\text{ dB}$<br>72: $4.5\text{ dB} < SIR\_Error < 5.0\text{ dB}$<br>73: $5.0\text{ dB} < SIR\_Error < 5.5\text{ dB}$<br>74: $5.5\text{ dB} < SIR\_Error < 6.0\text{ dB}$<br>75: $6.0\text{ dB} < SIR\_Error < 6.5\text{ dB}$<br>76: $6.5\text{ dB} < SIR\_Error < 7.0\text{ dB}$<br>77: $7.0\text{ dB} < SIR\_Error < 7.5\text{ dB}$<br>78: $7.5\text{ dB} < SIR\_Error < 8.0\text{ dB}$<br>79: $8.0\text{ dB} < SIR\_Error < 8.5\text{ dB}$<br>80: $8.5\text{ dB} < SIR\_Error < 9.0\text{ dB}$<br>81: $9.0\text{ dB} < SIR\_Error < 9.5\text{ dB}$<br>82: $9.5\text{ dB} < SIR\_Error < 10.0\text{ dB}$<br>83: $10.0\text{ dB} < SIR\_Error < 10.5\text{ dB}$<br>84: $10.5\text{ dB} < SIR\_Error < 11.0\text{ dB}$<br>85: $11.0\text{ dB} < SIR\_Error < 11.5\text{ dB}$<br>86: $11.5\text{ dB} < SIR\_Error < 12.0\text{ dB}$<br>87: $12.0\text{ dB} < SIR\_Error < 12.5\text{ dB}$<br>88: $12.5\text{ dB} < SIR\_Error < 13.0\text{ dB}$<br>89: $13.0\text{ dB} < SIR\_Error < 13.5\text{ dB}$<br>90: $13.5\text{ dB} < SIR\_Error < 14.0\text{ dB}$<br>91: $14.0\text{ dB} < SIR\_Error < 14.5\text{ dB}$<br>92: $14.5\text{ dB} < SIR\_Error < 15.0\text{ dB}$<br>93: $15.0\text{ dB} < SIR\_Error < 15.5\text{ dB}$<br>94: $15.5\text{ dB} < SIR\_Error < 16.0\text{ dB}$<br>95: $16.0\text{ dB} < SIR\_Error < 16.5\text{ dB}$<br>96: $16.5\text{ dB} < SIR\_Error < 17.0\text{ dB}$<br>97: $17.0\text{ dB} < SIR\_Error < 17.5\text{ dB}$<br>98: $17.5\text{ dB} < SIR\_Error < 18.0\text{ dB}$<br>99: $18.0\text{ dB} < SIR\_Error < 18.5\text{ dB}$<br>100: $18.5\text{ dB} < SIR\_Error < 19.0\text{ dB}$<br>101: $19.0\text{ dB} < SIR\_Error < 19.5\text{ dB}$<br>102: $19.5\text{ dB} < SIR\_Error < 20.0\text{ dB}$<br>103: $20.0\text{ dB} < SIR\_Error < 20.5\text{ dB}$<br>104: $20.5\text{ dB} < SIR\_Error < 21.0\text{ dB}$<br>105: $21.0\text{ dB} < SIR\_Error < 21.5\text{ dB}$<br>106: $21.5\text{ dB} < SIR\_Error < 22.0\text{ dB}$<br>107: $22.0\text{ dB} < SIR\_Error < 22.5\text{ dB}$<br>108: $22.5\text{ dB} < SIR\_Error < 23.0\text{ dB}$<br>109: $23.0\text{ dB} < SIR\_Error < 23.5\text{ dB}$<br>110: $23.5\text{ dB} < SIR\_Error < 24.0\text{ dB}$<br>111: $24.0\text{ dB} < SIR\_Error < 24.5\text{ dB}$<br>112: $24.5\text{ dB} < SIR\_Error < 25.0\text{ dB}$<br>113: $25.0\text{ dB} < SIR\_Error < 25.5\text{ dB}$<br>114: $25.5\text{ dB} < SIR\_Error < 26.0\text{ dB}$<br>115: $26.0\text{ dB} < SIR\_Error < 26.5\text{ dB}$<br>116: $26.5\text{ dB} < SIR\_Error < 27.0\text{ dB}$<br>117: $27.0\text{ dB} < SIR\_Error < 27.5\text{ dB}$<br>118: $27.5\text{ dB} < SIR\_Error < 28.0\text{ dB}$<br>119: $28.0\text{ dB} < SIR\_Error < 28.5\text{ dB}$<br>120: $28.5\text{ dB} < SIR\_Error < 29.0\text{ dB}$<br>121: $29.0\text{ dB} < SIR\_Error < 29.5\text{ dB}$<br>122: $29.5\text{ dB} < SIR\_Error < 30.0\text{ dB}$<br>123: $30.0\text{ dB} < SIR\_Error < 30.5\text{ dB}$<br>124: $30.5\text{ dB} < SIR\_Error < 31.0\text{ dB}$<br>125: $> 31.0\text{ dB}$<br>Value: (SIR_Error/31) |
| <u>Transmitted Code Power</u>           | <u>C – Threshold</u> |              | INTEGER(0..127)              | According to mapping in 25.215/25.225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| <u>RSCP</u>                             | <u>C – Threshold</u> |              | INTEGER(0..81)               | According to mapping in 25.225 (TDD only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| <u>Condition</u> | <u>Explanation</u>                                              |
|------------------|-----------------------------------------------------------------|
| <u>Threshold</u> | Only one measurement threshold can be present at the same time. |

### 9.2.1.X Measurement Increase/Decrease Threshold (new section)

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

| <u>Information Element / Group Name</u> | <u>Presence</u>      | <u>Range</u> | <u>IE Type and Reference</u> | <u>Semantics Description</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------|----------------------|--------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>RSSI</u>                             | <i>C – Threshold</i> |              | INTEGER(0..64)               | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB<br>9: 4.5 dB<br>10: 5 dB<br>11: 5.5 dB<br>12: 6 dB<br>13: 6.5 dB<br>14: 7 dB<br>15: 7.5 dB<br>16: 8 dB<br>17: 8.5 dB<br>18: 9 dB<br>19: 9.5 dB<br>20: 10 dB<br>21: 10.5 dB<br>22: 11 dB<br>23: 11.5 dB<br>24: 12 dB<br>25: 12.5 dB<br>26: 13 dB<br>27: 13.5 dB<br>28: 14 dB<br>29: 14.5 dB<br>30: 15 dB<br>31: 15.5 dB<br>32: 16 dB<br>33: 16.5 dB<br>34: 17 dB<br>35: 17.5 dB<br>36: 18 dB<br>37: 18.5 dB<br>38: 19 dB<br>39: 19.5 dB<br>40: 20 dB<br>41: 20.5 dB<br>42: 21 dB<br>43: 21.5 dB<br>44: 22 dB<br>45: 22.5 dB<br>46: 23 dB<br>47: 23.5 dB<br>48: 24 dB<br>49: 24.5 dB<br>50: 25 dB<br>51: 25.5 dB<br>52: 26 dB<br>53: 26.5 dB<br>54: 27 dB<br>55: 27.5 dB<br>56: 28 dB<br>57: 28.5 dB<br>58: 29 dB<br>59: 29.5 dB<br>60: 30 dB<br>61: 30.5 dB<br>62: 31 dB<br>63: 31.5 dB<br>64: 32 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <u>Transmitted Carrier Power</u>        | <i>C – Threshold</i> |              | INTEGER(0..100)              | According to mapping in 25.215/25.221                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <u>Acknowledged RA tries</u>            | <i>C – Threshold</i> |              | INTEGER(0..240)              | The number of L1 acknowledged random access tries per every 20 ms period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <u>Timeslot ISCP</u>                    | <i>C – Threshold</i> |              | INTEGER(0..8)                | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <u>SIR</u>                              | <i>C – Threshold</i> |              | INTEGER(0..64)               | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB<br>9: 4.5 dB<br>10: 5 dB<br>11: 5.5 dB<br>12: 6 dB<br>13: 6.5 dB<br>14: 7 dB<br>15: 7.5 dB<br>16: 8 dB<br>17: 8.5 dB<br>18: 9 dB<br>19: 9.5 dB<br>20: 10 dB<br>21: 10.5 dB<br>22: 11 dB<br>23: 11.5 dB<br>24: 12 dB<br>25: 12.5 dB<br>26: 13 dB<br>27: 13.5 dB<br>28: 14 dB<br>29: 14.5 dB<br>30: 15 dB<br>31: 15.5 dB<br>32: 16 dB<br>33: 16.5 dB<br>34: 17 dB<br>35: 17.5 dB<br>36: 18 dB<br>37: 18.5 dB<br>38: 19 dB<br>39: 19.5 dB<br>40: 20 dB<br>41: 20.5 dB<br>42: 21 dB<br>43: 21.5 dB<br>44: 22 dB<br>45: 22.5 dB<br>46: 23 dB<br>47: 23.5 dB<br>48: 24 dB<br>49: 24.5 dB<br>50: 25 dB<br>51: 25.5 dB<br>52: 26 dB<br>53: 26.5 dB<br>54: 27 dB<br>55: 27.5 dB<br>56: 28 dB<br>57: 28.5 dB<br>58: 29 dB<br>59: 29.5 dB<br>60: 30 dB<br>61: 30.5 dB<br>62: 31 dB<br>63: 31.5 dB<br>64: 32 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <u>SIR Error</u>                        | <i>C – Threshold</i> |              | INTEGER(0..124)              | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB<br>9: 4.5 dB<br>10: 5 dB<br>11: 5.5 dB<br>12: 6 dB<br>13: 6.5 dB<br>14: 7 dB<br>15: 7.5 dB<br>16: 8 dB<br>17: 8.5 dB<br>18: 9 dB<br>19: 9.5 dB<br>20: 10 dB<br>21: 10.5 dB<br>22: 11 dB<br>23: 11.5 dB<br>24: 12 dB<br>25: 12.5 dB<br>26: 13 dB<br>27: 13.5 dB<br>28: 14 dB<br>29: 14.5 dB<br>30: 15 dB<br>31: 15.5 dB<br>32: 16 dB<br>33: 16.5 dB<br>34: 17 dB<br>35: 17.5 dB<br>36: 18 dB<br>37: 18.5 dB<br>38: 19 dB<br>39: 19.5 dB<br>40: 20 dB<br>41: 20.5 dB<br>42: 21 dB<br>43: 21.5 dB<br>44: 22 dB<br>45: 22.5 dB<br>46: 23 dB<br>47: 23.5 dB<br>48: 24 dB<br>49: 24.5 dB<br>50: 25 dB<br>51: 25.5 dB<br>52: 26 dB<br>53: 26.5 dB<br>54: 27 dB<br>55: 27.5 dB<br>56: 28 dB<br>57: 28.5 dB<br>58: 29 dB<br>59: 29.5 dB<br>60: 30 dB<br>61: 30.5 dB<br>62: 31 dB<br>63: 31.5 dB<br>64: 32 dB<br>65: 32.5 dB<br>66: 33 dB<br>67: 33.5 dB<br>68: 34 dB<br>69: 34.5 dB<br>70: 35 dB<br>71: 35.5 dB<br>72: 36 dB<br>73: 36.5 dB<br>74: 37 dB<br>75: 37.5 dB<br>76: 38 dB<br>77: 38.5 dB<br>78: 39 dB<br>79: 39.5 dB<br>80: 40 dB<br>81: 40.5 dB<br>82: 41 dB<br>83: 41.5 dB<br>84: 42 dB<br>85: 42.5 dB<br>86: 43 dB<br>87: 43.5 dB<br>88: 44 dB<br>89: 44.5 dB<br>90: 45 dB<br>91: 45.5 dB<br>92: 46 dB<br>93: 46.5 dB<br>94: 47 dB<br>95: 47.5 dB<br>96: 48 dB<br>97: 48.5 dB<br>98: 49 dB<br>99: 49.5 dB<br>100: 50 dB<br>101: 50.5 dB<br>102: 51 dB<br>103: 51.5 dB<br>104: 52 dB                                                                                                                         |
| <u>Transmitted Code Power</u>           | <i>C – Threshold</i> |              | INTEGER(0..128)              | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB<br>9: 4.5 dB<br>10: 5 dB<br>11: 5.5 dB<br>12: 6 dB<br>13: 6.5 dB<br>14: 7 dB<br>15: 7.5 dB<br>16: 8 dB<br>17: 8.5 dB<br>18: 9 dB<br>19: 9.5 dB<br>20: 10 dB<br>21: 10.5 dB<br>22: 11 dB<br>23: 11.5 dB<br>24: 12 dB<br>25: 12.5 dB<br>26: 13 dB<br>27: 13.5 dB<br>28: 14 dB<br>29: 14.5 dB<br>30: 15 dB<br>31: 15.5 dB<br>32: 16 dB<br>33: 16.5 dB<br>34: 17 dB<br>35: 17.5 dB<br>36: 18 dB<br>37: 18.5 dB<br>38: 19 dB<br>39: 19.5 dB<br>40: 20 dB<br>41: 20.5 dB<br>42: 21 dB<br>43: 21.5 dB<br>44: 22 dB<br>45: 22.5 dB<br>46: 23 dB<br>47: 23.5 dB<br>48: 24 dB<br>49: 24.5 dB<br>50: 25 dB<br>51: 25.5 dB<br>52: 26 dB<br>53: 26.5 dB<br>54: 27 dB<br>55: 27.5 dB<br>56: 28 dB<br>57: 28.5 dB<br>58: 29 dB<br>59: 29.5 dB<br>60: 30 dB<br>61: 30.5 dB<br>62: 31 dB<br>63: 31.5 dB<br>64: 32 dB<br>65: 32.5 dB<br>66: 33 dB<br>67: 33.5 dB<br>68: 34 dB<br>69: 34.5 dB<br>70: 35 dB<br>71: 35.5 dB<br>72: 36 dB<br>73: 36.5 dB<br>74: 37 dB<br>75: 37.5 dB<br>76: 38 dB<br>77: 38.5 dB<br>78: 39 dB<br>79: 39.5 dB<br>80: 40 dB<br>81: 40.5 dB<br>82: 41 dB<br>83: 41.5 dB<br>84: 42 dB<br>85: 42.5 dB<br>86: 43 dB<br>87: 43.5 dB<br>88: 44 dB<br>89: 44.5 dB<br>90: 45 dB<br>91: 45.5 dB<br>92: 46 dB<br>93: 46.5 dB<br>94: 47 dB<br>95: 47.5 dB<br>96: 48 dB<br>97: 48.5 dB<br>98: 49 dB<br>99: 49.5 dB<br>100: 50 dB<br>101: 50.5 dB<br>102: 51 dB<br>103: 51.5 dB<br>104: 52 dB<br>105: 52.5 dB<br>106: 53 dB<br>107: 53.5 dB<br>108: 54 dB<br>109: 54.5 dB<br>110: 55 dB<br>111: 55.5 dB<br>112: 56 dB |
| <u>RSCP</u>                             | <i>C – Threshold</i> |              | INTEGER(0..8)                | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>3: 1.5 dB<br>4: 2 dB<br>5: 2.5 dB<br>6: 3 dB<br>7: 3.5 dB<br>8: 4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| <u>Condition</u> | <u>Explanation</u>                                              |
|------------------|-----------------------------------------------------------------|
| <i>Threshold</i> | Only one measurement threshold can be present at the same time. |

### 9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
 AICH-InformationList,
 AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCH-CH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonMeasurementValue,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,

```

ConfigurationGenerationID,  
DCH-CombinationIndication,  
DCH-Delete-RL-ReconfReqTDDItem,  
DCH-ID,  
DCH-InformationResponse-RL-setupResFDD,  
DCH-Modify-RL-ReconfPrepTDDItem,  
DL-CCTrCH-ID,  
DL-CodeInformation,  
DL-DPCH-InformationItem-RL-ReconfReqFDD,  
DL-DPCH-SlotFormat,  
DL-FrameType,  
DL-Power,  
DL-ReferencePower,  
DL-ReferencePowerInformationItem,  
DL-ScramblingCode,  
DPCH-ID,  
DPCH-Offset,  
DSCH-ID,  
DSCH-InformationResponse-RL-setupResFDD,  
DSCH-ModifyList-RL-ReconfResp,  
DSCH-SetupList-RL-ReconfResp,  
DSCH-TransportFormatSet,  
DTX-InsertionPoint,  
DTX-InsertionPosition,  
D-FieldLength,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DeltaTPC,  
DiversityControlField,  
DiversityMode,  
FACH-Power,  
FDD-DL-ChannelisationCodeNumber,  
FDD-SCCPCH-Offset,  
FrameHandlingPriority,  
FrameOffset,  
GapStartingSlotNumber,  
LocalCellID,  
LocalCellInformationList,  
LocalCell-ID,  
Local-CellID,  
MIB-SG-POS,  
MIB-SG-REP,  
MaxFACH-Power,  
MaxNrOfUL-DPDCHs,  
MaxNumberOfUL-DPDCHs,  
MaximumDLPowerCapability,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
MaximumUL-EbN0,  
Maximum-DL-PowerCapability,  
MeasuredCellInfo,



MeasurementCharacteristics,  
MeasurementID,  
MeasurementType,  
MessagePartScramblingCode,  
MidambleShift,  
Midambleshift,  
MinUL-ChannelisationCodeLength,  
MinimumSpreadingFactor,  
MinimumUL-EbN0,  
NodeB-CommunicationContextID,  
NumberOfChannelElements,  
Offset,  
PCCPCH-Power,  
PCCPCH-TimeSloti,  
PCH-Power,  
PICH-Information,  
PICH-Power,  
PSCH-Power,  
PSCHandPCCPCH-Allocation,  
PSCHandPCCPCH-TimeSlotK,  
PUSCH,  
PagingIndicatorLength,  
PatternDuration,  
PayloadCRC-PresenceIndicator,  
PilotBitsUsedIndicator,  
PowerControlMode,  
PowerOffset,  
PowerResumeMode,  
PreambleScramblingCode,  
PreambleSignatures,  
PrimaryCPICH-Power,  
PrimarySCH-Power,  
PrimaryScramblingCode,  
Primary-ScramblingCode,  
PropagationDelay,  
PunctureLimit,  
RACH-SlotFormat,  
RACH-SubChannelNumbers,  
RLC-Mode,  
RL-ID,  
RL-Information,  
RL-InformationItem,  
RL-InformationItem-RL-SetupReqTDD,  
RL-InformationList-DMeasureRequest,  
RL-ReconfigurationFailure-RL-ReconfFailItem,  
RadioLinkInformation-RL-ReconfReqTDD,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
ResourceOperationState,  
ResourceOperationalState,

SAI,  
SFN,  
SIB-SG-POS,  
SIB-SG-REP,  
SSDT-CellIdentity,  
SSDT-CellIdentityLength,  
SSDT-Cell-IDLength,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
S-CCPCH-Offset,  
S-CCPCH-Power,  
S-FieldLength,  
ScramblingCode,  
ScramblingCodeChange,  
SecondaryCCPCH-SlotFormat,  
SecondaryCPICH-Power,  
SecondarySCH-Power,  
ShutdownTimer,  
SynchronisationMethod,  
TDDChipOffset,  
TDD-ChannelisationCode,  
TFCI-Presence,  
TFCI-SignallingMode,  
TFCS,  
TSTD-Indicator,  
T-Cell,  
TimeSlot,  
TimeSlotDirection,  
TimeSlotStatus,  
ToAWE,  
ToAWS,  
TransmissionGapDistance,  
TransmissionGapPeriod,  
TransmitGapLength,  
TransmitGapPositionMode,  
TransportFormatCombinationSet,  
TransportFormatSet,  
TransportLayerAddress,  
UARFCN,  
C-ID,  
UL-CCTrCHInformation,  
UL-CCTrCH-ID,  
UL-DPCCH-SlotFormat,  
UL-FP-Mode,  
UL-InterferenceLevel,  
UL-PunctureLimit,  
UL-ScramblingCode,  
UplinkEbNo

## 9.3.4 NBAP Information Elements

```

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

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
 maxTFcount,
 maxnoofTFCs,
 maxCTF-1,
 maxRM,

FROM NBAP-Constants;

DTX-InsertionPoint ::= INTEGER
DedicatedMeasurementValue ::= INTEGER
DeltaTPC ::= INTEGER

-- A

-- to doThe number of L1 acknowledged random access tries per every 20 ms period.
AcknowledgedRA-TriesValue ::= TBDINTEGER(0..240)

AddOrDeleteIndicator ::= ENUMERATED {
 add,
 delete
}

AICH-TransmissionTiming ::= ENUMERATED {
 timing0,
 timing1
}

AvailabilityStatus ::= ENUMERATED {
 empty,
 in-test,
 failed,
 power-off,
 off-line,
 off-duty,
 dependency,
 degraded,
 not-installed,
 log-full,
 ...
}

--to do
AveragingDuration ::= TBD

-- B

BCCH-ModificationTime ::= INTEGER (0 | 2 | 4 | .. | 4095)

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
 high,
 normal,
 low
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {

```

```

type1,
type2
}

-- C

Cause ::= ENUMERATED {
radioNetworkLayer RadioNetworkLayerCause,
transportLayer TransportLayerCause,
protocol ProtocolCause,
misc MiscellaneousCause
...
}

CCTrCH-ID ::= INTEGER (1..15)

CellID-Length ::= ENUMERATED {
short,
medium,
long
}

CFN ::= INTEGER (0..255)

ChipOffset ::= INTEGER (0..38399)

C-ID ::= INTEGER (0..65535)

CodingRate ::= ENUMERATED {
rate1-2,
rate1-3
}

CommonMeasurementObjectType ::= ENUMERATED {
cell,
rach,
...
}

CommonMeasurementType ::= SEQUENCE ENUMERATED {
rs ssi Value,
transmitted-carrier-power TransmittedCarrierPowerValue,
acknowledged-ra-tries AcknowledgedRA-TriesValue,
time-slot-iscp TimeSlotISCP-Value,
...
}

CommonMeasurementValue ::= CHOICE {
transmitted-carrier-power TransmittedCarrierPowerValue,
rs ssi Value,
acknowledged-ra-tries AcknowledgedRA-TriesValue,
time-slot-iscp TimeSlotISCP-Value,
...
}

CommonPhysicalChannelID ::= INTEGER (0..255)

CommonTransportChannelID ::= INTEGER (0..255)

CommunicationControlPortID ::= INTEGER (0..65535)

CompressedModeMethod ::= ENUMERATED {
puncturing,
sF-2,
gating,
none
}

ConfigurationGenerationID ::= INTEGER (0..255)

CRC-Size ::= ENUMERATED {
size0,
size12,
size16,
size24
}

```

```

CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CTFC ::= INTEGER (0..maxCTF-1)

-- D

DCH-CombinationInd ::= INTEGER (0..255)

DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
 cell,
 rach,
 ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
 sir-value SIR-Value OPTIONAL,
 sir-error-value SIR-ErrorValue OPTIONAL,
 transmitted-code-power TransmittedCodePowerValue OPTIONAL,
 time-slot-iscp TimeSlotISCP-Value OPTIONAL,
 ...
}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
 rl,
 all-rl,
 ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
 sir,
 sir-error,
 transmitted-code-power,
 timeslot-iscp,
 ...
}

DedicatedMeasurementValue ::= CHOICE {
 sir-value SIR-Value,
 sir-error-value SIR-ErrorValue,
 transmitted-code-power TransmittedCodePowerValue,
 rscp RSCP-Value,
 ...
}

D-FieldLength ::= ENUMERATED {
 d-length1,
 d-length2
}

DiversityControlField ::= ENUMERATED {
 may,
 must,
 must-not
}

DiversityIndication ::= ENUMERATED {
 combined,
 not-combined
}

DiversityMode ::= ENUMERATED {
 none,
 sTTD,
 closed-loop-mode1,
 closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)

DL-FrameType ::= ENUMERATED {
 typeA,

```

```

typeB
}

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates -35dB, Power1 indicates -34.9dB, ..., Power500 indicates 15dB
DL-Power ::= ENUMERATED {
power0,
power1,
...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
fixed,
flexible
}

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
SEQUENCE {
numberOfTransportBlocks NumberOfTransportBlocks,
transportBlockSize TransportBlockSize OPTIONAL
-- This IE is only present if Number of Transport Blocks is greater than 0 --,
mode-dynamicTFS Mode-DynamicTFS
...
}

-- E

EventA ::= SEQUENCE {
measurementThreshold MeasurementThreshold,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventB ::= SEQUENCE {
measurementThreshold MeasurementThreshold,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL
}

EventC ::= SEQUENCE {
measurementIncreaseThreshold MeasurementIncreaseDecreaseThreshold,
measurementChangeTime MeasurementChangeTime
}

EventD ::= SEQUENCE {
measurementDecreaseThreshold MeasurementIncreaseDecreaseThreshold,
measurementChangeTime MeasurementChangeTime
}

EventE ::= SEQUENCE {
measurementThreshold1 MeasurementThreshold±,
measurementThreshold2 MeasurementThreshold± OPTIONAL,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
reportPeriodicity ReportPeriodicity OPTIONAL
}

EventF ::= SEQUENCE {
measurementThreshold1 MeasurementThreshold±,
measurementThreshold2 MeasurementThreshold± OPTIONAL,
measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
reportPeriodicity ReportPeriodicity OPTIONAL
}

```

```

}

-- F

-- The maximum value is equal to the DL spreading factor • --
FDD-DL-ChannalisationCodeNumber ::= INTEGER(0.. 255)

-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [TS 25.211] --
FDD-S-CCPCH-Offset ::= INTEGER (0.. 149)

-- 0=lower priority, 15=higher priority --
FrameHandlingPriority ::= INTEGER (0..15)

-- G

GapPeriod ::= INTEGER(0..255)

Gap Position Mode ::= ENUMERATED {
fixed,
flexible
}

-- H

-- I

-- to do
IB-SG ::= BIT STRING

IB-SG-POS ::= INTEGER (0..4095)

IB-SG-REP ::= INTEGER {rep(16), rep(32), rep(64), rep(128), rep(256), rep(512), rep(1024),
rep(2048)}

IB-Type :: Enumerated {
MIB,
SIB1,
SIB2,
SIB12
}

IndicationType ::= ENUMERATED {
noFailure,
serviceImpacting,
cellControl,
...
}

--According to mapping in 25.225
ISCP-Value ::= INTEGER (0..81)

-- J

-- L

LocalCell-ID ::= INTEGER (0..268435455)

-- M

-- dBm, granularity 1 dBm
-- dl-power0 indicates 0 dBm

```

```

MaximumDL-PowerCapability ::= ENUMERATED{
dl-power0,
dl-power1,
dl-power2,
...
}

-- Unit dBm, 0 to 50, Granularity 1 dB
MaximumTransmissionPower ::= ENUMERATED {
power0,
power1,
power2,
...
}

MaxNumberOfUL-DPDCHs ::= INTEGER (1..6)

MaxPRACH-MidambleShifts ::= ENUMERATED {
shift4,
shift8
}

-- 10ms to 1min, Step10ms
MeasurementChangeTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}

MeasurementCharacteristics ::= SEQUENCE {
 measurementFrequency MeasurementFrequency,
 averagingDuration AveragingDuration
}

-- to do
MeasurementDecreaseThreshold ::= TBD

-- to do
MeasurementFrequency ::= TBD

-- to do
MeasurementIncreaseDecreaseThreshold ::= TBDCHOICE {
 rssi RSSI-Value (10..-100)dBm,
 transmitted-carrier-power TransmittedCarrierPowerValue,
 acknowledged-ra-tries AcknowledgedRA-TriesValue,
 timeslot-iscp TimeSlotISCP-Value (1..10)ms,
 sir SIR-Value (1..10)dBm,
 sir-error SIR-ErrorValue (1..10)dBm,
 transmitted-code-power TransmittedCodePowerValue (10..-10)dBm,
 rscp RSCP-Value (10..-10)dBm,
 ...
}

-- to do
-- 10ms to 1min, Step10ms --
MeasurementHysteresisTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}

MeasurementID ::= INTEGER (0..1048575)

-- to do
MeasurementThreshold ::= TBDCHOICE {
 rssi RSSI-Value,
 transmitted-carrier-power TransmittedCarrierPowerValue,
 acknowledged-ra-tries AcknowledgedRA-TriesValue,
 timeslot-iscp TimeSlotISCP-Value,
 sir SIR-Value,
 sir-error SIR-ErrorValue,
 transmitted-code-power TransmittedCodePowerValue,
 rscp RSCP-Value,
 ...
}

```



```

--to-do
MeasurementThreshold1 ::= TBD

--to-do
MeasurementThreshold2 ::= TBD

MeasurementType ::= ENUMERATED {
sCH,
syncRACH-access
}

MessageDiscriminator ::= ENUMERATED {
common,
dedicated
}

MidambleShift ::= INTEGER (0..15)

MinimumSpreadingFactor ::= ENUMERATED {
sF4,
sF16,
sF32,
sF64,
sF128,
sF256,
sF512
}

MinUL-ChannelisationCodeLength ::= ENUMERATED {
code-length4,
code-length8,
code-length16,
code-length32,
code-length64,
code-length128,
code-length256
}

MiscellaneousCause ::= ENUMERATED {
control-processing-overload,
hardware-failure,
oam-intervention,
not-enough-user-plane-processing-resources,
unspecified
}

Mode-DynamicTFS ::= CHOICE {
tdd-mode-dynamic TransmissionTimeInterval-Dynamic,
...
}

Mode-SemiStaticTFS ::= CHOICE {
tdd-mode-semistatic TransmissionTimeInterval-SemiStatic,
...
}

-- N

-- to do
NumberOfChannelElements ::= TBD

NodeB-CommunicationContextID ::= INTEGER (0..1048576)

NumberOfTransportBlocks ::= INTEGER (0..4095)

-- O

-- P

PagingIndicatorLength ::= ENUMERATED {
ind-length2,

```

```

ind-length4,
ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
cRC-Included,
cRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PICH-Mode ::= ENUMERATED {
noofPI18,
noofPI36,
noofPI72,
noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
pilot-bits-used,
pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
pcm0,
pcm1,
...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
prm0,
prm1,
...
}

PRACH-Midamble ::= ENUMERATED {
inverted,
direct
}

PreambleScramblingCode ::= INTEGER (0..4095)

-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [25.213] --
PreambleSignatures ::= BIT STRING (SIZE (16))

-- Unit dBm, -15 to 40, Granularity 0.1 dB
-- cpich-power1 indicates *5 dB
PrimaryCPICH-Power ::= ENUMERATED {
cpich-power1,
cpich-power2,
...
}

PrimaryScramblingCode ::= INTEGER (0..511)

PropagationDelay ::= INTEGER (0..255)

ProtocolCause ::= ENUMERATED
transaction-not-allowed,
transfer-syntax-error,
abstract-syntax-error -reject,
abstract-syntax-error-ignore-and-notify,
message-not-compatible-with-receiver-state,
semantic-error,
unspecified
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)

PSCH-TimeSlot ::= INTEGER (0..6)

```

```

PSCH-Power ::= INTEGER (0..511)

PUSCH-Offset ::= INTEGER (0..255)

-- R

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause ::= Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

| ReportCharacteristicsType ::= CHOICE {
 onDemand NULL,
 periodic ReportPeriodicity,
 event-a EventA,
 event-b EventB,
 event-c EventC,
 event-d EventD,
 event-e EventE,
 event-f EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min
ReportPeriodicity ::= CHOICE {
 msec INTEGER (1..1000),
 min INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
enabled,
disabled
}

RLC-Mode ::= ENUMERATED {
acknowledgedMode,
unacknowledgedMode,
transparentMode
}

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)

```

```

--According to mapping in 25.225
RSCP-Value ::= INTEGER (0..81)
RSCP-Value-IncrDecrThres <- INTEGER(0..80)

---30..100 step 0.1
-- rssi1 indicates --30
-- According to mapping in 25.215/25.225
RSSI-Value ::= INTEGER(0..63) ENUMERATED {
RSSI-Value-IncrDecrThres <- INTEGER(0..62)
rssi1,
rssi2,
...
}

-- S

ScramblingCodeChange ::= ENUMERATED {
change,
no-change
}

Scrambling Code Word Number ::= INTEGER (0..255)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..8)

SegmentType ::= ENUMERATED {
first,
subsequent,
last,
complete
}

SemiStaticTransportFormatInformation ::= SEQUENCE {
transmissionTimeInterval TransmissionTimeInterval,
typeOfChannelCoding TypeOfChannelCoding,
codingRate CodingRate OPTIONAL
-- This IE is only present if IE Type of channel coding is Convolutional or Turbo --,
rateMatchingAttribute RateMatchingAttribute,
CRC-Size CRC-Size,
mode-semistatic Mode-SemiStatic
}

S-FieldLength ::= ENUMERATED {
s-length1,
s-length2
}

SIB-DeletionIndicator ::= ENUMERATED {
noDeletion,
deletion
}

SIB-Originator ::= ENUMERATED {
nodeB,
cRNC
}

--** TODO. 10..10 is transformed to 0..10. 0.1 steps gives 0..200 **
-- sir error value1 indicates +0 dB
-- SIR-ErrorValue-IEIR-Error-31
SIR-ErrorValue ::= INTEGER(0..12) ENUMERATED {
SIR-ErrorValue-IncrDecrThres <- INTEGER(0..11)
}

sir-error-value1,
sir-error-value2,
...
}

--** TODO. 10..20 is transformed to 0..30. 0.1 steps gives 0..300 **
-- sir value1 indicates +0 dB
-- According to mapping in 25.215/25.225
SIR-Value ::= INTEGER(0..63) ENUMERATED {

```

```


sir-value1,
sir-value2,
...
}

SSDT-CellIdentity ::= ENUMERATED {a, b, c, d, e, f, g, h}

SSDT-Indication ::= ENUMERATED {
 ssdtActiveInTheUE,
 ssdtNotActiveInTheUE
}

STTD-Indicator ::= ENUMERATED {
 active,
 inactive
}

SSDT-SupportIndicator ::= ENUMERATED {
 sSDT-not-supported,
 sSDT-Supported
}

ShutdownTimer ::= INTEGER (1..3600)

SynchronisationMethod ::= ENUMERATED {
 external-reference,
 locked-toMaster-cell,
 one-time-synchronisation
}

-- T

T-Cell ::= ENUMERATED {
 chip-0,
 chip-256,
 chip-512,
 chip-768,
 chip-1024,
 chip-1280,
 chip-1536,
 chip-1892,
 chip-2048,
 chip-2304
}

TDD-ChannelisationCode ::= ENUMERATED {
 channelisationCode1-1,
 channelisationCode2-1,
 channelisationCode2-2,
 channelisationCode4-1,
 channelisationCode4-2,
 ...
}

-- the ChipOffset is •9200 to + 19199
TDD-ChipOffset ::= INTEGER (-19200..19199)

TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
 ENUMERATED {tti10, tti20, tti40, tti80}
}

TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
 frameRelated,
 timeSlotRelated
}

TDD-S-CCPCH-Offset ::= INTEGER (0..63)

TFPI-Presence ::= ENUMERATED {
 present,
 not-present
}

```

```
TFCI-SignallingMode ::= ENUMERATED {
normal,
split
}
```

```
TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
SEQUENCE {
cTFC CTFC
}
```

```
TFS ::= SEQUENCE {
dynamicTransportFormatInformation
DynamicTransportFormatInformation,
semiStaticTransportFormatInformation
SemiStaticTransportFormatInformation
}
```

```
TGD ::= INTEGER (0..255)
```

```
TGL ::= INTEGER (3,4,7,10,14)
```

```
TimeSlot ::= INTEGER (0..14)
```

```
TimeSlotDirection ::= ENUMERATED {
ul,
dl
}
```

```
TimeSlotISCP-Value ::= INTEGER (0..31)
```

```
TimeSlotISCP-Value-Indication ::= INTEGER (0..31)
```

```
TimeSlotStatus ::= ENUMERATED {
active,
not-active
}
```

```
ToAWE ::= INTEGER (0..2559) -- msec. --
```

```
ToAWS ::= INTEGER (0..1279) -- msec. --
```

```
TPC-DownlinkStepSize ::= ENUMERATED {
step-size0-5,
step-size1
}
```

```
Transmit Diversity Indicator ::= ENUMERATED {
active,
Inactive
}
```

```
TransmissionTimeInterval ::= ENUMERATED {
time-interval10,
time-interval20,
time-interval40,
time-interval80
} -- mec --
```

```

** TODO. 35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
carrier power1 indicates +5 dB
-- According to mapping in 25.215/25.225
TransmittedCarrierPowerValue ::= INTEGER(0..100) ENUMERATED {
carrier-power1,
carrier-power2,
...
}

```

```

** TODO. 35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
code power1 indicated +5 dB
-- According to mapping in 25.215/25.225
TransmittedCodePowerValue ::= INTEGER(0..12) ENUMERATED {

```

```

TransmittedCodePowerValue-Indication ::= INTEGER (0..12)

```

```
code-power1,
code-power2,
...
}
```

```
TransportBlockSize ::= INTEGER (1..5000)
-- bit --
```

```
TSTD-Indicator ::= ENUMERATED {
 active,
 inactive
}
```

**CHANGE REQUEST**

*Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

**25.433 CR 033r1**

Current Version: **3.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG RAN #7**

list expected approval meeting # here ↑

for approval

for information

Strategic

non-strategic

(for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

**Proposed change affects:**

(at least one should be marked with an X)

(U)SIM

ME

UTRAN / Radio

Core Network

**Source:**

**RAN-WG3**

**Date:**

**28<sup>th</sup> Feb. – 3<sup>rd</sup> March 2000**

**Subject:**

**Introduction of Radio Link Set in NBAP**

**Work item:**

**Category:**

(only one category shall be marked with an X)

F Correction

A Corresponds to a correction in an earlier release

B Addition of feature

C Functional modification of feature

D Editorial modification

|                                     |
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| <input checked="" type="checkbox"/> |
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**Release:**

Phase 2

Release 96

Release 97

Release 98

Release 99

Release 00

|                                     |
|-------------------------------------|
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| <input type="checkbox"/>            |

**Reason for change:**

The existing NBAP and RNSAP protocols does currently not provide the SRNC with information on grouping of RLS other than whether or not there is a combination of RLS resulting in a combined data stream in the user plane.  
However, for some cases of the Uu interface there exist another grouping, i.e. softer combining. This CR introduces a definition of softer combined RLS (Radio Link Set) and also introduces the necessary changes to cope with softer combined RLS:  
a) Information from Node B to the CRNC on which RLS that are belonging to one RL Set and consequently are having common generation of TPC commands in the DL.  
b) Initiation and reporting of measurements on RLS as well as on RL Sets (both for individual RLS or RL Sets and for ALL RLS or ALL RL Sets, ALL =Current and Future).  
c) Reporting of in-sync and out-of-sync based on RL Sets.

**Clauses affected:**

**3, 8.2.17.2, 8.3.1.2, 8.3.8.2, 8.3.12.2, 8.3.13.2, 9.1.36.1, 9.1.37.1, 9.1.39.1, 9.1.40.1, 9.1.51, 9.1.52, 9.1.54, 9.1.57, 9.1.58, 9.2.1.21, 9.2.2, 9.3.3, 9.3.4, and 9.3.7.**

**Other specs affected:**

Other 3G core specifications  
Other GSM core specifications  
MS test specifications  
BSS test specifications  
O&M specifications

|                                     |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
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| <input type="checkbox"/>            |
| <input type="checkbox"/>            |

→ List of CRs: **25.423 v3.0.0 CR-020r1**  
→ List of CRs:  
→ List of CRs:  
→ List of CRs:  
→ List of CRs:



**Other  
comments:**

Due to the ASN.1 specification not being aligned and containing a lot of errors it was not possible to modify the DEDICATED MEASUREMENT INITIATION RESPONSE message in a correct way. However, it was possible to give some kind of indication of how the ASN.1 code would look like (still having the same syntax errors as in version 3.0.0).

In the case of the DEDICATED MEASUREMENT INITIATION REQUEST message the status of the ASN.1 specification was even worse. In this case there were so many errors that it was not even possible to show the intention. This message has thus not been updated at all.

For a better indication on how the update should have been done (given a correct ASN.1 specification) please refer to the corresponding CR on RNSAP (CR-020).

---

## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

**Elementary Procedure:** The NBAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between the CRNC and the Node B.

An EP consists of an initiating message and possibly a response message.

Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success or failure).
- **Class 2:** Elementary Procedures without response.

For **Class 1** EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.
- On time supervision expiry (i.e. absence of expected response). Whether or not any Class 1 procedure will have a timer on NBAP is FFS. To be sorted out when discussing the details of the error cases.

**Class 2** EPs are considered always successful.

**Radio Link Set:** A set of one or more Radio Links that has a common generation of Transmit Power Control (TPC) commands in the DL.

### 3.2 Symbols

No special symbols are defined in this document.

### 3.3 Abbreviations

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

|        |                                      |
|--------|--------------------------------------|
| ASN.1  | Abstract Syntax Notation One         |
| ATM    | Asynchronous Transfer Mode           |
| BCCH   | Broadcast Control Channel            |
| CCPCH  | Common Control Physical Channel      |
| CFN    | Connection Frame Number              |
| CRNC   | Controlling Radio Network Controller |
| DCH    | Dedicated Channel                    |
| DL     | Downlink                             |
| DPCCCH | Dedicated Physical Control Channel   |
| DPCH   | Dedicated Physical Channel           |
| DPDCH  | Dedicated Physical Data Channel      |
| DRNC   | Drift Radio Network Controller       |
| FDD    | Frequency Division Duplex            |
| FP     | Frame Protocol                       |
| L1     | Layer 1                              |
| L2     | Layer 2                              |

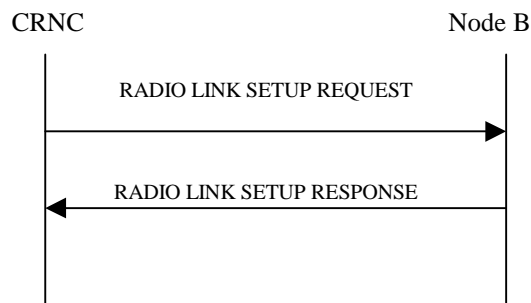
|            |                                        |
|------------|----------------------------------------|
| NBAP       | Node B Application Part                |
| O&M        | Operation and Management               |
| QoS        | Quality of Service                     |
| RL         | Radio Link                             |
| <u>RLS</u> | <u>Radio Link Set</u>                  |
| RNC        | Radio Network Controller               |
| RRC        | Radio Resource Control                 |
| SRNC       | Serving Radio Network Controller       |
| TDD        | Time Division Duplex                   |
| TFC        | Transport Format Combination           |
| TFCI       | Transport Format Combination Indicator |
| TFCS       | Transport Format Combination Set       |
| TFS        | Transport Format Set                   |
| <u>TPC</u> | <u>Transmit Power Control</u>          |
| UE         | User Equipment                         |
| UL         | Uplink                                 |
| UTRAN      | UMTS Terrestrial Radio Access Network  |

## 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.

### 8.2.17.2 Successful operation



**Figure 1: RL Setup procedure: Successful case**

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.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[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 indicates, "may be combined with already existing RLs", then Node B shall decide for either of the alternatives. 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 NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

- Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and
- Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new 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 configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

The included *RLC Mode* IE may be used by the NodeB to optimise the power control.

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.

The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

[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 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.

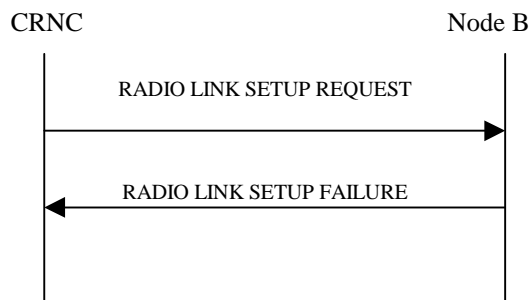
[TDD – The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID IE* and *Transport Layer Address IE* for the transport bearer to be established for each DCH of this RL.]

The NodeB 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 – The NodeB 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.]

In case of coordinated DCH, the *Binding ID IE* and the *Transport Layer Address IE* shall be specify for only one of the coordinated DCHs.

### 8.2.17.3 Unsuccessful Operation



**Figure 2: RL Setup procedure: Unsuccessful case**

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*.

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

- RL Already Activated/allocated

#### Transport Layer Cause

- Transport Resources Unavailable

#### Protocol Cause

- Semantic error

**Miscellaneous Cause**

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

**8.2.17.4 Abnormal Conditions**

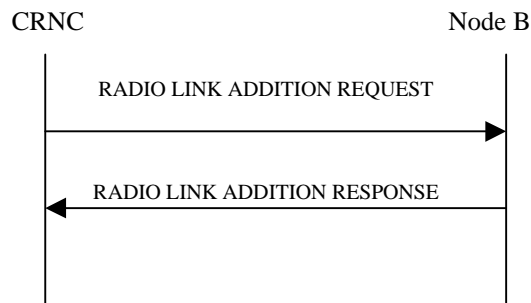
-

## 8.3.1 Radio Link Addition

### 8.3.1.1 General

This procedure is used for establishing the necessary resources in the Node B for one or more additional RLs towards a UE when there is already a Node B communication context for this UE in the Node B.

### 8.3.1.2 Successful operation



**Figure: 3 RL Addition procedure: Successful case**

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the CRNC to the Node B.

Upon reception, the Node B shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

[FDD The *Diversity Control Field* IE indicates for each RL whether the Node B shall combine the new RL with existing RL(s) or not. ].[TDD - The *Diversity Control Field* IE indicates whether the Node B shall reuse the Iub interface Transport Bearers of the old RL for the new RL.] If the *Diversity Control Field* IE indicates, "may be combined with already existing RLs", then Node B shall decide for any of the alternatives. When a new RL is to be combined, the NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK ADDITION REQUEST message includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DL Channelisation Code of the RL when starting transmission. If no *Initial DL Transmission power* IE is included, the Node B shall use any transmission power level currently used on already existing RL's for this UE.

If the RADIO LINK ADDITION REQUEST message includes the *Maximum DL power* IE, the Node B shall store this value and never transmit with a higher power on any DL Channelisation Code of the RL. If no *Maximum DL power* IE is included, any Maximum DL power stored for already existing RLs for this UE shall be applied.

If the RADIO LINK ADDITION REQUEST message includes the *Minimum DL power* IE, the Node B shall store this value and never transmit with a lower power on any DL Channelisation Code of the RL. If no *Minimum DL power* IE is included, any Minimum DL power stored for already existing RLs for this UE shall be applied.

[FDD] If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE the Node B may activate SSDT for the concerned new RL , with the indicated cell identity used for that RL.

If all requested RLs are successfully added, the Node B shall respond with a RADIO LINK ADDITION RESPONSE message.

[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 ADDITION 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 new or existing RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD] In the case of combining an RL with existing RL(s) the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that the RL is combined. In this case the Reference RL ID shall be included to indicate one of the existing RLs that the new RL is combined with.

[FDD] In the case of not combining an RL with existing RL(s), the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the Node B shall include both the Transport Layer Address and the binding ID for the transport bearer to be established for each DCH of the RL in the RADIO LINK ADDITION RESPONSE message.

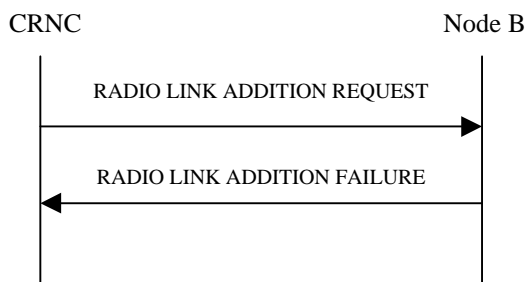
[TDD - In the case of not reusing the transport bearers of the old RL for the new RL, the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the "Diversity Indication" that no transport bearer reuse is done. In this case the Node B shall include both the Transport Layer Address and the Binding ID for the transport bearer to be established for each DCH, DSCH and USCH of the RL in the RADIO LINK ADDITION RESPONSE message.]

In case of coordinated DCH, the binding ID and the transport address shall be included for only one of the co-ordinated DCHs.

[FDD] Irrespective of SSdT activation, the Node B shall include in the RADIO LINK ADDITION RESPONSE message an indication concerning the capability to support SSdT on this RL. Only if the RADIO LINK ADDITION REQUEST message requested SSdT activation and the RADIO LINK ADDITION RESPONSE message indicates that the SSdT capability is supported for this RL, SSdT is activated in the Node B.

[FDD] After sending of the RADIO LINK ADDITION RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The Node B shall start transmission on the new RL after synchronisation is achieved in the Iub user plane as specified in 25.427.

### 8.3.1.3 Unsuccessful operation



**Figure 4: RL Addition procedure: Unsuccessful case**

If the establishment of at least one RL is unsuccessful, the Node B shall send a RADIO LINK ADDITION FAILURE as response indicating the failure cause.

If some RL(s) were established successfully, the Node B shall indicate this in the RADIO LINK ADDITION FAILURE message in the same way as in the RADIO LINK ADDITION RESPONSE message.

Typical cause values are as follows:

#### Radio Network Layer Cause

- RL Already Activated/allocated

#### Transport Layer Cause

- Transport Resources Unavailable

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

- O&M Intervention



- Unspecified Failure
- Control processing overload
- HW failure

#### 8.3.1.4 Abnormal conditions

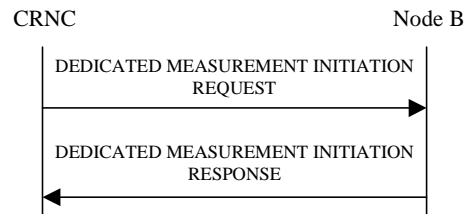
-

## 8.3.8 Dedicated Measurement Initiation

### 8.3.8.1 General

This procedure is used by a CRNC to request the initiation of dedicated measurements in a Node B.

### 8.3.8.2 Successful Operation



**Figure 5: Measurement Request procedure: Successful Operation**

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the CRNC to the Node B using the communication control port assigned to the Node B communication context.

Upon reception, the Node B shall initiate the requested measurement according to the parameters given in the request. Unless specified below the meaning of the parameters are given in other specifications.

If the Node B Communication Context Id IE equals the reserved value 'All NBCC', this measurement request shall apply for all current and future Node B Communication Contexts that can be contacted via the current communication control port. Otherwise, this measurement request shall apply for the requested Node B Communication Context Id only.

~~If no RL Information is provided in the *Dedicated Measurement Object IE*, the measurement reports shall give the aggregated result for all radio links within the requested Node B Communication Context. If RL Information is provided in the request, the measurement request shall apply for the requested radio links individually.~~

If the *Dedicated Measurement Object IE* is set to "RL", the measurement reports shall give the measurement result for each of the indicated Radio Links.

[TDD - If DPCH Id is provided within the RL Information the measurement request shall apply for the requested physical channel individually.]

[FDD - If the *Dedicated Measurement Object IE* is set to "RLS", the measurement reports shall give the measurement result for each of the indicated Radio Link Sets.]

If the *Dedicated Measurement Object IE* is set to "ALL RL", the measurement reports shall give the measurement result for each of the current and future Radio Links within the Node B Communication Context.

[FDD - If the *Dedicated Measurement Object IE* is set to "ALL RLS", the measurement reports shall give the measurement result for each of the existing and future Radio Link Sets within the Node B Communication Context.]

The *Report Characteristics IE* indicates how the reporting of the measurement shall be performed.

If the *Report Characteristics IE* indicates 'On-Demand', the Node B shall return the result of the measurement immediately.

If the *Report Characteristics IE* indicates 'Periodic', the Node B shall periodically initiate a Measurement Report procedure for this measurement, with the requested report frequency.

If the *Report Characteristics IE* indicates 'Event A', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE indicates 'Event B', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE indicates 'Event C', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.

If the *Report Characteristics* IE indicates 'Event D', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.

If the *Report Characteristics* IE indicates 'Event E', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall send shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.

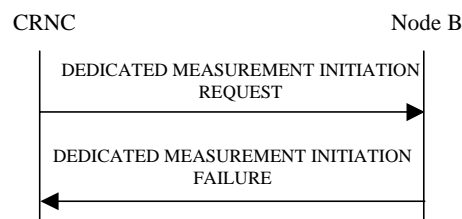
If the *Report Characteristics* IE indicates 'Event F', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall send shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the Node B shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as in normal operation.

If the NodeB was able to initiate the measurement requested by the DRNC it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message using the communication control port assigned to the Node B communication context. The message shall include the same Measurement Id that was used in the measurement request.

Only in the case the *Report Characteristics* IE indicated "On-Demand", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. In this case also the *Dedicated Measurement Object* IE shall be included if it was included in the request message.

### 8.3.8.3 Unsuccessful Operation



**Figure 6: Measurement Request procedure: Unsuccessful Operation**

If the requested measurement cannot be initiated, the Node B shall send a DEDICATED MEASUREMENT INITIATION FAILURE message using the communication control port assigned to the Node B communication context. The message shall include the same Measurement Id that was used in the measurement initiation request and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

#### Radio Network Layer cause

- Measurement not supported for the object

**Miscellaneous Cause**

- O&M Intervention
- Control processing overload
- HW failure

**8.3.8.4 Abnormal Conditions**

-

## 8.3.12 Radio Link Failure

### 8.3.12.1 General

This procedure is used by Node B to indicate a failure in one or more ~~radio-Radio links~~Links or Radio Link Sets.

### 8.3.12.2 Successful Operation



**Figure 7: Radio Link Failure**

When Node B detects that one or more ~~radio-Radio link~~Link or Radio Link Sets is no longer available, it sends the RADIO LINK FAILURE INDICATION message to CRNC indicating the failed ~~radio-Radio links~~Links or Radio Link Sets with the most appropriate cause values in the Cause IE. If the failure concerns one or more individual Radio Links the Node B shall indicate the affected Radio Link(s) using the RL Information IE group. [FDD - If the failure concerns one or more Radio Link Sets the Node B shall indicate the affected Radio Link Set(s) using the RL Set Information IE group.]

Possible cause values may be:

[FDD - When the Radio Link Failure procedure is used to notify the non-achievement or loss of UL synchronisation, the message is sent when the UL synchronisation of the newly established ~~radio-Radio link~~Link Sets is not achieved at the RL ~~setup~~Setup, or RL Addition, or it is lost during the ~~an~~ active connection.]

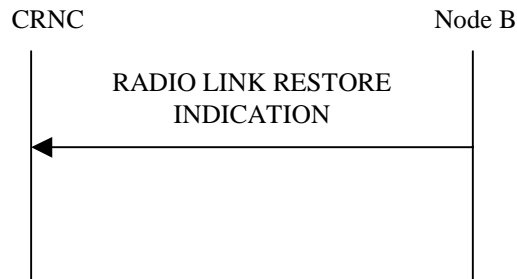
[TDD - When the Radio Link Failure procedure is used to notify the non-achievement or loss of UL synchronisation, the message is sent when the UL synchronisation of a newly established Radio Link is not achieved at RL Setup, or RL Addition, or it is lost during an active connection.]

### 8.3.13 Radio Link Restoration

#### 8.3.13.1 General

This procedure is used by the Node B to notify the re-achievement of uplink synchronisation of one or more Radio Links or Radio Link Sets.

#### 8.3.13.2 Successful Operation



**Figure 8: Radio Link Restoration**

The Node B may initiate this procedure only if it has previously used the RL Failure procedure to notify the loss of uplink synchronisation. If the uplink synchronisation is re-established, the Node B shall send the RL RESTORE INDICATION message to the CRNC. [TDD - If the re-established synchronisation concerns one or more individual Radio Links the Node B shall indicate the affected Radio Link(s) using the *RL Information IE* group.] [FDD - If the re-established synchronisation concerns one or more Radio Link Sets the Node B shall indicate the affected Radio Link Set(s) using the *RL Set Information IE* group.]

The Node B shall not send RADIO LINK RESTORE INDICATION message if Radio Link Deletion procedure has already been activated in the Node B after the RADIO LINK FAILURE INDICATION sent by the Node B.

## 9.1.36 RADIO LINK SETUP RESPONSE

## 9.1.36.1 FDD message

| IE/Group Name                          | Presence     | Range              | IE type and reference | Semantics description                                     |
|----------------------------------------|--------------|--------------------|-----------------------|-----------------------------------------------------------|
| Message Discriminator                  | M            |                    |                       |                                                           |
| Message Type                           | M            |                    |                       |                                                           |
| CRNC Communication Context ID          | M            |                    |                       |                                                           |
| Transaction ID                         | M            |                    |                       |                                                           |
| Node B Communication Context ID        | M            |                    |                       |                                                           |
| Communication Control Port ID          | M            |                    |                       |                                                           |
| <b>RL Information Response</b>         |              | 1 to <maxnoofRLs>  |                       |                                                           |
| RL ID                                  | M            |                    |                       |                                                           |
| <u>RL Set ID</u>                       | <u>M</u>     |                    |                       |                                                           |
| UL interference level                  | M            |                    |                       |                                                           |
| Diversity Indication                   | C-NotFirstRL |                    |                       |                                                           |
| CHOICE <i>diversity Indication</i>     |              |                    |                       |                                                           |
| <i>Combining</i>                       |              |                    |                       |                                                           |
| RL ID                                  | M            |                    |                       | Reference RL ID for the combining                         |
| <i>Non Combining or IE not present</i> |              |                    |                       |                                                           |
| <b>DCH Information Response</b>        |              | 0 to <maxnoofDCHs> |                       | Only one DCH per set of coordinated DCH shall be included |
| DCH ID                                 | M            |                    |                       |                                                           |
| Binding ID                             | M            |                    |                       |                                                           |
| Transport Layer Address                | M            |                    |                       |                                                           |
| <b>DSCH Information Response</b>       |              | 0 to <Numof DSCH>  |                       |                                                           |
| DSCH ID                                | M            |                    |                       |                                                           |
| Binding ID                             | M            |                    |                       |                                                           |
| Transport Layer Address                | M            |                    |                       |                                                           |
| SSDT Support Indicator                 | M            |                    |                       |                                                           |
| Criticality diagnostics                | O            |                    |                       |                                                           |

| Condition  | Explanation                                                                   |
|------------|-------------------------------------------------------------------------------|
| NotFirstRL | This IE is present only if the RL is not the first one in the RL Information. |

| Range bound  | Explanation                      |
|--------------|----------------------------------|
| MaxnoofRLs   | Maximum no. of RLs for one UE.   |
| MaxnoofDCHs  | Maximum no. of DCH per UE.       |
| MaxnoofDSCHs | Maximum no. of DSCHs for one UE. |

## 9.1.37 RADIO LINK SETUP FAILURE

## 9.1.37.1 FDD Message

| IE/Group Name                               | Presence     | Range               | IE type and reference | Semantics description                                     |
|---------------------------------------------|--------------|---------------------|-----------------------|-----------------------------------------------------------|
| Message Discriminator                       | M            |                     |                       |                                                           |
| Message Type                                | M            |                     |                       |                                                           |
| CRNC Communication Context ID               | M            |                     |                       |                                                           |
| Transaction ID                              | M            |                     |                       |                                                           |
| Node B Communication Context ID             | M            |                     |                       |                                                           |
| Communication Control Port ID               | O            |                     |                       |                                                           |
| <b>Unsuccessful RL Information Response</b> |              | 1 to <maxnoofRLs>   |                       |                                                           |
| RL ID                                       | M            |                     |                       |                                                           |
| Cause                                       | M            |                     |                       |                                                           |
| <b>Successful RL Information Response</b>   |              | 0 to <maxnoofRLs-1> |                       |                                                           |
| RL ID                                       | M            |                     |                       |                                                           |
| <b>RL Set ID</b>                            | <u>M</u>     |                     |                       |                                                           |
| UL interference level                       | M            |                     |                       |                                                           |
| Diversity Indication                        | C-NotFirstRL |                     |                       |                                                           |
| CHOICE <i>diversity Indication</i>          |              |                     |                       |                                                           |
| <i>Combining</i>                            |              |                     |                       |                                                           |
| RL ID                                       | M            |                     |                       | Reference RL ID for the combining                         |
| <i>Non Combining or IE not present</i>      |              |                     |                       |                                                           |
| <b>DCH Information Response</b>             |              | 0 to <maxnoofDCHs>  |                       | Only one DCH per set of coordinated DCH shall be included |
| DCH ID                                      | M            |                     |                       |                                                           |
| Binding ID                                  | M            |                     |                       |                                                           |
| Transport Layer Address                     | M            |                     |                       |                                                           |
| <b>DSCH Information Response</b>            |              | 0 to <Numof DSCH>   |                       |                                                           |
| DSCH ID                                     | M            |                     |                       |                                                           |
| Binding ID                                  | M            |                     |                       |                                                           |
| Transport Layer Address                     | M            |                     |                       |                                                           |
| SSDT Support Indicator                      | M            |                     |                       |                                                           |
| Criticality diagnostics                     | O            |                     |                       |                                                           |

| Condition  | Explanation                                                                         |
|------------|-------------------------------------------------------------------------------------|
| Success    | This IE is present if at least one of the radio links has been successfully set up. |
| NotFirstRL | This IE is present only if the RL is not the first one in the RL Information.       |



| <b>Range bound</b> | <b>Explanation</b>                |
|--------------------|-----------------------------------|
| MaxnoofRLs         | Maximum no. of RLs for one UE.    |
| MaxnoofDCHs        | Maximum no. of set DCH per UE.    |
| MaxnoofDSCHs       | Maximum number of DSCH for one UE |

## 9.1.39 RADIO LINK ADDITION RESPONSE

## 9.1.39.1 FDD message

| IE/Group Name                      | Presence | Range            | IE type and reference | Semantics description |
|------------------------------------|----------|------------------|-----------------------|-----------------------|
| Message Discriminator              | M        |                  |                       |                       |
| Message Type                       | M        |                  |                       |                       |
| CRNC Communication Context ID      | M        |                  |                       |                       |
| Transaction ID                     | M        |                  |                       |                       |
| <b>RL Information Response</b>     |          | 1..<maxnoofRL-1> |                       |                       |
| RL ID                              | M        |                  |                       |                       |
| <u>RL Set ID</u>                   | <u>M</u> |                  |                       |                       |
| UL interference level              | M        |                  |                       |                       |
| Diversity Indication               | M        |                  |                       |                       |
| CHOICE <i>diversity indication</i> |          |                  |                       |                       |
| <i>Combining</i>                   |          |                  |                       |                       |
| RL ID                              | M        |                  |                       | Reference RL          |
| <i>Non combining</i>               |          |                  |                       |                       |
| <b>DCH Information Response</b>    |          | 1..<maxnoofDCHs> |                       |                       |
| DCH ID                             | M        |                  |                       |                       |
| Binding ID                         | M        |                  |                       |                       |
| Transport Layer Address            | M        |                  |                       |                       |
| SSDT support indicator             | M        |                  |                       |                       |
| Criticality diagnostics            | O        |                  |                       |                       |

| Range bound        | Explanation                      |
|--------------------|----------------------------------|
| <i>MaxnoofDCHs</i> | Maximum number of DCHs per UE    |
| <i>MaxnoofRL</i>   | Maximum number of RLs for one UE |

## 9.1.40 RADIO LINK ADDITION FAILURE

## 9.1.40.1 FDD Message

| IE/Group Name                               | Presence | Range            | IE type and reference | Semantics description |
|---------------------------------------------|----------|------------------|-----------------------|-----------------------|
| Message Discriminator                       | M        |                  |                       |                       |
| Message Type                                | M        |                  |                       |                       |
| CRNC Communication Context ID               | M        |                  |                       |                       |
| Transaction ID                              | M        |                  |                       |                       |
| <b>Unsuccessful RL Information Response</b> |          | 1..<maxnoofRL-1> |                       |                       |
| RL ID                                       | M        |                  |                       |                       |
| Cause                                       | M        |                  |                       |                       |
| <b>Successful RL Information Response</b>   |          | 1..<maxnoofRL-2> |                       |                       |
| RL ID                                       | M        |                  |                       |                       |
| <u>RL Set ID</u>                            | <u>M</u> |                  |                       |                       |
| UL interference level                       | M        |                  |                       |                       |
| Diversity Indication                        | M        |                  |                       |                       |
| CHOICE <i>diversity indication</i>          |          |                  |                       |                       |
| <i>Combining</i>                            |          |                  |                       |                       |
| RL ID                                       | M        |                  |                       | Reference RL          |
| <i>Non combining</i>                        |          |                  |                       |                       |
| <b>DCH Information Response</b>             |          | 1..<maxnoofDCHs> |                       |                       |
| DCH ID                                      | M        |                  |                       |                       |
| Binding ID                                  | M        |                  |                       |                       |
| Transport Layer Address                     | M        |                  |                       |                       |
| SSDT support indicator                      | M        |                  |                       |                       |
| Criticality diagnostics                     | O        |                  |                       |                       |

| Range bound        | Explanation                      |
|--------------------|----------------------------------|
| <i>MaxnoofDCHs</i> | Maximum number of DCHs per UE    |
| <i>MaxnoofRL</i>   | Maximum number of RLs for one UE |

## 9.1.51 DEDICATED MEASUREMENT INITIATION REQUEST

| Information Element                             | Presence | Range               | IE Type and Reference | Semantics Description |
|-------------------------------------------------|----------|---------------------|-----------------------|-----------------------|
| Message Discriminator                           | M        |                     |                       |                       |
| Message Type                                    | M        |                     |                       |                       |
| Node B Communication Context Id                 | M        |                     |                       |                       |
| Transaction Id                                  | M        |                     |                       |                       |
| Measurement Id                                  | M        |                     |                       |                       |
| Dedicated Measurement Object Type               | M        |                     |                       |                       |
| CHOICE <i>Dedicated Measurement Object Type</i> |          |                     |                       |                       |
| "RL"                                            |          |                     |                       |                       |
| <b>RL Information</b>                           |          | 1..<maxn oofRLs>    |                       |                       |
| RL-id                                           | M        |                     |                       |                       |
| DPCH ID                                         | O        |                     |                       |                       |
| "RLS"                                           |          |                     |                       |                       |
| <b><u>RL Set Information</u></b>                |          | 1..<maxn oofRLSets> |                       |                       |
| <u>RL Set ID</u>                                | <u>M</u> |                     |                       |                       |
| Dedicated Measurement Type                      | M        |                     |                       |                       |
| Measurement Characteristics                     | M        |                     |                       |                       |
| Report Characteristics                          | M        |                     |                       |                       |

| Range                       | Explanation                                                                  |
|-----------------------------|------------------------------------------------------------------------------|
| <i>MaxnoofRLs</i>           | Maximum number of individual RL's a measurement can be started on.           |
| <u><i>MaxnoofRLSets</i></u> | <u>Maximum number of individual RL Sets a measurement can be started on.</u> |

## 9.1.52 DEDICATED MEASUREMENT INITIATION RESPONSE

| Information Element                             | Presence | Range               | IE Type and Reference | Semantics Description                                                |
|-------------------------------------------------|----------|---------------------|-----------------------|----------------------------------------------------------------------|
| Message Discriminator                           | M        |                     |                       |                                                                      |
| Message Type                                    | M        |                     |                       |                                                                      |
| CRNC Communication Context Id                   | M        |                     |                       |                                                                      |
| Transaction Id                                  | M        |                     |                       |                                                                      |
| Measurement Id                                  | M        |                     |                       |                                                                      |
| CHOICE <i>Dedicated Measurement Object Type</i> |          |                     |                       | Dedicated Measurement Object Type the measurement was initiated with |
| "RL" or "ALL RL"                                |          |                     |                       |                                                                      |
| <b>RL Information</b>                           |          | 1..<maxno ofRLs>    |                       |                                                                      |
| RL-id                                           | M        |                     |                       |                                                                      |
| DPCH ID                                         | O        |                     |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                     |                       |                                                                      |
| "RLS" or "ALL RLS"                              |          |                     |                       |                                                                      |
| <b>RL Set Information</b>                       |          | 1..<maxno ofRLSets> |                       |                                                                      |
| RL Set ID                                       | M        |                     |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                     |                       |                                                                      |
| "ALLRL"                                         |          |                     |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                     |                       |                                                                      |
| CFN                                             | O        |                     |                       | Dedicated Measurement Time Reference                                 |
| Criticality diagnostics                         | O        |                     |                       |                                                                      |

| Range                | Explanation                                                                  |
|----------------------|------------------------------------------------------------------------------|
| <i>MaxnoofRLs</i>    | Maximum number of individual RL's the measurement can be started on.         |
| <i>MaxnoofRLSets</i> | <u>Maximum number of individual RL Sets a measurement can be started on.</u> |

## 9.1.54 DEDICATED MEASUREMENT REPORT

| Information Element                             | Presence | Range                | IE Type and Reference | Semantics Description                                                |
|-------------------------------------------------|----------|----------------------|-----------------------|----------------------------------------------------------------------|
| Message Discriminator                           | M        |                      |                       |                                                                      |
| Message Type                                    | M        |                      |                       |                                                                      |
| CRNC Communication Context Id                   | M        |                      |                       |                                                                      |
| Transaction Id                                  | M        |                      |                       |                                                                      |
| Measurement Id                                  | M        |                      |                       |                                                                      |
| CHOICE <i>Dedicated Measurement Object Type</i> |          |                      |                       | Dedicated Measurement Object Type the measurement was initiated with |
| "RL" or "ALL RL"                                |          |                      |                       |                                                                      |
| <b>RL Information</b>                           |          | 1..<maxn oofRLs>     |                       |                                                                      |
| RL-id                                           | M        |                      |                       |                                                                      |
| DPCH ID                                         | O        |                      |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                      |                       |                                                                      |
| "RLS" or "ALL RLS"                              |          |                      |                       |                                                                      |
| <b>RL Set Information</b>                       |          | 1..<maxn oofRLSet s> |                       |                                                                      |
| RL-id                                           | M        |                      |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                      |                       |                                                                      |
| "ALLRL"                                         |          |                      |                       |                                                                      |
| Dedicated Measurement Value                     | M        |                      |                       |                                                                      |
| CFN                                             | O        |                      |                       | Dedicated Measurement Time Reference                                 |

| Range                | Explanation                                                           |
|----------------------|-----------------------------------------------------------------------|
| <i>MaxnoofRLs</i>    | Maximum number of individual RL's the measurement can be started on.  |
| <i>MaxnoofRLSets</i> | Maximum number of individual RL Sets a measurement can be started on. |

## 9.1.57 RADIO LINK FAILURE INDICATION

| IE/Group Name                    | Presence | Range                        | IE type and reference | Semantics description                                  |
|----------------------------------|----------|------------------------------|-----------------------|--------------------------------------------------------|
| Message Discriminator            | M        |                              |                       |                                                        |
| Message Type                     | M        |                              |                       |                                                        |
| Transaction ID                   | M        |                              |                       |                                                        |
| CRNC Communication Context ID    | M        |                              |                       |                                                        |
| <u>CHOICE Reporting Object</u>   | <u>M</u> |                              |                       | <u>Object for which the Failure shall be reported.</u> |
| <u>“RL”</u>                      |          |                              |                       |                                                        |
| <u>Radio Link RL Information</u> |          | 1 to<br><MaxnoofRLs>         |                       |                                                        |
| RL ID                            | M        |                              |                       |                                                        |
| Cause                            | M        |                              |                       |                                                        |
| <u>“RL Set”</u>                  |          |                              |                       |                                                        |
| <u>RL Set Information</u>        |          | 1 to<br><MaxnoofRLSets><br>≥ |                       |                                                        |
| RL Set ID                        | <u>M</u> |                              |                       |                                                        |
| Cause                            | <u>M</u> |                              |                       |                                                        |

| Range bound   | Explanation                           |
|---------------|---------------------------------------|
| MaxnoofRLs    | Maximum no. of RLs for one UE.        |
| MaxnoofRLSets | Maximum number of RL Sets for one UE. |

## 9.1.58 RADIO LINK RESTORE INDICATION

| IE/Group Name                  | Presence | Range                   | IE type and reference | Semantics description                                      |
|--------------------------------|----------|-------------------------|-----------------------|------------------------------------------------------------|
| Message Discriminator          | M        |                         |                       |                                                            |
| Message Type                   | M        |                         |                       |                                                            |
| Transaction ID                 | M        |                         |                       |                                                            |
| CRNC Communication Context ID  | M        |                         |                       |                                                            |
| <u>CHOICE Reporting Object</u> | <u>M</u> |                         |                       | <u>Object for which the Restoration shall be reported.</u> |
| <u>"RL"</u>                    |          |                         |                       |                                                            |
| <u>Radio Link Information</u>  |          | 1 to<br><MaxnoofRLs>    |                       |                                                            |
| <u>RL ID</u>                   | M        |                         |                       |                                                            |
| <u>"RL Set"</u>                |          |                         |                       |                                                            |
| <u>RL Set Information</u>      |          | 1 to<br><MaxnoofRLSets> |                       |                                                            |
| <u>RL Set ID</u>               | <u>M</u> |                         |                       |                                                            |

| Range bound          | Explanation                                  |
|----------------------|----------------------------------------------|
| <u>MaxnoofRLs</u>    | Maximum no. of RLs for one UE.               |
| <u>MaxnoofRLSets</u> | <u>Maximum number of RL Sets for one UE.</u> |



### 9.2.1.21 Dedicated Measurement Object Type

The Dedicated Measurement Object type indicates the type of object that the measurement is to be performed on.

| Information Element / Group Name  | Presence | Range | IE Type and Reference                                     | Semantics Description |
|-----------------------------------|----------|-------|-----------------------------------------------------------|-----------------------|
| Dedicated Measurement Object Type |          |       | ENUMERATED (RL, <u>RLS</u> , ALL_RL, <u>ALL_RLS</u> ,...) |                       |

### 9.2.2.x RL Set ID

The RL Set ID uniquely identifies one RL Set within a Node B Communication Context.

| <u>IE/Group Name</u> | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u>     | <u>Semantics description</u> |
|----------------------|-----------------|--------------|----------------------------------|------------------------------|
| <u>RL Set ID</u>     |                 |              | <u>INTEGER</u><br><u>(0..31)</u> |                              |

### 9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
 AICH-InformationList,
 AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCTrCH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,
 ConfigurationGenerationID,
 DCH-CombinationIndication,
 DCH-Delete-RL-ReconfReqTDDItem,
 DCH-ID,

```

DCH-InformationResponse-RL-setupResFDD,  
 DCH-Modify-RL-ReconfPrepTDDItem,  
 DL-CCTrCH-ID,  
 DL-CodeInformation,  
 DL-DPCH-InformationItem-RL-ReconfReqFDD,  
 DL-DPCH-SlotFormat,  
 DL-FrameType,  
 DL-Power,  
 DL-ReferencePower,  
 DL-ReferencePowerInformationItem,  
 DL-ScramblingCode,  
 DPCH-ID,  
 DPCH-Offset,  
 DSCH-ID,  
 DSCH-InformationResponse-RL-setupResFDD,  
 DSCH-ModifyList-RL-ReconfResp,  
 DSCH-SetupList-RL-ReconfResp,  
 DSCH-TransportFormatSet,  
 DTX-InsertionPoint,  
 DTX-InsertionPosition,  
 D-FieldLength,  
 DedicatedMeasurementType,  
 DedicatedMeasurementValue,  
 DeltaTPC,  
 DiversityControlField,  
 DiversityMode,  
 FACH-Power,  
 FDD-DL-ChannelisationCodeNumber,  
 FDD-SCCPCH-Offset,  
 FrameHandlingPriority,  
 FrameOffset,  
 GapStartingSlotNumber,  
 LocalCellID,  
 LocalCellInformationList,  
 LocalCell-ID,  
 Local-CellID,  
 MIB-SG-POS,  
 MIB-SG-REP,  
 MaxFACH-Power,  
 MaxNrOfUL-DPDCHs,  
 MaxNumberOfUL-DPDCHs,  
 MaximumDLPowerCapability,  
 MaximumDL-PowerCapability,  
 MaximumTransmissionPower,  
 MaximumUL-EbN0,  
 Maximum-DL-PowerCapability,  
 MeasuredCellInfo,  
 MeasurementCharacteristics,  
 MeasurementID,  
 MeasurementType,  
 MessagePartScramblingCode,

MidambleShift,  
 Midambleshift,  
 MinUL-ChannelisationCodeLength,  
 MinimumSpreadingFactor,  
 MinimumUL-EbN0,  
 NodeB-CommunicationContextID,  
 NumberOfChannelElements,  
 Offset,  
 PCCPCH-Power,  
 PCCPCH-TimeSloti,  
 PCH-Power,  
 PICH-Information,  
 PICH-Power,  
 PSCH-Power,  
 PSCHandPCCPCH-Allocation,  
 PSCHandPCCPCH-TimeSlotK,  
 PUSCH,  
 PagingIndicatorLength,  
 PatternDuration,  
 PayloadCRC-PresenceIndicator,  
 PilotBitsUsedIndicator,  
 PowerControlMode,  
 PowerOffset,  
 PowerResumeMode,  
 PreambleScramblingCode,  
 PreambleSignatures,  
 PrimaryCPICH-Power,  
 PrimarySCH-Power,  
 PrimaryScramblingCode,  
 Primary-ScramblingCode,  
 PropagationDelay,  
 PunctureLimit,  
 RACH-SlotFormat,  
 RACH-SubChannelNumbers,  
 RLC-Mode,  
 RL-ID,  
 RL-Information,  
 RL-InformationItem,  
 RL-InformationItem-RL-SetupReqTDD,  
 RL-InformationList-DMeasureRequest,  
 RL-ReconfigurationFailure-RL-ReconfFailItem,  
RL-Set-ID,  
 RadioLinkInformation-RL-ReconfReqTDD,  
 RepetitionLength,  
 RepetitionPeriod,  
 ReportCharacteristics,  
 ResourceOperationState,  
 ResourceOperationalState,  
 SAI,  
 SFN,  
 SIB-SG-POS,

```

SIB-SG-REP,
SSDT-CellIdentity,
SSDT-CellIdentityLength,
SSDT-Cell-IDLength,
SSDT-Indication,
SSDT-SupportIndicator,
STTD-Indicator,
S-CCPCH-Offset,
S-CCPCH-Power,
S-FieldLength,
ScramblingCode,
ScramblingCodeChange,
SecondaryCCPCH-SlotFormat,
SecondaryCPICH-Power,
SecondarySCH-Power,
ShutdownTimer,
SynchronisationMethod,
TDDChipOffset,
TDD-ChannelisationCode,
TFCI-Presence,
TFCI-SignallingMode,
TFCS,
TSTD-Indicator,
T-Cell,
TimeSlot,
TimeSlotDirection,
TimeSlotStatus,
ToAWE,
ToAWS,
TransmissionGapDistance,
TransmissionGapPeriod,
TransmitGapLength,
TransmitGapPositionMode,
TransportFormatCombinationSet,
TransportFormatSet,
TransportLayerAddress,
UARFCN,
C-ID,
UL-CCTrCHInformation,
UL-CCTrCH-ID,
UL-DPCCH-SlotFormat,
UL-FP-Mode,
UL-InterferenceLevel,
UL-PunctureLimit,
UL-ScramblingCode,
UplinkEbNo
FROM NBAP-IEs

ProtocolExtensionContainer{},
PrivateExtensionContainer{},
ProtocolIE-Container{}

```

```

ProtocolIE-ContainerList{ },
NBAP-PROTOCOL-IES,
NBAP-PROTOCOL-EXTENSION,
NBAP-PRIVATE-EXTENSION
FROM NBAP-Containers

id-AICH-Information-ResourceStatIndItem,
id-AICH-ParametersList,
id-AICH-ParametersListItem,
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
id-BlockingPriorityIndicator,
id-CCTrCH-ParametersList,
id-CCTrCH-ParametersListItem,
id-CFN,
id-CRNC-CommunicationContextID,
id-CRNCommunicationContextID,
id-Cause,
id-Cell-Information-ResourceStatIndItem,
id-Cell-InformationItem,
id-Cell-InformationList,
id-Cell-Parameter,
id-Cell-ParametersItem,
id-Cell-ParametersList,
id-CellParameter,
id-CommonMeasurementObjectType,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,
id-CommonPhysicalChannelType-CTCHsetup-Response,
id-CommunicationControlPort-InformationItem,
id-CommunicationControlPortID,
id-CommunicationControlPortInformation-ResourceStatIndItem,
id-CommunicationControlPortInformationList,
id-CompressesModeMethod,
id-ConfigurationGenerationID,
id-DCH-Add-RL-ReconfPrepFDDItem,
id-DCH-Add-RL-ReconfPrepTDDItem,
id-DCH-Add-RL-ReconfReadyItem,
id-DCH-Add-RL-ReconfReqFDDItem,
id-DCH-Add-RL-ReconfReqTDDItem,
id-DCH-AddItem-RL-ReconfResp,
id-DCH-AddList-RL-ReconfPrepFDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-AddList-RL-ReconfReqFDD,
id-DCH-AddList-RL-ReconfReqTDD,
id-DCH-Delete-RL-ReconfPrepFDDItem,
id-DCH-Delete-RL-ReconfPrepTDDItem,
id-DCH-Delete-RL-ReconfReqFDDItem,
id-DCH-Delete-RL-ReconfReqTDDItem,
id-DCH-DeleteList-RL-ReconfPrepFDD,

```

id-DCH-DeleteList-RL-ReconfPrepTDD,  
 id-DCH-DeleteList-RL-ReconfReqFDD,  
 id-DCH-DeleteList-RL-ReconfReqTDD,  
 id-DCH-Information-RL-SetupReqFDDItem,  
 id-DCH-Information-RL-SetupReqTDDItem,  
 id-DCH-InformationList-RL-SetupReqFDD,  
 id-DCH-InformationList-RL-SetupReqTDD,  
 id-DCH-InformationResponse-RL-SetupFailFDDItem,  
 id-DCH-InformationResponse-RL-setupResTDDItem,  
 id-DCH-InformationResponseItem,  
 id-DCH-Modify-RL-ReconfPrepFDDItem,  
 id-DCH-Modify-RL-ReconfPrepTDDItem,  
 id-DCH-Modify-RL-ReconfReadyItem,  
 id-DCH-Modify-RL-ReconfReqFDDItem,  
 id-DCH-Modify-RL-ReconfReqTDDItem,  
 id-DCH-ModifyItem-RL-ReconfResp,  
 id-DCH-ModifyList-RL-ReconfPrepFDD,  
 id-DCH-ModifyList-RL-ReconfPrepTDD,  
 id-DCH-ModifyList-RL-ReconfReqFDD,  
 id-DCH-ModifyList-RL-ReconfReqTDD,  
 id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
 id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,  
 id-DL-CCTrCH-Information-RL-SetupReqTDDItem,  
 id-DL-CCTrCH-InformationItem,  
 id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
 id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,  
 id-DL-CCTrCH-InformationList-RL-SetupReqTDD,  
 id-DL-CCTrCHInformationItem,  
 id-DL-CCTrCHInformationList,  
 id-DL-CodeInformation,  
 id-DL-CodeInformation-RL-ReconfPrepFDDItem,  
 id-DL-CodeInformation-RL-SetupReqFDDItem,  
 id-DL-DPCH-Information-RL-ReconfPrepFDD,  
 id-DL-DPCH-Information-RL-ReconfPrepTDDItem,  
 id-DL-DPCH-Information-RL-SetupReqTDDItem,  
 id-DL-DPCH-InformationItem,  
 id-DL-DPCH-InformationItem-RL-ReconfReqFDD,  
 id-DL-DPCH-InformationItem-RL-SetupReqFDD,  
 id-DL-FrameType,  
 id-DL-ReferencePowerInformationItem,  
 id-DSCH-AddItem-RL-ReconfPrepFDD,  
 id-DSCH-AddItem-RL-ReconfReqFDD,  
 id-DSCH-DeleteItem-RL-ReconfPrepFDD,  
 id-DSCH-DeleteItem-RL-ReconfReqFDD,  
 id-DSCH-ID,  
 id-DSCH-Information-RL-SetupReqFDDItem,  
 id-DSCH-InformationList-RL-SetupReqFDD,  
 id-DSCH-InformationResponse-RL-SetupFailFDDItem,  
 id-DSCH-InformationResponse-RL-setupResFDDItem,  
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,  
 id-DSCH-ModifyItem-RL-ReconfReqFDD,



id-DedicatedMeasurementObjectType,  
 id-DedicatedMeasurementType,  
 id-FACH-Information-ResourceStatIndItem,  
 id-FACH-InformationItem,  
 id-FACH-ListItem,  
 id-FACH-ParametersList-CTCHreconf-Req-FDD,  
 id-FACH-ParametersList-CTCHreconf-Req-TTD,  
 id-FACH-ParametersListItem-CTCHreconf-Req-FDD,  
 id-FACH-ParametersListItem-CTCHreconf-Req-TTD,  
 id-FACH-ParametersListItem-CTCHsetup-Req-FDD,  
 id-FACH-ParametersListItem-CTCHsetup-Response,  
 id-GapStartingSlotNumber,  
 id-IndicationType,  
 id-Local-Cell-Information-ResourceStatIndItem,  
 id-Local-CellInformation-ResourceStatIndItem,  
 id-LocalCell-ID,  
 id-LocalCell-InformationItem,  
 id-LocalCellInformationList,  
 id-MIB-SegmentInformationItem,  
 id-MIB-SegmentInformationList,  
 id-MaximumTransmissionPower,  
 id-MeasuredCellInfo,  
 id-MeasurementCharacteristics,  
 id-MeasurementID,  
 id-MeasurementType,  
 id-NeighbouringFDD-Cell-InformationItem,  
 id-NeighbouringTDD-Cell-InformationItem,  
 id-NodeB-CommunicationContextID,  
 id-PCCPCH-Information,  
 id-PCH-Information-ResourceStatIndItem,  
 id-PCH-InformationItem,  
 id-PCH-ListItem,  
 id-PCH-Parameters-CTCHreconf-Req-FDD,  
 id-PCH-ParametersList,  
 id-PCH-ParametersListItem,  
 id-PICH-Parameters-CTCHreconf-Req-FDD,  
 id-PRACH-ParametersList,  
 id-PRACH-ParametersListItem,  
 id-PSCH-Information,  
 id-PSCHandPCCPCH-Information,  
 id-PUSCH-ListItem,  
 id-PatternDuration,  
 id-PowerControlMode,  
 id-PowerResumeMode,  
 id-PrimaryCCPCH-Information,  
 id-PrimaryCPICH-Information,  
 id-PrimarySCH-Information,  
 id-PrimaryScramblingCode,  
 id-ProcedureScopeType,  
 id-RACH-Information-ResourceStatIndItem,  
 id-RACH-InformationItem,

id-RL-ID,  
 id-RL-Information,  
 id-RL-Information-DMeasureReportItem,  
 id-RL-Information-DMeasureRequestItem,  
 id-RL-Information-DMeasureResponseItem,  
 id-RL-Information-RL-ReconfPrepFDDItem,  
 id-RL-Information-RL-SetupReqFDDItem,  
 id-RL-InformationItem,  
 id-RL-InformationItem-RL-SetupReqTDD,  
 id-RL-InformationList,  
 id-RL-InformationList-RL-ReconfReqFDD,  
id-RL-InformationList-RL-RestoreIndItem,  
 id-RL-InformationList-RL-SetupReqFDD,  
 id-RL-InformationResponse-RL-setupResFDDItem,  
 id-RL-InformationResponseItem-RL-ReconfResp,  
 id-RL-InformationResponseList-RL-ReconfReady,  
 id-RL-InformationResponseList-RL-ReconfReadyItem,  
 id-RL-InformationResponseList-RL-ReconfResp,  
 id-RL-InformationResponseList-RL-setupResFDD,  
 id-RL-InformationResponseList-RL-setupResTDD,  
 id-RL-ReconfigurationFailure-RL-ReconfFailItem,  
 id-RL-ReconfigurationFailureList-RL-ReconfFail,  
 id-RL-ResponseInformation,  
 id-RL-ResponseInformationItem,  
 id-RL-ResponseInformationList,  
 id-RL-informationItem,  
 id-RL-informationList,  
id-RL-Set-Information-DmeasureReportItem,  
id-RL-Set-Information-DmeasureResponseItem,  
id-RL-Set-InformationList-RL-FailIndItem,  
id-RL-Set-InformationList-RL-RestoreIndItem,  
 id-RadioLinkInformation-RL-ReconfPrepFDDItem,  
 id-RadioLinkInformation-RL-ReconfPrepTDD,  
 id-RadioLinkInformation-RL-ReconfReqTDD,  
 id-RadioLinkInformationList-RL-ReconfPrepFDD,  
 id-ReportCharacteristics,  
id-Reporting-Object-RL-FailInd,  
id-Reporting-Object-RL-RestoreInd,  
 id-SFN,  
 id-SIB-SegmentInformationItem,  
 id-SIB-SegmentInformationList,  
 id-ScramblingCodeChange,  
 id-Secondary-CCPCHListItem,  
 id-SecondaryCPICH-Information,  
 id-SecondarySCH-Information,  
 id-ShutdownTimer,  
 id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,  
 id-Successful-RL-InformationResponseItem,  
 id-Successful-RL-InformationResponseList,  
 id-Successful-RL-InformationResponseList-RL-SetupFailFDD,  
 id-SynchronisationMethod,

id-T-Cell,  
 id-TDDChipOffset,  
 id-TimeSlotConfigurationItem,  
 id-TimeSlotConfigurationList,  
 id-TransmissionGapDistance,  
 id-TransmissionGapPeriod,  
 id-TransmitGapLength,  
 id-TransmitGapPositionMode,  
 id-UARFCN,  
 id-C-ID,  
 id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
 id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,  
 id-UL-CCTrCH-Information-RL-SetupReqTDDItem,  
 id-UL-CCTrCH-InformationItemIE,  
 id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
 id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,  
 id-UL-CCTrCH-InformationList-RL-SetupReqTDD,  
 id-UL-CCTrCHInformation,  
 id-UL-CCTrCHInformationList,  
 id-UL-DPCH-Information-RL-ReconfPrepFDD,  
 id-UL-DPCH-Information-RL-ReconfPrepTDDItem,  
 id-UL-DPCH-Information-RL-SetupReqTDDItem,  
 id-UL-DPCH-InformationItem-RL-ReconfReqFDD,  
 id-UL-DPCH-InformationItem-RL-SetupReqFDD,  
 id-UL-DPCH-InformationItemIE,  
 id-USCH-Information-ResourceStatIndItem,  
 id-USCH-InformationItem,  
 id-USCH-ListItem-CTCHsetup-Req-TDD,  
 id-Unsuccessful-RL-InformationResponse,  
 id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,  
 id-Unsuccessful-RL-InformationResponseItem,  
 id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,  
 id-Unsuccessful-RL-InformationResponseList,  
 id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,

maxAICHCell,  
 maxCCPinNodeB,  
 maxCellinNodeB,  
 maxFACHCell,  
 maxLocalCellinNodeB,  
 maxMIBSEG,  
 maxPCHCell,  
 maxPCHinNodeB,  
 maxRACHCell,  
 maxSF,  
 maxSIBSEG,  
 maxUCIDinNodeB,  
 maxUSCHCell,  
 maxnoCCTrCHs,  
 maxnoofCCTrCHs,  
 maxnoofDCHs,

```

maxnoofDLCodes,
maxnoofDPCHs,
maxnoofDSCHs,
maxnoofFACHCell,
maxnoofFACHs,
maxnoofFDDNeighbours,
maxnoofPCHs,
maxnoofPRACHs,
maxnoofPUSHs,
maxnoofRL-1,
maxnoofRL-2,
maxnoofRLs,
maxnoofRLSets,
maxnoofSCCPCHs,
maxnoofTDDNeighbours,
maxnoofUSCHs
FROM NBAP-Constants;

```

```

•
•
•
•
•
•

```

Several Messages Skipped

```

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

```

```

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

```

```

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-setupResFDD CRITICALITY ignore TYPE RL-InformationResponseList-RL-setupResFDD PRESENCE mandatory }|
}
{ ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
},
...
}

```

```

RadioLinkSetupResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```

```

}
...
}

RL-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container{{RL-InformationResponse-RL-setupResFDDItemIE }}

RL-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE RL-InformationResponse-RL-setupResFDDItem PRESENCE mandatory },
 ...
}

RL-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 rL-Set-ID RL-Set-ID,
 ul-InterferenceLevel UL-InterferenceLevel,
 diversityIndication DiversityIndication OPTIONAL,
 -- This IE is present only if the RL is not the first one in the RL Information
 dSCH-InformationResponse-RL-setupResFDD DSCH-InformationResponse-RL-setupResFDD OPTIONAL,
 sSDT-SupportIndicator SSDT-SupportIndicator
}

DiversityIndication ::= ENUMERATED {
 combining CombiningItem,
 non-Combining Non-CombiningItem
}

CombiningItem ::= SEQUENCE {
 dCH-ID DCH-ID
}

Non-CombiningItem ::= SEQUENCE {
 dCH-InformationResponse-RL-setupResFDD DCH-InformationResponse-RL-setupResFDD OPTIONAL
}

DCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
 ProtocolIE-Container{{DCH-InformationResponse-RL-setupResFDDItemIE }}

DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE DCH-InformationResponse-RL-setupResFDDItem PRESENCE mandatory
 },
 ...
}

DCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 bindingID BindingID,
 transportLayerAddress TransportLayerAddress
}

DSCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF

```

```

ProtocolIE-Container{{DSCH-InformationResponse-RL-setupResFDDItemIE }}

-- ** TODO **
numofDSCH INTEGER ::= 10

DSCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DSCH-InformationResponse-RL-setupResFDDItem CRITICALITY ignore TYPE DSCH-InformationResponse-RL-setupResFDDItem
PRESENCE mandatory
},
...
}

DSCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
dSCH-ID DSCH-ID,
bindingID BindingID,
transportLayerAddress TransportLayerAddress
}

.
.
.
One Message Skipped
.
.
.

-- *****
--
-- 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 mandatory }|
{ I D id-CommunicationControlPortID CRITICALITY ignore
TYPE CommunicationControlPortID PRESENCE mandatory }|
{ ID id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD
CRITICALITY ignore TYPE Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD
PRESENCE mandatory }|
{ ID id-Successful-RL-InformationResponseList-RL-SetupFailFDD
CRITICALITY ignore TYPE Successful-RL-InformationResponseList-RL-SetupFailFDD
PRESENCE optional }|
{ ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
},

```

```

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

Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
ProtocolIE-Container {{Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE }}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem
 CRITICALITY ignore TYPE Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem
 PRESENCE optional },
 ...
}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 cause Cause
}

Successful-RL-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1.. maxnoofRLs-1)) OF
ProtocolIE-Container {{Successful-RL-InformationResponse-RL-SetupFailFDDItemIE }}

Successful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-Successful-RL-InformationResponse-RL-SetupFailFDDItem
 CRITICALITY ignore TYPE Successful-RL-InformationResponse-RL-SetupFailFDDItem
 PRESENCE optional },
 ...
}

Successful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 rL-Set-ID RL-Set-ID,
 ul-InterferenceLevel UL-InterferenceLevel,
 diversityIndication DiversityIndication,
 dSCH-InformationResponseList-RL-SetupFailFDD DSCH-InformationResponseList-RL-SetupFailFDD OPTIONAL,
 sSDT-SupportIndicator SSdT-SupportIndicator
}

DiversityIndicationRL-SetupFailFDD ::= ENUMERATED {
 combining Combining-RL-SetupFailFDD,
 non-combining Non-CombiningRL-SetupFailFDD
}

Combining-RL-SetupFailFDD ::= SEQUENCE {
 rL-ID RL-ID
}

```

```

Non-Combining-RL-SetupFailFDD ::= SEQUENCE {
 dCH-InformationResponseList-RL-SetupFailFDD
}
DCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1.. maxnoofDCHs)) OF
 ProtocolIE-Container{{DCH-InformationResponse-RL-SetupFailFDDItemIE }}

DCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-InformationResponse-RL-SetupFailFDDItem CRITICALITY ignore TYPE DCH-InformationResponse-RL-SetupFailFDDItem PRESENCE
 mandatory },
 ...
}

DCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 bindingID BindingID,
 transportLayerAddress TransportLayerAddress
}

DSCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF
 ProtocolIE-Container{{DSCH-InformationResponse-RL-SetupFailFDDItemIE }}

DSCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DSCH-InformationResponse-RL-SetupFailFDDItem CRITICALITY ignore TYPE DSCH-InformationResponse-RL-SetupFailFDDItem
 PRESENCE mandatory },
 ...
}

DSCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
 dSCH-ID DSCH-ID,
 bindingID BindingID,
 transportLayerAddress TransportLayerAddress
}

.
.
.
Three Messages Skipped
.
.
.
-- *****
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- *****

RadioLinkAdditionResponseFDD ::= SEQUENCE {
 protocolIEs ProtocolIE-Container {{RadioLinkAdditionResponseFDD-IEs}},

```



```

 protocolExtensions ProtocolExtensionContainer {{RadioLinkAdditionResponseFDD-Extensions}} OPTIONAL,
 ...
}

RadioLinkAdditionResponseFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory }|
 { ID id-RL-ResponseInformationList-RL-Add-ResFDD CRITICALITY ignore TYPE RL-ResponseInformationList-RL-Add-ResFDD
 PRESENCE mandatory }|
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
 },
 ...
}

RadioLinkAdditionResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

RL-ResponseInformationList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
 ProtocolIE-Container {{RL-ResponseInformationList-RL-Add-ResFDDItemIE }

RL-ResponseInformation-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-ResponseInformation-RL-Add-ResFDDItem CRITICALITY ignore TYPE RL-ResponseInformation-RL-Add-ResFDDItem
 PRESENCE mandatory
 },
 ...
}

RL-ResponseInformation-RL-Add-ResFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 rL-Set-ID RL-Set-ID,
 ul-InterferenceLevel UL-InterferenceLevel,
 diversityIndication DiversityIndication-RL-Add-ResFDD,
 sSDT-SupportIndicator SSDT-SupportIndicator
}

DiversityIndication-RL-Add-ResFDD ::= ENUMERATED {,
 combining Combining-RL-Add-ResFDD,
 non-combining Non-Combining-RL-Add-ResFDD
}

Combining-RL-Add-ResFDD ::= SEQUENCE {
 rL-ID RL-ID
}

Non-Combining-RL-Add-ResFDD ::= SEQUENCE {
 dCH-InformationResponseList-RL-Add-ResFDD
 DCH-InformationResponseList-RL-Add-ResFDD
}

DCH-InformationResponseList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF

```

```

ProtocolIE-Container{{DCH-InformationResponseList-RL-Add-ResFDD ItemIE }}

DCH-InformationResponseList-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DCH-InformationResponseList-RL-Add-ResFDDItem CRITICALITY ignore TYPE DCH-InformationResponseList-RL-Add-
ResFDDItem PRESENCE mandatory
},
 ...
}

DCH-InformationResponseList-RL-Add-ResFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 bindingID BindingID,
 transportLayerAddress TransportLayerAddress
}

.
.
.
One Message Skipped
.
.
.

-- *****
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- *****

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

RadioLinkAdditionFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory }|
 { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD CRITICALITY ignore TYPE Unsuccessful-RL-
InformationResponseList-RL-Add-FailFDD PRESENCE mandatory
}|
 { ID id-Successful-RL-InformationResponseList-RL-Add-FailFDD CRITICALITY ignore TYPE Successful-RL-
InformationResponseList-RL-Add-FailFDD PRESENCE mandatory
}|
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
 },
 ...
}

RadioLinkAdditionFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

```

```

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
 ProtocolIE-Container {{Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE }}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem CRITICALITY ignore TYPE Unsuccessful-RL-
InformationResponseList-RL-Add-FailFDDItem PRESENCE mandatory },
 ...
}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 cause Cause
}

Successful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofRL-2)) OF
 ProtocolIE-Container {{Successful-RL-InformationResponse-RL-Add-FailFDD ItemIE }}

Successful-RL-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-Successful-RL-InformationResponse-RL-Add-FailFDDItem CRITICALITY ignore TYPE Successful-RL-InformationResponse-
RL-Add-FailFDDItem PRESENCE mandatory },
 ...
}

Successful-RL-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
 rL-ID RL-ID,
 rL-Set-ID RL-Set-ID,
 ul-InterferenceLevel UL-InterferenceLevel,
 diversityIndication DiversityIndication-RL-Add-FailFDD,
 sSDT-SupportIndicator SSdT-SupportIndicator
}

DiversityIndication-RL-Add-FailFDD ::= ENUMERATED {
 combining Combining-RL-Add-FailFDD,
 non-combining Non-Combining-RL-Add-FailFDD
}

Combining-RL-Add-FailFDD ::= SEQUENCE {
 rL-ID RL-ID
}

Non-Combining-RL-Add-FailFDD ::= SEQUENCE {
 dCH-InformationResponseList DCH-InformationResponseList-RL-Add-FailFDD
}

DCH-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofDCH)) OF ProtocolIE-Container {{DCH-InformationResponse-RL-Add-FailFDDItemIE
}}

DCH-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {

```

```

 { ID id-DCH-InformationResponse-RL-Add-FailFDDItem CRITICALITY ignore TYPE DCH-InformationResponse-RL-Add-FailFDDItem PRESENCE mandatory
 },
 ...
 }

DCH-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
 dCH-ID DCH-ID,
 bindingID BindingID,
 transportLayerAddress TransportLayerAddress
}

.
.
.
Several Messages Skipped
.
.
.

-- *****
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- *****

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

DedicatedMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory } |
 { ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE mandatory } |
 { ID id-DedicatedMeasurementObjectType-Req CRITICALITY ignore TYPE DedicatedMeasurementObjectType-Req PRESENCE mandatory } |
 { ID id-DedicatedMeasurementType CRITICALITY ignore TYPE DedicatedMeasurementType PRESENCE mandatory } |
 { ID id-MeasurementCharacteristics CRITICALITY ignore TYPE MeasurementCharacteristics PRESENCE mandatory } |
 { ID id-ReportCharacteristics CRITICALITY ignore TYPE ReportCharacteristics PRESENCE mandatory } ,
 ...
}

DedicatedMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

DedicatedMeasurementObjectType-Req ::= ENUMERATED {
 rL RL-DmeasureReq,
 all-RL All-DmeasureReq
}

```

```

RL-DMeasureReq ::= SEQUENCE {
 rL-InformationList RL-InformationList-DMeasureReq
}

RL-InformationList-DMeasureReq ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{ RL-InformationList-DMeasureReqItemIE }}

RL-InformationList-DMeasureReqItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-InformationList-DMeasureReqItem CRITICALITY ignore
 TYPE RL-InformationList-DMeasureReqItem PRESENCE mandatory
 },
 ...
}

RL-InformationList-DMeasureReqItem ::= SEQUENCE {
 rL-ID RL-ID,
 dPCH-ID DPCH-ID
}

All-RL-Req ::= SEQUENCE {
 dedicatedMeasurementValue DedicatedMeasurementValue
}

-- *****
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- *****

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

DedicatedMeasurementInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory } |
 { ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE mandatory } |
 { ID id-DedicatedMeasurementObjectType-Resp CRITICALITY ignore TYPE DedicatedMeasurementObjectType-Resp PRESENCE mandatory } |
 { ID id-CFN CRITICALITY ignore TYPE CFN PRESENCE mandatory } |
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
 },
 ...
}

DedicatedMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

DedicatedMeasurementObjectType-Resp ::= ENUMERATED {

```

```

 rL RL-Resp,
 rLS RL-Set-Resp,
 all-RL All-RL-resp
 all-RLS RL-Set-resp
}

RL-Resp ::= SEQUENCE {
 rL-InformationList-DMeasureResponse RL-InformationList-DmeasureResponse
}

RL-InformationList-DmeasureResponse ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{RL-Information-DMeasureResponseItemIE }}

RL-Information-DMeasureResponseItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Information-DMeasureResponseItem CRITICALITY ignore TYPE RL-Information-DMeasureResponseItem PRESENCE mandatory
 },
 ...
}

RL-Information-DMeasureResponseItem ::= SEQUENCE {
 rL-ID RL-ID,
 dedicatedMeasurementValue DedicatedMeasurementValue
}

RL-Set-Resp ::= SEQUENCE {
 RL-Set-InformationList-DMeasureResponse RL-Set-InformationList-DmeasureResponse
}

RL-Set-InformationList-DmeasureResponse ::= SEQUENCE (SIZE (1..maxnoofRLSets)) OF
 ProtocolIE-Container {{RL-Set-Information-DMeasureResponseItemIE }}

RL-Set-Information-DMeasureResponseItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Set-Information-DMeasureResponseItem CRITICALITY ignore TYPE RL-Set-Information-DMeasureResponseItem PRESENCE mandatory
 },
 ...
}

RL-Information-DMeasureResponseItem ::= SEQUENCE {
 rL-Set-ID RL-Set-ID,
 dedicatedMeasurementValue DedicatedMeasurementValue
}

All-RL-Resp ::= SEQUENCE {
 dedicatedMeasurementValue DedicatedMeasurementValue
}
}

.
.
.
One Message Skipped
.

```

```

•
•
-- *****
--
-- DEDICATED MEASUREMENT REPORT
--
-- *****

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

DedicatedMeasurementReport-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory } |
 { ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE mandatory } |
 { ID id-DedicatedMeasurementObjectType-Rep CRITICALITY ignore TYPE DedicatedMeasurementObjectType-Rep PRESENCE mandatory } |
 { ID id-CFN CRITICALITY ignore TYPE CFN PRESENCE mandatory },
 ...
}

DedicatedMeasurementReport-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

DedicatedMeasurementObjectType-Rep ::= ENUMERATED {
 rL RL-Rep,
 rL-Set RL-Set-Rep,
 all-RL All-RL-Rep,
 all-RL-Set RL-Set-Rep
}

RL-Rep ::= SEQUENCE {
 rL-InformationList-DMeasureReport RL-InformationList-DMeasureReport
}

RL-InformationList-DmeasureReport ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{RL-Information-DMeasureReportItemIE }}

RL-Information-DMeasureReportItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Information-DMeasureReportItem CRITICALITY ignore TYPE RL-Information-DMeasureReportItem PRESENCE mandatory },
 ...
}

RL-Information-DMeasureReportItem ::= SEQUENCE {
 rL-ID RL-ID,
 dedicatedMeasurementValue DedicatedMeasurementValue
}

```

```

RL-Set-Rep ::= SEQUENCE {
 rL-Set-InformationList-DMeasureReport RL-Set-InformationList-DMeasureReport
}

RL-Set-InformationList-DmeasureReport ::= SEQUENCE (SIZE (1..maxnoofRLSets)) OF
 ProtocolIE-Container {{RL-Set-Information-DMeasureReportItemIE }}

RL-Set-Information-DMeasureReportItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Set-Information-DMeasureReportItem CRITICALITY ignore TYPE RL-Set-Information-DMeasureReportItem PRESENCE mandatory },
 ...
}

RL-Set-Information-DMeasureReportItem ::= SEQUENCE {
 rL-Set-ID RL-Set-ID,
 dedicatedMeasurementValue DedicatedMeasurementValue
}

All-RL-Rep ::= SEQUENCE {
 dedicatedMeasurementValue DedicatedMeasurementValue
}

.
.
.
Two Messages Skipped
.
.
.

-- *****
--
-- RADIO LINK FAILURE INDICATION
--
-- *****

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

RadioLinkFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory } |
 { ID id-RL-InformationListReporting-Object-RL-FailInd CRITICALITY ignore TYPE RL-InformationListReporting-Object-RL-FailInd PRESENCE
mandatory } |
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
 },
 ...
}

```



```

RadioLinkFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

Reporting-Object-RL-FailInd ::= CHOICE {
 rL RL-InformationList-RL-FailInd,
 rL-Set RL-Set-InformationList-RL-FailInd,
 ...
}

RL-InformationList-RL-FailInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{ RL-InformationList-RL-FailIndItemIE }}

RL-InformationList-RL-FailInd ItemIE NBAP-PROTOCOL-IES ::= {
 { I D id- RL-InformationList-RL-FailIndItem CRITICALITY ignore TYPE RL-InformationList-RL-FailIndItem PRESENCE mandatory },
 ...
}

RL-InformationList-RL-FailIndItem ::= SEQUENCE {
 rL-ID RL-ID,
 cause Cause
}

RL-Set-InformationList-RL-FailInd ::= SEQUENCE (SIZE (1..maxnoofRLSets)) OF
 ProtocolIE-Container {{ RL-Set-InformationList-RL-FailIndItemIE }}

RL-Set-InformationList-RL-FailInd ItemIE NBAP-PROTOCOL-IES ::= {
 { I D id-RL-Set-InformationList-RL-FailIndItem CRITICALITY ignore TYPE RL-Set-InformationList-RL-FailIndItem PRESENCE mandatory },
 ...
}

RL-Set-InformationList-RL-FailIndItem ::= SEQUENCE {
 rL-Set-ID RL-Set-ID,
 cause Cause
}

-- *****
--
-- RADIO LINK RESTORE INDICATION
--
-- *****

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

RadioLinkRestoreIndication-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory } |

```

```

 { ID id-RL-InformationListReporting-Object-RL-RestoreInd CRITICALITY ignore TYPE RL-InformationListReporting-Object-RL-RestoreInd
 PRESENCE mandatory },
 ...
 }

RadioLinkRestoreIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

Reporting-Object-RL-RestoreInd ::= CHOICE {
 rL RL-InformationList-RL-RestoreInd,
 rL-Set RL-Set-InformationList-RL-RestoreInd,
 ...
}

RL-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{RL-InformationList-RL-RestoreIndItemIE }}

RL-InformationList-RL-RestoreIndItemIE NBAP-PROTOCOL-IES ::= {
 { I-D id-RL-InformationList-RL-RestoreIndItem CRITICALITY ignore TYPE RL-InformationList-RL-RestoreIndItem PRESENCE mandatory },
 ...
}

RL-InformationList-RL-RestoreIndItem ::= SEQUENCE {
 rL-ID RL-ID
}

RL-Set-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxnoofRLSets)) OF
 ProtocolIE-Container {{RL-Set-InformationList-RL-RestoreIndItemIE }}

RL-Set-InformationList-RL-RestoreIndItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-RL-Set-InformationList-RL-RestoreIndItem CRITICALITY ignore TYPE RL-Set-InformationList-RL-RestoreIndItem PRESENCE mandatory },
 ...
}

RL-Set-InformationList-RL-RestoreIndItem ::= SEQUENCE {
 rL-Set-ID RL-Set-ID
}

```

- 
- 
- 
- 
- 
- 
- 
- 

Several Messages Skipped

## 9.3.4 NBAP Information Elements

```

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

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
 maxTFcount,
 maxnoofTFCS,
 maxCTF-1,
 maxRM,

FROM NBAP-Constants;

•
•
•
Several IEs Skipped
•
•
•

-- D

DCH-CombinationInd ::= INTEGER (0..255)

DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
 cell,
 rach,
 ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
 sir-value SIR-Value OPTIONAL,
 sir-error-value SIR-ErrorValue OPTIONAL,
 transmitted-code-power TransmittedCodePowerValue OPTIONAL,
 time-slot-iscp TimeSlotISCP-Value OPTIONAL,

```

```

...
}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
 rl,
 rls,
 all-rl,
 all-rls,
 ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
 sir,
 sir-error,
 transmitted-code-power,
 timeslot-iscp,
 ...
}

D-FieldLength ::= ENUMERATED {
 d-length1,
 d-length2
}

DiversityControlField ::= ENUMERATED {
 may,
 must,
 must-not
}

DiversityIndication ::= ENUMERATED {
 combined,
 not-combined
}

DiversityMode ::= ENUMERATED {
 none,
 sTTD,
 closed-loop-mode1,
 closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)

DL-FrameType ::= ENUMERATED {
 typeA,
 typeB
}

```

```

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates -35dB, Power1 indicates -34.9dB, ..., Power500 indicates 15dB
DL-Power ::= ENUMERATED {
power0,
power1,
...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
fixed,
flexible
}

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
SEQUENCE {
numberOfTransportBlocks NumberOfTransportBlocks,
transportBlockSize TransportBlockSize OPTIONAL
-- This IE is only present if Number of Transport Blocks is greater than 0 --,
mode-dynamicTFS Mode-DynamicTFS
...
}

.
.
.
Several IEs Skipped
.
.
.

-- R

```

```

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, .., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause ::= Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

ReportCharacteristicsType ::= CHOICE {
onDemand NULL,
periodic ReportPeriodicity,
event-a EventA,
event-b EventB,
event-c EventC,
event-d EventD,
event-e EventE,
event-f EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min

```

```
ReportPeriodicity ::= CHOICE {
 msec INTEGER (1..1000),
 min INTEGER (1..60)
}
```

```
ResourceOperationalState ::= ENUMERATED {
 enabled,
 disabled
}
```

```
RLC-Mode ::= ENUMERATED {
 acknowledgedMode,
 unacknowledgedMode,
 transparentMode
}
```

```
RL-ID ::= INTEGER (0..31)
```

```
RL-Set-ID ::= INTEGER (0..31)
```

```
RNC-ID ::= INTEGER (0..4095)
```

```
-- -30..-100 step 0.1
-- rssil indicates -30
```

```
RSSI-Value ::= ENUMERATED {
 rssil,
 rssi2,
 ...
}
```

•

•

•

Several IEs Skipped

•

•

•

## 9.3.7 Constant Definitions for NBAP

```

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

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

id-audit INTEGER ::= 0
id-auditRequired INTEGER ::= 1
id-blockResource INTEGER ::= 2
id-cellDeletion INTEGER ::= 3
id-cellReconfiguration INTEGER ::= 4
id-cellSetup INTEGER ::= 5
id-commonMeasurementFailure INTEGER ::= 6
id-commonMeasurementInitiation INTEGER ::= 7
id-commonMeasurementReport INTEGER ::= 8
id-commonMeasurementTermination INTEGER ::= 9
id-commonTransportChannelDeletion INTEGER ::= 10
id-commonTransportChannelReconfiguration INTEGER ::= 11
id-commonTransportChannelSetup INTEGER ::= 12
id-compressedModeControlCancellation INTEGER ::= 13
id-compressedModeControlCommit INTEGER ::= 14
id-compressedModeControlPreparation INTEGER ::= 15
id-dedicatedMeasurementFailure INTEGER ::= 16
id-dedicatedMeasurementInitiation INTEGER ::= 17
id-dedicatedMeasurementReport INTEGER ::= 18
id-dedicatedMeasurementTermination INTEGER ::= 19
id-dlPowerControl INTEGER ::= 20
id-neighbourCellMeasurement INTEGER ::= 21
id-radioLinkAddition INTEGER ::= 22
id-radioLinkDeletion INTEGER ::= 23
id-radioLinkFailure INTEGER ::= 24
id-radioLinkReconfigurationCommit INTEGER ::= 25
id-radioLinkReconfigurationCancel INTEGER ::= 26
id-radioLinkRestoration INTEGER ::= 27
id-radioLinkSetup INTEGER ::= 28
id-resourceStatusIndication INTEGER ::= 29
id-synchronisationAdjustment INTEGER ::= 30

```



```

id-synchronisationFailure INTEGER ::= 31
id-synchronisationRestart INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation INTEGER ::= 33
id-systemInformationUpdate INTEGER ::= 34
id-unblockResource INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration INTEGER ::= 36

-- *****
--
-- Extension constants
--
-- *****

maxPrivateExtensions INTEGER ::= 65535
maxProtocolExtensions INTEGER ::= 65535
maxProtocolIEs INTEGER ::= 65535

-- *****
--
-- Lists
--
-- *****

maxSF INTEGER ::= 10
maxnoofDLCodes INTEGER ::= 10
maxnoofRLs INTEGER ::= 10
maxnoofRLSets ::= maxnoofRLs
maxnoofDPCHs INTEGER ::= 10
maxnoofSCCPCHs INTEGER ::= 10
maxnoofPRACHs INTEGER ::= 10
maxnoofDCHs INTEGER ::= 10
maxnoofDSCHs INTEGER ::= 10
maxnoofFACHs INTEGER ::= 10
maxnoofCCTrCHs INTEGER ::= 10
maxnoofPCHs INTEGER ::= 10
maxnoofPUCSHs INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxnoofUSCHs INTEGER ::= 10
maxUCIDinNodeB INTEGER ::= 10
maxCellinNodeB INTEGER ::= 10
maxCCPinNodeB INTEGER ::= 10
maxCTF-1 INTEGER ::= 10
maxLocalCellinNodeB INTEGER ::= 10
maxPCHinNodeB INTEGER ::= 10
maxRACHCell INTEGER ::= 10
maxnoofFACHCell INTEGER ::= 10
maxPCHCell INTEGER ::= 10
maxUSCHCell INTEGER ::= 10
maxAICHCell INTEGER ::= 10
maxMIBSEG INTEGER ::= 10
maxSIBSEG INTEGER ::= 10

```

```

maxnoofFDDNeighbours INTEGER ::= 10
maxnoofTDDNeighbours INTEGER ::= 10
maxTFcount INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxFACHCell INTEGER ::= 10
maxnoCCTrCH INTEGER ::= 10
maxnoCCTrCHs INTEGER ::= 10
maxnoofCCTrCH INTEGER ::= 10
maxnoofDPCH INTEGER ::= 10
maxnoofPUSHs INTEGER ::= 10
maxnoofRL-1 INTEGER ::= 10
maxnoofRL-2 INTEGER ::= 10
maxRM INTEGER ::= 10

-- *****
--
-- IEs
--
-- *****

id-AICH-Information-ResourceStatIndItem INTEGER ::= 0
id-AICH-ParametersList INTEGER ::= 1
id-AICH-ParametersListItem INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD INTEGER ::= 4
id-BlockingPriorityIndicator INTEGER ::= 5
id-CCTrCH-ParametersList INTEGER ::= 6
id-CCTrCH-ParametersListItem INTEGER ::= 7
id-CFN INTEGER ::= 8
id-CRNC-CommunicationContextID INTEGER ::= 9
id-CRNCommunicationContextID INTEGER ::= 10
id-Cause INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem INTEGER ::= 12
id-Cell-InformationItem INTEGER ::= 13
id-Cell-InformationList INTEGER ::= 14
id-Cell-Parameter INTEGER ::= 15
id-Cell-ParametersItem INTEGER ::= 16
id-Cell-ParametersList INTEGER ::= 17
id-CellParameter INTEGER ::= 18
id-CommonMeasurementObjectType INTEGER ::= 19
id-CommonMeasurementType INTEGER ::= 20
id-CommonPhysicalChannelID INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response INTEGER ::= 23
id-CommunicationControlPort-InformationItem INTEGER ::= 24
id-CommunicationControlPortID INTEGER ::= 25
id-CommunicationControlPortInformation-ResourceStatIndItem INTEGER ::= 26
id-CommunicationControlPortInformationList INTEGER ::= 27
id-CompressesModeMethod INTEGER ::= 28
id-ConfigurationGenerationID INTEGER ::= 29

```

```

id-DCH-Add-RL-ReconfPrepFDDItem INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem INTEGER ::= 32
id-DCH-Add-RL-ReconfReqFDDItem INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD INTEGER ::= 44
id-DCH-DeleteList-RL-ReconfPrepTDD INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem INTEGER ::= 53
id-DCH-InformationResponseItem INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem INTEGER ::= 67
id-DL-CCTrCH-InformationItem INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD INTEGER ::= 70
id-DL-CCTrCH-InformationList-RL-SetupReqTDD INTEGER ::= 71
id-DL-CCTrCHInformationItem INTEGER ::= 72
id-DL-CCTrCHInformationList INTEGER ::= 73
id-DL-CodeInformation INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem INTEGER ::= 76
id-DL-DPCH-Information-RL-ReconfPrepFDD INTEGER ::= 77
id-DL-DPCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 78
id-DL-DPCH-Information-RL-SetupReqTDDItem INTEGER ::= 79
id-DL-DPCH-InformationItem INTEGER ::= 80

```

```

id-DL-DPCH-InformationItem-RL-ReconfReqFDD INTEGER ::= 81
id-DL-DPCH-InformationItem-RL-SetupReqFDD INTEGER ::= 82
id-DL-FrameType INTEGER ::= 83
id-DL-ReferencePowerInformationItem INTEGER ::= 84
id-DSCH-AddItem-RL-ReconfPrepFDD INTEGER ::= 85
id-DSCH-AddItem-RL-ReconfReqFDD INTEGER ::= 86
id-DSCH-DeleteItem-RL-ReconfPrepFDD INTEGER ::= 87
id-DSCH-DeleteItem-RL-ReconfReqFDD INTEGER ::= 88
id-DSCH-ID INTEGER ::= 89
id-DSCH-Information-RL-SetupReqFDDItem INTEGER ::= 90
id-DSCH-InformationList-RL-SetupReqFDD INTEGER ::= 91
id-DSCH-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 92
id-DSCH-InformationResponse-RL-setupResFDDItem INTEGER ::= 93
id-DSCH-ModifyItem-RL-ReconfPrepFDD INTEGER ::= 94
id-DSCH-ModifyItem-RL-ReconfReqFDD INTEGER ::= 95
id-DedicatedMeasurementObjectType INTEGER ::= 96
id-DedicatedMeasurementType INTEGER ::= 97
id-FACH-Information-ResourceStatIndItem INTEGER ::= 98
id-FACH-InformationItem INTEGER ::= 99
id-FACH-ListItem INTEGER ::= 100
id-FACH-ParametersList-CTChreconf-Req-FDD INTEGER ::= 101
id-FACH-ParametersList-CTChreconf-Req-TTD INTEGER ::= 102
id-FACH-ParametersListItem-CTChreconf-Req-FDD INTEGER ::= 103
id-FACH-ParametersListItem-CTChreconf-Req-TTD INTEGER ::= 104
id-FACH-ParametersListItem-CTChsetup-Req-FDD INTEGER ::= 105
id-FACH-ParametersListItem-CTChsetup-Response INTEGER ::= 106
id-GapStartingSlotNumber INTEGER ::= 107
id-IndicationType INTEGER ::= 108
id-Local-Cell-Information-ResourceStatIndItem INTEGER ::= 109
id-Local-CellInformation-ResourceStatIndItem INTEGER ::= 110
id-LocalCell-ID INTEGER ::= 111
id-LocalCell-InformationItem INTEGER ::= 112
id-LocalCellInformationList INTEGER ::= 113
id-MIB-SegmentInformationItem INTEGER ::= 114
id-MIB-SegmentInformationList INTEGER ::= 115
id-MaximumTransmissionPower INTEGER ::= 116
id-MeasuredCellInfo INTEGER ::= 117
id-MeasurementCharacteristics INTEGER ::= 118
id-MeasurementID INTEGER ::= 119
id-MeasurementType INTEGER ::= 120
id-NeighbouringFDD-Cell-InformationItem INTEGER ::= 121
id-NeighbouringTDD-Cell-InformationItem INTEGER ::= 122
id-NodeB-CommunicationContextID INTEGER ::= 123
id-PCCPCH-Information INTEGER ::= 124
id-PCH-Information-ResourceStatIndItem INTEGER ::= 125
id-PCH-InformationItem INTEGER ::= 126
id-PCH-ListItem INTEGER ::= 127
id-PCH-Parameters-CTChreconf-Req-FDD INTEGER ::= 128
id-PCH-ParametersList INTEGER ::= 129
id-PCH-ParametersListItem INTEGER ::= 130
id-PICH-Parameters-CTChreconf-Req-FDD INTEGER ::= 131

```

|                                                    |                        |
|----------------------------------------------------|------------------------|
| id-PRACH-ParametersList                            | INTEGER ::= 132        |
| id-PRACH-ParametersListItem                        | INTEGER ::= 133        |
| id-PSCH-Information                                | INTEGER ::= 134        |
| id-PSCHandPCCPCH-Information                       | INTEGER ::= 135        |
| id-PUSCH-ListItem                                  | INTEGER ::= 136        |
| id-PatternDuration                                 | INTEGER ::= 137        |
| id-PowerControlMode                                | INTEGER ::= 138        |
| id-PowerResumeMode                                 | INTEGER ::= 139        |
| id-PrimaryCCPCH-Information                        | INTEGER ::= 140        |
| id-PrimaryCPICH-Information                        | INTEGER ::= 141        |
| id-PrimarySCH-Information                          | INTEGER ::= 142        |
| id-PrimaryScramblingCode                           | INTEGER ::= 143        |
| id-ProcedureScopeType                              | INTEGER ::= 144        |
| id-RACH-Information-ResourceStatIndItem            | INTEGER ::= 145        |
| id-RACH-InformationItem                            | INTEGER ::= 146        |
| id-RL-ID                                           | INTEGER ::= 147        |
| id-RL-Information                                  | INTEGER ::= 148        |
| id-RL-Information-DMeasureReportItem               | INTEGER ::= 149        |
| id-RL-Information-DMeasureRequestItem              | INTEGER ::= 150        |
| id-RL-Information-DMeasureResponseItem             | INTEGER ::= 151        |
| id-RL-Information-RL-ReconfPrepFDDItem             | INTEGER ::= 152        |
| id-RL-Information-RL-SetupReqFDDItem               | INTEGER ::= 153        |
| id-RL-InformationItem                              | INTEGER ::= 154        |
| id-RL-InformationItem-RL-SetupReqTDD               | INTEGER ::= 155        |
| id-RL-InformationList                              | INTEGER ::= 156        |
| id-RL-InformationList-RL-ReconfReqFDD              | INTEGER ::= 157        |
| <u>id-RL-InformationList-RL-RestoreIndItem</u>     | <u>INTEGER ::= 230</u> |
| id-RL-InformationList-RL-SetupReqFDD               | INTEGER ::= 158        |
| id-RL-InformationResponse-RL-setupResFDDItem       | INTEGER ::= 159        |
| id-RL-InformationResponseItem-RL-ReconfResp        | INTEGER ::= 160        |
| id-RL-InformationResponseList-RL-ReconfReady       | INTEGER ::= 161        |
| id-RL-InformationResponseList-RL-ReconfReadyItem   | INTEGER ::= 162        |
| id-RL-InformationResponseList-RL-ReconfResp        | INTEGER ::= 163        |
| id-RL-InformationResponseList-RL-setupResFDD       | INTEGER ::= 164        |
| id-RL-InformationResponseList-RL-setupResTDD       | INTEGER ::= 165        |
| id-RL-ReconfigurationFailure-RL-ReconfFailItem     | INTEGER ::= 166        |
| id-RL-ReconfigurationFailureList-RL-ReconfFail     | INTEGER ::= 167        |
| id-RL-ResponseInformation                          | INTEGER ::= 168        |
| id-RL-ResponseInformationItem                      | INTEGER ::= 169        |
| id-RL-ResponseInformationList                      | INTEGER ::= 170        |
| id-RL-informationItem                              | INTEGER ::= 171        |
| id-RL-informationList                              | INTEGER ::= 172        |
| <u>id-RL-Set-Information-DMeasureResponseItem</u>  | <u>INTEGER ::= 224</u> |
| <u>id-RL-Set-Information-DMeasureReportItem</u>    | <u>INTEGER ::= 225</u> |
| <u>id-RL-Set-InformationList-RL-FailIndItem</u>    | <u>INTEGER ::= 226</u> |
| <u>id-RL-Set-InformationList-RL-RestoreIndItem</u> | <u>INTEGER ::= 227</u> |
| id-RadioLinkInformation-RL-ReconfPrepFDDItem       | INTEGER ::= 173        |
| id-RadioLinkInformation-RL-ReconfPrepTDD           | INTEGER ::= 174        |
| id-RadioLinkInformation-RL-ReconfReqTDD            | INTEGER ::= 175        |
| id-RadioLinkInformationList-RL-ReconfPrepFDD       | INTEGER ::= 176        |
| id-ReportCharacteristics                           | INTEGER ::= 177        |

```

id-Reporting-Object-RL-FailInd INTEGER ::= 228
id-Reporting-Object-RL-RestoreInd INTEGER ::= 229
id-SFN INTEGER ::= 178
id-SIB-SegmentInformationItem INTEGER ::= 179
id-SIB-SegmentInformationList INTEGER ::= 180
id-ScramblingCodeChange INTEGER ::= 181
id-Secondary-CCPCHListItem INTEGER ::= 182
id-SecondaryCPICH-Information INTEGER ::= 183
id-SecondarySCH-Information INTEGER ::= 184
id-ShutdownTimer INTEGER ::= 185
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 186
id-Successful-RL-InformationResponseItem INTEGER ::= 187
id-Successful-RL-InformationResponseList INTEGER ::= 188
id-Successful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 189
id-SynchronisationMethod INTEGER ::= 190
id-T-Cell INTEGER ::= 191
id-TDDChipOffset INTEGER ::= 192
id-TimeSlotConfigurationItem INTEGER ::= 193
id-TimeSlotConfigurationList INTEGER ::= 194
id-TransmissionGapDistance INTEGER ::= 195
id-TransmissionGapPeriod INTEGER ::= 196
id-TransmitGapLength INTEGER ::= 197
id-TransmitGapPositionMode INTEGER ::= 198
id-UARFCN INTEGER ::= 199
id-UC-ID INTEGER ::= 200
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 201
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem INTEGER ::= 202
id-UL-CCTrCH-Information-RL-SetupReqTDDItem INTEGER ::= 203
id-UL-CCTrCH-InformationItemIE INTEGER ::= 204
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD INTEGER ::= 205
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD INTEGER ::= 206
id-UL-CCTrCH-InformationList-RL-SetupReqTDD INTEGER ::= 207
id-UL-CCTrCHInformation INTEGER ::= 208
id-UL-CCTrCHInformationList INTEGER ::= 209
id-UL-DPCH-Information-RL-ReconfPrepFDD INTEGER ::= 210
id-UL-DPCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 211
id-UL-DPCH-Information-RL-SetupReqTDDItem INTEGER ::= 212
id-UL-DPCH-InformationItem-RL-ReconfReqFDD INTEGER ::= 213
id-UL-DPCH-InformationItem-RL-SetupReqFDD INTEGER ::= 214
id-UL-DPCH-InformationItemIE INTEGER ::= 215
id-USCH-Information-ResourceStatIndItem INTEGER ::= 216
id-USCH-InformationItem INTEGER ::= 217
id-USCH-ListItem-CTCHsetup-Req-TDD INTEGER ::= 218
id-Unsuccessful-RL-InformationResponse INTEGER ::= 219
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 220
id-Unsuccessful-RL-InformationResponseItem INTEGER ::= 221
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD INTEGER ::= 222
id-Unsuccessful-RL-InformationResponseList INTEGER ::= 223
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 224

```

END



## 8.3.7 DL Power Control (for FDD only)

### 8.3.7.1 General

The purpose of this procedure is to balance the DL transmission powers of one or more Radio Links used for the related RRC connection within the NodeB. The DL POWER CONTROL procedure may be initiated by the CRNC at any time when the NodeB communication context exists, irrespective of other ongoing CRNC initiated dedicated NBAP procedures towards this NodeB communication context. The only exception occurs when the CRNC has requested the deletion of the last RL via this NodeB, in which case the DL POWER CONTROL procedure shall no longer be initiated.

### 8.3.7.2 Successful Operation



**Figure 1: DL Power Control Procedure**

The procedure is initiated by the CRNC sending a DL POWER CONTROL REQUEST message to the Node B.

The *Power Adjustment Type* IE defines the characteristic of the power adjustment.

If the value of the *Power Adjustment Type* IE is *Common*, On reception, if the message contains the *DL Reference Power* IE, the Node B shall perform the power balancing adjustment (see below) for all radio links associated with the context identified by the *Node B Communication Context Id* IE using a common DL reference power level.

If the value of the *Power Adjustment Type* IE is *Individual* Alternatively, if the message contains the *DL Reference Power Information* IE group, the Node B shall perform the power adjustment balancing (see below) for all radio links addressed in the message using the given DL Reference Powers per RL.

If the value of the *Power Adjustment Type* IE is 'None', the Node B shall suspend on going power adjustments for all radio links for the UE context.

#### **Power Adjustment**

The Node B performs the power balancing by using the received ~~power~~ *DL Reference Power* IE as a reference for adjusting the applied DL power.

The adjustment of the power shall be done with constrains given by the included parameters *Max Adjustment Step* IE and *Adjustment Period* IE. The Power adjustment is repeated for every adjustment period.

Node B shall suspend on going power adjustment operations at the reception of a new DL POWER CONTROL REQUEST message, and then performs the adjustment based on the new parameters.

~~Editor's Note: FFS (currently we only have "using the received desired DL reference power as a reference for adjusting the applied DL power"), which I don't think is sufficiently precise!~~

### 8.3.7.3 Abnormal Conditions

-



## 9.1.150 DL POWER CONTROL REQUEST (FDD only)

| IE/Group Name                         | Presence                                | Range           | IE type and reference | Semantics description |
|---------------------------------------|-----------------------------------------|-----------------|-----------------------|-----------------------|
| Message Discriminator                 | M                                       |                 |                       |                       |
| Message Type                          | M                                       |                 |                       |                       |
| Node B Communication Context ID       | M                                       |                 |                       |                       |
| Transaction ID                        | M                                       |                 |                       |                       |
| Power Adjustment Type                 | <u>M</u>                                |                 |                       |                       |
| <i>CHOICE procedure scope</i>         |                                         |                 |                       |                       |
| <i>"ALL RL's"</i>                     |                                         |                 |                       |                       |
| DL Reference Power                    | <u>C-</u><br>Common                     |                 | DL power              |                       |
| <i>"Individual RL's"</i>              |                                         |                 |                       |                       |
| <b>DL Reference Power Information</b> | <u>C-</u><br>Individual                 | 1..<maxnoofRLs> |                       |                       |
| > RL ID                               | M                                       |                 |                       |                       |
| > DL Reference Power                  | M                                       |                 | DL power              |                       |
| Max Adjustment Step                   | <u>C-</u><br>Common<br>Or<br>Individual |                 |                       |                       |
| Max. Adjustment Period                | <u>C-</u><br>Common<br>Or<br>Individual |                 |                       |                       |

| <b>Condition</b>          | <b>Explanation</b>                                                            |
|---------------------------|-------------------------------------------------------------------------------|
| <u>Common</u>             | This IE is present only "Adjustment Type " equals to 'Common'                 |
| <u>Individual</u>         | This IE is present only "Adjustment Type " equals to 'Individual'             |
| <u>CommonOrIndividual</u> | This IE is present only "Adjustment Type " equals to 'Common' or 'Individual' |

| <b>Range Bound</b> | <b>Explanation</b>                     |
|--------------------|----------------------------------------|
| MaxnoofRLs         | Maximum number of Radio Links for a UE |

### 9.2.2.x Power Adjustment Type

Defines the characteristic of the power adjustment.

| <u>IE/Group Name</u>         | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u>          | <u>Semantics description</u> |
|------------------------------|-----------------|--------------|---------------------------------------|------------------------------|
| <u>Power Adjustment Type</u> |                 |              | ENUMERATED (None, Common, Individual) |                              |

### 9.2.2.x Max Adjustment Step

Defines the maximum allowed value for the change of DL power level in one slot period that can be utilised by the Power drifting prevention algorithm. This value does not include the DL inner loop PC adjustment.

| <u>IE/Group Name</u>           | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u>                                       | <u>Semantics description</u> |
|--------------------------------|-----------------|--------------|--------------------------------------------------------------------|------------------------------|
| <u>Maximum Adjustment Step</u> |                 |              | INTEGERENUMERATED (0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1) | dB                           |

### 9.2.2.x Max Adjustment Period

*Adjustment Period* IE defines the period at the end of which the DL transmitted power shall converge, [with an accuracy of +/-0.25 dB] to the reference power value assuming zero-sum alternating stream of DL PC commands received in that period of time.

| <u>IE/Group Name</u>         | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u>       | <u>Semantics description</u> |
|------------------------------|-----------------|--------------|------------------------------------|------------------------------|
| <u>Max Adjustment Period</u> |                 |              | INTEGER (10, 20, 30, 40, ..., 500) | Slots                        |

### 9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
 AICH-InformationList,
 AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCTrCH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,
 ConfigurationGenerationID,
 DCH-CombinationIndication,
 DCH-Delete-RL-ReconfReqTDDItem,
 DCH-ID,
 DCH-InformationResponse-RL-setupResFDD,
 DCH-Modify-RL-ReconfPrepTDDItem,
 DL-CCTrCH-ID,
 DL-CodeInformation,

```

DL-DPCH-InformationItem-RL-ReconfReqFDD,  
DL-DPCH-SlotFormat,  
DL-FrameType,  
DL-Power,  
DL-ReferencePower,  
DL-ReferencePowerInformationItem,  
DL-ScramblingCode,  
DPCH-ID,  
DPCH-Offset,  
DSCH-ID,  
DSCH-InformationResponse-RL-setupResFDD,  
DSCH-ModifyList-RL-ReconfResp,  
DSCH-SetupList-RL-ReconfResp,  
DSCH-TransportFormatSet,  
DTX-InsertionPoint,  
DTX-InsertionPosition,  
D-FieldLength,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DeltaTPC,  
DiversityControlField,  
DiversityMode,  
FACH-Power,  
FDD-DL-ChannelisationCodeNumber,  
FDD-SCCPCH-Offset,  
FrameHandlingPriority,  
FrameOffset,  
GapStartingSlotNumber,  
LocalCellID,  
LocalCellInformationList,  
LocalCell-ID,  
Local-CellID,  
MIB-SG-POS,  
MIB-SG-REP,  
MaxFACH-Power,  
MaxNrOfUL-DPDCHs,  
MaxNumberOfUL-DPDCHs,  
MaximumDLPowerCapability,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
MaximumUL-EbN0,  
Maximum-DL-PowerCapability,  
MeasuredCellInfo,  
MeasurementCharacteristics,  
MeasurementID,  
MeasurementType,  
MessagePartScramblingCode,  
MidambleShift,  
Midambleshift,  
MinUL-ChannelisationCodeLength,  
MinimumSpreadingFactor,  
MinimumUL-EbN0,  
NodeB-CommunicationContextID,  
NumberOfChannelElements,  
Offset,  
PCCPCH-Power,

PCCPCH-TimeSloti,  
 PCH-Power,  
 PICH-Information,  
 PICH-Power,  
 PSCH-Power,  
 PSCHandPCCPCH-Allocation,  
 PSCHandPCCPCH-TimeSlotK,  
 PUSCH,  
 PagingIndicatorLength,  
 PatternDuration,  
 PayloadCRC-PresenceIndicator,  
 PilotBitsUsedIndicator,  
PowerAdjustmentType,  
 PowerControlMode,  
 PowerOffset,  
 PowerResumeMode,  
 PreambleScramblingCode,  
 PreambleSignatures,  
 PrimaryCPICH-Power,  
 PrimarySCH-Power,  
 PrimaryScramblingCode,  
 Primary-ScramblingCode,  
 PropagationDelay,  
 PunctureLimit,  
 RACH-SlotFormat,  
 RACH-SubChannelNumbers,  
 RLC-Mode,  
 RL-ID,  
 RL-Information,  
 RL-InformationItem,  
 RL-InformationItem-RL-SetupReqTDD,  
 RL-InformationList-DMeasureRequest,  
 RL-ReconfigurationFailure-RL-ReconfFailItem,  
 RadioLinkInformation-RL-ReconfReqTDD,  
 RepetitionLength,  
 RepetitionPeriod,  
 ReportCharacteristics,  
 ResourceOperationState,  
 ResourceOperationalState,  
 SAI,  
ScaledMaxAdjustmentPeriod,  
ScaledMaxAdjustmentStep,  
 SFN,  
 SIB-SG-POS,  
 SIB-SG-REP,  
 SSDD-CellIdentity,  
 SSDD-CellIdentityLength,  
 SSDD-Cell-IDLength,  
 SSDD-Indication,  
 SSDD-SupportIndicator,  
 STTD-Indicator,  
 S-CCPCH-Offset,  
 S-CCPCH-Power,  
 S-FieldLength,  
 ScramblingCode,  
 ScramblingCodeChange,

```

SecondaryCCPCH-SlotFormat,
SecondaryCPICH-Power,
SecondarySCH-Power,
ShutdownTimer,
SynchronisationMethod,
TDDChipOffset,
TDD-ChannelisationCode,
TFCI-Presence,
TFCI-SignallingMode,
TFCS,
TSTD-Indicator,
T-Cell,
TimeSlot,
TimeSlotDirection,
TimeSlotStatus,
ToAWE,
ToAWS,
TransmissionGapDistance,
TransmissionGapPeriod,
TransmitGapLength,
TransmitGapPositionMode,
TransportFormatCombinationSet,
TransportFormatSet,
TransportLayerAddress,
UARFCN,
C-ID,
UL-CCTrCHInformation,
UL-CCTrCH-ID,
UL-DPCCH-SlotFormat,
UL-FP-Mode,
UL-InterferenceLevel,
UL-PunctureLimit,
UL-ScramblingCode,
UplinkEbNo
FROM NBAP-IEs

ProtocolExtensionContainer{},
PrivateExtensionContainer{},
ProtocolIE-Container{},
ProtocolIE-ContainerList{},
NBAP-PROTOCOL-IES,
NBAP-PROTOCOL-EXTENSION,
NBAP-PRIVATE-EXTENSION
FROM NBAP-Containers

id-AICH-Information-ResourceStatIndItem,
id-AICH-ParametersList,
id-AICH-ParametersListItem,
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
id-BlockingPriorityIndicator,
id-CCTrCH-ParametersList,
id-CCTrCH-ParametersListItem,
id-CFN,
id-CRNC-CommunicationContextID,
id-CRNCommunicationContextID,

```

id-Cause,  
id-Cell-Information-ResourceStatIndItem,  
id-Cell-InformationItem,  
id-Cell-InformationList,  
id-Cell-Parameter,  
id-Cell-ParametersItem,  
id-Cell-ParametersList,  
id-CellParameter,  
id-CommonMeasurementObjectType,  
id-CommonMeasurementType,  
id-CommonPhysicalChannelID,  
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,  
id-CommonPhysicalChannelType-CTCHsetup-Response,  
id-CommunicationControlPort-InformationItem,  
id-CommunicationControlPortID,  
id-CommunicationControlPortInformation-ResourceStatIndItem,  
id-CommunicationControlPortInformationList,  
id-CompressesModeMethod,  
id-ConfigurationGenerationID,  
id-DCH-Add-RL-ReconfPrepFDDItem,  
id-DCH-Add-RL-ReconfPrepTDDItem,  
id-DCH-Add-RL-ReconfReadyItem,  
id-DCH-Add-RL-ReconfReqFDDItem,  
id-DCH-Add-RL-ReconfReqTDDItem,  
id-DCH-AddItem-RL-ReconfResp,  
id-DCH-AddList-RL-ReconfPrepFDD,  
id-DCH-AddList-RL-ReconfPrepTDD,  
id-DCH-AddList-RL-ReconfReqFDD,  
id-DCH-AddList-RL-ReconfReqTDD,  
id-DCH-Delete-RL-ReconfPrepFDDItem,  
id-DCH-Delete-RL-ReconfPrepTDDItem,  
id-DCH-Delete-RL-ReconfReqFDDItem,  
id-DCH-Delete-RL-ReconfReqTDDItem,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfReqFDD,  
id-DCH-DeleteList-RL-ReconfReqTDD,  
id-DCH-Information-RL-SetupReqFDDItem,  
id-DCH-Information-RL-SetupReqTDDItem,  
id-DCH-InformationList-RL-SetupReqFDD,  
id-DCH-InformationList-RL-SetupReqTDD,  
id-DCH-InformationResponse-RL-SetupFailFDDItem,  
id-DCH-InformationResponse-RL-setupRestTDDItem,  
id-DCH-InformationResponseItem,  
id-DCH-Modify-RL-ReconfPrepFDDItem,  
id-DCH-Modify-RL-ReconfPrepTDDItem,  
id-DCH-Modify-RL-ReconfReadyItem,  
id-DCH-Modify-RL-ReconfReqFDDItem,  
id-DCH-Modify-RL-ReconfReqTDDItem,  
id-DCH-ModifyItem-RL-ReconfResp,  
id-DCH-ModifyList-RL-ReconfPrepFDD,  
id-DCH-ModifyList-RL-ReconfPrepTDD,  
id-DCH-ModifyList-RL-ReconfReqFDD,  
id-DCH-ModifyList-RL-ReconfReqTDD,  
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,

id-DL-CCTrCH-Information-RL-SetupReqTDDItem,  
 id-DL-CCTrCH-InformationItem,  
 id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
 id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,  
 id-DL-CCTrCH-InformationList-RL-SetupReqTDD,  
 id-DL-CCTrCHInformationItem,  
 id-DL-CCTrCHInformationList,  
 id-DL-CodeInformation,  
 id-DL-CodeInformation-RL-ReconfPrepFDDItem,  
 id-DL-CodeInformation-RL-SetupReqFDDItem,  
 id-DL-DPCH-Information-RL-ReconfPrepFDD,  
 id-DL-DPCH-Information-RL-ReconfPrepTDDItem,  
 id-DL-DPCH-Information-RL-SetupReqTDDItem,  
 id-DL-DPCH-InformationItem,  
 id-DL-DPCH-InformationItem-RL-ReconfReqFDD,  
 id-DL-DPCH-InformationItem-RL-SetupReqFDD,  
 id-DL-FrameType,  
 id-DL-ReferencePower,  
 id-DL-ReferencePowerInformationItem,  
 id-DLReferencePowerList,  
 id-DSCH-AddItem-RL-ReconfPrepFDD,  
 id-DSCH-AddItem-RL-ReconfReqFDD,  
 id-DSCH-DeleteItem-RL-ReconfPrepFDD,  
 id-DSCH-DeleteItem-RL-ReconfReqFDD,  
 id-DSCH-ID,  
 id-DSCH-Information-RL-SetupReqFDDItem,  
 id-DSCH-InformationList-RL-SetupReqFDD,  
 id-DSCH-InformationResponse-RL-SetupFailFDDItem,  
 id-DSCH-InformationResponse-RL-setupResFDDItem,  
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,  
 id-DSCH-ModifyItem-RL-ReconfReqFDD,  
 id-DedicatedMeasurementObjectType,  
 id-DedicatedMeasurementType,  
 id-FACH-Information-ResourceStatIndItem,  
 id-FACH-InformationItem,  
 id-FACH-ListItem,  
 id-FACH-ParametersList-CTCHreconf-Req-FDD,  
 id-FACH-ParametersList-CTCHreconf-Req-TTD,  
 id-FACH-ParametersListItem-CTCHreconf-Req-FDD,  
 id-FACH-ParametersListItem-CTCHreconf-Req-TTD,  
 id-FACH-ParametersListItem-CTCHsetup-Req-FDD,  
 id-FACH-ParametersListItem-CTCHsetup-Response,  
 id-GapStartingSlotNumber,  
 id-IndicationType,  
 id-Local-Cell-Information-ResourceStatIndItem,  
 id-Local-CellInformation-ResourceStatIndItem,  
 id-LocalCell-ID,  
 id-LocalCell-InformationItem,  
 id-LocalCellInformationList,  
 id-MaxAdjustmentPeriod,  
 id-MaxAdjustmentStep,  
 id-MIB-SegmentInformationItem,  
 id-MIB-SegmentInformationList,  
 id-MaximumTransmissionPower,  
 id-MeasuredCellInfo,  
 id-MeasurementCharacteristics,



id-MeasurementID,  
id-MeasurementType,  
id-MeasurementType,  
id-NeighbouringFDD-Cell-InformationItem,  
id-NeighbouringTDD-Cell-InformationItem,  
id-NodeB-CommunicationContextID,  
id-PCCPCH-Information,  
id-PCH-Information-ResourceStatIndItem,  
id-PCH-InformationItem,  
id-PCH-ListItem,  
id-PCH-Parameters-CTCHreconf-Req-FDD,  
id-PCH-ParametersList,  
id-PCH-ParametersListItem,  
id-PICH-Parameters-CTCHreconf-Req-FDD,  
id-PRACH-ParametersList,  
id-PRACH-ParametersListItem,  
id-PSCH-Information,  
id-PSCHandPCCPCH-Information,  
id-PUSCH-ListItem,  
id-PatternDuration,  
id-PowerAdjustmentType,  
id-PowerControlMode,  
id-PowerResumeMode,  
id-PrimaryCCPCH-Information,  
id-PrimaryCPICH-Information,  
id-PrimarySCH-Information,  
id-PrimaryScramblingCode,  
id-ProcedureScopeType,  
id-RACH-Information-ResourceStatIndItem,  
id-RACH-InformationItem,  
id-RL-ID,  
id-RL-Information,  
id-RL-Information-DMeasureReportItem,  
id-RL-Information-DMeasureRequestItem,  
id-RL-Information-DMeasureResponseItem,  
id-RL-Information-RL-ReconfPrepFDDItem,  
id-RL-Information-RL-SetupReqFDDItem,  
id-RL-InformationItem,  
id-RL-InformationItem-RL-SetupReqTDD,  
id-RL-InformationList,  
id-RL-InformationList-RL-ReconfReqFDD,  
id-RL-InformationList-RL-SetupReqFDD,  
id-RL-InformationResponse-RL-setupResFDDItem,  
id-RL-InformationResponseItem-RL-ReconfResp,  
id-RL-InformationResponseList-RL-ReconfReady,  
id-RL-InformationResponseList-RL-ReconfReadyItem,  
id-RL-InformationResponseList-RL-ReconfResp,  
id-RL-InformationResponseList-RL-setupResFDD,  
id-RL-InformationResponseList-RL-setupResTDD,  
id-RL-ReconfigurationFailure-RL-ReconfFailItem,  
id-RL-ReconfigurationFailureList-RL-ReconfFail,  
id-RL-ResponseInformation,  
id-RL-ResponseInformationItem,  
id-RL-ResponseInformationList,  
id-RL-informationItem,  
id-RL-informationList,

id-RadioLinkInformation-RL-ReconfPrepFDDItem,  
id-RadioLinkInformation-RL-ReconfPrepTDD,  
id-RadioLinkInformation-RL-ReconfReqTDD,  
id-RadioLinkInformationList-RL-ReconfPrepFDD,  
id-ReportCharacteristics,  
id-SFN,  
id-SIB-SegmentInformationItem,  
id-SIB-SegmentInformationList,  
id-ScramblingCodeChange,  
id-Secondary-CCPCHListItem,  
id-SecondaryCPICH-Information,  
id-SecondarySCH-Information,  
id-ShutdownTimer,  
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,  
id-Successful-RL-InformationResponseItem,  
id-Successful-RL-InformationResponseList,  
id-Successful-RL-InformationResponseList-RL-SetupFailFDD,  
id-SynchronisationMethod,  
id-T-Cell,  
id-TDDChipOffset,  
id-TimeSlotConfigurationItem,  
id-TimeSlotConfigurationList,  
id-TransmissionGapDistance,  
id-TransmissionGapPeriod,  
id-TransmitGapLength,  
id-TransmitGapPositionMode,  
id-UARFCN,  
id-C-ID,  
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,  
id-UL-CCTrCH-Information-RL-SetupReqTDDItem,  
id-UL-CCTrCH-InformationItemIE,  
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,  
id-UL-CCTrCH-InformationList-RL-SetupReqTDD,  
id-UL-CCTrCHInformation,  
id-UL-CCTrCHInformationList,  
id-UL-DPCH-Information-RL-ReconfPrepFDD,  
id-UL-DPCH-Information-RL-ReconfPrepTDDItem,  
id-UL-DPCH-Information-RL-SetupReqTDDItem,  
id-UL-DPCH-InformationItem-RL-ReconfReqFDD,  
id-UL-DPCH-InformationItem-RL-SetupReqFDD,  
id-UL-DPCH-InformationItemIE,  
id-USCH-Information-ResourceStatIndItem,  
id-USCH-InformationItem,  
id-USCH-ListItem-CTCHsetup-Req-TDD,  
id-Unsuccessful-RL-InformationResponse,  
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,  
id-Unsuccessful-RL-InformationResponseItem,  
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,  
id-Unsuccessful-RL-InformationResponseList,  
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,  
  
maxAICHCell,  
maxCCPInNodeB,  
maxCellInNodeB,

```
maxFACHCell,
maxLocalCellinNodeB,
maxMIBSEG,
maxPCHCell,
maxPCHinNodeB,
maxRACHCell,
maxSF,
maxSIBSEG,
maxUCIDinNodeB,
maxUSCHCell,
maxnoCCTrCHs,
maxnoofCCTrCHs,
maxnoofDCHs,
maxnoofDLCodes,
maxnoofDPCHs,
maxnoofDSCHs,
maxnoofFACHCell,
maxnoofFACHs,
maxnoofFDDNeighbours,
maxnoofPCHs,
maxnoofPRACHs,
maxnoofPUSHs,
maxnoofRL-1,
maxnoofRL-2,
maxnoofRLs,
maxnoofSCCPCHs,
maxnoofTDDNeighbours,
maxnoofUSCHs,
FROM NBAP-Constants;
```

```

-- *****
--
-- DL POWER CONTROL REQUEST FDD
--
-- *****

DLPowerControlRequestFDD ::= SEQUENCE {
 protocolIEs ProtocolIE-Container {{DLPowerControlRequestFDD-IEs}},
 protocolExtensions ProtocolExtensionContainer {{DLPowerControlRequestFDD-Extensions}} OPTIONAL,
 privateExtensions PrivateExtensionContainer {{DLPowerControlRequestFDD-PrivateExtensions}} OPTIONAL,
 ...
}

DLPowerControlRequestFDD-IEs NBAP-PROTOCOL-IES ::= {

{ ID id-NodeB-CommunicationContextID	CRITICALITY ignore	TYPE NodeB-CommunicationContextID	PRESENCE mandatory	}	
{ ID id-ProcedureScopeType	CRITICALITY ignore	TYPE ProcedureScopeType	PRESENCE mandatory	}	
{ ID id-PowerAdjustmentType	CRITICALITY ignore	TYPE PowerAdjustmentType	PRESENCE mandatory	}	
{ ID id-DLReferencePower	CRITICALITY ignore	TYPE DL-Power	PRESENCE mandatory	}	
{ ID id-DLReferencePowerList	CRITICALITY ignore	TYPE DL-ReferencePowerInformationList-PC	PRESENCE mandatory	}	
{ ID id-MaxAdjustmentStep	CRITICALITY ignore	TYPE ScaledMaxAdjustmentStep	PRESENCE optional	}	
{ ID id-MaxAdjustmentPeriod	CRITICALITY ignore	TYPE ScaledMaxAdjustmentPeriod	PRESENCE optional	}	

 ...
}

DLPowerControlRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

DLPowerControlRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
 ...
}

ProcedureScopeType ::= CHOICE {
 all-RL All-RL,
 individualRL IndividualRL
}

All-RL ::= SEQUENCE {
 dl-ReferencePower DL-Power
}

IndividualRL ::= SEQUENCE {
 dl-ReferencePowerInformationList-PC DL-ReferencePowerInformationList-PC
}

DL-ReferencePowerInformationList-PC ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
 ProtocolIE-Container {{DL-ReferencePowerInformationList-PCItemIE }}

DL-ReferencePowerInformationList-PCItemIE NBAP-PROTOCOL-IES ::= {
 { ID id-DL-ReferencePowerInformationList-PCItem CRITICALITY ignore TYPE DL-ReferencePowerInformationList-PCItem PRESENCE
 mandatory
 },
 ...
}

DL-ReferencePowerInformationList-PCItem ::= SEQUENCE {

```

```
 rL-ID
dl-ReferencePower
}
```

```
RL-ID,
DL-Power
```

### 9.3.4 NBAP Information Elements

```
PowerAdjustmentType ::= ENUMERATED {
None,
Common,
Individual
}
```

```
ScaledMaxAdjustmentPeriod ::= INTEGER(1..50)
-- MaxAdjustmentPeriod (slots) = 10 * ScaledMaxAdjustmentPeriod
```

```
ScaledMaxAdjustmentStep ::= INTEGER(0..10)
-- MaxAdjustmentStep (dB) = ScaledMaxAdjustmentStep / 10
```

### 9.3.7 Constant Definitions for NBAP

```

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

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

id-audit INTEGER ::= 0
id-auditRequired INTEGER ::= 1
id-blockResource INTEGER ::= 2
id-cellDeletion INTEGER ::= 3
id-cellReconfiguration INTEGER ::= 4
id-cellSetup INTEGER ::= 5
id-commonMeasurementFailure INTEGER ::= 6
id-commonMeasurementInitiation INTEGER ::= 7
id-commonMeasurementReport INTEGER ::= 8
id-commonMeasurementTermination INTEGER ::= 9
id-commonTransportChannelDeletion INTEGER ::= 10
id-commonTransportChannelReconfiguration INTEGER ::= 11
id-commonTransportChannelSetup INTEGER ::= 12
id-compressedModeControlCancellation INTEGER ::= 13
id-compressedModeControlCommit INTEGER ::= 14
id-compressedModeControlPreparation INTEGER ::= 15
id-dedicatedMeasurementFailure INTEGER ::= 16
id-dedicatedMeasurementInitiation INTEGER ::= 17
id-dedicatedMeasurementReport INTEGER ::= 18
id-dedicatedMeasurementTermination INTEGER ::= 19
id-dlPowerControl INTEGER ::= 20
id-neighbourCellMeasurement INTEGER ::= 21
id-radioLinkAddition INTEGER ::= 22
id-radioLinkDeletion INTEGER ::= 23
id-radioLinkFailure INTEGER ::= 24
id-radioLinkReconfigurationCommit INTEGER ::= 25
id-radioLinkReconfigurationCancel INTEGER ::= 26
id-radioLinkRestoration INTEGER ::= 27
id-radioLinkSetup INTEGER ::= 28
id-resourceStatusIndication INTEGER ::= 29
id-synchronisationAdjustment INTEGER ::= 30
id-synchronisationFailure INTEGER ::= 31
id-synchronisationRestart INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation INTEGER ::= 33
id-systemInformationUpdate INTEGER ::= 34

```

```

id-unblockResource INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration INTEGER ::= 36

-- *****
--
-- Extension constants
--
-- *****

maxPrivateExtensions INTEGER ::= 65535
maxProtocolExtensions INTEGER ::= 65535
maxProtocolIEs INTEGER ::= 65535

-- *****
--
-- Lists
--
-- *****

maxSF INTEGER ::= 10
maxnoofDLCodes INTEGER ::= 10
maxnoofRLs INTEGER ::= 10
maxnoofDPCHs INTEGER ::= 10
maxnoofSCCPCHs INTEGER ::= 10
maxnoofPRACHs INTEGER ::= 10
maxnoofDCHs INTEGER ::= 10
maxnoofDSCHs INTEGER ::= 10
maxnoofFACHs INTEGER ::= 10
maxnoofCCTrCHs INTEGER ::= 10
maxnoofPCHs INTEGER ::= 10
maxnoofPUCSHs INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxnoofUSCHs INTEGER ::= 10
maxUCIDinNodeB INTEGER ::= 10
maxCellinNodeB INTEGER ::= 10
maxCCPinNodeB INTEGER ::= 10
maxCTF-1 INTEGER ::= 10
maxLocalCellinNodeB INTEGER ::= 10
maxPCHinNodeB INTEGER ::= 10
maxRACHCell INTEGER ::= 10
maxnoofFACHCell INTEGER ::= 10
maxPCHCell INTEGER ::= 10
maxUSCHCell INTEGER ::= 10
maxAICHCell INTEGER ::= 10
maxMIBSEG INTEGER ::= 10
maxSIBSEG INTEGER ::= 10
maxnoofFDDNeighbours INTEGER ::= 10
maxnoofTDDNeighbours INTEGER ::= 10
maxTFcount INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxFACHCell INTEGER ::= 10
maxnoCCTrCH INTEGER ::= 10
maxnoCCTrCHs INTEGER ::= 10
maxnoofCCTrCH INTEGER ::= 10
maxnoofDPCH INTEGER ::= 10
maxnoofPUSHs INTEGER ::= 10

```



```

maxnoofRL-1 INTEGER ::= 10
maxnoofRL-2 INTEGER ::= 10
maxRM INTEGER ::= 10

-- *****
--
-- IEs
--
-- *****

id-AICH-Information-ResourceStatIndItem INTEGER ::= 0
id-AICH-ParametersList INTEGER ::= 1
id-AICH-ParametersListItem INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD INTEGER ::= 4
id-BlockingPriorityIndicator INTEGER ::= 5
id-CCTrCH-ParametersList INTEGER ::= 6
id-CCTrCH-ParametersListItem INTEGER ::= 7
id-CFN INTEGER ::= 8
id-CRNC-CommunicationContextID INTEGER ::= 9
id-CRNCCommunicationContextID INTEGER ::= 10
id-Cause INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem INTEGER ::= 12
id-Cell-InformationItem INTEGER ::= 13
id-Cell-InformationList INTEGER ::= 14
id-Cell-Parameter INTEGER ::= 15
id-Cell-ParametersItem INTEGER ::= 16
id-Cell-ParametersList INTEGER ::= 17
id-CellParameter INTEGER ::= 18
id-CommonMeasurementObjectType INTEGER ::= 19
id-CommonMeasurementType INTEGER ::= 20
id-CommonPhysicalChannelID INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response INTEGER ::= 23
id-CommunicationControlPort-InformationItem INTEGER ::= 24
id-CommunicationControlPortID INTEGER ::= 25
id-CommunicationControlPortInformation-ResourceStatIndItem INTEGER ::= 26
id-CommunicationControlPortInformationList INTEGER ::= 27
id-CompressesModeMethod INTEGER ::= 28
id-ConfigurationGenerationID INTEGER ::= 29
id-DCH-Add-RL-ReconfPrepFDDItem INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem INTEGER ::= 32
id-DCH-Add-RL-ReconfReqFDDItem INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD INTEGER ::= 44

```

```

id-DCH-DeleteList-RL-ReconfPrepTDD INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem INTEGER ::= 53
id-DCH-InformationResponseItem INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem INTEGER ::= 67
id-DL-CCTrCH-InformationItem INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD INTEGER ::= 70
id-DL-CCTrCH-InformationList-RL-SetupReqTDD INTEGER ::= 71
id-DL-CCTrCHInformationItem INTEGER ::= 72
id-DL-CCTrCHInformationList INTEGER ::= 73
id-DL-CodeInformation INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem INTEGER ::= 76
id-DL-DPCH-Information-RL-ReconfPrepFDD INTEGER ::= 77
id-DL-DPCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 78
id-DL-DPCH-Information-RL-SetupReqTDDItem INTEGER ::= 79
id-DL-DPCH-InformationItem INTEGER ::= 80
id-DL-DPCH-InformationItem-RL-ReconfReqFDD INTEGER ::= 81
id-DL-DPCH-InformationItem-RL-SetupReqFDD INTEGER ::= 82
id-DL-FrameType INTEGER ::= 83
id-DL-ReferencePowerInformationItem INTEGER ::= 84
id-DSCH-AddItem-RL-ReconfPrepFDD INTEGER ::= 85
id-DSCH-AddItem-RL-ReconfReqFDD INTEGER ::= 86
id-DSCH-DeleteItem-RL-ReconfPrepFDD INTEGER ::= 87
id-DSCH-DeleteItem-RL-ReconfReqFDD INTEGER ::= 88
id-DSCH-ID INTEGER ::= 89
id-DSCH-Information-RL-SetupReqFDDItem INTEGER ::= 90
id-DSCH-InformationList-RL-SetupReqFDD INTEGER ::= 91
id-DSCH-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 92
id-DSCH-InformationResponse-RL-setupResFDDItem INTEGER ::= 93
id-DSCH-ModifyItem-RL-ReconfPrepFDD INTEGER ::= 94
id-DSCH-ModifyItem-RL-ReconfReqFDD INTEGER ::= 95
id-DedicatedMeasurementObjectType INTEGER ::= 96
id-DedicatedMeasurementType INTEGER ::= 97
id-FACH-Information-ResourceStatIndItem INTEGER ::= 98
id-FACH-InformationItem INTEGER ::= 99
id-FACH-ListItem INTEGER ::= 100

```

```

id-FACH-ParametersList-CTCHreconf-Req-FDD INTEGER ::= 101
id-FACH-ParametersList-CTCHreconf-Req-TTD INTEGER ::= 102
id-FACH-ParametersListItem-CTCHreconf-Req-FDD INTEGER ::= 103
id-FACH-ParametersListItem-CTCHreconf-Req-TTD INTEGER ::= 104
id-FACH-ParametersListItem-CTCHsetup-Req-FDD INTEGER ::= 105
id-FACH-ParametersListItem-CTCHsetup-Response INTEGER ::= 106
id-GapStartingSlotNumber INTEGER ::= 107
id-IndicationType INTEGER ::= 108
id-Local-Cell-Information-ResourceStatIndItem INTEGER ::= 109
id-Local-CellInformation-ResourceStatIndItem INTEGER ::= 110
id-LocalCell-ID INTEGER ::= 111
id-LocalCell-InformationItem INTEGER ::= 112
id-LocalCellInformationList INTEGER ::= 113
id-MaxAdjustmentPeriod INTEGER ::= 114
id-MaxAdjustmentStep INTEGER ::= 115
id-MIB-SegmentInformationItem INTEGER ::= 1164
id-MIB-SegmentInformationList INTEGER ::= 1175
id-MaximumTransmissionPower INTEGER ::= 1186

_____ .. (new numbering needed) ..

id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 2220
id-Unsuccessful-RL-InformationResponseItem INTEGER ::= 2231
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD INTEGER ::= 2242
id-Unsuccessful-RL-InformationResponseList INTEGER ::= 2253
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 2264

```

END

**Source:** RAN-WG3  
**Title:** Editorial fault in tabular format  
**Agenda Item:** 16.2  
**Document for:** Approval

## Discussion

The tabular format used is ambiguous what regards to indentation, a new version of the tabular format is given in this chapter (which is proposed by the ETSI support group in another contribution). It is showing the same information as the CR. However, the CR contains the old tabular format from the NBAP spec version 3.0.0, according to the rules for CRs.

Please note that the change of indentation using the ruler do can not be shown with revision marks. The whole IE groups of PICH and AICH are changed regards to indentation.

### 9.1.2 COMMON TRANSPORT CHANNEL SETUP REQUEST

#### 9.1.2.1 FDD Message

| Information Element                                    | Presence   | Range              | IE type and reference | Semantics description              |
|--------------------------------------------------------|------------|--------------------|-----------------------|------------------------------------|
| Message Discriminator                                  | M          |                    |                       |                                    |
| Message Type                                           | M          |                    |                       |                                    |
| Transaction ID                                         | M          |                    |                       |                                    |
| C-ID                                                   | M          |                    |                       |                                    |
| Configuration Generation ID                            | M          |                    |                       |                                    |
| <b>CHOICE common physical channel to be configured</b> |            |                    |                       |                                    |
| >Secondary CCPCH                                       |            |                    |                       |                                    |
| > <b>Secondary CCPCH</b>                               |            | 1                  |                       |                                    |
| >>Common Physical Channel ID                           | M          |                    |                       |                                    |
| >>FDD S-CCPCH Offset                                   | M          |                    |                       | Corresponds to 25.211: s-CCPCH,k   |
| >>DL Scrambling Code                                   | M          |                    |                       |                                    |
| >>FDD DL Channelisation Code Number                    | M          |                    |                       |                                    |
| >>TFCS                                                 | M          |                    |                       | For the DL.                        |
| >>Secondary CCPCH Slot Format                          | M          |                    |                       |                                    |
| >>Pilot Bits Used Indicator                            | M          |                    |                       |                                    |
| >>Multiplexing Position                                | M          |                    |                       |                                    |
| >>STTD Indicator                                       | M          |                    |                       |                                    |
| >> <b>FACH Parameters</b>                              | C-choiceCh | 0..<maxnoofFA CHs> |                       |                                    |
| >>>Common transport channel ID                         | M          |                    |                       |                                    |
| >>>Transport Format Set                                | M          |                    |                       | For the DL.                        |
| >>>ToAWS                                               | M          |                    |                       |                                    |
| >>>ToAWE                                               | M          |                    |                       |                                    |
| >>>Max FACH Power                                      | M          |                    | DL Power              | Maximum allowed power on the FACH. |
| >> <b>PCH Parameters</b>                               | C-choiceCh | 0..1               |                       |                                    |
| >>>Common Transport Channel ID                         | M          |                    |                       |                                    |
| >>>Transport Format Set                                | M          |                    |                       | For the DL.                        |
| >>>ToAWS                                               | M          |                    |                       |                                    |
| >>>ToAWE                                               | M          |                    |                       |                                    |
| >>>PCH Power                                           | M          |                    | DL Power              |                                    |
| >>> <b>PICH Parameters</b>                             |            | 1                  |                       |                                    |
| >>>>Common Physical Channel ID                         | M          |                    |                       |                                    |
| >>>>DL Scrambling Code                                 | M          |                    |                       |                                    |
| >>>>FDD DL Channelisation Code Number                  | M          |                    |                       |                                    |
| >>>>PICH Power                                         | M          |                    | DL Power              | Power to be used on the PICH.      |
| >>>>PICH Mode                                          | M          |                    |                       | Number of PI per frame             |
| >>>>STTD Indicator                                     | M          |                    |                       |                                    |
| >PRACH                                                 |            |                    |                       |                                    |
| > <b>PRACH</b>                                         |            | 1                  |                       |                                    |
| >>Common Physical Channel ID                           | M          |                    |                       |                                    |
| >>Scrambling Code Word                                 | M          |                    |                       |                                    |

|                                       |   |            |          |             |
|---------------------------------------|---|------------|----------|-------------|
| Number                                |   |            |          |             |
| >>TFCS                                | M |            |          | For the UL. |
| >>Preamble Signatures                 | M |            |          |             |
| >>Allowed Slot Format Information     |   | 1..<maxSF> |          |             |
| >>RACH Slot Format                    | M |            |          |             |
| >>RACH Sub Channel Numbers            | M |            |          |             |
| >>Puncture Limit                      | M |            |          | For the UL  |
| >> <b>RACH Parameters</b>             |   | 1          |          |             |
| >>>Common Transport Channel ID        | M |            |          |             |
| >>>Transport Format Set               | M |            |          | For the UL. |
| >>> <b>AICH Parameters</b>            |   | 1          |          |             |
| >>>>Common Physical Channel ID        | M |            |          |             |
| >>>>DL Scrambling Code                | M |            |          |             |
| >>>>AICH Transmission Timing          | M |            |          |             |
| >>>>FDD DL Channelisation Code Number | M |            |          |             |
| >>>>AICH Power                        | M |            | DL Power |             |
| >>>>STTD Indicator                    | M |            |          |             |

| Condition       | Explanation                                              |
|-----------------|----------------------------------------------------------|
| <i>ChoiceCh</i> | One of the channels FACH or PCH or both must be present. |

| Range bound         | Explanation                                                       |
|---------------------|-------------------------------------------------------------------|
| <i>MaxnoofFACHs</i> | Maximum number of FACHs that can be defined on a Secondary CCPCH. |
| <i>MaxSF</i>        | Maximum number of SF for a PRACH                                  |







## 9.1.2 COMMON TRANSPORT CHANNEL SETUP REQUEST

## 9.1.2.1 FDD Message

| Information Element                                    | Presence   | Range              | IE type and reference | Semantics description              |
|--------------------------------------------------------|------------|--------------------|-----------------------|------------------------------------|
| Message Discriminator                                  | M          |                    |                       |                                    |
| Message Type                                           | M          |                    |                       |                                    |
| Transaction ID                                         | M          |                    |                       |                                    |
| C-ID                                                   | M          |                    |                       |                                    |
| Configuration Generation ID                            | M          |                    |                       |                                    |
| <b>CHOICE common physical channel to be configured</b> |            |                    |                       |                                    |
| <i>Secondary CCPCH</i>                                 |            |                    |                       |                                    |
| <b>Secondary CCPCH</b>                                 |            | 1                  |                       |                                    |
| Common Physical Channel ID                             | M          |                    |                       |                                    |
| FDD S-CCPCH Offset                                     | M          |                    |                       | Corresponds to 25.211: s-CCPCH,k   |
| DL Scrambling Code                                     | M          |                    |                       |                                    |
| FDD DL Channelisation Code Number                      | M          |                    |                       |                                    |
| TFCS                                                   | M          |                    |                       | For the DL.                        |
| Secondary CCPCH Slot Format                            | M          |                    |                       |                                    |
| Pilot Bits Used Indicator                              | M          |                    |                       |                                    |
| Multiplexing Position                                  | M          |                    |                       |                                    |
| STTD Indicator                                         | M          |                    |                       |                                    |
| <b>FACH Parameters</b>                                 | C-choiceCh | 0..<maxnoofFA CHs> |                       |                                    |
| Common transport channel ID                            | M          |                    |                       |                                    |
| Transport Format Set                                   | M          |                    |                       | For the DL.                        |
| ToAWS                                                  | M          |                    |                       |                                    |
| ToAWE                                                  | M          |                    |                       |                                    |
| Max FACH Power                                         | M          |                    | DL Power              | Maximum allowed power on the FACH. |
| <b>PCH Parameters</b>                                  | C-choiceCh | 0..1               |                       |                                    |
| Common Transport Channel ID                            | M          |                    |                       |                                    |
| Transport Format Set                                   | M          |                    |                       | For the DL.                        |
| ToAWS                                                  | M          |                    |                       |                                    |
| ToAWE                                                  | M          |                    |                       |                                    |
| PCH Power                                              | M          |                    | DL Power              |                                    |
| <b>PICH Parameters</b>                                 |            | 1                  |                       |                                    |
| Common Physical Channel ID                             | M          |                    |                       |                                    |
| DL Scrambling Code                                     | M          |                    |                       |                                    |
| FDD DL Channelisation Code Number                      | M          |                    |                       |                                    |
| PICH Power                                             | M          |                    | DL Power              | Power to be used on the PICH.      |
| PICH Mode                                              | M          |                    |                       | Number of PI per frame             |
| STTD Indicator                                         | M          |                    |                       |                                    |
| <i>PRACH</i>                                           |            |                    |                       |                                    |

|                                   |   |            |          |             |
|-----------------------------------|---|------------|----------|-------------|
| <b>PRACH</b>                      |   | 1          |          |             |
| Common Physical Channel ID        | M |            |          |             |
| Scrambling Code Word Number       | M |            |          |             |
| TFCS                              | M |            |          | For the UL. |
| Preamble Signatures               | M |            |          |             |
| Allowed Slot Format Information   |   | 1..<maxSF> |          |             |
| RACH Slot Format                  | M |            |          |             |
| RACH Sub Channel Numbers          | M |            |          |             |
| Puncture Limit                    | M |            |          | For the UL  |
| <b>RACH Parameters</b>            |   | 1          |          |             |
| Common Transport Channel ID       | M |            |          |             |
| Transport Format Set              | M |            |          | For the UL. |
| <b>AICH Parameters</b>            |   | 1          |          |             |
| Common Physical Channel ID        | M |            |          |             |
| DL Scrambling Code                | M |            |          |             |
| AICH Transmission Timing          | M |            |          |             |
| FDD DL Channelisation Code Number | M |            |          |             |
| AICH Power                        | M |            | DL Power |             |
| STTD Indicator                    | M |            |          |             |

| Condition       | Explanation                                              |
|-----------------|----------------------------------------------------------|
| <i>ChoiceCh</i> | One of the channels FACH or PCH or both must be present. |

| Range bound         | Explanation                                                       |
|---------------------|-------------------------------------------------------------------|
| <i>MaxnoofFACHs</i> | Maximum number of FACHs that can be defined on a Secondary CCPCH. |
| <i>MaxSF</i>        | Maximum number of SF for a PRACH                                  |

### 9.3.3 NBAP PDU Content Definitions

```

-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST FDD
--
-- *****

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

CommonTransportChannelSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-C-ID CRITICALITY ignore TYPE C-ID PRESENCE
mandatory }|
 { ID id-ConfigurationGenerationID CRITICALITY ignore TYPE ConfigurationGenerationID
PRESENCE mandatory }|
 { ID id-CommonPhysicalChannelType-CTCHsetup-Req-FDD CRITICALITY ignore TYPE
CommonPhysicalChannelType-CTCHsetup-Req-FDD PRESENCE mandatory
},
 ...
}

CommonTransportChannelSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

CommonPhysicalChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
 secondary-CCPCH-parameters-CTCHsetup-Req-FDD Secondary-CCPCH-
parameters-CTCHsetup-Req-FDD,
 pRACH-parameters-CTCHsetup-Req-FDD PRACH-parameters-CTCHsetup-Req-FDD
}

Secondary-CCPCH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonPhysicalChannelID CommonPhysicalChannelID,
 fdd-SCCPCH-Offset FDD-SCCPCH-Offset,
 dl-ScramblingCode DL-ScramblingCode,
 fdd-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
 tFCS TFCS,
 secondaryCCPCH-SlotFormat SecondaryCCPCH-SlotFormat,
 pilotBitsUsedIndicator PilotBitsUsedIndicator,
 multiPlexingPosition MultiPlexngPosition,
 sTTD-Indicator STTD-Indicator,
 commonTransportChannelType CommonTransportChannelType-CTCHsetup-
Req-FDD
}

CommonTransportChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
 fACH-ParametersList FACH-ParametersList-CTCHsetup-Req-FDD,
 pCH-Parameters PCH-Parameters-CTCHsetup-Req-FDD,
 bothCH-Parameters BothCH-Parameters-CTCHsetup-Req-FDD
}

BothCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
 fACH-ParametersList FACH-ParametersList-CTCHsetup-Req-FDD,
 pCH-Parameters PCH-Parameters-CTCHsetup-Req-FDD
}

FACH-ParametersList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
 ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHsetup-Req-FDD }}

FACH-ParametersListItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
 { ID id-FACH-ParametersListItem-CTCHsetup-Req-FDD CRITICALITY ignore TYPE FACH-
ParametersListItem-CTCHsetup-Req-FDD PRESENCE mandatory },
 ...
}

FACH-ParametersListItem-CTCHsetup-Req-FDD ::= SEQUENCE {
 commonTransportChannelID CommonTransportChannelID,

```

```

transportFormatSet TransportFormatSet,
toAWS ToAWS,
toAWE ToAWE,
maxFACH-Power DL-Power
}

PCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
commonTransportChannelID CommonTransportChannelID,
transportFormatSet TransportFormatSet,
toAWS ToAWS,
toAWE ToAWE,
pCH-Power DL-Power,
pICH-Parameters PICH-Parameters-CTCHsetup-Req-FDD
}

PICH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
cmmonPhysicalChannelID CommonPhysicalChannelID,
dl-ScramblingCode DL-ScramblingCode,
fdd-dl-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
pICH-Power DL-Power,
pICH-Mode PICH-Mode,
STTD-Indicator STTD-Indicator
}

PRACH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
commonPhysicalChannelID CommonPhysicalChannelID,
tFCS TFCS,
preambleSignatures PreambleSignatures,
scramblingCodeWord ScramblingCodeWord
allowedSlotFormatInformationList AllowedSlotFormatInformationList-
CTCHsetup-Req-FDD,
rACH-SubChannelNumbers RACH-SubChannelNumbers,
ul-punctureLimit PunctureLimit,
rACH-Parameters RACH-Parameters-CTCHsetup-Req-
FDD,
aICH-Parameters AICH-Parameters-CTCHsetup-Req-
FDD
}

AllowedSlotFormatInformationList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF ProtocolIE-
Container {{AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD}}

AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
{ ID id-AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD
CRITICALITY ignore TYPE AllowedSlotFormatInformationItem-CTCHsetup-
Req-FDD PRESENCE mandatory },
...
}

AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD ::= SEQUENCE {
rACHSlotFormat RACH-SlotFormat
}

RACH-Parameters ::= SEQUENCE {
commonTransportChannelID CommonTransportChannelID,
transportFormatSet TransportFormatSet
aICH-Parameters AICH-Parameters-CTCHsetup-Req-
FDD
}

AICH-Parameters ::= SEQUENCE {
commonPhysicalChannelID CommonPhysicalChannelID,
dl-ScramblingCode DL-ScramblingCode,
aICH-TransmissionTiming AICH-TransmissionTiming,
fDD-DL-ChannelisationCodeNumber FDD-DL-ChannelisationCodeNumber,
aICH-Power DL-Power,
STTD-Indicator STTD-Indicator
}

```

|                                                                                          |                                                                                              |                                                                                                                         |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <h2 style="margin: 0;">CHANGE REQUEST</h2>                                               |                                                                                              | <i>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</i> |
| <b>25.433</b>                                                                            | <b>CR</b>                                                                                    | <b>012r4</b>                                                                                                            |
| GSM (AA.BB) or 3G (AA.BBB) specification number ↑                                        |                                                                                              | ↑ CR number as allocated by MCC support team                                                                            |
| For submission to: <b>RAN #7</b><br><small>list expected approval meeting # here</small> |                                                                                              | Current Version: <b>3.0.0</b>                                                                                           |
|                                                                                          | for approval <input checked="" type="checkbox"/><br>for information <input type="checkbox"/> | strategic <input type="checkbox"/><br>non-strategic <input type="checkbox"/><br><small>(for SMG use only)</small>       |

Form: CR cover sheet, version 2 for 3GPP and SMG    The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:**    (U)SIM     ME     UTRAN / Radio     Core Network   
(at least one should be marked with an X)

**Source:**    RAN-WG3    **Date:**    March 3, 2000

**Subject:**    Physical Shared Channel Reconfiguration procedure

**Work item:**    \_\_\_\_\_

|                  |                                                                                                                                                                                                                                                                                                          |                 |                                                                                                                                                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category:</b> | F Correction <input type="checkbox"/><br>A Corresponds to a correction in an earlier release <input type="checkbox"/><br>B Addition of feature <input type="checkbox"/><br>C Functional modification of feature <input checked="" type="checkbox"/><br>D Editorial modification <input type="checkbox"/> | <b>Release:</b> | Phase 2 <input type="checkbox"/><br>Release 96 <input type="checkbox"/><br>Release 97 <input type="checkbox"/><br>Release 98 <input type="checkbox"/><br>Release 99 <input checked="" type="checkbox"/><br>Release 00 <input type="checkbox"/> |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

(only one category shall be marked with an X)

**Reason for change:**    The procedure is necessary for TDD Shared Channel management in the Node B. The procedure supports to add, modify and delete PDSCH Sets and PUSCH Sets in the Node B data base. The corresponding ASN.1 coding has been included. Chapter 7 with the updated table of procedures (including “Physical Shared Channel Reconfiguration”) has been included. – “Assigned criticality” is added to tabular format and ASN.1 coding of the messages.

**Clauses affected:**    3.3, 7, 8.1, 8.2.18 (new), 9.1.65...67 (new), 9.2.3.26...29 (new), 9.3.1...4, 9.3.7

|                              |                                                                                                                                                                                                                                                                                  |                                                                                                                                 |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Other specs affected:</b> | Other 3G core specifications <input checked="" type="checkbox"/><br>Other GSM core specifications <input type="checkbox"/><br>MS test specifications <input type="checkbox"/><br>BSS test specifications <input type="checkbox"/><br>O&M specifications <input type="checkbox"/> | → List of CRs: 25.430-CR003, 25.435-CR002, 25.435-CR003<br>→ List of CRs:<br>→ List of CRs:<br>→ List of CRs:<br>→ List of CRs: |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|

**Other comments:**    CR12r4 (R3-000966) is an update of CR12r3 (R3-000553) with minimum updates (Node B spelling; correct chapter number 9.2) as requested at R3#11.



<----- double-click here for help and instructions on how to create a CR.

### 3.3 Abbreviations

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

|              |                                         |
|--------------|-----------------------------------------|
| ASN.1        | Abstract Syntax Notation One            |
| ATM          | Asynchronous Transfer Mode              |
| BCCCH        | Broadcast Control Channel               |
| CCPCH        | Common Control Physical Channel         |
| CFN          | Connection Frame Number                 |
| CRNC         | Controlling Radio Network Controller    |
| DCH          | Dedicated Channel                       |
| DL           | Downlink                                |
| DPCCH        | Dedicated Physical Control Channel      |
| DPCH         | Dedicated Physical Channel              |
| DPDCH        | Dedicated Physical Data Channel         |
| DRNC         | Drift Radio Network Controller          |
| <u>DSCH</u>  | <u>Downlink Shared Channel</u>          |
| FDD          | Frequency Division Duplex               |
| FP           | Frame Protocol                          |
| L1           | Layer 1                                 |
| L2           | Layer 2                                 |
| NBAP         | Node B Application Part                 |
| O&M          | Operation and Management                |
| <u>PDSCH</u> | <u>Physical Downlink Shared Channel</u> |
| <u>PUSCH</u> | <u>Physical Uplink Shared Channel</u>   |
| QoS          | Quality of Service                      |
| RL           | Radio Link                              |
| RNC          | Radio Network Controller                |
| RRC          | Radio Resource Control                  |
| SRNC         | Serving Radio Network Controller        |
| TDD          | Time Division Duplex                    |
| TFC          | Transport Format Combination            |
| TFCI         | Transport Format Combination Indicator  |
| TFCS         | Transport Format Combination Set        |
| TFS          | Transport Format Set                    |
| UE           | User Equipment                          |
| UL           | Uplink                                  |
| <u>USCH</u>  | <u>Uplink Shared Channel</u>            |
| UTRAN        | UMTS Terrestrial Radio Access Network   |

## 7 Functions of NBAP

The NBAP protocol has the following functions:

...

- Reporting general error situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

These functions are implemented by one or several NBAP elementary procedures described in the following section.

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**

| <b>Function</b>                              | <b>Elementary Procedure(s)</b>                                                                                                                                                                                                                                                             |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Cell Configuration Management</u>         | a) <u>Cell Setup</u><br>b) <u>Cell Reconfiguration</u><br>c) <u>Cell Deletion</u>                                                                                                                                                                                                          |
| <u>Common Transport Channel Management</u>   | a) <u>Common Transport Channel Setup</u><br>b) <u>Common Transport Channel Reconfiguration</u><br>c) <u>Common Transport Channel Deletion</u><br>d) <u>Physical Shared Channel Reconfiguration</u>                                                                                         |
| <u>System Information Management</u>         | <u>System Information Update</u>                                                                                                                                                                                                                                                           |
| <u>Resource Event Management</u>             | a) <u>Block Resource</u><br>b) <u>Unblock Resource</u><br>c) <u>Resource Status Indication</u>                                                                                                                                                                                             |
| <u>Configuration Alignment</u>               | a) <u>Audit Required</u><br>b) <u>Audit</u>                                                                                                                                                                                                                                                |
| <u>Measurements on Common Resources</u>      | a) <u>Common Measurement Initiation</u><br>b) <u>Common Measurement Reporting</u><br>c) <u>Common Measurement Termination</u><br>d) <u>Common Measurement Failure</u>                                                                                                                      |
| <u>Radio Link Management.</u>                | a) <u>RL Setup</u><br>b) <u>RL Addition</u><br>c) <u>RL Deletion</u><br>d) <u>Unsynchronised RL Reconfiguration</u><br>e) <u>Synchronised RL Reconfiguration Preparation</u><br>f) <u>Synchronised RL Reconfiguration Commit</u><br>g) <u>Synchronised RL Reconfiguration Cancellation</u> |
| <u>Radio Link Supervision.</u>               | a) <u>RL Failure</u><br>b) <u>RL Restoration</u>                                                                                                                                                                                                                                           |
| <u>Compressed Mode Control [FDD]</u>         | a) <u>Compressed Mode Preparation</u><br>b) <u>Compressed Mode Commit</u><br>c) <u>Compressed Mode Cancellation</u>                                                                                                                                                                        |
| <u>Measurements on Dedicated Resources</u>   | a) <u>Measurement Request</u><br>b) <u>Measurement Reporting</u><br>c) <u>Measurement Termination</u><br>d) <u>Measurement Failure</u>                                                                                                                                                     |
| <u>DL Power Drifting Correction [FDD]</u>    | <u>Downlink Power Control</u>                                                                                                                                                                                                                                                              |
| <u>Reporting of General Error Situations</u> | <u>Error Indication</u>                                                                                                                                                                                                                                                                    |

---

## 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 1: Class 1

| Elementary Procedure                                   | Message                                                | Successful Outcome                                      | Unsuccessful Outcome                                   |       |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------|-------|
|                                                        |                                                        | Response message                                        | Response message                                       | Timer |
| Cell Setup                                             | CELL SETUP REQUEST                                     | CELL SETUP RESPONSE                                     | CELL SETUP FAILURE                                     |       |
| Cell Reconfiguration                                   | CELL RECONFIGURATION REQUEST                           | CELL RECONFIGURATION RESPONSE                           | CELL RECONFIGURATION FAILURE                           |       |
| Cell Delete                                            | CELL DELETE REQUEST                                    | CELL DELETE RESPONSE                                    |                                                        |       |
| Common Transport Channel Setup                         | COMMON TRANSPORT CHANNEL SETUP REQUEST                 | COMMON TRANSPORT CHANNEL SETUP RESPONSE                 | COMMON TRANSPORT CHANNEL SETUP FAILURE                 |       |
| Common Transport Channel Reconfigure                   | COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST       | COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE       | COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE       |       |
| Common Transport Channel Delete                        | COMMON TRANSPORT CHANNEL DELETION REQUEST              | COMMON TRANSPORT CHANNEL DELETION RESPONSE              |                                                        |       |
| <u>Physical Shared Channel Reconfigure [TDD]</u>       | <u>PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST</u> | <u>PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE</u> | <u>PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE</u> |       |
| Audit                                                  | AUDIT REQUEST                                          | AUDIT RESPONSE                                          |                                                        |       |
| 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               |       |
| Synchronised Compressed Mode Control Preparation [FDD] | COMPRESSED MODE PREPARE                                | COMPRESSED MODE READY                                   | COMPRESSED MODE FAILURE                                |       |

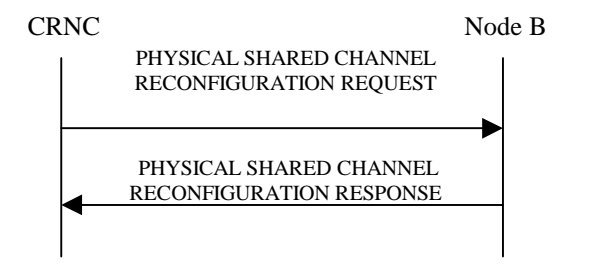
## 8.2.18 Physical Shared Channel Reconfiguration [TDD]

### 8.2.18.1 General

This procedure is 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

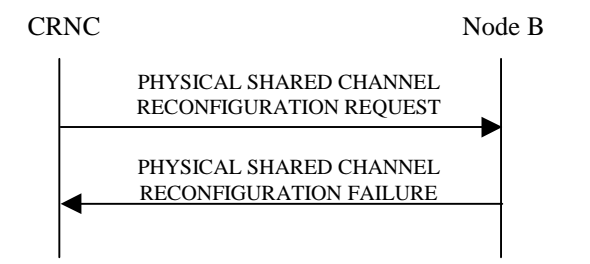


**Figure 1: Physical Shared Channel Reconfiguration, successful case**

The procedure is initiated with a PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST message sent from the CRNC to the Node B.

In the successful case, 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 2: Physical Shared Channel Reconfiguration procedure, unsuccessful case**

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

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

### 8.2.18.4 Abnormal Conditions

If the C-ID in the PHYSICAL SHARED CHANNEL RECONGURATION REQUEST message is not existing in the Node B, it shall respond with the PHYSICAL SHARED CHANNEL RECONGURATION FAILURE message with the Cause IE = 'unknown C-ID'.

## 9.1.64 ERROR INDICATION

| Information Element             | Presence  | Range | IE Type and Reference | Semantics Description |
|---------------------------------|-----------|-------|-----------------------|-----------------------|
| Message Type                    | M         |       |                       |                       |
| Message Discriminator           | M         |       |                       |                       |
| Transaction Id                  | M         |       |                       |                       |
| Cause                           | C_ifalone |       |                       |                       |
| CRNC Communication Context Id   | C_ifUL    |       |                       |                       |
| Node B Communication Context Id | C_ifDL    |       |                       |                       |
| Criticality diagnostics         | C_ifalone |       |                       |                       |

| Condition | Explanation                                                                 |
|-----------|-----------------------------------------------------------------------------|
| C_ifDL    | This IE is only present when message is transmitted by RNC                  |
| C_ifUL    | This IE is only present when message is transmitted by #Node B              |
| C_ifalone | At least either of Cause IE or Criticality Diagnostics IE shall be present. |

## 9.1.65 PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST [TDD]

| IE/Group Name               | Presence | Range                                | IE Type and Reference | Semantic Description | Criticality   | Assigned Criticality |
|-----------------------------|----------|--------------------------------------|-----------------------|----------------------|---------------|----------------------|
| Message Discriminator       | <u>M</u> |                                      |                       |                      | :             |                      |
| Message Type                | <u>M</u> |                                      |                       |                      | <u>YES</u>    | <u>reject</u>        |
| Transaction ID              | <u>M</u> |                                      |                       |                      | :             |                      |
| C-ID                        | <u>M</u> |                                      |                       |                      | <u>YES</u>    | <u>reject</u>        |
| <b>PDSCH Sets to add</b>    |          | <i>0..&lt;maxnoof PDSCHSets &gt;</i> |                       |                      | <u>GLOBAL</u> | <u>reject</u>        |
| PDSCH Set Id                |          |                                      |                       |                      | :             |                      |
| <b>PDSCH Information</b>    |          | <i>0..&lt;maxnoof PDSCH&gt;</i>      |                       |                      | <u>GLOBAL</u> | <u>reject</u>        |
| PDSCH ID                    | <u>M</u> |                                      |                       |                      | :             |                      |
| TDD Channelisation Code     | <u>M</u> |                                      |                       |                      | :             |                      |
| Burst Type                  | <u>M</u> |                                      |                       |                      | :             |                      |
| Midamble Shift              | <u>M</u> |                                      |                       |                      | :             |                      |
| Time Slot                   | <u>M</u> |                                      |                       |                      | :             |                      |
| Repetition Period           | <u>M</u> |                                      |                       |                      | :             |                      |
| TDD Physical Channel Offset | <u>O</u> |                                      |                       |                      | :             |                      |
| Repetition Length           | <u>O</u> |                                      |                       |                      | :             |                      |
| TFCI Presence               | <u>M</u> |                                      |                       |                      | :             |                      |
| <b>PDSCH Sets to Modify</b> |          | <i>0..&lt;maxnoof PDSCHSets &gt;</i> |                       |                      | <u>GLOBAL</u> | <u>reject</u>        |
| PDSCH Set Id                |          |                                      |                       |                      | :             |                      |
| <b>PDSCH Information</b>    |          | <i>0..&lt;maxnoof PDSCH&gt;</i>      |                       |                      | <u>GLOBAL</u> | <u>reject</u>        |
| PDSCH ID                    | <u>M</u> |                                      |                       |                      | :             |                      |
| TDD Channelisation Code     | <u>M</u> |                                      |                       |                      | :             |                      |

|                                    |          |                                      |  |  |               |               |
|------------------------------------|----------|--------------------------------------|--|--|---------------|---------------|
| <u>Burst Type</u>                  | <u>M</u> |                                      |  |  | :             |               |
| <u>Midamble Shift</u>              | <u>M</u> |                                      |  |  | :             |               |
| <u>Time Slot</u>                   | <u>M</u> |                                      |  |  | :             |               |
| <u>Repetition Period</u>           | <u>M</u> |                                      |  |  | :             |               |
| <u>TDD Physical Channel Offset</u> | <u>O</u> |                                      |  |  | :             |               |
| <u>Repetition Length</u>           | <u>O</u> |                                      |  |  | :             |               |
| <u>TFCI Presence</u>               | <u>M</u> |                                      |  |  | :             |               |
| <b><u>PDSCH Sets to Delete</u></b> |          | <u>0..&lt;maxnoof PDSCHSets</u><br>≥ |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PDSCH Set Id</u>                |          |                                      |  |  | :             |               |
| <b><u>PUSCH Sets to add</u></b>    |          | <u>0..&lt;maxnoof PUSCHSets</u><br>≥ |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PUSCH Set Id</u>                |          |                                      |  |  | :             |               |
| <b><u>PUSCH Information</u></b>    |          | <u>0..&lt;maxnoof PUSCH&gt;</u>      |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PUSCH ID</u>                    | <u>M</u> |                                      |  |  | :             |               |
| <u>TDD Channelisation Code</u>     | <u>M</u> |                                      |  |  | :             |               |
| <u>Burst Type</u>                  | <u>M</u> |                                      |  |  | :             |               |
| <u>Midamble Shift</u>              | <u>M</u> |                                      |  |  | :             |               |
| <u>Time Slot</u>                   | <u>M</u> |                                      |  |  | :             |               |
| <u>Repetition Period</u>           | <u>M</u> |                                      |  |  | :             |               |
| <u>TDD Physical Channel Offset</u> | <u>O</u> |                                      |  |  | :             |               |
| <u>Repetition Length</u>           | <u>O</u> |                                      |  |  | :             |               |
| <u>TFCI Presence</u>               | <u>M</u> |                                      |  |  | :             |               |
| <b><u>PUSCH Sets to Modify</u></b> |          | <u>0..&lt;maxnoof PUSCHSets</u><br>≥ |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PUSCH Set Id</u>                |          |                                      |  |  | :             |               |
| <b><u>PUSCH Information</u></b>    |          | <u>0..&lt;maxnoof PUSCH&gt;</u>      |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PUSCH ID</u>                    | <u>M</u> |                                      |  |  | :             |               |
| <u>TDD Channelisation Code</u>     | <u>M</u> |                                      |  |  | :             |               |
| <u>Burst Type</u>                  | <u>M</u> |                                      |  |  | :             |               |
| <u>Midamble Shift</u>              | <u>M</u> |                                      |  |  | :             |               |
| <u>Time Slot</u>                   | <u>M</u> |                                      |  |  | :             |               |
| <u>Repetition Period</u>           | <u>M</u> |                                      |  |  | :             |               |
| <u>TDD Physical Channel Offset</u> | <u>O</u> |                                      |  |  | :             |               |
| <u>Repetition Length</u>           | <u>O</u> |                                      |  |  | :             |               |
| <u>TFCI Presence</u>               | <u>M</u> |                                      |  |  | :             |               |
| <b><u>PUSCH Sets to Delete</u></b> |          | <u>0..&lt;maxnoof PUSCHSets</u><br>≥ |  |  | <u>GLOBAL</u> | <u>reject</u> |
| <u>PUSCH Set Id</u>                |          |                                      |  |  | :             |               |

| <u>Range bound</u>        | <u>Explanation</u>                      |
|---------------------------|-----------------------------------------|
| <u>Maxnoof PDSCH Sets</u> | Maximum number of PDSCH Sets in a cell. |
| <u>Maxnoof PDSCH</u>      | Maximum number of PDSCH in a cell.      |
| <u>Maxnoof PUSCH Sets</u> | Maximum number of PUSCH Sets in a cell. |
| <u>Maxnoof PUSCH</u>      | Maximum number of PUSCH in a cell.      |

### 9.1.66 PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE [TDD]

| <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> |
|--------------------------------|-----------------|--------------|------------------------------|-----------------------------|--------------------|-----------------------------|
| <u>Message Discriminator</u>   | <u>M</u>        |              |                              |                             | <u>:</u>           |                             |
| <u>Message Type</u>            | <u>M</u>        |              |                              |                             | <u>YES</u>         | <u>reject</u>               |
| <u>Transaction ID</u>          | <u>M</u>        |              |                              |                             | <u>:</u>           |                             |
| <u>Criticality diagnostics</u> | <u>O</u>        |              |                              |                             | <u>YES</u>         | <u>ignore</u>               |

### 9.1.67 PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE [TDD]

| <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> |
|--------------------------------|-----------------|--------------|------------------------------|-----------------------------|--------------------|-----------------------------|
| <u>Message Discriminator</u>   | <u>M</u>        |              |                              |                             | <u>:</u>           |                             |
| <u>Message Type</u>            | <u>M</u>        |              |                              |                             | <u>YES</u>         | <u>reject</u>               |
| <u>Transaction ID</u>          | <u>M</u>        |              |                              |                             | <u>:</u>           |                             |
| <u>Cause</u>                   | <u>M</u>        |              |                              |                             | <u>YES</u>         | <u>ignore</u>               |
| <u>Criticality diagnostics</u> | <u>O</u>        |              |                              |                             | <u>YES</u>         | <u>ignore</u>               |

## 9.2 Information Element Functional Definition and Contents

### 9.2.3.25 USCH ID

The USCH ID uniquely identifies a USCH within a Node B Communication Context.

| Information Element/Group Name | Presence | Range | IE type and reference | Semantics description |
|--------------------------------|----------|-------|-----------------------|-----------------------|
| USCH ID                        |          |       | INTEGER (0..255)      |                       |

### 9.2.3.26 PDSCH Set Id

The PDSCH Set Id identifies unambiguously a PDSCH Set inside a cell.

| <u>IE/Group Name</u> | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u> | <u>Semantics description</u> |
|----------------------|-----------------|--------------|------------------------------|------------------------------|
| <u>PDSCH Set Id</u>  |                 |              | <u>INTEGER (0..255)</u>      | <u>See 25.430</u>            |

### 9.2.3.27 PUSCH Set Id

The PUSCH Set Id identifies unambiguously a PUSCH Set inside a cell.

| <u>IE/Group Name</u> | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u> | <u>Semantics description</u> |
|----------------------|-----------------|--------------|------------------------------|------------------------------|
| <u>PUSCH Set Id</u>  |                 |              | <u>INTEGER (0..255)</u>      | <u>See 25.430</u>            |

### 9.2.3.28 PDSCH ID

The PDSCH ID identifies unambiguously a PDSCH inside a cell.

| <u>IE/Group Name</u> | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u> | <u>Semantics description</u> |
|----------------------|-----------------|--------------|------------------------------|------------------------------|
| <u>PDSCH ID</u>      |                 |              | <u>INTEGER (0..255)</u>      |                              |

### 9.2.3.29 PUSCH ID

The PUSCH ID identifies unambiguously a PUSCH inside a cell.

| <u>IE/Group Name</u> | <u>Presence</u> | <u>Range</u> | <u>IE type and reference</u> | <u>Semantics description</u> |
|----------------------|-----------------|--------------|------------------------------|------------------------------|
| <u>PUSCH ID</u>      |                 |              | <u>INTEGER (0..255)</u>      |                              |

## 9.3 Message and Information element abstract syntax (with ASN.1)

This chapter is for the time being only **INFORMATIVE**.

In case of misalignment with the tabular format of the messages in chapter 9.1 the ASN.1 needs to be aligned with the tabular format.

The setting of the criticality field and the level on which criticality is set for the IEs and sequences of IEs is still to be decided upon.

### 9.3.1 Usage of protocol extension mechanism for non-standard use

The protocol extension mechanism for non-standard use may be used

- For special operator- (and/or vendor) specific features considered not to be part of the basic functionality, i.e. the functionality required for a complete and high-quality specification in order to guarantee multi-vendor inter-operability.
- By vendors for research purposes, e.g. to implement and evaluate new algorithms/features before such features are proposed for standardisation

The extension mechanism shall not be used for basic functionality. Such functionality shall be standardised.

### 9.3.2 PDU Description for NBAP

```
-- *****
--
-- Elementary Procedure definitions
--
-- *****

NBAP-ELEMENTARY-PROCEDUREDefinitions -- { object identifier to be allocated }--
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,  
AuditRequiredIndication,  
AuditRequest,  
AuditResponse,  
CommonMeasurementInitiationRequest,  
CommonMeasurementInitiationResponse,  
CommonMeasurementInitiationFailure,  
CommonMeasurementTerminationRequest,  
CommonMeasurementFailureIndication,  
CommonMeasurementReport,  
CellSetupRequestFDD,  
CellSetupRequestTDD,  
CellSetupResponse,  
CellSetupFailure,  
CellReconfigurationRequestFDD,  
CellReconfigurationRequestTDD,  
CellReconfigurationResponse,  
CellReconfigurationFailure,  
CellDeletionRequest,  
CellDeletionResponse,  
ResourceStatusIndication,  
SystemInformationUpdateRequest,  
SystemInformationUpdateResponse,  
SystemInformationUpdateFailure,  
RadioLinkSetupRequestFDD,  
RadioLinkSetupResponseFDD,  
RadioLinkSetupFailureFDD,  
RadioLinkSetupRequestTDD,  
RadioLinkSetupResponseTDD,  
RadioLinkSetupFailureTDD,  
NeighbourCellMeasurementRequestTDD,  
NeighbourCellMeasurementResponseTDD,  
NeighbourCellMeasurementFailureTDD,  
SynchronisationAdjustmentRequestTDD,  
SynchronisationAdjustmentResponseTDD,  
SynchronisationAdjustmentFailureTDD,  
NodeBOutOfSyncIndicationTDD,

SynchronisationRestartRequestTDD,  
 RadioLinkAdditionRequestFDD,  
 RadioLinkAdditionResponseFDD,  
 RadioLinkAdditionFailureFDD,  
 RadioLinkAdditionRequestTDD,  
 RadioLinkAdditionResponseTDD,  
 RadioLinkAdditionFailureTDD,  
 RadioLinkReconfigurationPrepareFDD,  
 RadioLinkReconfigurationPrepareTDD,  
 RadioLinkReconfigurationReady,  
 RadioLinkReconfigurationCommit,  
 RadioLinkReconfigurationFailure,  
 RadioLinkReconfigurationCancel,  
 RadioLinkReconfigurationRequestFDD,  
 RadioLinkReconfigurationRequestTDD,  
 RadioLinkReconfigurationResponse,  
 RadioLinkDeletionRequest,  
 RadioLinkDeletionResponse,  
 DLPowerControlRequestFDD,  
 DedicatedMeasurementInitiationRequest,  
 DedicatedMeasurementInitiationResponse,  
 DedicatedMeasurementInitiationFailure,  
 DedicatedMeasurementTerminationRequest,  
 DedicatedMeasurementFailureIndication,  
 DedicatedMeasurementReport,  
 RadioLinkFailureIndication,  
 RadioLinkRestoreIndication,  
 CompressedModePrepareFDD,  
 CompressedModeReadyFDD,  
 CompressedModeCommitFDD,  
 CompressedModeFailureFDD,  
 CompressedModeCancelFDD,  
 ErrorIndication,  
PhysicalSharedChannelReconfigurationRequestTDD,  
PhysicalSharedChannelReconfigurationResponseTDD,  
PhysicalSharedChannelReconfigurationFailureTDD

FROM NBAP-PDU-Contents

id-audit,  
 id-auditRequired,  
 id-blockResource,  
 id-cellDeletion,  
 id-cellReconfiguration,  
 id-cellSetup,  
 id-commonMeasurementFailure,  
 id-commonMeasurementInitiation,  
 id-commonMeasurementReport,  
 id-commonMeasurementTermination,  
 id-commonTransportChannelDeletion,  
 id-commonTransportChannelReconfiguration,  
 id-commonTransportChannelSetup,

id-compressedModeControlCancellation,  
id-compressedModeControlCommit,  
id-compressedModeControlPreparation,  
id-dedicatedMeasurementFailure,  
id-dedicatedMeasurementInitiation,  
id-dedicatedMeasurementReport,  
id-dedicatedMeasurementTermination,  
id-dlPowerControl,  
id-neighbourCellMeasurement,  
id-PhysicalSharedChannelReconfiguration,  
id-radioLinkAddition,  
id-radioLinkDeletion,  
id-radioLinkFailure,  
id-radioLinkReconfigurationCommit,  
id-radioLinkReconfigurationCancel,  
id-radioLinkRestoration,  
id-radioLinkSetup,  
id-resourceStatusIndication,  
id-synchronisationAdjustment,  
id-synchronisationFailure,  
id-synchronisationRestart,  
id-synchronisedRadioLinkReconfigurationPreparation,  
id-systemInformationUpdate,  
id-unblockResource,  
id-unsynchronisedRadioLinkReconfiguration

FROM NBAP-Constants;

```

-- *****
--
-- 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 ::= {
 commonTransportChannelSetupFDD |
 commonTransportChannelSetupTDD |
 commonTransportChannelReconfigurationFDD |
 commonTransportChannelReconfigurationTDD |
 commonTransportChannelDeletion |
 blockResource |
 audit |
 commonMeasurementInitiation |
 cellSetupFDD |
 cellSetupTDD |
 cellReconfigurationFDD |
 cellReconfigurationTDD |
 cellDeletion |
 systemInformationUpdate |
 radioLinkSetupFDD |
 radioLinkSetupTDD |
 neighbourCellMeasurementTDD |
 synchronisationAdjustmentTDD |
 radioLinkAdditionFDD |
 radioLinkAdditionTDD |
 radioLinkReconfigurationCommit |
 radioLinkReconfigurationCancellation |
 radioLinkDeletion |
 dedicatedMeasurementInitiation |
 physicalSharedChannelReconfiguration |
 compressedModeControlPreparationFDD |
 ...
}

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
 unblockResource |
 auditRequired |
 commonMeasurementTermination |
 commonMeasurementFailure |
 commonMeasurementReport |
 resourceStatusIndication |
}

```

```
synchronisationFailureTDD |
synchronisationRestartTDD |
synchronisedRadioLinkReconfigurationPreparationFDD |
synchronisedRadioLinkReconfigurationPreparationTDD |
unsynchronisedRadioLinkReconfigurationFDD |
unsynchronisedRadioLinkReconfigurationTDD |
dlPowerControlFDD |
dedicatedMeasurementTermination |
dedicatedMeasurementFailure |
dedicatedMeasurementReport |
radioLinkFailure |
radioLinkRestoration |
compressedModeControlCommitFDD |
compressedModeControlCancellationFDD |
errorIndication ,
...
}
```

```

-- *****
-- *** CompressedModePrepare (FDD only) ***
compressedModeControlPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
 INITIATING MESSAGE CompressedModePrepareFDD
 SUCCESSFUL OUTCOME CompressedModeReadyFDD
 UNSUCCESSFUL OUTCOME CompressedModeFailureFDD
 MESSAGE DISCRIMINATOR dedicated
 PROCEDURE ID { procedureCode id-compressedModeControlPreparation, ddMode fdd }
 CRITICALITY ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCommitFDD NBAP-ELEMENTARY-PROCEDURE ::= {
 INITIATING MESSAGE CompressedModeCommitFDD
 MESSAGE DISCRIMINATOR dedicated
 PROCEDURE ID { procedureCode id-compressedModeControlCommit, ddMode fdd }
 CRITICALITY ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCancellationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
 INITIATING MESSAGE CompressedModeCancelFDD
 MESSAGE DISCRIMINATOR dedicated
 PROCEDURE ID { procedureCode id-compressedModeControlCancellation, ddMode fdd }
 CRITICALITY ignore
}

-- *** ErrorIndication ***
errorIndication NBAP-ELEMENTARY-PROCEDURE ::= {
 INITIATING MESSAGE errorIndication
 MESSAGE DISCRIMINATOR dedicated
 PROCEDURE ID { procedureCode id-errorIndication Cancellation, ddMode common }
 CRITICALITY ignore
}

-- *** 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
}

```

END

### 9.3.3 NBAP PDU Content Definitions

```
-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
 AICH-InformationList,
 AICH-Parameters,
 AICH-Power,
 AICH-TransmissionTiming,
 AddOrDeleteIndicator,
 AvailabilityStatus,
 BindingID,
 BlockingPriorityIndicator,
 BurstType,
 CCTrCH-ID,
 CFN,
 CN-CSDomainIdentifier,
 CN-PSDomainIdentifier,
 CRNC-CommunicationContextID,
 Cause,
 CellParameter,
 Cell-Parameter,
 ChipOffset,
 CommonMeasurementType,
 CommonPhysicalChannelID,
 CommonPhysicalChannelType,
 CommonTransportChannelID,
 CommonTransportChannelType,
 CommunicationControlPortID,
 CommunicationControlPortInformationList,
 CompressesModeMethod,
 ConfigurationGenerationID,
 DCH-CombinationIndication,
 DCH-Delete-RL-ReconfReqTDDItem,
 DCH-ID,
```

DCH-InformationResponse-RL-setupResFDD,  
DCH-Modify-RL-ReconfPrepTDDItem,  
DL-CCTrCH-ID,  
DL-CodeInformation,  
DL-DPCH-InformationItem-RL-ReconfReqFDD,  
DL-DPCH-SlotFormat,  
DL-FrameType,  
DL-Power,  
DL-ReferencePower,  
DL-ReferencePowerInformationItem,  
DL-ScramblingCode,  
DPCH-ID,  
DPCH-Offset,  
DSCH-ID,  
DSCH-InformationResponse-RL-setupResFDD,  
DSCH-ModifyList-RL-ReconfResp,  
DSCH-SetupList-RL-ReconfResp,  
DSCH-TransportFormatSet,  
DTX-InsertionPoint,  
DTX-InsertionPosition,  
D-FieldLength,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DeltaTPC,  
DiversityControlField,  
DiversityMode,  
FACH-Power,  
FDD-DL-ChannelisationCodeNumber,  
FDD-SCCPCH-Offset,  
FrameHandlingPriority,  
FrameOffset,  
GapStartingSlotNumber,  
LocalCellID,  
LocalCellInformationList,  
LocalCell-ID,  
Local-CellID,  
MIB-SG-POS,  
MIB-SG-REP,  
MaxFACH-Power,  
MaxNrOfUL-DPDCHs,  
MaxNumberOfUL-DPDCHs,  
MaximumDLPowerCapability,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
MaximumUL-EbN0,  
Maximum-DL-PowerCapability,  
MeasuredCellInfo,  
MeasurementCharacteristics,  
MeasurementID,  
MeasurementType,  
MessagePartScramblingCode,



MidambleShift,  
Midambleshift,  
MinUL-ChannelisationCodeLength,  
MinimumSpreadingFactor,  
MinimumUL-EbN0,  
NodeB-CommunicationContextID,  
NumberOfChannelElements,  
Offset,  
PCCPCH-Power,  
PCCPCH-TimeSloti,  
PCH-Power,  
PDSCHSet-ID,  
PDSCH-ID,  
PICH-Information,  
PICH-Power,  
PSCH-Power,  
PSCHandPCCPCH-Allocation,  
PSCHandPCCPCH-TimeSlotK,  
PUSCH,  
PUSCHSet-ID,  
PUSCH-ID,  
PagingIndicatorLength,  
PatternDuration,  
PayloadCRC-PresenceIndicator,  
PilotBitsUsedIndicator,  
PowerControlMode,  
PowerOffset,  
PowerResumeMode,  
PreambleScramblingCode,  
PreambleSignatures,  
PrimaryCPICH-Power,  
PrimarySCH-Power,  
PrimaryScramblingCode,  
Primary-ScramblingCode,  
PropagationDelay,  
PunctureLimit,  
RACH-SlotFormat,  
RACH-SubChannelNumbers,  
RLC-Mode,  
RL-ID,  
RL-Information,  
RL-InformationItem,  
RL-InformationItem-RL-SetupReqTDD,  
RL-InformationList-DMeasureRequest,  
RL-ReconfigurationFailure-RL-ReconfFailItem,  
RadioLinkInformation-RL-ReconfReqTDD,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
ResourceOperationState,  
ResourceOperationalState,

SAI,  
SFN,  
SIB-SG-POS,  
SIB-SG-REP,  
SSDT-CellIdentity,  
SSDT-CellIdentityLength,  
SSDT-Cell-IDLength,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
S-CCPCH-Offset,  
S-CCPCH-Power,  
S-FieldLength,  
ScramblingCode,  
ScramblingCodeChange,  
SecondaryCCPCH-SlotFormat,  
SecondaryCPICH-Power,  
SecondarySCH-Power,  
ShutdownTimer,  
SynchronisationMethod,  
TDDChipOffset,  
TDD-ChannelisationCode,  
TDD-PhysicalChannelOffset,  
TFCI-Presence,  
TFCI-SignallingMode,  
TFCS,  
TSTD-Indicator,  
T-Cell,  
TimeSlot,  
TimeSlotDirection,  
TimeSlotStatus,  
ToAWE,  
ToAWS,  
TransmissionGapDistance,  
TransmissionGapPeriod,  
TransmitGapLength,  
TransmitGapPositionMode,  
TransportFormatCombinationSet,  
TransportFormatSet,  
TransportLayerAddress,  
UARFCN,  
C-ID,  
UL-CCTrCHInformation,  
UL-CCTrCH-ID,  
UL-DPCCH-SlotFormat,  
UL-FP-Mode,  
UL-InterferenceLevel,  
UL-PunctureLimit,  
UL-ScramblingCode,  
UplinkEbNo

FROM NBAP-IEs

```
ProtocolExtensionContainer{} ,
PrivateExtensionContainer{} ,
ProtocolIE-Container{} ,
ProtocolIE-ContainerList{} ,
NBAP-PROTOCOL-IES ,
NBAP-PROTOCOL-EXTENSION ,
NBAP-PRIVATE-EXTENSION
FROM NBAP-Containers
```

```
id-AICH-Information-ResourceStatIndItem ,
id-AICH-ParametersList ,
id-AICH-ParametersListItem ,
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD ,
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD ,
id-BlockingPriorityIndicator ,
id-CCTrCH-ParametersList ,
id-CCTrCH-ParametersListItem ,
id-CFN ,
id-CRNC-CommunicationContextID ,
id-CRNCommunicationContextID ,
id-Cause ,
id-Cell-Information-ResourceStatIndItem ,
id-Cell-InformationItem ,
id-Cell-InformationList ,
id-Cell-Parameter ,
id-Cell-ParametersItem ,
id-Cell-ParametersList ,
id-CellParameter ,
id-CommonMeasurementObjectType ,
id-CommonMeasurementType ,
id-CommonPhysicalChannelID ,
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD ,
id-CommonPhysicalChannelType-CTCHsetup-Response ,
id-CommunicationControlPort-InformationItem ,
id-CommunicationControlPortID ,
id-CommunicationControlPortInformation-ResourceStatIndItem ,
id-CommunicationControlPortInformationList ,
id-CompressesModeMethod ,
id-ConfigurationGenerationID ,
id-DCH-Add-RL-ReconfPrepFDDItem ,
id-DCH-Add-RL-ReconfPrepTDDItem ,
id-DCH-Add-RL-ReconfReadyItem ,
id-DCH-Add-RL-ReconfReqFDDItem ,
id-DCH-Add-RL-ReconfReqTDDItem ,
id-DCH-AddItem-RL-ReconfResp ,
id-DCH-AddList-RL-ReconfPrepFDD ,
id-DCH-AddList-RL-ReconfPrepTDD ,
id-DCH-AddList-RL-ReconfReqFDD ,
id-DCH-AddList-RL-ReconfReqTDD ,
id-DCH-Delete-RL-ReconfPrepFDDItem ,
```

id-DCH-Delete-RL-ReconfPrepTDDItem,  
id-DCH-Delete-RL-ReconfReqFDDItem,  
id-DCH-Delete-RL-ReconfReqTDDItem,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfReqFDD,  
id-DCH-DeleteList-RL-ReconfReqTDD,  
id-DCH-Information-RL-SetupReqFDDItem,  
id-DCH-Information-RL-SetupReqTDDItem,  
id-DCH-InformationList-RL-SetupReqFDD,  
id-DCH-InformationList-RL-SetupReqTDD,  
id-DCH-InformationResponse-RL-SetupFailFDDItem,  
id-DCH-InformationResponse-RL-setupResTDDItem,  
id-DCH-InformationResponseItem,  
id-DCH-Modify-RL-ReconfPrepFDDItem,  
id-DCH-Modify-RL-ReconfPrepTDDItem,  
id-DCH-Modify-RL-ReconfReadyItem,  
id-DCH-Modify-RL-ReconfReqFDDItem,  
id-DCH-Modify-RL-ReconfReqTDDItem,  
id-DCH-ModifyItem-RL-ReconfResp,  
id-DCH-ModifyList-RL-ReconfPrepFDD,  
id-DCH-ModifyList-RL-ReconfPrepTDD,  
id-DCH-ModifyList-RL-ReconfReqFDD,  
id-DCH-ModifyList-RL-ReconfReqTDD,  
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,  
id-DL-CCTrCH-Information-RL-SetupReqTDDItem,  
id-DL-CCTrCH-InformationItem,  
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,  
id-DL-CCTrCH-InformationList-RL-SetupReqTDD,  
id-DL-CCTrCHInformationItem,  
id-DL-CCTrCHInformationList,  
id-DL-CodeInformation,  
id-DL-CodeInformation-RL-ReconfPrepFDDItem,  
id-DL-CodeInformation-RL-SetupReqFDDItem,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-ReconfPrepTDDItem,  
id-DL-DPCH-Information-RL-SetupReqTDDItem,  
id-DL-DPCH-InformationItem,  
id-DL-DPCH-InformationItem-RL-ReconfReqFDD,  
id-DL-DPCH-InformationItem-RL-SetupReqFDD,  
id-DL-FrameType,  
id-DL-ReferencePowerInformationItem,  
id-DSCH-AddItem-RL-ReconfPrepFDD,  
id-DSCH-AddItem-RL-ReconfReqFDD,  
id-DSCH-DeleteItem-RL-ReconfPrepFDD,  
id-DSCH-DeleteItem-RL-ReconfReqFDD,  
id-DSCH-ID,  
id-DSCH-Information-RL-SetupReqFDDItem,  
id-DSCH-InformationList-RL-SetupReqFDD,

id-DSCH-InformationResponse-RL-SetupFailFDDItem,  
id-DSCH-InformationResponse-RL-setupResFDDItem,  
id-DSCH-ModifyItem-RL-ReconfPrepFDD,  
id-DSCH-ModifyItem-RL-ReconfReqFDD,  
id-DedicatedMeasurementObjectType,  
id-DedicatedMeasurementType,  
id-FACH-Information-ResourceStatIndItem,  
id-FACH-InformationItem,  
id-FACH-ListItem,  
id-FACH-ParametersList-CTCHreconf-Req-FDD,  
id-FACH-ParametersList-CTCHreconf-Req-TTD,  
id-FACH-ParametersListItem-CTCHreconf-Req-FDD,  
id-FACH-ParametersListItem-CTCHreconf-Req-TTD,  
id-FACH-ParametersListItem-CTCHsetup-Req-FDD,  
id-FACH-ParametersListItem-CTCHsetup-Response,  
id-GapStartingSlotNumber,  
id-IndicationType,  
id-Local-Cell-Information-ResourceStatIndItem,  
id-Local-CellInformation-ResourceStatIndItem,  
id-LocalCell-ID,  
id-LocalCell-InformationItem,  
id-LocalCellInformationList,  
id-MIB-SegmentInformationItem,  
id-MIB-SegmentInformationList,  
id-MaximumTransmissionPower,  
id-MeasuredCellInfo,  
id-MeasurementCharacteristics,  
id-MeasurementID,  
id-MeasurementType,  
id-NeighbouringFDD-Cell-InformationItem,  
id-NeighbouringTDD-Cell-InformationItem,  
id-NodeB-CommunicationContextID,  
id-PCCPCH-Information,  
id-PCH-Information-ResourceStatIndItem,  
id-PCH-InformationItem,  
id-PCH-ListItem,  
id-PCH-Parameters-CTCHreconf-Req-FDD,  
id-PCH-ParametersList,  
id-PCH-ParametersListItem,  
id-PICH-Parameters-CTCHreconf-Req-FDD,  
id-PRACH-ParametersList,  
id-PRACH-ParametersListItem,  
id-PSCH-Information,  
id-PSCHandPCCPCH-Information,  
id-PUSCH-ListItem,  
id-PatternDuration,  
id-PowerControlMode,  
id-PowerResumeMode,  
id-PrimaryCCPCH-Information,  
id-PrimaryCPICH-Information,  
id-PrimarySCH-Information,

id-PrimaryScramblingCode,  
id-ProcedureScopeType,  
id-RACH-Information-ResourceStatIndItem,  
id-RACH-InformationItem,  
id-RL-ID,  
id-RL-Information,  
id-RL-Information-DMeasureReportItem,  
id-RL-Information-DMeasureRequestItem,  
id-RL-Information-DMeasureResponseItem,  
id-RL-Information-RL-ReconfPrepFDDItem,  
id-RL-Information-RL-SetupReqFDDItem,  
id-RL-InformationItem,  
id-RL-InformationItem-RL-SetupReqTDD,  
id-RL-InformationList,  
id-RL-InformationList-RL-ReconfReqFDD,  
id-RL-InformationList-RL-SetupReqFDD,  
id-RL-InformationResponse-RL-setupResFDDItem,  
id-RL-InformationResponseItem-RL-ReconfResp,  
id-RL-InformationResponseList-RL-ReconfReady,  
id-RL-InformationResponseList-RL-ReconfReadyItem,  
id-RL-InformationResponseList-RL-ReconfResp,  
id-RL-InformationResponseList-RL-setupResFDD,  
id-RL-InformationResponseList-RL-setupResTDD,  
id-RL-ReconfigurationFailure-RL-ReconfFailItem,  
id-RL-ReconfigurationFailureList-RL-ReconfFail,  
id-RL-ResponseInformation,  
id-RL-ResponseInformationItem,  
id-RL-ResponseInformationList,  
id-RL-informationItem,  
id-RL-informationList,  
id-RadioLinkInformation-RL-ReconfPrepFDDItem,  
id-RadioLinkInformation-RL-ReconfPrepTDD,  
id-RadioLinkInformation-RL-ReconfReqTDD,  
id-RadioLinkInformationList-RL-ReconfPrepFDD,  
id-ReportCharacteristics,  
id-SFN,  
id-SIB-SegmentInformationItem,  
id-SIB-SegmentInformationList,  
id-ScramblingCodeChange,  
id-Secondary-CCPCHListItem,  
id-SecondaryCPICH-Information,  
id-SecondarySCH-Information,  
id-ShutdownTimer,  
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,  
id-Successful-RL-InformationResponseItem,  
id-Successful-RL-InformationResponseList,  
id-Successful-RL-InformationResponseList-RL-SetupFailFDD,  
id-SynchronisationMethod,  
id-T-Cell,  
id-TDDChipOffset,  
id-TimeSlotConfigurationItem,

id-TimeSlotConfigurationList,  
 id-TransmissionGapDistance,  
 id-TransmissionGapPeriod,  
 id-TransmitGapLength,  
 id-TransmitGapPositionMode,  
 id-UARFCN,  
 id-C-ID,  
 id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,  
 id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,  
 id-UL-CCTrCH-Information-RL-SetupReqTDDItem,  
 id-UL-CCTrCH-InformationItemIE,  
 id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,  
 id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,  
 id-UL-CCTrCH-InformationList-RL-SetupReqTDD,  
 id-UL-CCTrCHInformation,  
 id-UL-CCTrCHInformationList,  
 id-UL-DPCH-Information-RL-ReconfPrepFDD,  
 id-UL-DPCH-Information-RL-ReconfPrepTDDItem,  
 id-UL-DPCH-Information-RL-SetupReqTDDItem,  
 id-UL-DPCH-InformationItem-RL-ReconfReqFDD,  
 id-UL-DPCH-InformationItem-RL-SetupReqFDD,  
 id-UL-DPCH-InformationItemIE,  
 id-USCH-Information-ResourceStatIndItem,  
 id-USCH-InformationItem,  
 id-USCH-ListItem-CTCHsetup-Req-TDD,  
 id-Unsuccessful-RL-InformationResponse,  
 id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,  
 id-Unsuccessful-RL-InformationResponseItem,  
 id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,  
 id-Unsuccessful-RL-InformationResponseList,  
 id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,  
id-PDSCHSetsToAdd,  
id-PDSCHSetsToModify,  
id-PDSCHSetsToDelete,  
id-PUSCHSetsToAdd,  
id-PUSCHSetsToModify,  
id-PUSCHSetsToDelete,  
id-PDSCHInformationListIE-PhSchRecReqTDD,  
id-PUSCHInformationListIE-PhSchRecReqTDD,

maxAICHCell,  
 maxCCPinNodeB,  
 maxCellinNodeB,  
 maxFACHCell,  
 maxLocalCellinNodeB,  
 maxMIBSEG,  
 maxPCHCell,  
 maxPCHinNodeB,  
 maxRACHCell,  
 maxSF,  
 maxSIBSEG,

```
maxUCIDinNodeB,
maxUSCHCell,
maxnoCCTrCHs,
maxnoofCCTrCHs,
maxnoofDCHs,
maxnoofDLCodes,
maxnoofDPCHs,
maxnoofDSCHs,
maxnoofFACHCell,
maxnoofFACHs,
maxnoofFDDNeighbours,
maxnoofPCHs,
maxnoofPRACHs,
maxnoofPUSHs,
maxnoofRL-1,
maxnoofRL-2,
maxnoofRLs,
maxnoofSCCPCHs,
maxnoofTDDNeighbours,
maxnoofUSCHs,
maxnoofPDSCHSets,
maxnoofPUSCHSets,
maxnoofPDSCH,
maxnoofPUSCH
```

FROM NBAP-Constants;

```
-- *****
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST FDD
--
-- *****
```



```

-- *****
--
-- COMPRESSED MODE FAILURE FDD
--
-- *****

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

CompressedModeFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE mandatory } |
 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory } |
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic PRESENCE optional
 },
 ...
}

CompressedModeFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

-- *****
--
-- COMPRESSED MODE CANCEL FDD
--
-- *****

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

CompressedModeCancelFDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE mandatory },
 ...
}

CompressedModeCancelFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

-- *****
--

```

```

-- ERROR INDICATION
--
-- *****
ErrorIndication ::= SEQUENCE {
 protocolIEs ProtocolIE-Container {{ErrorIndication-IEs}},
 protocolExtensions ProtocolExtensionContainer {{ErrorIndication-Extensions}} OPTIONAL,
 ...
}

ErrorIndication-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory } |
 { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-CommunicationContextID PRESENCE optional } |
 -- This IE is only present when message is transmitted by RNC --
 { ID id-NodeB-CommunicationContextID CRITICALITY ignore TYPE NodeB-CommunicationContextID PRESENCE optional } |
 -- This IE is only present when message is transmitted by NodeB --
 { ID id-CriticalityDiagnostic CRITICALITY ignore TYPE L3-CriticalityDiagnostic PRESENCE optional },
 -- At least either or Cause IE or Criticality Diagnostic IE shall be present--
 ...
}

ErrorIndication-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 mandatory } |
 { ID id-PDSCHSetsToAdd CRITICALITY reject TYPE PDSCHSetsToAddList-PhSchRecReqTDD PRESENCE optional } |
 { ID id-PDSCHSetsToModify CRITICALITY reject TYPE PDSCHSetsToModifyList-PhSchRecReqTDD PRESENCE optional } |
 { ID id-PDSCHSetsToDelete CRITICALITY reject TYPE PDSCHSetsToDeleteList-PhSchRecReqTDD PRESENCE optional } |
 { ID id-PUSCHSetsToAdd CRITICALITY reject TYPE PDSCHSetsToAddList-PhSchRecReqTDD PRESENCE optional } |
 { ID id-PUSCHSetsToModify CRITICALITY reject TYPE PDSCHSetsToModifyList-PhSchRecReqTDD PRESENCE optional } |
 { ID id-PUSCHSetsToDelete CRITICALITY reject TYPE PDSCHSetsToDeleteList-PhSchRecReqTDD PRESENCE optional },
 ...
}

PhysicalSharedChannelReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...

```

```

}

PDSCHSetsToAddList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPDSCHSets)) OF PDSCHSetsToAdd-PhSchRecReqTDD

PDSCHSetsToAdd-PhSchRecReqTDD ::= SEQUENCE {
 pDSCHSet-ID PDSCHSet-ID,
 pDSCHInformationList PDSCHInformationList-PhSchRecReqTDD OPTIONAL,
 iE-Extensions ProtocolExtensionContainer {{PDSCHSetsToAdd-PhSchRecReqTDD-ExtIEs} } OPTIONAL,
 ...
}

PDSCHSetsToAdd-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

PDSCHInformationList-PhSchRecReqTDD ::= ProtocolIE-Container {{PDSCHInformationListIEs-PhSchRecReqTDD}}

PDSCHInformationListIEs-PhSchRecReqTDD NBAP-PROTOCOL-IES ::= {
 {ID id-PDSCHInformationListIE-PhSchRecReqTDD CRITICALITY reject TYPE PDSCHInformationListIE-PhSchRecReqTDD PRESENCE mandatory},
 ...
}

PDSCHInformationListIE-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPDSCH)) OF PDSCHInformationItem-PhSchRecReqTDD

PDSCHInformationItem-PhSchRecReqTDD ::= SEQUENCE {
 pDSCH-ID PDSCH-ID,
 tdd-ChannelisationCode TDD-ChannelisationCode,
 burstType BurstType,
 midambleShift MidambleShift,
 timeSlot TimeSlot,
 repetitionPeriod RepetitionPeriod,
 tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONAL,
 repetitionLength RepetitionLength OPTIONAL,
 tFCI-Presence TFCI-Presence,
 iE-Extensions ProtocolExtensionContainer {{ PDSCHInformationListItem-PhSchRecReqTDD-ExtIEs} } OPTIONAL,
 ...
}

PDSCHInformationListItem-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

PDSCHSetsToModifyList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPDSCHSets)) OF PDSCHSetsToModify-PhSchRecReqTDD

PDSCHSetsToModify-PhSchRecReqTDD ::= SEQUENCE {
 pDSCHSet-ID PDSCHSet-ID,
 pDSCHInformationList PDSCHInformationList-PhSchRecReqTDD OPTIONAL,
 iE-Extensions ProtocolExtensionContainer {{PDSCHSetsToModify-PhSchRecReqTDD-ExtIEs} } OPTIONAL,
 ...
}

```

PDSCHSetsToModify-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

...  
}

PDSCHSetsToDeleteList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPDSCHSets)) OF PDSCHSetsToDelete-PhSchRecReqTDD

PDSCHSetsToDelete-PhSchRecReqTDD ::= SEQUENCE {

pDSCHSet-ID PDSCHSet-ID,  
iE-Extensions ProtocolExtensionContainer {{PDSCHSetsToDelete-PhSchRecReqTDD-ExtIEs} } OPTIONAL,  
...  
}

PDSCHSetsToDelete-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

...  
}

PUSCHSetsToAddList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPUSCHSets)) OF PUSCHSetsToAdd-PhSchRecReqTDD

PUSCHSetsToAdd-PhSchRecReqTDD ::= SEQUENCE {

pUSCHSet-ID PUSCHSet-ID,  
pUSCHInformationList PUSCHInformationList-PhSchRecReqTDD OPTIONAL,  
iE-Extensions ProtocolExtensionContainer {{PUSCHSetsToAdd-PhSchRecReqTDD-ExtIEs} } OPTIONAL,  
...  
}

PUSCHSetsToAdd-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

...  
}

PUSCHInformationList-PhSchRecReqTDD ::= ProtocolIE-Container {{PUSCHInformationListIEs-PhSchRecReqTDD}}

PUSCHInformationListIEs-PhSchRecReqTDD NBAP-PROTOCOL-IES ::= {

{ID id-PUSCHInformationListIE-PhSchRecReqTDD CRITICALITY reject TYPE PUSCHInformationListIE-PhSchRecReqTDD PRESENCE mandatory},  
...  
}

PUSCHInformationListIE-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPUSCH)) OF PUSCHInformationItem-PhSchRecReqTDD

PUSCHInformationItem-PhSchRecReqTDD ::= SEQUENCE {

pUSCH-ID PUSCH-ID,  
tdd-ChannelisationCode TDD-ChannelisationCode,  
burstType BurstType,  
midambleShift MidambleShift,  
timeSlot TimeSlot,  
repetitionPeriod RepetitionPeriod,  
tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONAL,  
repetitionLength RepetitionLength OPTIONAL,  
tFCI-Presence TFCI-Presence,  
iE-Extensions ProtocolExtensionContainer {{ PUSCHInformationListItem-PhSchRecReqTDD-ExtIEs} } OPTIONAL,  
...

```

}
PUSCHInformationListItem-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
 ...
}
PUSCHSetsToModifyList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPUSCHSets)) OF PUSCHSetsToModify-PhSchRecReqTDD
PUSCHSetsToModify-PhSchRecReqTDD ::= SEQUENCE {
 pUSCHSet-ID PUSCHSet-ID,
 pUSCHInformationList PUSCHInformationList-PhSchRecReqTDD OPTIONAL,
 iE-Extensions ProtocolExtensionContainer {{PUSCHSetsToModify-PhSchRecReqTDD-ExtIEs} } OPTIONAL,
 ...
}
PUSCHSetsToModify-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
 ...
}
PUSCHSetsToDeleteList-PhSchRecReqTDD ::= SEQUENCE (SIZE (1..maxnoofPUSCHSets)) OF PUSCHSetsToDelete-PhSchRecReqTDD
PUSCHSetsToDelete-PhSchRecReqTDD ::= SEQUENCE {
 pUSCHSet-ID PUSCHSet-ID,
 iE-Extensions ProtocolExtensionContainer {{PUSCHSetsToDelete-PhSchRecReqTDD-ExtIEs} } OPTIONAL,
 ...
}
PUSCHSetsToDelete-PhSchRecReqTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
 ...
}
-- *****
--
-- PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE TDD
--
-- *****
PhysicalSharedChannelReconfigurationResponseTDD ::= SEQUENCE {
 protocolIEs ProtocolIE-Container {{PhysicalSharedChannelReconfigurationResponseTDD-IEs}},
 protocolExtensions ProtocolExtensionContainer {{PhysicalSharedChannelReconfigurationResponseTDD-Extensions}} OPTIONAL,
 ...
}
PhysicalSharedChannelReconfigurationResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
 ...
}
PhysicalSharedChannelReconfigurationResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
 ...
}

```

```

}

-- *****
--
-- PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE TDD
--
-- *****

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

}

PhysicalSharedChannelReconfigurationFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|
 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },

}

PhysicalSharedChannelReconfigurationFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {

}

END

```

### 9.3.4 NBAP Information Elements

```

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

```

```

-- N

-- to do
NumberOfChannelElements ::= TBD

NodeB-CommunicationContextID ::= INTEGER (0..1048576)

NumberOfTransportBlocks ::= INTEGER (0..4095)

-- O

-- P

PagingIndicatorLength ::= ENUMERATED {
ind-length2,
ind-length4,
ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
CRC-Included,
CRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PDSCH-ID ::= INTEGER (0..255)

PDSCHSet-ID ::= INTEGER (0..255)

PICH-Mode ::= ENUMERATED {
noofPI18,
noofPI36,
noofPI72,
noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
pilot-bits-used,
pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
pcm0,
```

```
pcml,
...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
prm0,
prm1,
...
}

PRACH-Midamble ::= ENUMERATED {
inverted,
direct
}

PreambleScramblingCode ::= INTEGER (0..4095)

-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [25.213] --
PreambleSignatures ::= BIT STRING (SIZE (16))

-- Unit dBm, -15 to 40, Granularity 0.1 dB
-- cpich-power1 indicates 5 dB
PrimaryCPICH-Power ::= ENUMERATED {
cpich-power1,
cpich-power2,
...
}

PrimaryScramblingCode ::= INTEGER (0..511)

PropagationDelay ::= INTEGER (0..255)

ProtocolCause ::= ENUMERATED
transaction-not-allowed,
transfer-syntax-error,
abstract-syntax-error -reject,
abstract-syntax-error-ignore-and-notify,
message-not-compatible-with-receiver-state,
semantic-error,
unspecified
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)
```



```
PSCH-TimeSlot ::= INTEGER (0..6)
```

```
PSCH-Power ::= INTEGER (0..511)
```

```
PUSCH-Offset ::= INTEGER (0..255)
```

```
PUSCH-ID ::= INTEGER (0..255)
```

```
PUSCHSet-ID ::= INTEGER (0..255)
```

```

-- R

```

```
-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}
```

```
-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 14=Sub Channel Number 14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))
```

```
RadioNetworkLayerCause ::= Enumerated {
unknown-C-ID,
cell-not-available,
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}
```

```
RateMatchingAttribute ::= INTEGER (1..maxRM)
```

```
RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
```

```
}

ReportCharacteristicsType ::= CHOICE {
 onDemand NULL,
 periodic ReportPeriodicity,
 event-a EventA,
 event-b EventB,
 event-c EventC,
 event-d EventD,
 event-e EventE,
 event-f EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min
ReportPeriodicity ::= CHOICE {
 msec INTEGER (1..1000),
 min INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
 enabled,
 disabled
}

RLC-Mode ::= ENUMERATED {
 acknowledgedMode,
 unacknowledgedMode,
 transparentMode
}

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)

-- -30..-100 step 0.1
-- rssi1 indicates -30
RSSI-Value ::= ENUMERATED {
 rssi1,
 rssi2,
 ...
}

-- S

ScramblingCodeChange ::= ENUMERATED {
 change,
 no-change
}
```

```
Scrambling Code Word Number ::= INTEGER (0..255)
```

```
SecondaryCCPCH-SlotFormat ::= INTEGER(0..8)
```

```
SegmentType ::= ENUMERATED {
first,
subsequent,
last,
complete
}
```

```
SemiStaticTransportFormatInformation ::= SEQUENCE {
transmissionTimeInterval TransmissionTimeInterval,
typeOfChannelCoding TypeOfChannelCoding,
codingRate CodingRate OPTIONAL
-- This IE is only present if IE Type of channel coding is Convolutional or Turbo --,
rateMatchingAttribute RateMatchingAttribute,
cRC-Size CRC-Size,
mode-semistatic Mode-SemiStatic
}
```

```
S-FieldLength ::= ENUMERATED {
s-length1,
s-length2
}
```

```
SIB-DeletionIndicator ::= ENUMERATED {
noDeletion,
deletion
}
```

```
SIB-Originator ::= ENUMERATED {
nodeB,
cRNC
}
```

```
--** TODO. -10..10 is transformed to 0..10. 0.1 steps gives 0..200 **
```

```
-- sir-error-value1 indicates •0 dB
```

```
SIR-ErrorValue ::= ENUMERATED {
sir-error-value1,
sir-error-value2,
...
}
```

```
--** TODO. -10..20 is transformed to 0..30. 0.1 steps gives 0..300 **
```

```
-- sir-value1 indicates •0 dB
```

```
SIR-Value ::= ENUMERATED {
sir-value1,
sir-value2,
...
}
```

```
SSDT-CellIdentity ::= ENUMERATED {a, b, c, d, e, f, g, h}
```

```
SSDT-Indication ::= ENUMERATED {
 ssdtActiveInTheUE,
 ssdtNotActiveInTheUE
}
```

```
STTD-Indicator ::= ENUMERATED {
 active,
 inactive
}
```

```
SSDT-SupportIndicator ::= ENUMERATED {
 sSDT-not-supported,
 sSDT-Supported
}
```

```
ShutdownTimer ::= INTEGER (1..3600)
```

```
SynchronisationMethod ::= ENUMERATED {
 external-reference,
 locked-toMaster-cell,
 one-time-synchronisation
}
```

```

-- T

```

```
T-Cell ::= ENUMERATED {
 chip-0,
 chip-256,
 chip-512,
 chip-768,
 chip-1024,
 chip-1280,
 chip-1536,
 chip-1892,
 chip-2048,
 chip-2304
}
```

```
TDD-ChannelisationCode ::= ENUMERATED {
 channelisationCode1-1,
 channelisationCode2-1,
 channelisationCode2-2,
 channelisationCode4-1,
 channelisationCode4-2,
 ...
}
```

```
TDD-PhysicalChannelOffset ::= INTEGER (0..63)
```

```
}
```

```
-- the ChipOffset is •9200 to + 19199
```

```
TDD-ChipOffset ::= INTEGER (-19200..19199)
```

```
TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
```

```
 ENUMERATED {tti10, tti20, tti40, tti80}
```

```
}
```

```
TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
```

```
 frameRelated,
```

```
 timeSlotRelated
```

```
}
```

```
TDD-S-CCPCH-Offset ::= INTEGER (0..63)
```

```
TFCI-Presence ::= ENUMERATED {
```

```
 present,
```

```
 not-present
```

```
}
```

```
TFCI-SignallingMode ::= ENUMERATED {
```

```
 normal,
```

```
 split
```

```
}
```

```
TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCS)) OF
```

```
 SEQUENCE {
```

```
 cTFC
```

```
 CTFC
```

```
}
```

```
TFS ::= SEQUENCE {
```

```
 dynamicTransportFormatInformation
```

```
 semiStaticTransportFormatInformation
```

```
}
```

```
DynamicTransportFormatInformation,
```

```
SemiStaticTransportFormatInformation
```

```
TGD ::= INTEGER (0..255)
```

```
TGL ::= INTEGER (3,4,7,10,14)
```

```
TimeSlot ::= INTEGER (0..14)
```

```
TimeSlotDirection ::= ENUMERATED {
```

```
 ul,
```

```
 dl
```

```
}
```

```
-- to do
TimeSlotISCP-Value ::= TBD

TimeSlotStatus ::= ENUMERATED {
 active,
 not-active
}

ToAWE ::= INTEGER (0..2559) -- msec. --
ToAWS ::= INTEGER (0..1279) -- msec. --

TPC-DownlinkStepSize ::= ENUMERATED {
 step-size0-5,
 step-size1
}

Transmit Diversity Indicator ::= ENUMERATED {
 active,
 Inactive
}

TransmissionTimeInterval ::= ENUMERATED {
 time-interval10,
 time-interval20,
 time-interval40,
 time-interval80
} -- msec --

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- carrier-power1 indicates •5 dB
TransmittedCarrierPowerValue ::= ENUMERATED {
 carrier-power1,
 carrier-power2,
 ...
}

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- code-power1 indicated •5 dB
TransmittedCodePowerValue ::= ENUMERATED {
 code-power1,
 code-power2,
 ...
}

TransportBlockSize ::= INTEGER (1..5000)
-- bit --

TSTD-Indicator ::= ENUMERATED {
 active,
```

```
 inactive
 }

TransportLayerAddress ::= OCTET STRING (SIZE (1..20, ...))

TransportLayerCause ::= ENUMERATED {
transport-link-failure,
transmission-port-not-available,
transport-resource-unavailable,
unspecified
}

TypeOfChannelCoding ::= ENUMERATED {
no-coding,
convolutional,
turbo
}

-- U

```

## 9.3.7 Constant Definitions for NBAP

```

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

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

id-audit INTEGER ::= 0
id-auditRequired INTEGER ::= 1
id-blockResource INTEGER ::= 2
id-cellDeletion INTEGER ::= 3
id-cellReconfiguration INTEGER ::= 4
id-cellSetup INTEGER ::= 5
id-commonMeasurementFailure INTEGER ::= 6
id-commonMeasurementInitiation INTEGER ::= 7
id-commonMeasurementReport INTEGER ::= 8
id-commonMeasurementTermination INTEGER ::= 9
id-commonTransportChannelDeletion INTEGER ::= 10
id-commonTransportChannelReconfiguration INTEGER ::= 11
id-commonTransportChannelSetup INTEGER ::= 12
id-compressedModeControlCancellation INTEGER ::= 13
id-compressedModeControlCommit INTEGER ::= 14
id-compressedModeControlPreparation INTEGER ::= 15
id-dedicatedMeasurementFailure INTEGER ::= 16
id-dedicatedMeasurementInitiation INTEGER ::= 17
id-dedicatedMeasurementReport INTEGER ::= 18
id-dedicatedMeasurementTermination INTEGER ::= 19
id-dlPowerControl INTEGER ::= 20
id-neighbourCellMeasurement INTEGER ::= 21
id-radioLinkAddition INTEGER ::= 22
id-radioLinkDeletion INTEGER ::= 23
id-radioLinkFailure INTEGER ::= 24
id-radioLinkReconfigurationCommit INTEGER ::= 25
id-radioLinkReconfigurationCancel INTEGER ::= 26
id-radioLinkRestoration INTEGER ::= 27
id-radioLinkSetup INTEGER ::= 28
id-resourceStatusIndication INTEGER ::= 29
id-synchronisationAdjustment INTEGER ::= 30

```



```

id-synchronisationFailure INTEGER ::= 31
id-synchronisationRestart INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation INTEGER ::= 33
id-systemInformationUpdate INTEGER ::= 34
id-unblockResource INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration INTEGER ::= 36
id-PhysicalSharedChannelReconfiguration INTEGER ::= 37

```

```

-- *****
--
-- Extension constants
--
-- *****

```

```

maxPrivateExtensions INTEGER ::= 65535
maxProtocolExtensions INTEGER ::= 65535
maxProtocolIEs INTEGER ::= 65535

```

```

-- *****
--
-- Lists
--
-- *****

```

```

maxSF INTEGER ::= 10
maxnoofDLCodes INTEGER ::= 10
maxnoofRLs INTEGER ::= 10
maxnoofDPCHs INTEGER ::= 10
maxnoofSCCPCHs INTEGER ::= 10
maxnoofPRACHs INTEGER ::= 10
maxnoofDCHs INTEGER ::= 10
maxnoofDSCHs INTEGER ::= 10
maxnoofFACHs INTEGER ::= 10
maxnoofCCTrCHs INTEGER ::= 10
maxnoofPCHs INTEGER ::= 10
maxnoofPUCSHs INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxnoofUSCHs INTEGER ::= 10
maxUCIDinNodeB INTEGER ::= 10
maxCellinNodeB INTEGER ::= 10
maxCCPinNodeB INTEGER ::= 10
maxCTF-1 INTEGER ::= 10
maxLocalCellinNodeB INTEGER ::= 10
maxPCHinNodeB INTEGER ::= 10
maxRACHCell INTEGER ::= 10
maxnoofFACHCell INTEGER ::= 10
maxPCHCell INTEGER ::= 10
maxUSCHCell INTEGER ::= 10
maxAICHCell INTEGER ::= 10
maxMIBSEG INTEGER ::= 10
maxSIBSEG INTEGER ::= 10

```

```

maxnoofFDDNeighbours INTEGER ::= 10
maxnoofTDDNeighbours INTEGER ::= 10
maxTFcount INTEGER ::= 10
maxnoofTFCs INTEGER ::= 10
maxFACHCell INTEGER ::= 10
maxnoCCTrCH INTEGER ::= 10
maxnoCCTrCHs INTEGER ::= 10
maxnoofCCTrCH INTEGER ::= 10
maxnoofDPCH INTEGER ::= 10
maxnoofPUSHs INTEGER ::= 10
maxnoofRL-1 INTEGER ::= 10
maxnoofRL-2 INTEGER ::= 10
maxRM INTEGER ::= 10
maxnoofPDSCHSets INTEGER ::= 256
maxnoofPUSCHSets INTEGER ::= 256
maxnoofPDSCH INTEGER ::= 256
maxnoofPUSCH INTEGER ::= 256

-- *****
--
-- IEs
--
-- *****

id-AICH-Information-ResourceStatIndItem INTEGER ::= 0
id-AICH-ParametersList INTEGER ::= 1
id-AICH-ParametersListItem INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD INTEGER ::= 4
id-BlockingPriorityIndicator INTEGER ::= 5
id-CCTrCH-ParametersList INTEGER ::= 6
id-CCTrCH-ParametersListItem INTEGER ::= 7
id-CFN INTEGER ::= 8
id-CRNC-CommunicationContextID INTEGER ::= 9
id-CRNCommunicationContextID INTEGER ::= 10
id-Cause INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem INTEGER ::= 12
id-Cell-InformationItem INTEGER ::= 13
id-Cell-InformationList INTEGER ::= 14
id-Cell-Parameter INTEGER ::= 15
id-Cell-ParametersItem INTEGER ::= 16
id-Cell-ParametersList INTEGER ::= 17
id-CellParameter INTEGER ::= 18
id-CommonMeasurementObjectType INTEGER ::= 19
id-CommonMeasurementType INTEGER ::= 20
id-CommonPhysicalChannelID INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response INTEGER ::= 23
id-CommunicationControlPort-InformationItem INTEGER ::= 24
id-CommunicationControlPortID INTEGER ::= 25

```

```

id-CommunicationControlPortInformation-ResourceStatIndItem INTEGER ::= 26
id-CommunicationControlPortInformationList INTEGER ::= 27
id-CompressesModeMethod INTEGER ::= 28
id-ConfigurationGenerationID INTEGER ::= 29
id-DCH-Add-RL-ReconfPrepFDDItem INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem INTEGER ::= 32
id-DCH-Add-RL-ReconfReqFDDItem INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD INTEGER ::= 44
id-DCH-DeleteList-RL-ReconfPrepTDD INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem INTEGER ::= 53
id-DCH-InformationResponseItem INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem INTEGER ::= 67
id-DL-CCTrCH-InformationItem INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD INTEGER ::= 70
id-DL-CCTrCH-InformationList-RL-SetupReqTDD INTEGER ::= 71
id-DL-CCTrCHInformationItem INTEGER ::= 72
id-DL-CCTrCHInformationList INTEGER ::= 73
id-DL-CodeInformation INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem INTEGER ::= 76

```

|                                                 |                 |
|-------------------------------------------------|-----------------|
| id-DL-DPCH-Information-RL-ReconfPrepFDD         | INTEGER ::= 77  |
| id-DL-DPCH-Information-RL-ReconfPrepTDDItem     | INTEGER ::= 78  |
| id-DL-DPCH-Information-RL-SetupReqTDDItem       | INTEGER ::= 79  |
| id-DL-DPCH-InformationItem                      | INTEGER ::= 80  |
| id-DL-DPCH-InformationItem-RL-ReconfReqFDD      | INTEGER ::= 81  |
| id-DL-DPCH-InformationItem-RL-SetupReqFDD       | INTEGER ::= 82  |
| id-DL-FrameType                                 | INTEGER ::= 83  |
| id-DL-ReferencePowerInformationItem             | INTEGER ::= 84  |
| id-DSCH-AddItem-RL-ReconfPrepFDD                | INTEGER ::= 85  |
| id-DSCH-AddItem-RL-ReconfReqFDD                 | INTEGER ::= 86  |
| id-DSCH-DeleteItem-RL-ReconfPrepFDD             | INTEGER ::= 87  |
| id-DSCH-DeleteItem-RL-ReconfReqFDD              | INTEGER ::= 88  |
| id-DSCH-ID                                      | INTEGER ::= 89  |
| id-DSCH-Information-RL-SetupReqFDDItem          | INTEGER ::= 90  |
| id-DSCH-InformationList-RL-SetupReqFDD          | INTEGER ::= 91  |
| id-DSCH-InformationResponse-RL-SetupFailFDDItem | INTEGER ::= 92  |
| id-DSCH-InformationResponse-RL-setupResFDDItem  | INTEGER ::= 93  |
| id-DSCH-ModifyItem-RL-ReconfPrepFDD             | INTEGER ::= 94  |
| id-DSCH-ModifyItem-RL-ReconfReqFDD              | INTEGER ::= 95  |
| id-DedicatedMeasurementObjectType               | INTEGER ::= 96  |
| id-DedicatedMeasurementType                     | INTEGER ::= 97  |
| id-FACH-Information-ResourceStatIndItem         | INTEGER ::= 98  |
| id-FACH-InformationItem                         | INTEGER ::= 99  |
| id-FACH-ListItem                                | INTEGER ::= 100 |
| id-FACH-ParametersList-CTCHreconf-Req-FDD       | INTEGER ::= 101 |
| id-FACH-ParametersList-CTCHreconf-Req-TTD       | INTEGER ::= 102 |
| id-FACH-ParametersListItem-CTCHreconf-Req-FDD   | INTEGER ::= 103 |
| id-FACH-ParametersListItem-CTCHreconf-Req-TTD   | INTEGER ::= 104 |
| id-FACH-ParametersListItem-CTCHsetup-Req-FDD    | INTEGER ::= 105 |
| id-FACH-ParametersListItem-CTCHsetup-Response   | INTEGER ::= 106 |
| id-GapStartingSlotNumber                        | INTEGER ::= 107 |
| id-IndicationType                               | INTEGER ::= 108 |
| id-Local-Cell-Information-ResourceStatIndItem   | INTEGER ::= 109 |
| id-Local-CellInformation-ResourceStatIndItem    | INTEGER ::= 110 |
| id-LocalCell-ID                                 | INTEGER ::= 111 |
| id-LocalCell-InformationItem                    | INTEGER ::= 112 |
| id-LocalCellInformationList                     | INTEGER ::= 113 |
| id-MIB-SegmentInformationItem                   | INTEGER ::= 114 |
| id-MIB-SegmentInformationList                   | INTEGER ::= 115 |
| id-MaximumTransmissionPower                     | INTEGER ::= 116 |
| id-MeasuredCellInfo                             | INTEGER ::= 117 |
| id-MeasurementCharacteristics                   | INTEGER ::= 118 |
| id-MeasurementID                                | INTEGER ::= 119 |
| id-MeasurementType                              | INTEGER ::= 120 |
| id-NeighbouringFDD-Cell-InformationItem         | INTEGER ::= 121 |
| id-NeighbouringTDD-Cell-InformationItem         | INTEGER ::= 122 |
| id-NodeB-CommunicationContextID                 | INTEGER ::= 123 |
| id-PCCPCH-Information                           | INTEGER ::= 124 |
| id-PCH-Information-ResourceStatIndItem          | INTEGER ::= 125 |
| id-PCH-InformationItem                          | INTEGER ::= 126 |
| id-PCH-ListItem                                 | INTEGER ::= 127 |

|                                                  |                 |
|--------------------------------------------------|-----------------|
| id-PCH-Parameters-CTCHreconf-Req-FDD             | INTEGER ::= 128 |
| id-PCH-ParametersList                            | INTEGER ::= 129 |
| id-PCH-ParametersListItem                        | INTEGER ::= 130 |
| id-PICH-Parameters-CTCHreconf-Req-FDD            | INTEGER ::= 131 |
| id-PRACH-ParametersList                          | INTEGER ::= 132 |
| id-PRACH-ParametersListItem                      | INTEGER ::= 133 |
| id-PSCH-Information                              | INTEGER ::= 134 |
| id-PSCHandPCCPCH-Information                     | INTEGER ::= 135 |
| id-PUSCH-ListItem                                | INTEGER ::= 136 |
| id-PatternDuration                               | INTEGER ::= 137 |
| id-PowerControlMode                              | INTEGER ::= 138 |
| id-PowerResumeMode                               | INTEGER ::= 139 |
| id-PrimaryCCPCH-Information                      | INTEGER ::= 140 |
| id-PrimaryCPICH-Information                      | INTEGER ::= 141 |
| id-PrimarySCH-Information                        | INTEGER ::= 142 |
| id-PrimaryScramblingCode                         | INTEGER ::= 143 |
| id-ProcedureScopeType                            | INTEGER ::= 144 |
| id-RACH-Information-ResourceStatIndItem          | INTEGER ::= 145 |
| id-RACH-InformationItem                          | INTEGER ::= 146 |
| id-RL-ID                                         | INTEGER ::= 147 |
| id-RL-Information                                | INTEGER ::= 148 |
| id-RL-Information-DMeasureReportItem             | INTEGER ::= 149 |
| id-RL-Information-DMeasureRequestItem            | INTEGER ::= 150 |
| id-RL-Information-DMeasureResponseItem           | INTEGER ::= 151 |
| id-RL-Information-RL-ReconfPrepFDDItem           | INTEGER ::= 152 |
| id-RL-Information-RL-SetupReqFDDItem             | INTEGER ::= 153 |
| id-RL-InformationItem                            | INTEGER ::= 154 |
| id-RL-InformationItem-RL-SetupReqTDD             | INTEGER ::= 155 |
| id-RL-InformationList                            | INTEGER ::= 156 |
| id-RL-InformationList-RL-ReconfReqFDD            | INTEGER ::= 157 |
| id-RL-InformationList-RL-SetupReqFDD             | INTEGER ::= 158 |
| id-RL-InformationResponse-RL-setupResFDDItem     | INTEGER ::= 159 |
| id-RL-InformationResponseItem-RL-ReconfResp      | INTEGER ::= 160 |
| id-RL-InformationResponseList-RL-ReconfReady     | INTEGER ::= 161 |
| id-RL-InformationResponseList-RL-ReconfReadyItem | INTEGER ::= 162 |
| id-RL-InformationResponseList-RL-ReconfResp      | INTEGER ::= 163 |
| id-RL-InformationResponseList-RL-setupResFDD     | INTEGER ::= 164 |
| id-RL-InformationResponseList-RL-setupResTDD     | INTEGER ::= 165 |
| id-RL-ReconfigurationFailure-RL-ReconfFailItem   | INTEGER ::= 166 |
| id-RL-ReconfigurationFailureList-RL-ReconfFail   | INTEGER ::= 167 |
| id-RL-ResponseInformation                        | INTEGER ::= 168 |
| id-RL-ResponseInformationItem                    | INTEGER ::= 169 |
| id-RL-ResponseInformationList                    | INTEGER ::= 170 |
| id-RL-informationItem                            | INTEGER ::= 171 |
| id-RL-informationList                            | INTEGER ::= 172 |
| id-RadioLinkInformation-RL-ReconfPrepFDDItem     | INTEGER ::= 173 |
| id-RadioLinkInformation-RL-ReconfPrepTDD         | INTEGER ::= 174 |
| id-RadioLinkInformation-RL-ReconfReqTDD          | INTEGER ::= 175 |
| id-RadioLinkInformationList-RL-ReconfPrepFDD     | INTEGER ::= 176 |
| id-ReportCharacteristics                         | INTEGER ::= 177 |
| id-SFN                                           | INTEGER ::= 178 |

```

id-SIB-SegmentInformationItem INTEGER ::= 179
id-SIB-SegmentInformationList INTEGER ::= 180
id-ScramblingCodeChange INTEGER ::= 181
id-Secondary-CCPCHListItem INTEGER ::= 182
id-SecondaryCPICH-Information INTEGER ::= 183
id-SecondarySCH-Information INTEGER ::= 184
id-ShutdownTimer INTEGER ::= 185
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 186
id-Successful-RL-InformationResponseItem INTEGER ::= 187
id-Successful-RL-InformationResponseList INTEGER ::= 188
id-Successful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 189
id-SynchronisationMethod INTEGER ::= 190
id-T-Cell INTEGER ::= 191
id-TDDChipOffset INTEGER ::= 192
id-TimeSlotConfigurationItem INTEGER ::= 193
id-TimeSlotConfigurationList INTEGER ::= 194
id-TransmissionGapDistance INTEGER ::= 195
id-TransmissionGapPeriod INTEGER ::= 196
id-TransmitGapLength INTEGER ::= 197
id-TransmitGapPositionMode INTEGER ::= 198
id-UARFCN INTEGER ::= 199
id-UC-ID INTEGER ::= 200
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 201
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem INTEGER ::= 202
id-UL-CCTrCH-Information-RL-SetupReqTDDItem INTEGER ::= 203
id-UL-CCTrCH-InformationItemIE INTEGER ::= 204
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD INTEGER ::= 205
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD INTEGER ::= 206
id-UL-CCTrCH-InformationList-RL-SetupReqTDD INTEGER ::= 207
id-UL-CCTrCHInformation INTEGER ::= 208
id-UL-CCTrCHInformationList INTEGER ::= 209
id-UL-DPCH-Information-RL-ReconfPrepFDD INTEGER ::= 210
id-UL-DPCH-Information-RL-ReconfPrepTDDItem INTEGER ::= 211
id-UL-DPCH-Information-RL-SetupReqTDDItem INTEGER ::= 212
id-UL-DPCH-InformationItem-RL-ReconfReqFDD INTEGER ::= 213
id-UL-DPCH-InformationItem-RL-SetupReqFDD INTEGER ::= 214
id-UL-DPCH-InformationItemIE INTEGER ::= 215
id-USCH-Information-ResourceStatIndItem INTEGER ::= 216
id-USCH-InformationItem INTEGER ::= 217
id-USCH-ListItem-CTCHsetup-Req-TDD INTEGER ::= 218
id-Unsuccessful-RL-InformationResponse INTEGER ::= 219
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem INTEGER ::= 220
id-Unsuccessful-RL-InformationResponseItem INTEGER ::= 221
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD INTEGER ::= 222
id-Unsuccessful-RL-InformationResponseList INTEGER ::= 223
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD INTEGER ::= 224
id-C-ID INTEGER ::= 225
id-PDSCHSetsToAdd INTEGER ::= 226
id-PDSCHSetsToModify INTEGER ::= 227
id-PDSCHSetsToDelete INTEGER ::= 228
id-PUSCHSetsToAdd INTEGER ::= 229

```

```
id-PUSCHSetsToModify INTEGER ::= 230
id-PUSCHSetsToDelete INTEGER ::= 231
id-PDSCHInformationListIE-PhSchRecReqTDD INTEGER ::= 232
id-PUSCHInformationListIE-PhSchRecReqTDD INTEGER ::= 233
```

END